



MONETARY POLICY TRANSMISSION THROUGH
BANK LENDING IN A SMALL-OPEN ECONOMY:
A STRUCTURAL VAR APPROACH FOR THE CASE
OF MALAYSIA

BY

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A dissertation submitted in partial fulfilment of the
requirements for the degree of Master of Economics

Kulliyah of Economics and Management Sciences
International Islamic University Malaysia

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ABSTRACT

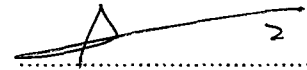
The main objective of this study is to investigate the presence of the bank lending channel as a monetary policy transmission mechanism in Malaysia from the period 1980 to 2008. The purpose behind this study stems from the debate among policy makers on the mechanism that transmits the impact of monetary policy to the real economy and the credit channel is considered as a significant mechanism in the case of a growing country like Malaysia. This study develops an open economy structural vector autoregression (SVAR) model to characterize and identify the dynamic effects of foreign and domestic monetary policy shocks on the Malaysian economy. This SVAR approach with block exogeneity contemporaneous restriction is used to analyze the magnitude and timing of the effect of both domestic and foreign monetary policy on the Malaysian economy. The analysis shows that there is clear evidence on a direct relationship from the monetary policy indicator to bank loans, and from bank loans to industrial production. This finding shows that the bank lending channel is operative in the Malaysian economy and hence bank loans are considered as important nexus for economic growth. The study then extends its analysis on the transmission of monetary policy through financing extended by Islamic banks. The findings reveal that Islamic bank financing significantly transmits monetary policy shocks to the real sector. Overall, the results of the study show clear evidence that the bank lending channel is operative in Malaysia. This finding contributes to giving a clearer understanding of the monetary transmission mechanism in Malaysia which will help policy makers determine the most suitable and effective policy to undertake.

ملخص البحث

الهدف الرئيسي من هذه الدراسة هو البحث عن وجود وأهمية القروض المصرفية في عملية التحويل النقدية في ماليزيا من 1980 حتى 2008. يبرز الدافع وراء هذا البحث إلى إختلاف الآراء أو الجدل الدائر بين الإقتصاديين حول آلية تحويل السياسة النقدية إلى الإقتصاد حيث أن القروض المصرفية تعتبر إحدى القنوات المهمة في تنمية الإقتصاد الماليزي. لتحليل أهمية القروض المصرفية في عملية تحويل السياسة النقدية، استخدمت الدراسة الاختبار معدل المتراجع الذاتي الهيكلي (SVAR) للإقتصاد المفتوح للتعرف على التأثيرات الديناميكية لصدمة السياسة النقدية الخارجية والداخلية. هذا الاختبار أيضا يستخدم لهدف تحليل التوقيت ومدى تأثير المتغيرات الداخلية والخارجية السياسة النقدية على الإقتصاد الماليزي. تشير الدراسة إلى أدلة واضحة تؤيد وجود علاقة مباشرة من السياسة النقدية إلى القروض المصرفية، ومن القروض المصرفية إلى الإنتاج الصناعي. هذه النتيجة توضح وجود قناة القروض المصرفية في الإقتصاد الماليزي. ومن هنا يمكن إعتبار القروض المصرفية كعامل مهم للنمو للإقتصادي. وتستمر الدراسة بعد ذلك إلى تحليل التحويل النقدي من خلال القروض المصرفية للبنوك الإسلامية. تشير الفتاوى إلى أن القروض المصرفية للبنوك الإسلامية لها دور في تحويل السياسة النقدية إلى النشاط الإقتصادي. وبشكل عام، تشير النتائج التي توصلنا إليها هذه الدراسة على فعالية تحويل السياسة النقدية من خلال القروض المصرفية في ماليزيا. هذه النتيجة تساهم في إعطاء مفهوم أوضح عن آليات التحويل السياسة النقدية في ماليزيا، والتي تخدم صانعي القرار في صياغة وتنفيذ سياسة نقدية مناسبة وفعالة.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Economics.



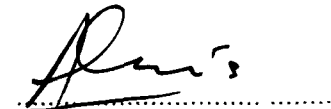
Turkhan Ali Abd. Manap
Supervisor

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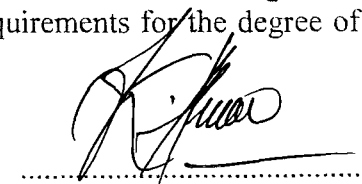
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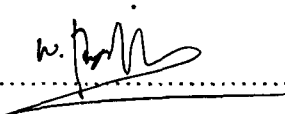


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DECLARATION PAGE

I hereby declare that this dissertation 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.

