INTEREST RATE AND CREDIT CHANNELS OF MONETARY TRANSMISSION MECHANISM: A STUDY OF THE MALAYSIAN EXPERIENCE (JANUARY 1996 – JUNE 2012)

By

NOOR MAIMUN BT ABDUL WAHAB

Dissertation Submitted to the Othman Yeop Abdullah Graduate School of Business,

Centre for Graduate Studies,

Universiti Utara Malaysia

In Partial Fulfillment of the Requirement for the Master of Science

PERMISSION TO USE

In presenting this dissertation/project paper in partial fulfillment of the requirements for a post Graduate degree from Universiti Utara Malaysia (UUM), I agree that the Library of this university may make it freely available for inspection. I further agree that permission for copying this dissertation/project paper in any manner, in whole part or in part, for scholarly purposes may be granted by my supervisor(s) or in their absence, by the dean of Othman Yeop Abdullah Graduate School of Business where I did my dissertation/project paper parts of it for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall not be given to me and to the UUM in scholarly use which may be made of any material in my dissertation/project paper. Request for permission to copy or make other use of materials in this dissertation, in whole or in part should be addressed to:

Dean of Othman Yeop Abdullah Graduate School of Business

Universiti Utara Malaysia

06010 UUM Sintok

Kedah DarulAman

ABSTRAK

Mekanisme transmisi monetari didefinasikan oleh Taylor (1995) sebagai satu proses di mana polisi di transmisikan kepada perubahan dalam pendapatan dan inflasi. Mekanisme transmisi monetari berfungsi melalui pelbagai saluran iaitu saluran kadar faedah, saluran kredit, saluran kadar pertukaran, saluran harga asset dan saluran jangkaan. Kajian lepas menyokong bahawa saluran kredit menjadi saluran transmisi monetari yang lebih penting daripada saluran kadar faedah di negara-negara seperti China, Korea dan Amerika Syarikat.

Kertas projek ini mengkaji saluran kadar faedah dan kredit sebagai mekanisme transmisi monetari di Malaysia sepanjang tempoh Januari 1996 hingga Jun 2012 dengan menggunakan kaedah Vector autoregrasi (VAR). Kajian ini di bentuk untuk memenuhi dua objektif utama. Pertama, mengkaji kepentingan kadar faedah dan jumlah pinjaman bank perdagangan sebagai saluran mekanisme transmisi monetari di Malaysia. Kedua, mengenal pasti arah kausalitas diantara pembolehubah dalam kajian ini iaitu kadar faedah, jumlah pinjaman bank perdagangan, kadar pinjaman dan indeks harga pengguna.

Keputusan menunjukkan bahawa kadar faedah, kadar pinjaman, jumlah pinjaman bank perdagangan dan indeks harga pengguna adalah berkointegrasi. Kajian ini mendapati bahawa kedua-dua saluran adalah penting dalam mekanisme transmisi monetari di Malaysia.

Kata Kunci: mekanisme transmisi monetari, saluran kadar faedah, saluran kredit dan kaedahVektorAutoregresi (VAR).

ABSTRACT

Monetary transmission mechanism as define by Taylor (1995) as a process through which monetary policy decisions are transmitted into changes in income and inflation. Monetary transmission mechanism works through various channels namely interest rate channel, credit channel, exchange rate channel, asset price channel and expectation channel. A review of the related literature supported that the credit channel to be a more significant monetary transmission channel than the interest rate channel in foreign countries like China, Korea and United States.

This project paper investigates the interest rate and credit channels in the monetary transmission mechanism in Malaysia over the period of January 1996 to June 2012 by employing a Vector autoregressive (VAR) approach. It planned to meet two major objectives. Firstly, is to examine the significance influence of overnight policy rate (OPR) and total loans by commercial banks (TL) as channels of monetary transmission mechanism in Malaysia. Secondly, to identify the direction of causality between the variables used in this study which are overnight policy rate, total loans by commercial banks, lending rate and consumer price index.

The results show that, overnight policy rate, lending rate, total loans by commercial banks and consumer price index are cointegrated. This study finds conclusive evidence that both channels are important in the monetary transmission mechanism in Malaysia.

Keywords: Monetary transmission mechanism, Interest rate channel, Credit channel and Vector Autoregressive (VAR) approach.

ACKNOWLEDGEMENT

I thank Allah S.W.T for giving me the strength and the determination to complete this project paper. This project paper would not have been possible without the guidance of my lecturer and support from my family.

First and foremost, I would like to express my sincere gratitude to my advisor, Prof. Madya Dr. Jauhari B Dahalan for his guidance, valuable insights and detailed critiques. This project paper has benefited tremendously from his wisdom and brilliant ideas. His thought-provoking views have taught me to be independent in doing my project paper and widen my views towards a particular subject.

To my beloved parents, thanks for the encouragement and support given in completing this project paper.

May Allah bless you all.Wassaalam and Thank you.

