The roles of domestic and foreign Islamic banks in Malaysian monetary transmission

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Abstract

Purpose – The aim of this paper is to empirically test the presence of the bank lending channel for the Islamic banking system in Malaysia.

Design/methodology/approach – Distributional effects from monetary policy changes were analyzed by three bank characteristics such as size, liquidity and capital. Using the econometric model by Kashyap and Stein (1995), the implementation of a policy contraction leads to reduction in loan supply because some banks may not able to offset a reduction in deposits. The paper explores the response shown between domestic and foreign Islamic banks in Malaysia using bank-level data from 2005 to 2010.

Findings – The empirical result indicates presence of the bank lending channel in the Islamic banking system in Malaysia, size and liquidity as sources of difference response of financing supply in domestic bank and capital for foreign Islamic bank and Islamic interbank rate as an efficient tool in conducting monetary policy especially in the Islamic banking system.

Originality/value – The paper manages to explore the effectiveness of Islamic the monetary policy tools in the Islamic Banking system in Malaysia. Using Islamic interbank rate as a policy tool, it provides valuable view to policy makers, who are analyzing for efficiency of transmission channel.

Keywords Islamic banking, Bank loan supply, Monetary transmission mechanism

Paper type Research paper

1. Introduction

In general, the main source of capital for economic sectors’ activity in developing countries is still dominated by banking credit channeling. In Malaysia, the dependency of these economic sectors is also undeniable. Between 2002 and 2010, the credit from banking sectors contributed an average of 90 per cent to economic activity compared to the capital from debt market as well as equity.

Due to the existence of significant dependency between economic sectors and banking credit monetary policy makers should play important role in ensuring stability in the financial system. This matter was acknowledged by the Governor of Bank Negara Malaysia (BNM) who admitted to the failure of banking system supervision that has caused all sorts of economic crisis today.

The experience of battling the economic crisis in 1997 has taught important lessons to most of Asian countries for the improvement of financial policy and also the banking
system. In Malaysia, problematic banks underwent the process of merges and acquisition (M&A). This was conducted to ensure competitiveness of banking system and continue to play its important role in economic growth toward achieving the aims of economic growth.

Development of banking system in Malaysia is very unique. The effect of crisis has motivated the policy makers to encourage the establishment of more transparent banking system. The Islamic banking system is fairer and more transparent because it operates based on tangible asset. This is different with the conventional banking system that is based solely on interest rate.

After a decade the crisis has passed by, a stimulating growth takes place in the Islamic banking system. The number of Islamic banking institutions is increasing from time to time. This scenario drives to the competition in credit channeling activity involving both Islamic and conventional banking institutions. In this situation, it gives challenge to the policy makers to carry out monetary policy target tool that is based on an interest-free system.

In this research, the response of credit offering to economic sectors which is known as financing by the Islamic banking institution, in dealing with changes in monetary policy will be studied. This study will compare the responses shown between domestic and foreign Islamic bank.

2. Overview of Islamic banking

The Islamic banking industry has shown a dramatic growth in almost three decades in Malaysia. Since its first establishment in 1983, which was known as Bank Islam Malaysia Berhad, the number of players in this industry has increased. The implementation of an interest-free Islamic banking system (Islamic banking-window scheme) in 1993 expanded the capability of this sector to compete. This can be proven based on the total of assets and financing that experienced a rapid increase. During 1993-2010, the Islamic banking asset increased from MYR2.5 billion to MYR267 billion, while the total financial sector boomed to MYR162 billion compared to MYR1.1 billion in 1993. The same achievement was seen in the increase of total deposit of nearly MYR218 billion in 2010 compared to MYR1.6 billion in 1993.

Great accomplishment by Islamic banking sectors was caused by encouragement and motivation given by policy makers for domestic or foreign industry players to establish the Islamic banking institution in Malaysia. Until 2010, there were 17 operating Islamic banking institutions with 9 domestic institutions, and another 8 institutions were foreign Islamic bank entities. As a consequence to the increasing number of institutions, it made easy for customer to access the Islamic banking sector which currently owns 2,087 branches compared to only 136 branches in 2004.

The common enquiry among the economists and also policy makers who are involved in the financial policy implementation is whether the transmission differential of monetary policy for both entities the same or contrastive. BNM as the responsible party in implementing the financial policy must understand the reaction in ensuring a conducive policy and be able to attain the specified macroeconomic target.

In an effort of realizing a strong and Syariah-compliant financial system, BNM created a policy target tool known as Islamic inter-bank rate for Islamic banking sectors. This rate is for allowing the Islamic banking institution to channel surplus fund to deficit institutions that is suitable with the principles of Islamic transaction. For BNM,
this rate is the rate used as transmission tool in implementing the financial policy toward Islamic banking institutions.