Wisam Rohilina Ahmad Sayuti

Signature 

Date 10/08/2009

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To the Ummah...

*May You, once again,
rise
to the height of
glory and knowledge*

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First and above all, I praise Allah SWT for giving me health, strength, and determination in order to be able to complete this master dissertation. May this modest contribution be of benefit for the development of the *ummah* and the course of scientific progress.

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CHAPTER I

INTRODUCTION

1.1 BACKGROUND

Malaysia had undergone a process of financial liberalization since 1979 due to increasing and challenging conditions in the global economic environment. As a result, widespread changes have been undertaken in the conduct of monetary policy and the management of the financial system. For example, interest rate ceilings have been removed, compulsory statutory requirement has been lowered, government interference in credit allocation has been significantly reduced, and development of local banks has been actively pursued (Kunt and Detragiache, 1998; and Azali, 2003).

Nonetheless, the success of the financial liberalization has been shadowed by the financial crisis in mid 1997 which caused huge turmoil in the financial and economic arena. This event has opened the eyes towards the fragility of the financial and banking sector and urged the monetary authority to embark on several initiatives directed towards strengthening the resilience of the banking system as well as ensuring the soundness and stability of the financial sector. One major initiative in the post-crisis period was the consolidation of the banking institutions in order to create a large capital base and a core of strong domestic banking institutions (Kassim, 2006). This has resulted in the trimming of the numbers of financial institutions in Malaysia, for example, in 1980, the number of merchant banks was 38; by the end of 2005, only 23 banks were in operation. This in turn has had great impact on the operation and conduct of monetary policy and the process of monetary transmission in Malaysia.

As it is well known, the effects of monetary policy can be transmitted to the economy through several channels; which are considered as the channels of monetary policy transmission. A significant monetary channel is the credit channel; which is comprised of the balance sheet channel (or the broad credit channel) and the bank lending channel (also known as the narrow credit channel). These two sub-channels has been investigated thoroughly in the academic literature for the past three decades after the fall of the Modigliani and Miller's (1958) theorem; which states that the value of the firm and its investment decisions are independent of the source of finance. This proposition has been refuted by several researches mainly pioneered by Bernanke and Blinder (1988). Their main ground for advocating a complementary role of the credit channel along with the traditional money channel is the puzzles documented by Bernanke and Gertler (1995) in the conventional monetary transmission scheme. First, the magnitude puzzle; when small changes in the nominal interest rate affect largely real variables, whilst empirical research suggest that interest rate has relatively small effects on output (Chriniko, 1993 and Ramey and Wes, 1999). Second, the timing puzzle; when the peak effect of monetary policy shock on components of spending occurs in a later stage after the increase in the interest rate has largely dissipated. Third, the composition puzzle; empirical research shows that the biggest effect of monetary policy falls on long-lived assets, when it is supposed to mainly touch the short-term interest rate (Junayed and Schaller, 2007).

However, most literature on this matter is dedicated to investigating the bank lending channel in developed economies, i.e. the United States. However, when the same model is applied on other countries, the results tend to produce other sets of puzzles, such as the liquidity puzzle, the price puzzle, and the exchange rate puzzle (Kushman and Zha, 1995; Brischetto and Voss, 1999; Kim and Roubini, 1999;

Dungey and Fry, 2000; and Suzuki, 2001). The main issue is that the U.S. can be considered as a large closed economy where it is unlikely for foreign variables to have a significant effect on its economy. Whilst for other countries, it is acceptable to state their position as small economies where their decision can barely affect the rest of the world.

Researches on the issue of monetary policy transmission using the small open economy framework are prolific, even though the scope is still oriented to some more industrialized economies, Kim (2000) Kim and Roubini (2000), Morsink and Bayoumi (2001), and Brischetto and Voss (1999) are to mention a few; while for the developing economies, literature is available, however, scarce (for example Rabanal and Schwartz, 2000; Disyatat and Vongsinsirikul, 2003; and Poddar et al, 2006).

