Faculty of Economics and Business

ECONOMIC UNCERTAINTY AND THE DEMAND FOR MONEY IN SOUTH AFRICA

Tan Wen Hsien

Bachelor of Economics with Honours
(Industrial Economics)
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ECONOMIC UNCERTAINTY AND THE DEMAND FOR MONEY IN SOUTH AFRICA

TAN WEN HSIEN

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Faculty of Economics and Business
Universiti Malaysia Sarawak
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ABSTRACT

Economic Uncertainty and the Demand for Money in South Africa

By
Tan Wen Hsien

This study examines the importance of economic uncertainty as one of the determinant of money demand function in South Africa by determining the long-run relationships between the real money demand (RM1, RM2, and RM3) and the economic uncertainty, and other control variables as well. The period of study employed is from 2000Q1 to 2014Q4. The GARCH methodology is employed at first to construct the economic uncertainty index (EUI). Then, the long-run relationships are determined by the Johansen cointegration test. The result shows there is a long-run relationship between each real money demand and the control variables. Stable real money demand function for RM1, RM2, and RM3 models are resulted from the CUSUM and CUSUMSQ tests. However, there is only one model which all control variables are significant to the real money balance, which is RM3 model. This indicates that the RM3 is suitable to be employed as indicator for monetary policy or inflation targeting policy in South Africa to predict the trend of inflation in future and whereby some effective precautions or strategies can be recommended for encountering the shocks or uncertainty in future.

ABSTRAK

Ketidaktentuan Ekonomi dan Permintaan Bekalan Wang di Afrika Selatan

Oleh

Tan Wen Hsien

Kajian ini meneliti kepentingan dalam ketidaktentuan ekonomi sebagai salah satu penentu fungsi permintaan wang di Afrika Selatan dengan menentukan hubungan jangka masa panjang antara permintaan wang sebenar (RM1, RM2 dan RM3) dan ketidaktentuan ekonomi, dan juga faktor yang lain. Tempoh pengajian yang digunakan adalah dari 2000Q1 ke 2014Q4. Metodologi GARCH berfungsi membina indeks ketidaktentuan ekonomi (EUI). Kemudian, hubungan jangka masa panjang ditentukan dengan ujian kointegrasi Johansen. Hasil kajian menunjukkan terdapat hubungan jangka panjang antara setiap permintaan wang sebenar dan faktor pembolehubah kawalan. Kestablian model RM1, RM2 dan RM3 ditubuhkan dalam ujian CUSUM dan CUSUMSQ. Walau bagaimanapun, hanya ada satu model yang semua pemboleh ubah kawalan adalah ketara kepada baki wang sebenar, iaitu model RM3. Ini menunjukkan bahawa RM3 sesuai untuk dipraktikkan sebagai penunjuk untuk dasar kewangan atau inflasi dasar di Afrika Selatan dalam peramalan trend inflasi pada masa hadapan. Dengan dasar-dasar ini, beberapa tindakan pencegahan atau strategi yang berkesan juga boleh disyorkan bagi menghadapi kejutan atau ketidaktentuan pada masa hadapan.

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Besides that, I would like to thanks UNIMAS for giving me an opportunity for having this kind of project which is useful. From this study, I gain extra knowledge in South Africa such as the economic backgrounds, crisis or uncertainty in terms of politics, economics, and social, the policies that implemented, and among others. Besides gaining the advantage of enhancing or broaden my knowledge, at the same time, it also triggers my passion to further my study on the combination of this country and other countries, like BRICS, in future by undertaking Master program.

For sure, a big thank you credits to my mummy and sister who support me. Mentally support from them is a kind of motivation for me to go through my FYP. Without their supports along the way, I would not complete my FYP on time. Last but not least, I also have to take an opportunity here to say a thank you to my friends who help me to correct the format errors and grammar mistakes in my FYP.

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

Globally, money is an essence in order for people to survive. It allows people to trade or buy goods and services from others to fulfil their needs in daily life. The most basic needs or necessary things that people cannot live without are water, foods and shelter. Thus, money is considered an important survival tool and it consists of three crucial functions which cannot be neglected.

First, money acts as a medium of exchange. When a buyer need to buy an item from a seller in a market, he need to pay for it by giving the cash (money) on his hands since money is the common and most liquid asset which existed. In advance, each country has its own unique currency, e.g. Rand used in South Africa. For easier trade purpose, a person need to undergo currency exchange before he travels to a particular country. Second, money acts as a unit of account. People usually use money to measure the values of the goods instead of using the quantity of substitutes to measure the value. A standardize and accurate of measurement of any economic value is money. For example, the debts from a debtor cannot be measured or replaced by the quantity of goods but measure in terms of money.