Because of the dual banking system practiced by Malaysia it is moving hand in hand and is supported by bank entities and different target tools, thus the stability of the Islamic financial system is essential to be researched in detail. The research finding will provide information regarding the level of response by Islamic banking institutions on financial policy via the proxy of this Islamic bank rate.

3. Literature review

Hypothesis related to the bank lending channel was based on the research by Bernanke and Blinder (1988) and Kashyap and Stein (1995). A lot of empirical studies were conducted and evidence produced on the efficiency of this channel. Early research was focused on the USA, according to Bernanke and Blinder (1992), Kashyap et al. (1993), Peek and Rosengren (1995), Kishan and Opiela (2000) and also Kashyap and Stein (2000). Following the efficiency of this channel, extended research was carried out in a few countries such as Issing (1997) in Germany, de Bondt (1999) in Germany, Belgium and The Netherlands, de Haan (2003) in The Netherlands, Rich (1996) in Switzerland, Gambacorta (2005) in Italy and Ehrmann et al. (2003) in France, Germany, Italy and Spain. The testing of this channel subsequently grew to Asian countries such as Agung (1998) in Indonesia, Choi (2000) in Korea, Ogawa (2000) and Hosono (2006) in Japan and Gunji and Yuan (2010) in China.

These studies exploited cross-sectional data involving variables of specific bank characteristic such as size, capital and liquidity to evidence the response in bank credit supply toward shock in the monetary policy. These specific variables are important and need to be considered in the research, as the level of response is different among banks. The tested hypothesis in this channel assumed that small size of the bank, less liquidity and lack of capital indicated a high level of change whenever a shrunken and tight policy was implemented (Kashyap and Stein, 1995, 2000; Kishan and Opiela, 2000).

The same research was done in Malaysia. Nevertheless, these studies only used aggregated data from the work of Azlan and Aisyah (2005), Goh and Yong (2007), Zaini et al. (2006), Salina and Turkhan (2008), Salina and Shabri (2009a, 2009b). This scenario invoked complication to comprehensively summarize the type of response from this banking institution toward the change in policy (Hosono, 2006). Therefore, research adapting micro-bank data is still limited. Research adopting this data included work by Fathin and Ghafar (2007, 2008) and Zulkifly et al. (2010). However, the finding was general in sense because the banking institution was not categorized into Islamic banking and conventional banking.

This difference should be prioritized, as the principles basing the two systems are different. Steps by BNM to create a monetary policy target tool as policy transmission tool for Islamic banking institutions reflect the need to understand its efficiency toward the stability of the financial system. The implementation of transmission tool based on free interest was studied by Darrat (1988) in Tunisia, Kia and Darrat (2003) in Iran and in Malaysia by Samad (1999), Rosly (1999), Kaleem (2000) and Samad and Hassan (2000).

Furthermore, this study will analyze in detail the effectiveness of the monetary policy target tool as monetary policy transmission for BNM. In this study also, three specific characteristics of bank will be analyzed. Apart from that, to analyze the differences of bank financing supply response, Islamic banking institutions are divided into domestic
and foreign Islamic banking. This entity factor was significantly proven in a few studies, namely, Ashcraft (2006), Gambacorta (2005), Berger et al. (2008) and Salina and Turkhan (2008) in Malaysia.

4. Econometric model and data

Empirical research model involving Islamic banking in Malaysia is based on the approach introduced by Bernanke and Blinder (1988) and Kashyap and Stein (1995, 2000). This empirical approach is frequently adopted in analyzing the existence of credit channel especially bank lending channel and testing the bank response toward the change in loaning cost. The model specification is formulated as in the equation (1):

\[
\Delta(\log TF_{it}) = \alpha_i + \beta_i \Delta \sum_{j=0}^{l} (\log Y_t) + \beta_3 \Delta IIR_t + \beta_4 \sum_{j=0}^{l} X_{it-1} + \beta_5 \sum_{j=0}^{l} IIR_t^* X_{it-1} + \varepsilon_{it}
\]

(1)

where \( i = 1 \ldots N \) and \( t = 1 \ldots T \) and \( N \) denote the number of banks and \( l \) the number of lags. In equation (1), \( \Delta(\log TF) \) is regressed on the nominal gross domestic product (GDP) growth rate, \( \Delta(\log Y) \), to control for loan demand shifts.

According to Kashyap and Stein (1995), better economic situations increase the economic sectors profitable in terms of expected net present value, thereby increasing the demand of credit. The introduction of this variable captures cyclicalmacroeconomicmovementsandservestoisolate themonetary policy changes (\( \Delta IIR \)).