Nevertheless, researches on the international transmission of monetary policy through the bank lending channel specifically have not effusively been explored. Ramirez (2003) extended the Bernanke and Blinder (1988) model to incorporate the case of a small open-economy and came up with the conclusion that monetary policy is unambiguously more potent in this version. This result comes about due to two reasons. First, separating the loan from the bonds market makes aggregate investment much more directly responsive to changes in the money supply. Second, the credit channel makes the balance of payment more sensitive to interest rate fluctuations. This last result depends on the share of foreign bonds that the domestic banking sector invests in as part of its portfolio.

Yet the bank lending channel in developing economies is perhaps more relevant where investment projects are primarily financed by bank loans and that the supply of loans is directly influenced by changes in policy (Ramlogan, 2004). However, studies that ignored the effect of external macroeconomic factors tend to

report ambiguous or non-conclusive results (Cushman and Zha, 1995 and Suzuki, 2001). On the other hand, studies that incorporated foreign macroeconomic variables are still scant and limited to some industrial economies, which render it insufficient to draw a clear cut position on the international monetary transmission effect on the bank lending channel in small open economies.

As for the Malaysia, several distinctive efforts in exploring the bank lending transmission has been conducted; the work of Ibrahim (1999), Azali (2003), Balasundram (2004), Tang (2004), and Kassim (2006) are a few to mention. However, most of these studies focus mainly on local variables in explaining the procedure of bank loans transmission. Accordingly, it is interesting to investigate the issue of the bank lending channel in Malaysia using the framework of small-open economy as Malaysia has become more open and integrated with the world.

1.2 PROBLEM STATEMENT

Based on the above background, the main focus of this paper is to determine the presence and significance of the bank lending channel for Malaysia which is considered a small-open economy. This assumption is based on the nature of Malaysia of being open to trade, where in the period of 1999 to 2007 the ratio of total export to DGP is almost one, indicating openness of the economy.

From a practical point of view, distinguishing the relative importance of the bank lending channel is useful for various reasons. First, understanding which financial aggregates are impacted by monetary policy would improve our understanding of the link between the financial and the real sectors of the economy. Second, a better understanding of the transmission mechanism would help monetary

authorities and analysts to interpret movements in financial aggregates. Finally, more information about the transmission mechanism might lead to a better choice of intermediate targets. In particular, if the credit channel is an important part of the transmission mechanism, then the banks' asset items should be the focus of more attention (Gupta, 2008).

On the other hand, from the theoretical point of view, studying the lending channel in developing countries has some particularities. For example, under perfect capital mobility, as is arguably the situation in most cases, the monetary authority has low capacity to set local interest rates and shocks to banks deposits may come from international interest rates via the foreign exchange market. Moreover, negative shocks to deposits may arise as a result of currency risk, so they will coincide with a lower capacity of banks to issue their own debt, especially if this debt is denominated in local currency. In other words, the restrictions on arm-length finance will tend to be higher hardprecisely when banks are in more need of external financing, and when firms are more dependent on bank credit. This suggests that the lending channel may be stronger in developing countries, and that the models should account for issues related to the foreign exchange market (Vasquez, 2001).

However, generally, establishing the existence of a lending channel in any country is difficult for two reasons. First, changes in interest rates usually occur in response to changes in economic conditions, which makes it difficult to recover from the data the pure effect of the interest rate change on economic activity. Second, all channels of monetary transmission tend to work at the same time, which complicates their separate identification. For instance, a tight monetary policy may result in the decline of bank credit as a result of either a drop in demand for loans, which signifies the interest rate channel and, possibly, the balance sheet channel, or reduction in the

supply of loans, indicating the work of the bank lending channel, or in some case even both channels are in operation (Brooks, 2007). Bernanke and Blinder (1992) found that a contractionary monetary policy leads to a decline in both aggregate loans and economic activity with U.S. data. However, they also observed a considerable reduction in banks' securities holdings after the monetary contraction. This kind of bank behavior may help them elude the restriction on the credit supply, so the subsequent decrease in bank credit may possibly be attributed to credit demand.

In order to complete the search of the scope of the bank lending channel, this research is also interested in investigating the impact of the dual banking system in the effectiveness of monetary policy transmission through the conventional and Islamic bank financings. As Malaysia is one of the pioneer countries in developing Islamic banking and the dual banking systems is the norm, where conventional banks operate together with the Islamic banks. Hence, it is worth to compare the transmission of monetary policy through both the conventional and Islamic bank lending. The growth of Islamic banking and finance in Malaysia has been remarkable, until 2008; the ratio of Islamic Banking is more than 10% of the total banking industry.