TABLE OF CONTENTS

PERMISSION TO USE **i**

ABSTRAK **ii**

ABSTRACT **iii**

ACKNOWLEDGEMENT **iv**

TABLE OF CONTENTS **v**

LIST OF TABLES **ix**

LIST OF FIGURE **x**

LIST OF ABBREVIATIONS **xi**

CHAPTER 1 – INTRODUCTION

1.0 Background of the Study 1-3

1.0.1 Financial System in Malaysia 3

a) Banking System 3

b) Non-Financial Intermediaries 4

c) Financial Markets 4

1.0.2 Money 4-7

1.0.3 Period of Economic Crisis 7-8

1.1 Monetary Policy in Malaysia – The Evolution 8-12

1.1.1 Monetary Policy and Monetary Transmission Mechanism: Overview 13

1.1.2 Importance of Monetary Policy and Monetary Transmission Mechanism 13-16

1.2 Problem Statement 17

1.3 Research Question 17-18

1.4 Objectives of the Study 18

1.5 Significance of the Study 18

1.6 Scope of the Study 19-20

1.7 Limitations of the Study 20

1.8 Organization of the Thesis 20

CHAPTER 2 – LITERATURE REVIEW

2.0 Introduction 21

2.1 Difference Channels of Monetary Transmission Mechanism Across Countries 21-30

2.2 Summary of the Chapter 30-40

CHAPTER 3 – METHODOLOGY AND DATA

3.0 Introduction 41

3.1 Data 41-42

3.2 Theoretical Framework 42

3.3 Variables and Measurements 42-44

3.4 Hypotheses Development 44-45

3.5 Econometric Method 45

3.5.1 Stationary and Unit Root Test 46

3.5.2 Vector Autoregressive (VAR) Test 46-47

3.5.3 Cointegration 47

3.5.4 Granger Causality Test 47-48

3.6 Conclusion 48

CHAPTER 4 – ANALYSIS AND FINDINGS

4.0 Introduction 49

4.1 Result from Unit Root Test 50

4.2 Result from Vector Autoregressive (VAR) and Cointegration Test 51-52

4.3 Result from Granger Causality Test 52-53

4.4 Conclusion 53

CHAPTER 5 – DISCUSSION AND RECOMMENDATIONS

5.0 Introduction 54-56

5.1 Recommendation 56-59

5.2 Future Research 59-60

REFERENCES 61-65

APPENDICES

- Unit Root Test Results for

  Overnight Policy Rate (OPR) 67

  Total Loans by Commercial Banks (TL) 68

Lending Rate (LR) 69

Consumer Price Index (CPI) 70

- Result from Vector Autoregressive (VAR) Test 71-72
- Result from Vector Autoregressive (VAR) Test to Determine The Appropriate Lag 72
- Result from Cointegration Test 73
- Result from Granger Causality Test 74

LIST OF TABLES

Table 1: Type of Crises in Malaysia

Table 2: Summary of Empirical Findings from the Previous Studies

Table 3: Sample Data Use in the Study

Table 4: Result from Unit Root Test

Table 5: Result from Vector Autoregressive (VAR) and Cointegration Test

Table 6: Result from Granger Causality Test

Table 7: Summary of Granger Causality Test Result

LIST OF FIGURE

Figure 1: Transmission of Monetary Policy through Various Channels into the Economy

Figure 2: The Evolution of Monetary Policy Transmission Mechanism of Monetary Transmission

Figure 3: Capital Flows and Instability of Monetary Growth

Figure 4: Effect of Overnight Policy Rate to the Economy

Figure 5: Movement of Exchange Rate against Ringgit

Figure 6: Interest Rate Channel of Monetary Transmission Mechanism

Figure 7: Bank Lending Channel of Monetary Transmission Mechanism

Figure 8: Exchange Rate Channel of Monetary Transmission Mechanism

Figure 9: Estimation Process

LIST OF ABBREVIATIONS

Organization of the Petroleum Exporting Countries	OPEC
Bank Negara Malaysia	BNM
Development of Financial Institutions	DFI
Narrow Money	M1
Broad Money	M2 & M3
Base Lending Rate	BLR
Monetary Policy	MP
Overnight Policy Rate	OPR
Total Loans by Commercial Banks	TL
Lending Rate	LR
Consumer Price Index	CPI
Vector Autoregressive	VAR
Probability Value	P-VALUE
Observation	OBS

CHAPTER 1

INTRODUCTION

1.0 Background of the Study

The impacts of monetary policy on the economy and the channels through which they pass constitute a long standing discussion in which no clear consensus has been reached. Various explanations from specific to general, complementary and contradictory, have been given to explain the way monetary policy decisions are transmitted to prices.

Monetary policy consists of rules and regulations implemented by the central bank to achieve its objectives. In fact, price stability has been viewed as one of the major monetary policy goals in most countries like United States, Japan, Germany and including Malaysia. Apart from price stability, central bank implements monetary policy in order to achieve full employment, economic growth, stability in financial markets and stability in foreign exchange market. Stability in prices is important as it will increase the confidence in the value of money and leads to a healthy economy. In ensuring the price stability; central bank needs to have effective monetary policy. Central bank uses various channels like monetary aggregate, interest rates, credit aggregate or exchange rate in formulating its policy or as policy tools. These channels will work as transmission mechanisms in achieving the policy goals.

