MONETARY POLICY TRANSMISSION THROUGH ISLAMIC AND CONVENTIONAL BANKS IN MALAYSIA

BY

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ABSTRACT

Monetary policy in Malaysia has been designed to be accommodative and supportive of economic growth with balancing the risk of inflation. Therefore, interest rates have been relatively low during the last decade, and the financing conditions continued to be supportive of economic activities. As the cost of borrowing remains low, the transmission of monetary policy through the traditional channel of interest rate might be diminished. Moreover, the influential presence of the Islamic banks may have further compounded the transmission process of monetary policy via the interest rate channel. This gives more importance to investigating other channels that function through the supply of finance, such as the lending channel. This study investigates the impact of monetary policy changes upon the bank supply of financing as an alternative or complementary mechanism to the traditional money view. In order to disentangle the demand factors from the supply determinants, the study adopts a multiplicative model based on the panel data approach. The study utilises annual data spanning from 2000 through 2011. The bank-level data used in the study covers 24 banks in Malaysia, comprising of 14 conventional banks and 11 Islamic banks. This data is sourced from banks' financial statements, and each micro observation in the data is calculated manually. In particular, the study analyses the impact of the monetary policy measures on the financing behaviour of the Islamic and conventional banks based on their capital strength, liquidity degree and size. The study finds that the changes of monetary policy have no significant impact on the level of financing for either type of banks. Bank specific characteristics namely, size, liquidity and capitalisation are found to be pure independent variables and not sources for any heterogeneous responses to monetary policy actions, which is not supportive of an operative lending channel during the study period in Malaysia.

خلاصة البحث

هذه الدراسه تستقصى اثر تغرات السياسه النقديه على السلوك الاقراضى للبنوك. فى حين ان التفسير التقليدى لتاثير السياسه النقديه يعتمد على قناة سعر الفائده التى عموما تعزو التغيرات فى حجم الاقراض الى جانب الطلب على التمويل, يدرس هذا البحث اثر تغيرات السياسه النقديه على جانب العرض اعتمادا على الخصائص الذاتيه للمصارف. تبنت هذه الدراسه منهجيه البيانات غير التجميعه كبديل عن المنهجيه السائده ألا وهى استخدام البيانات الكليه وذلك لغرض فصل تاثير محددات الطلب عن عوامل عرض التمويل بالنسبه للبنوك. بشكل محدد, توضف هذه الدراسه بيانات سنويه متعلقه بأربعه وعشرون مصرفا عاملا فى ماليزيا فى الفتره مابين 2000 الى 2011. تجرى الدراسه مقارنه تفصيليه بين السلوك التمويلى للمصارف الاسلاميه والتقليديه من حيث حساسيتها لتغيرات السياسه النقديه استنادا الى حجم راس المال, درجه السيوله و حجم المصرف. توصلت الدراسه الى ان العوامل الخاصه بالمصارف كحجم راس المال, السيوله وحجم المصرف تلعب دورا اساسيا فى عرض القروض لكل من المصارف التقليديه والاسلاميه باستثناء راس المال الذى وجد انه يلعب دورا ذو معنويه احصائيه بالنسبه للمصارف الاسلاميه فقط. غير ان الدراسه اجمالا لم تجد اثرا معنويا للتغيرات السنويه فى السياسه النقديه على السلوك التمويلى لكلا العينتين من المصارف. تبعا لذلك, فان نتائج الدراسه لا تدعم اى وجود لقناة الاقراض بالنسبه للبنوك تلاسلاميه والتقليديه فى ماليزيا.