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Third, money acts as a store of value. We can hold the current earnings of money to future because the value of money exists forever but with condition, it may appreciate or depreciate followed by any shocks or economic uncertainty. In other words, the uncertainty generate a certain impact on the economic agents to hold their money. For example, if there is a volatility of the interest rates and it declines in advance due to the economic uncertainty, people may tend to hold less money in the bank. Same goes to the condition of volatility in stock market. If there is a forecasting about there will be a certain amount of risk of holding assets which relevant to stock markets, majority of the economic agents will tend to sell their stock market assets respectively to avoid any loss or further loss in future. In general, people tend to hold more cash on hands instead of holding the unnecessary risk due to the uncertainty or shocks.

Conventionally, money demand functions were predicted as relationships between real money balances, a scale variable (real income which commonly used) and the opportunity cost of holding real money (interest rate which frequently used). However, the simple relationship of the money demand function cannot sustain the recent behaviour of monetary aggregates (Atta-Mensah, 2004). Since there are crisis and uncertainties happened, such as 2008 Global Financial Crisis, it may affects the economic agents who basically behave risk-averse to make decision about the demand for money, whether to hold money on hand or continue to make investment. Hence, an important variable in determining the money demand function is formed and is known as economic uncertainty.

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In facts, the economic uncertainty is usually derived from the six elements of sources, which are the level of economic activity (real gross domestic product is used commonly), exchange rate uncertainty, inflation uncertainty, the mood of the stock market (index of the stock market prices), short-term interest rates (usually substituted by the monetary policy uncertainty), and long-term interest rates (in terms of bond market). In short, the economic uncertainty is an important determinant for the money demand function, because it able to capture the volatilities of macroeconomic variables or explaining the crisis in certain years, which in turns, aids the improvement for monetary policy. In this study, few components of economic uncertainty will be highlighted and thus examine the impact of economic uncertainty on the demand for money in South Africa.

1.1 Discussion on Relevant Issues

Based on Keynes (1936), due to the necessary speculative, precautionary and transaction, there exist the concept of demand for money. According to Atta-Mensah (2004), a money demand function can be expressed as following:

$$\frac{M_t}{P_t} = \beta_0 + \beta_1 y_t + \beta_2 r_t + \beta_3 EUI_t + \varepsilon_t$$

where,

M = nominal money

β_0 = constant

P = price level

y = real income

r = interest rates

EUI = economic uncertainty index

ε = error term

Regarding the money demand function stated above, the real money balances are referred to the dependent variable, which is normally derived from the nominal money adjusted by the price level. The real money balances are composed of M1, M2 and M3. There are two categories for the real monetary aggregates: narrow money and broad money. Narrow money usually refer to the assets which have exchange function and described as most liquid. For the broad money, it refers to the assets rendering portfolio opportunity to asset holders and its liquidity is less than the narrow money. In addition, M1 is categorized in terms of narrow money while the M2 and M3 are categorized in terms of broad money. However, the previous studies of money demand function mainly focus on broad money, i.e. the studies from Bahmani (2013).

To the best knowledge of this study, the real income does affect the demand for money. When there is an increase in income, the wealth of a person will be increased too. Definitely, the wealth increase will trigger the purchasing power of a person, and in turns, people have bigger opportunity to buy or purchase more for their needs and wants. Thus, the demand for money will be boosted. Another important determinant

of the demand for money will be interest rates. Interest rate is simply described as the opportunity cost of money. When the interest rate decreases, people will tend to have an opposite effect on the demand for money, which is tend to hold more money in hand, and vice versa.

The economic uncertainty is important to be included in the money demand function. There are few previous studies included the economic uncertainty as a variable in determining the demand for money, i.e. Atta-Mensah (2004) who examined the relationship between money demand and economic uncertainty using Canadian monetary aggregate; Bahmani-Oskooee and Xi (2001) who proved the evidence of long-run and short-run relationship between the demand for money and economic uncertainty, among others. It cannot be denied that economic agents tend to hold safer (less risky) assets in any uncertain economic condition (Atta-Mensah, 2004). Hence, economic uncertainty plays a crucial role on the effect of demand for money.

In short, the independent variables such as real income (real GDP), interest rates, and economic uncertainty are necessary to be included in the basic function of demand for money to aid the precise reaction policy control on the demand for money (Gan, Lim, Hussin, & Muhammad, 2015).