The purpose of this paper is to provide useful insight on the channels of monetary transmission mechanism in Malaysia. Two channels that will be studied are interest rate

The contents of the thesis is for internal user only

Mala, R., Athanasopoulos, G.,&Param, S. (2009). VARMA models for Malaysian monetary policy analysis. *Monash University: Working paper*.

Mello, L.D.,&Pisu, M. (2009). The bank lending channel of monetary transmission in Brazil: a VECM approach. *The Quarterly Review of Economics and Finance, 50(1), 50-60.*

Meltzer, A. H. (1995). Monetary, credit and other transmission processes: a monetarist perspective. *Journal of Economic Perspectives, 9(4), 49-72.*

Mishkin, F. (2007).*The Economic of Money, Banking, and Financial Markets*. United States of America: Greg Tobin.

Morita, Y.,&Miyagawa, S. (2004). Asymptotic analysis of monetary transmission mechanism.*International Journal of Innovative Computing, Information and Control, 1(3), 313-23.*

Moses, M. S. (2005). Bank lending channel in South Africa: bank-level dynamic panel data analysis. *University of Pretoria: Working paper*.

Noor A., &Aisyah, A. R. (2005). The transmission mechanism of monetary policy in Malaysia: through bank loans or deposit?.*Journal of Economics and Management, 13(1), 1-18.*

Noor, A. G.,&Aisyah, A. R. (2001). Monetary policy, development of financial market and bank lending: an analysis of the bank-lending channel in Malaysia. *Malaysian management Journal, 5(1&2), 119-37.*

Poon, W. C. (2010).Testing transmission mechanism on economic growth in Malaysia.*Monash University: Discussion Paper*.

Ramlogan, C. (2004). The transmission mechanism of monetary policy: evidence from the Caribbean. *Journal of Economic Studies, 31(5), 435 –47.*

Robert, C.S.,&Kalckreuth, U.V. (2003). On the Germany monetary transmission mechanism: interest rate and credit channels for investment spending. *CESifo Group Munich: Working paper.*

Roseline, N.M., Njoroge, L., Kaman, A.,&Ouma, S. (2010). Financial innovation and monetary policy transmission in Kenya.*International Research Journal of Finance and Economics, 10(2), 170-82.*

Saibu, M. O. (2012). The monetary transmission mechanism in Nigeria: a sectoral output analysis. *International Journal of Economics and Finance, 4(1), 204-12.*

Salina, K., Majid, M.,&Shabri A. (2009). The role of bank loans and deposits in the monetary transmission mechanism in Malaysia. *International Journal of Banking and Finance, 6(2), 37-59.*

Salina. (2006). Bank Lending and the Transmission of Monetary Policy in Malaysia.*International Islamic University: Doctoral Dissertation.*

Serju, P.(2003). Monetary policy and the Jamaican economy: a sectoral analysis. Bank of Jamaica: *Working Paper.*

Shabbir, S. (2012). Balance sheet channel of monetary transmission mechanism in Pakistan: an empirical investigation. *SBP Research Bulletin, 8(1), 1-12.*

Tai, P.N., Siok, K. S.,&Wai, M.H. (2012). Interest rate pass-through and monetary transmission in Asia.*International Journal of Economics and Finance, 4(2), 163-74.*

Taylor, J.B. (1995). The monetary transmission mechanism: an empirical framework. *Journal of Economic Perspectives, 9(4), 11-26.*

Tobin, J.,&Brainard, W. C. (1963). Financial intermediaries and the effectiveness of monetary controls. American Economic Review, 53(2), 383-400.

Tucker, I. V. (2005). *Economics for Today*. United States of America: Michael B. Mercier.

Tushar, P. Randa. S.,&Hasmik. K. (2006).The monetary transmission mechanism in Jordan.*International Monetary Fund:Working Paper.*

Viet, L. H. (2008). VAR analysis of the monetary transmission mechanism in Vietnam.*Applied Econometrics and International Development, 9(1), 165-79.*

Vizek, M. (2008). Econometric Analysis of Monetary Transmission Channels in Croatia. *Crotian Economic Survey, 10, 11-44.*

Vonnak, B. (2006). The Hungarian monetary transmission mechanism: an assessment. *Bank for International Settlement: Working paper.*

Wooldridge, M. J. (2006). *Introductory econometrics: a modern approach 3rd edition.* Cincinnati, OH: South-Western College Publishing.

Yiding, Y.,&Shuanghong, z. (2007). Emperical analysis of the monetary policy transmission through interest rate channel in China.*Chinese Business Review, 6(3), 8-13.*

Yiping, Y., Zhang, P.,& Jiang, J.H. (2009). The interest rate transmission mechanism in China.*University of International Business and Economics China: Working paper.*

Zhenshan, W.,&Zhiqiang, W. (2000). An empirical investigation of the channels of monetary transmission mechanism.*Research on Financial and Economic Issues,* 2000 (12).

Zulkefly, A. K., Wan, N., Wan, A, S., Abdul, K.,&Bakri. (2010). Bank lending channel of monetary policy: dynamic panel data evidence from Malaysia. *National University of Malaysia: Working paper.*