APPROVAL PAGE

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DECLARATION

I hereby declare that this thesis is the result of my own investigations except where otherwise stated.. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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LIST OF ABBREVIATIONS

BAFIA	Banking And Financial Institutions Act 1989
BLR	Base Lending Rate
BNB	Bank Negara Bills
BNM	Bank Negara Malaysia (The Central Bank of Malaysia)
BNNN	Bank Negara Negotiable Notes
BNMN	Bank Negara Monetary Notes
BNMN-i	Bank Negara Monetary Notes Islamic
CPI	Consumer Price Index
CMP	Commodity Murabahah Programme
FE	Fixed Effects
FGLS	Feasible Generalised Least squares
FSMP	Financial Sector Master Plan
GDP	Gross Domestic Product
GLS	Generalised Least Squares
ISCAP	Institutional Securities Custodian Programme
IOR	Interbank Overnight Rate
IFSA	Islamic Financial Service Act 2013
LM	Lagrange Multiplier Test
MGS	Malaysian Government Securities
OPR	Overnight Policy Rate
OLS	Ordinary Least Squares
Over id	Over-identifying Restrictions Test
RE	Random Effects
Repo	Repurchase Agreement
RWCR	Risk Weighted Capital Ratio
SRR	Statuary Reserve Requirements
VIF	Variance Inflation Factor
OPPs	Outline Perspective Plans

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Monetary policy is widely recognised as being responsible for promoting economic growth, controlling inflation and maintaining financial stability. In the context of the IS-LM model under the Keynesian framework, monetary authorities can affect the existing monetary equilibrium, and steer towards favourable monetary and economic conditions. On this front, there are a number of issues critical to producing satisfying monetary policy outcomes.

The commitment to price stability needs to be clear through adopting an explicit nominal anchor (intermediate target) that ties down exactly what the commitment to price stability means. These anchors can take several forms, for example: a commitment to fixed exchange rate, money-growth target, interest-rate targeting, or an explicit numerical inflation goal. Each strategy has its own characteristics in terms of the intermediate targets and the operational targets (Mishkin, 2007). Quantitative methods of monetary policy include either setting the nominal quantity of base money and subsequently allowing the market to determine the short-term nominal interest rate or by setting the short-run interest rate and afterwards supplying the quantity of money that is demanded at that interest rate. Thus, monetary policy can work through the cost or availability of money. The selection of the right strategy should be based on the strength of the relationship between the operational target and the ultimate targets of the monetary policy.

In pursuing its primary objectives, monetary authorities are constrained by other goals, which may limit central banks in their choices. For example, the trade-off between economic expansion and inflation as explained by the Philips's curve, places restrictions on the extent to which monetary policy can be supportive of economic growth or used aggressively to control inflation. Another objective, which should be achieved concurrently with economic growth and monetary stability, is the stability of the financial system. This imposes further constraints on the monetary authority in executing the monetary policy, where a prolonged period of low interest rates may lead to financial imbalances and underestimation of financial risks. Moreover, a fragile banking system makes it more difficult for the monetary authority to bring about big liquidity shocks in pursuing the monetary policy targets. It is perceived that large changes in interest rates can have destabilising effects on the balance sheets of weak banks (Hammond et al., 2009).

In the emerging market economies, monetary policy has become an important defence line against internal and external shocks. However, these emerging economies face a number of additional challenges in designing suitable frameworks for their monetary policy. Given their economic characteristics, particularly the degree of openness and level of development of the financial system, the essential challenge faced by policymakers in these economies is to have an accurate understanding of the various components of monetary policy implementations and more importantly the changing relationships among the economic variables.

Hence, understanding the monetary policy transmission mechanism is essential for the selection of the monetary policy framework, the timing and magnitude of the required monetary actions. In this regard, central banks, especially in the emerging markets, should pay more attention to empirical research that work on decoding the "*black box*" of monetary policy, namely the transmission mechanism of monetary policy to ensure efficient execution of monetary policy.

Since the establishment of the Central Bank of Malaysia (BNM), the monetary policy framework has been evolving in line with the changing economic and financial environment to ensure relevance and effectiveness. The process of opening up the capital account, financial liberalisation and market orientation brought about new situations and challenges in which BNM had to adopt different strategies for more reliable indicators and efficient monetary policy. This evolvement can be identified in three stages; monetary targeting (1973 to mid-1990s), interest rate targeting with a fixed exchange rate (1998-2005), and interest rate targeting with a floating exchange rate after 2005 (BNM Annual Reports 1973,1998 and 2005). In the current framework, the nominal short-term interest rate is typically used as the operational target, wherein the central bank uses its leverage over the short-term interest rate to influence the cost of money and credit. Monetary policy in Malaysia has been intended to be accommodative and supportive of economic growth. Therefore, the interest rate remained relatively low and the financing conditions continued to be supportive of economic activities (BNM Annual Report, 2010).