1.3 OBJECTIVE OF THE STUDY

This study intends to investigate whether monetary policy transmission through the bank lending is in operation in the Malaysian context and provide a more accurate analysis on the subject assuming that Malaysia is a small-open economy that is affected by foreign monetary shocks. It also plans to conduct a more specific research on the different impact between conventional bank loans and Islamic bank financings, as the financial system in Malaysia currently adopts the dual banking system.

Hence, the specific objectives of this study can be summarized as follows:

1. To determine if the bank lending channel is in operation in Malaysia, hence determining the importance of bank lending in the transmission process of monetary policy;
2. To observe whether there are differences in the transmission process of monetary policy through the conventional bank lending channel against the Islamic financing channel;
3. To investigate the impact of foreign monetary policy on the Malaysian economy considering that Malaysia is a small open economy.

1.4 SIGNIFICANCE OF THE STUDY

This study will contribute to the economic literature, particularly in the field of monetary economics in a number of ways. First, this study will be different from other studies in a number of ways; first, an updated data set from 1980 until 2008 will be employed to have an updated data set.

Second, existing studies that adopt VAR approach do not give a clear and agreed-upon how monetary shocks are transmitted to the economy that is subject to structural changes, this study will explicitly take account of the structural changes in the process of modeling.

Third, in contrast to existing literature on Malaysia which uses the standard VAR approach; this study adopts the contemporaneous structural VAR approach in the hope to overcome the commonly observed puzzles.

Lastly, considering Malaysia is a small-open economy, foreign variables are accounted for in the analysis. Since it is not reasonable for it to have effects on the world economy; a block of exogeneity assumption is applied in the estimation process.

1.5 SCOPE AND LIMITATION

This research is mainly concerned with investigating the existence of the bank lending channel in Malaysia, in this regard; the framework of a small-open economy is employed in order to explore the effect of external macroeconomic variables on the local economy. However, here, the U.S. is considered as having the predominant influence on the local economy or as being the rest of the world; while the effect of other major countries such as Japan (Dungey and Fry, 2000) is not considered. In addition, our analysis does not differentiate between shifts in the supply or demand of credit due to lack of the indicating variable. Lastly, the data set employed for this study is aggregate monetary and macroeconomic data; nonetheless, utilization of sectoral or disaggregated data may result in a clearer and more detailed picture on the course and procedure of bank lending as a monetary policy transmission channel.

1.6 ORGANIZATION OF THE STUDY

The remaining of this research is organized as follows; Chapter II provides a review of the prominent literature on the bank lending channel. This chapter is divided into two sections. The first part explains and discusses the theoretical background of the monetary policy transmission through the bank lending channel; while the second section will review various literatures, both theoretical and empirical, on the issue of

monetary policy transmission in a small-open economy context, with special emphasis on the bank lending channel in developing countries.

Chapter III presents an overview of the Malaysian economy, the conduct of monetary policy as well as the development of the financial and the banking system. The emphasis of this chapter will be on the evolution of monetary policy strategies that has a significant effect on the development of the banking system.

Chapter IV is dedicated at elaborating the econometric method used in the estimation of the study using the standard Vector Auto-regression (VAR) and develop the Structural Vector Auto-regression (SVAR) model that is suitable for the Malaysian case. This will also include identification of the exogenous and endogenous variables that affect the bank lending channel.

Chapter V presents the empirical results of the standard VAR and SVAR and discusses the findings of the latter in details to conclude whether there is an active bank lending channel in Malaysia or not.

Chapter VI is the concluding chapter which presents a summary of the study and its implication, in addition to the relevant policy recommendations and suggestions for further research in this area.

CHAPTER II

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter provides an essential background for analyzing monetary policy transmission in general and the bank lending channel in particular. This is achieved by reviewing several major literatures on the bank lending channel. This part is divided into two sections. The first part explains and discusses the theoretical background of the monetary policy transmission through the bank lending channel. Meanwhile, the second section reviews various literatures, both theoretical and empirical, on the issue of monetary policy transmission in a small-open economy context, with special emphasis on the bank lending channel in developing countries.

2.2 CHANNELS OF MONETARY TRANSMISSION

The monetary transmission mechanism describes how policy-induced changes in the nominal money stock or the short-term nominal interest rate impact on real variables such as aggregate output and employment (Ireland, 2005). There are several channels of monetary transmission, however much of the literature talks of two broad channels through which monetary policy affects the real sector: the interest rate channel along with other money channels and the credit channel. Nonetheless, transmission of monetary policy through interest rate mechanisms has been a standard feature in the economic literature for over 50 years and it has been the key monetary transmission

mechanism in the basic Keynesian standard text book models (Mishkin, 1995), while the credit channel stands nascent in comparison to its counterpart.