The econometric specification also includes interactions between changes in the policy rate, controlled by BNM, and bank-specific characteristics. The three bank specifics are standard in the literature: SIZE, log of total assets; (Kashyap and Stein, 1995) LIQ: cash, securities and other liquid assets over total assets (Stein, 1998); and CAP, the capital-to-asset ratio (Kishan and Opiela, 2000; Van den Heuvel, 2002). This character can be regarded as an ex post accounting measure of credit risk. All bank-specific characteristics refer to \( t - 1 \) to avoid endogeneity bias.

The bank characteristics are furthermore interacted with the monetary policy indicator to find out if monetary shocks have distributional effects on financing in Malaysian Islamic banking institutions. The assumptions is that small size, less liquidity and poorly capitalized banks will react more strongly to monetary policy indicators changes. According to equation (1), negative coefficient in \( \beta_5 \) indicates that credit channel hypothesis occurs.

Panel data approach is used in this study. Wooldridge (2000) defines panel data as the data that have both cross-sectional and time-series dimensions. In this study, the cross-sectional units are the Islamic banking institutions in Malaysia. Annual data spanning is used from 2005 to 2010 for 17 Islamic commercial banking. These banks are categorized into two panels which are panel A for domestic bank institution involving nine banks, while panel B includes eight foreign Islamic banks. The entrance of many foreign banks which are granted operational license by BNM is the factor for the year selection of this research.

Besides that, during this period also there are occurrences of a few crises that also give effect to the Malaysian economy such as the increase of petrol price and global food and financial crisis in the USA and also in Europe. The bank-specific characteristics data for all banks are obtained from banks’ annual report for the period of study. The
macroeconomic variable is obtained from BNM and Malaysia Treasury annual report, while monetary policy indicator from Islamic Interbank Money Market (IIMM) and BNM Web sites.

Next, fixed effects and random effects models are both estimated. The fixed effect model assumes that the idiosyncratic error, \( \mu_i \), is independent of the exogenous variables across all time periods (Wooldridge, 2000). In this context, the fixed effects estimators permit for arbitrary correlation between the unobserved effects and the independent variables in any time periods.

On the other hand, the random effects model is used with the assumption that the unobserved effect is uncorrelated with the explanatory variables (Wooldridge, 2000). The random effects estimators are inconsistent if the error term and the regressors are correlated. Therefore, the Hausman (1978) test is used to determine if there is any correlation between the explanatory variables and the error term. If such a relationship exists, then the fixed effect model is said to be appropriate.

5. Findings

To determine whether the fixed effect is more appropriate or random effect, the Hausman test is used. The result for Hausman test (Table I) indicates that the null hypothesis, in which individual effects are uncorrelated with the explanatory variables, can be rejected for model of panel B. Hence, the fixed effect model is said to be appropriate for report in foreign Islamic bank case, while results of the random effect is suitable for domestic Islamic bank.

The result in Table II shows the response of domestic and foreign Islamic bank toward shock on monetary policy conducted via Islamic interbank rate.

Based on Table II, it is found that the GDP growth indicates a negative correlation with the total financing by domestic Islamic banking. Although the result is surprising, the analysis time period requires careful interpretation (Cappielo et al., 2010). An illustrative example for comprehending the situation can be associated with the inability to achieve the expected target of economic growth that influences the financing supply. This matter also can be reflected by basing on detailed observation of Islamic banking financing growth that is slower and in fluctuation mode compared to the prior period.

For the relationship between monetary policy rate and total financing, it is found significant and positive for domestic Islamic banks. However, scarcity of evidence fails to prove the same pattern for foreign Islamic banks. Regarding the relationship of policy rate and this total financing, it can be justified to the stability of the financing rate and no element of uncertainty. This is because change in policy rate will cause direct change to bank financing rate. The stating of cap financing rate in Malaysian Islamic banking has given confidence to economic sectors to choose and place Islamic banking institutions as alternative capital source.

<table>
<thead>
<tr>
<th>Panel</th>
<th>Hausman test</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel A – domestic Islamic banks</td>
<td>0.60</td>
<td>0.997</td>
</tr>
<tr>
<td>Panel B – foreign Islamic banks</td>
<td>16.00</td>
<td>0.042**</td>
</tr>
</tbody>
</table>

Table I. Hausman test

Note: ** implies significance at 5 per cent
From the aspect of bank specific criteria, it is discovered that liquidity and bank size are essential factors in determining the distribution of monetary policy in domestic Islamic banks, whereas for foreign Islamic banks, all three aforementioned criteria are found significant. This shows that the criteria of small or large size, less or well capitalized and less or more liquidity influence banks in expanding their credit total. Negative relationship between size and total financing indicates that small Islamic banks are less affected by the adverse implications of informational frictions. This is in line with justification found in Ehrmann and Worms’s (2004) research that associates the deposit guarantee, strong supervision system and close relationship between industry players.