The banking sector has a key role in the monetary transmission process in Malaysia. Banking institutions are the main provider of credit for small and medium enterprises in Malaysia. In the post-2000 period, interest rate changes might have had a marginal effect on the decisions of borrowing due to low interest rate levels. Moreover, the rapid ascent of Islamic banking in Malaysia's financial landscape may further undermine the potency of the interest rate channel and caution the impact of monetary actions. However, the lending channel may provide an alternative explanation to how monetary policy in Malaysia can influence the flow of credit. The lending channel suggests that monetary changes can find their path through the availability of loanable funds and not only the cost of funding. Following a contractionary monetary policy, banks' deposits fall and the banks' cost of replacing the lost deposits with other sources of funding increases, which consequently leads to a reduction in loan supply. The Islamic banks, although non-interest financiers share the underlying basis of deposits with conventional banks, thus it is likely for them to be affected by these sequences. Depositors of the Islamic banks may possibly switch to conventional banks during rising interest rates, making the outflow of deposits even worst for the Islamic banks (Kasri and Kassim, 2010). At the same time, such substitutability may attenuate the lending channel as well. The conventional banks may enjoy an additional source of funds, which in turn weakens the transmission mechanism through the lending channel in general. In light of the rapid growth of Islamic banking in the country's banking system, the transmission mechanism of monetary policy through the banking sector in Malaysia needs to be re-examined.

A successful monetary policy necessitates a good flow of information on all issues mentioned earlier. The findings of this research attempt to contribute to better understanding of the transmission mechanism of monetary policy in Malaysia. The differences and similarities between the Islamic and conventional banks in terms of their response to monetary policy actions is also an area of interest for this study, which helps analyse the overall impact of monetary policy on the banking industry. As an attempt to fill the gap in the literature, this study uses bank-level data to investigate the impact of monetary policy changes upon the supply of loans and financing. Through this approach, the study can disentangle the supply side from the demand side and thus, can more clearly identify the lending channel. Moreover, the panel data approach adopted in this study provides in-depth discussions of the characteristics that determine banks' financing behaviour in response to changes in the policy rate.

1.2 PROBLEM STATEMENT

Under the interest rate targeting framework that Malaysia is currently adopting, monetary policy is implemented through setting the interest rate (price of money and credit) in pursuing the principle objective of price stability[1]. The decision to adopt interest rate targeting as an alternative framework to monetary targeting is rooted in the assumption that the inflation forecast is significantly impacted by today's interest rate adjustments. Hence, inflation forecasts have to be based on a model (explicit or not) of the transmission mechanism between the interest rate and inflation (Bardsen et al., 2005). However, in order to select the right timing and magnitude of monetary changes, broad and clear understanding of the channels through which these changes propagate and their associated lags is required. The development of the financial system and the economy in general, the degree of openness and the effectiveness of the monetary measures, are among the factors that interactively affect the pass-through of interest rate and thereby the lag and efficacy of monetary policy.

The financial sector as a credit supplier plays a crucial role in money creation and, accordingly, can possibly be one of the determinants of the potency of monetary policy. The banking sector provides the monetary policy with two main channels – the interest rate channel, which influence the cost of loanable funds, and lending channel, which influence the availability of the loanable funds. The theory of the lending channel is well-explained in the literature and widely supported by empirical research in several economies. For instance, Ehrmann et al. (2003) and Gombacorta (2011) for the euro area; Juurikkala et al. (2011) for Russia, Kashyap and Stein (1995, 2000) for the US and Hsing (2013) for Australia find evidence confirming the existence of the lending channel.