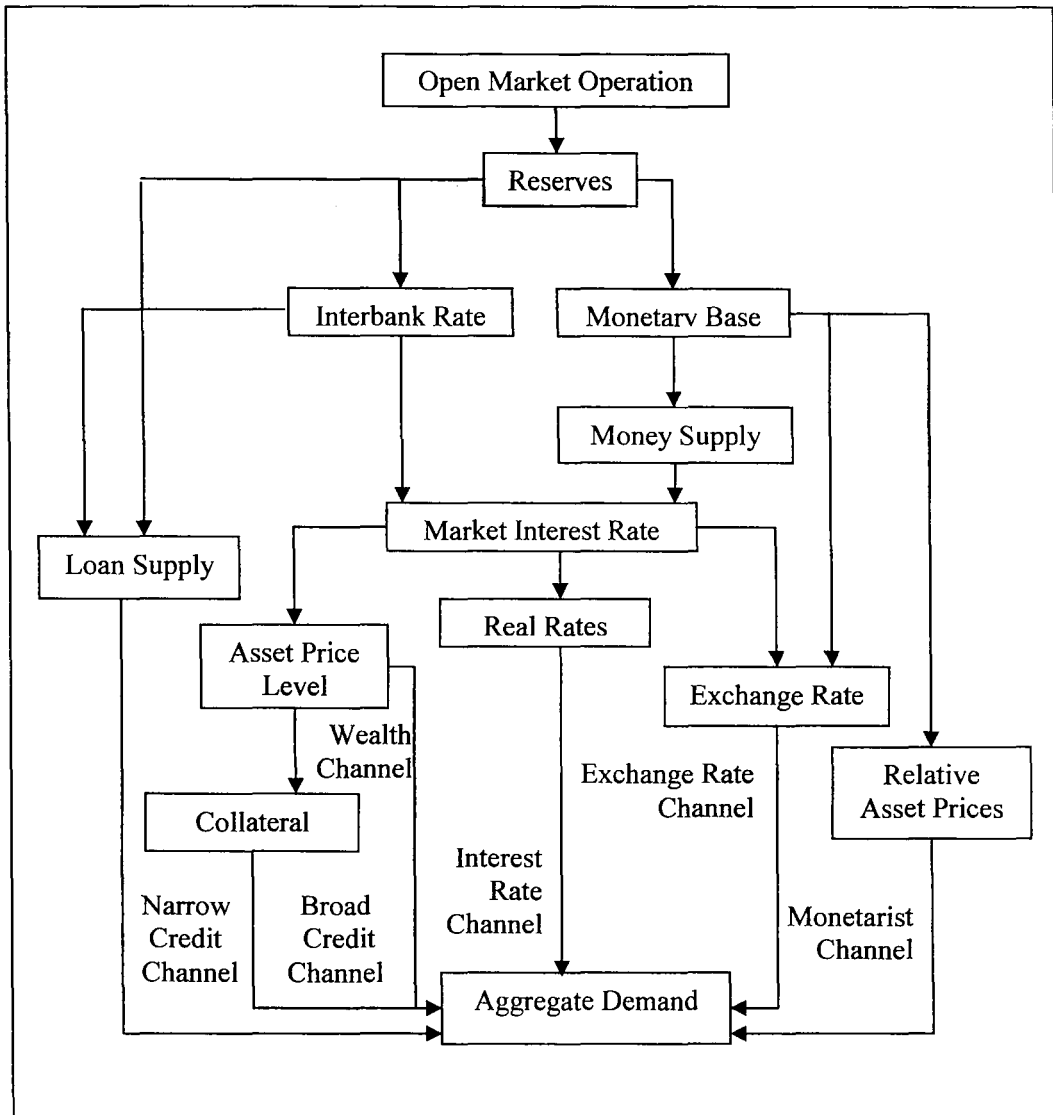


Figure 2.1 Channel of Monetary Policy Transmission

Source: Kuttner, Kenneth, and Patricia C. Mosser. 2002. "The Monetary Transmission Mechanism: Some Answers and Further Questions". *Economic Policy Review*. 8(1): 15-26.