In terms of interaction terms between bank characteristic and Islamic monetary policy rate, it obviously demonstrates different responses among these two entities. Hypothesis in credit channel implies that small-size domestic Islamic banks will decrease the total of financing due to the shock in financial policy. Whereas, for foreign Islamic banks, there are no support of significant evidence obtained.

In addition, for interaction between liquidity and capital with policy rate, response shown is different. Domestic Islamic banks are found less liquid compared to foreign Islamic banks. This entails that the change response exhibited by domestic Islamic banks are stronger compared to foreign Islamic banks. Meanwhile, interaction between capital and policy rate finds that domestic Islamic banks are well capitalized compared to foreign Islamic banks. This situation describes that reduction in financing is stronger for foreign Islamic banks than domestic banks. Conforming the bank lending channel literature, well-capitalized banks are able to buffer their financing activity against

Table II.
Regression results

<table>
<thead>
<tr>
<th>Explanatory variables</th>
<th>Domestic</th>
<th>Foreign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.005**</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>(1.4960)</td>
<td></td>
</tr>
<tr>
<td>ΔGDP</td>
<td>−0.0828***</td>
<td>0.0098</td>
</tr>
<tr>
<td></td>
<td>(0.0273)</td>
<td>(0.0185)</td>
</tr>
<tr>
<td>ΔIIR</td>
<td>11.2321***</td>
<td>−3.4857</td>
</tr>
<tr>
<td></td>
<td>(4.3110)</td>
<td>(2.3590)</td>
</tr>
<tr>
<td>SIZE&lt;sub&gt;−1&lt;/sub&gt;</td>
<td>−0.0873</td>
<td>−0.8307***</td>
</tr>
<tr>
<td></td>
<td>(0.0937)</td>
<td>(0.1755)</td>
</tr>
<tr>
<td>LIQ&lt;sub&gt;−1&lt;/sub&gt;</td>
<td>−1.0247***</td>
<td>−4.7172***</td>
</tr>
<tr>
<td></td>
<td>(0.3381)</td>
<td>(0.8247)</td>
</tr>
<tr>
<td>CAP&lt;sub&gt;−1&lt;/sub&gt;</td>
<td>2.0939**</td>
<td>0.9979***</td>
</tr>
<tr>
<td></td>
<td>(0.9601)</td>
<td>(0.1565)</td>
</tr>
<tr>
<td>ΔIIR&lt;sup&gt;*&lt;/sup&gt; SIZE&lt;sub&gt;−1&lt;/sub&gt;</td>
<td>−0.2169**</td>
<td>0.0810</td>
</tr>
<tr>
<td></td>
<td>(0.0978)</td>
<td>(0.0508)</td>
</tr>
<tr>
<td>ΔIIR&lt;sup&gt;*&lt;/sup&gt; LIQ&lt;sub&gt;−1&lt;/sub&gt;</td>
<td>−1.1159***</td>
<td>0.9094*</td>
</tr>
<tr>
<td></td>
<td>(0.3693)</td>
<td>(0.5336)</td>
</tr>
<tr>
<td>ΔIIR&lt;sup&gt;*&lt;/sup&gt; CAP&lt;sub&gt;−1&lt;/sub&gt;</td>
<td>1.5462*</td>
<td>−2.9124***</td>
</tr>
<tr>
<td></td>
<td>(0.8488)</td>
<td>(0.4260)</td>
</tr>
</tbody>
</table>

Observations | 54 | 48 |
R² | 0.58 | 0.88 |
Ajd. R² | 0.40 | 0.81 |
F-statistic | 3.22*** | 13.38*** |

Note: *, **, *** implies significance at 10 per cent, 5 per cent and 1 per cent.
shocks affecting the availability of external finance (Kashyap and Stein, 1995, 2000; Kishan and Opiela, 2000). The well-capitalized banks are also able to expand their financing because they have many branches that enable accumulation of great total deposit. Besides, domestic Islamic banks have intimate relationship with economic sectors especially involving small economic sectors (Altunbas et al., 2011; Ehrmann et al., 2003).

6. Conclusion
This paper discusses the role of domestic and foreign Islamic banks in the transmission of monetary policy in Malaysia. Generally, the research finding shows that this credit channel is effective in influencing both entities. By using microdata on banks, it is found that liquidity and size are important to characterize a domestic Islamic bank’s reaction to monetary policy change. Bank with less liquidity, for example, react more strongly than more liquid banks do. Contrary result is found for foreign Islamic banks, with capital as dominant character for policy change.

References


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