[1] Central Bank of Malaysia Act 1958 (revised 1994)

Malaysia's economic performance has strongly been supported by its banking system. Despite the uncertainty and turbulence in the global economy, the domestic financial intermediation continued uninterrupted by virtue of a resilient banking sector (BNM Annual Report, 2010, 2011). The banking sector has been a cornerstone in the economic recovery and growth since the Asian Financial Crisis. In 1997, the ratio of bank credit to the Gross Domestic Product (GDP) in Malaysia was high at 149% and the ratio of deposits to GDP was also high at 154%, which reflects an effective intermediation that banking system plays in Malaysia. Overall, disbursements of loans were a key factor in supporting the economic recovery (BNM Annual Report, 1999). A decade after the crisis has attested to the significance of the banking sector in the economic arena of Malaysia. In 2012, the banking system total assets constituted about 50.6% of the total assets of the Malaysian financial system. Loans and advances of the banking system account for about 147.4% of GDP (BNM Statistical Bulletin, 2012 and IMF Country Report, 2012). Given this importance, bank lending has become vital for successful monetary policy in Malaysia. Therefore, deeper understanding of the lending behaviour of banks in response to monetary policy changes can significantly enhance the design and the execution of monetary policy in Malaysia.

The influential presence of interest-free banking, in the context of interest rate targeting framework, may add another layer of complexity to understanding the transmission process of monetary policy. In Malaysia the significance of Islamic financing has been on a progressive upward trend comprising about 42% of GDP in 2012 compared to only 2% of GDP in 2000. The Islamic finance share of total domestic financing grew from 6% to 29% over the last decade and is expected to grow further to about 40% of the total financing in 2020 (BNM, Financial Sector Blueprint 2010-2020).

Given the significance of the banking industry in Malaysia, the financing behaviour of banks is a matter of interest and great importance to the policymakers. This importance can be explained by two main reasons. First, BNM has adopted a low interest rate regime in the wake of the financial crisis in order to ensure efficient investments and demand levels. However, after 2009, concerns over financial imbalances particularly mispricing of risk and decrease in savings as well as upward inflationary trend have supported the call for normalising the interest rate levels. Accordingly, the main challenge that faces policymakers in the coming years is to strike a balance between these concerns and the maintenance of efficient lending levels to support economic growth. Hence, a better understanding of bank sensitivity to monetary policy in the past can help with making accurate decisions on the timing and magnitude of interest rate changes. Second, understanding the sensitivity of the Islamic banks to interest rate changes would help answer the question as to what extent that monetary policy can be destabilising for the Islamic banks in a dual banking environment. Although interest rates in Malaysia were considered as low during the last decade, the dual banking system may render interest rate changes more destabilising for the Islamic banks due to the displaced commercial risk.

Therefore, better knowledge about the overall and cross-bank effects of monetary policy is a key issue for conducting an effective monetary policy and the stability of the banking system in the future. Based on the above discussion, the panel data approach is adopted to achieve the research goals of; first, quantifying the overall impact of monetary policy on the banking institutions in Malaysia. Second, identifying the lending channel in Malaysia and third, comparing the responses of the

Islamic banks with the conventional banks to monetary policy actions. The study is further enriched by investigating the characteristics that determine bank sensitivity to monetary policy changes in Malaysia.

1.3 OBJECTIVES OF THE STUDY AND RESEARCH QUESTIONS

Although the capability of the Central Bank to bring about changes in market interest rates is not disputed, the issue of how these changes can go on to affect the economy via the banking system needs further investigation. The impact of interest rate changes may be more destabilizing for some categories of banks (based on type, capitalization, liquidity and size) than others. Therefore, it is important for the policymakers to identify the operative channels and to understand the source of cross-sectional differences between banks in their response to monetary policy actions. On the back of these issues, the study aims at achieving the following objectives:

(i) To quantify the impact of monetary policy actions on the volume of financing/loans extended by the Islamic and conventional banks in Malaysia.

(ii) To assess the significance of the lending/financing channel in Malaysia.

(iii) To identify bank characteristics that are relevant for the heterogeneous respond of loan/financing supply to monetary policy actions.

(iv) To highlight the differences and similarities between the Islamic and conventional banking institutions in terms of their responses to monetary policy.

Based on the above objectives, the research aims to answer the following questions:

(i) Do monetary policy changes affect the financing behaviour of the Islamic and conventional banks in Malaysia?

(ii) What is the importance of the lending/financing channel in the transmission process of monetary policy in Malaysia?

(iii) What is the role of bank specific characteristics in the heterogeneity of loan supply in reaction to monetary policy changes?

(iv) What is the extent to which the Islamic and conventional banks are different/ similar in the way they adjust their volume of loans following monetary policy actions?

1.4 SIGNIFICANCE OF THE STUDY

This study hopes to contribute to the literature in the field of monetary economics as well as bank regulation in several ways. First, in the post 1997-1998 crisis period, BNM adopted a low interest rate regime, and monetary policy has been designed to be supportive of real activities and economic growth. With such a monetary policy stance, the demand for loans may remain unaffected by changes in interest rates. This gives special importance to investigating the presence of the lending channel as a mechanism of monetary policy transmission. There seems to be a lack of research on whether low interest rate policy stance would affect the effectiveness of monetary policy transmission through lending channel. The findings of this research provide answers to the questions of whether accommodative monetary policy can affect banks' balance sheet items.

Second, the findings of the study may help in evaluating the monetary policy framework in Malaysia. The dual banking system in which interest-free banking institutions operate alongside with the interest-based banks, adds further complications to forecasting the impact of monetary policy actions on the long-run objective(s) of monetary policy. In such a financial environment, the classic assumptions of monetary policy transmission mechanism need to be re-examined. This study contributes to the literature on the subject of monetary policy transmission by examining the potency of the lending channel in a mixed financial environment.

Third, this research contributes to better assessments of the financial environment in Malaysia in terms of competitiveness. The comparative method adopted in this research allows for analysing the impact of monetary policy changes upon financings of the Islamic banks versus the conventional banks in the dual banking system environment. This comparison provides answers to the question of whether monetary policy executed in a dual banking system has a more destabilizing impact on the Islamic banking institutions, which may place Islamic banks at a disadvantage in comparison with conventional banks. Islamic banks can benefit from the study in assessing the impact of monetary policy on their balance sheet items and managing their liquidity and assets to avoid any disruption that changes in the interest rates may cause.

Finally, this research is intended to enrich the knowledge of the decision makers as well as academics and industry players across the Islamic world about the Malaysian experience. Malaysia has become in the lead among the few nations that have succeeded in developing an Islamic banking industry operating side by side with the conventional one. In today's world, where Islamic banking is gaining more credibility, the Malaysian experience is attracting more attention, especially for countries that opted for a dual banking system.

1.5 SCOPE AND LIMITATIONS OF THE STUDY

This study is restricted to the Malaysian case covering the period from 2000 to 2011. Few Islamic banks have operated continuously over this period, so, our sample consists of 25 local and foreign banks of which 14 are conventional banks and 11 are Islamic banks. To ensure better estimation, the study uses a balanced panel data set. This limits the research scope to include banks with missing information, as only a small number of Islamic banks have been in operation since 2000.

Another challenge faced by this research is that most of the Islamic banks started operating after 2005. In such a relatively short period, the monetary policy changes, most probably, cannot be captured. We dealt with this situation by using data from the banks' respective Islamic windows. This measure does not seem to have serious consequences on the inference of the results as the theoretical assumptions of lending channel hold for the Islamic windows (the separation of their capital and deposits).

As mentioned earlier most of the Islamic banks started operating after 2005 and quarterly data that can cover the research period is incomplete for most banks included in the sample. In order to have the research period un-shortened, we resorted to annual data and a static model to estimate the relationship between the annual changes of monetary policy and bank loans stated at the end of the year. This method actually does not help capture the dynamic relation between the variables, yet it shows whether changes in policy rate explain the annual changes of financing.

In this study we use total loans reported in banks' balance sheet as a response variable. As the main goal of this research is to examine the transmission of monetary policy through the banking sector, the decomposion of loan may give a clearer picture of the impact of monetary policy on loan supply, where some loan categories are more