1.2 Problem Statement

From the previous researchers, there are a lot of studies that solely focus on the stability of the demand for money without concern of the economic uncertainty. For example, the study of the stability of the money demand in South Africa by Nell (1999), the examination of money demand stability in Nigeria by Kumar, Webber and Fargher (2013), the investigation of the stability of broad money demand (M3) in South Africa by Dube (2013), among others. In order to ensure the money demand function becomes more precise and improves in advance, it is important to include economic uncertainty as one of the independent variables. The importance of economic uncertainty is significant when crisis happened and cause certain impacts on the financial aspects in the real world.

Due to the discovery of the importance of the economic uncertainty, few studies existed and related the economic uncertainty to the demand for money. For example, Fanta (2013) investigated the financial deregulation, economic uncertainty and the stability of money demand in Australia, Jackman (2010) studied the relationship between the economic uncertainty and the demand for money in Barbados, Bahmani-Oskooee and Xi (2014) discussed the economic uncertainty, monetary uncertainty, and the demand for money in African countries, among others. Although there is a literature which previously studied from Kones (2014), who investigated the impact of monetary uncertainty and economic uncertainty on money demand in 21 African countries, including South Africa, the definition of economic uncertainty was restricted to output uncertainty only. He did not encounter any extra sources of economic uncertainty besides the volatility of real GDP.

In addition, there is an imperfection if the study of money demand function is solely focus on one real money aggregate, M2, in the case of Kones (2014). To ensure the entire money demand function in South Africa is well-explained or comparison can be made, real narrow money aggregate (M1) and real broad money aggregate (M2 and M3) are necessary to be included. As followed, the stability of M1, M2 and M3 in South Africa can be determined, as well as the short-run or long-run relationships in between the variables, which can assist the government to form a better monetary policy for encounter the occurrence of any unpredictable incidents or shocks in future.

To fill this gap, the study of economic uncertainty and the demand for money in South Africa is worth to explore and investigate. Thus, the research questions that encounter in this study could be:

(i) What are the sources of economic uncertainty which are appropriate to be included in order to examine the money demand function in South Africa?

(ii) Does the money demand function in South Africa stable?

(iii) Is there a significant relationship between the real monetary aggregates and economic uncertainty in South Africa?

1.3 Objectives of the Study

- General Objective

  The general objective of this study is to investigate the impact of the economic uncertainty on the demand for money in South Africa.

- Specific Objectives

    (i) To investigate the essential sources of economic uncertainty in South Africa.

    (ii) To ascertain the stability of the money demand function in South Africa.

    (iii)To explore the long run relationships between the real money demand and economic uncertainty and other control variables as well.

1.4 Significance of the Study

In this study, the main objective is to examine the impact of economic uncertainty on the demand for money in South Africa. Before estimate the results, through the ultimate searching and reading relevant journals, the information about the issues in South Africa and knowledge are delivered indirectly. And yet, the importance of the sources of economic uncertainty cannot be neglected. The six main sources of economic uncertainty can be examined whether is necessary to be involved all or not for the case in South Africa. Besides that, through the combination of the economic uncertainty with the other control variables, the result from the money demand function in South Africa will be more accurate.

In addition, the implications of the model in this study may lead to the better formation of economic and monetary policy. Besides that, the government can utilize the results of this study as a guideline to figure out the strategy and solutions to overcome any economic uncertainties or reduce the impact of external shocks on the demand for money in future. Lastly, the significant result of this study can be applied as the use of forecasting financial crisis in future.

1.5 Scope of the Study

This study intends to investigate the economic uncertainty and the demand for money in South Africa. This study applies quarterly times series data which is collected from year 2000Q1 to 2014Q4. In other words, there is a total of 60 observations which highlighted in this study. The overall structure of the study takes the form of six chapters and their sequences are organized as follows. Chapter Two looks into details about the background of the study. Chapter Three provides literature review on the previous studies and segregates into developing countries and developed countries. Chapter Four is concerned with the methodology used for this study. Chapter Five presents the results of the research and provides discussions from the relevant results. The last chapter will be Chapter Six which is about stating the conclusion and the important policy implication.

CHAPTER TWO

BACKGROUND OF THE STUDY

2.0 Introduction

In this study, economic uncertainty and the demand for money is focused on a specific country among the 53 African countries[1], which is South Africa. The Republic of South Africa is the official name of the South Africa. Its location is situated at the southernmost country in Africa. Besides that, it has three well-known Capitals which are Pretoria for executive, Cape Town for legislative and Bloemfontein for judicial. Furthermore, the largest city of South Africa is known as Johannesburg. The relevant information of the background of South Africa and the variables of this study will be discussed in advance at the below sub-sections.

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[1] There are total 53 countries in Africa which composed of Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Republic of the Congo, Democratic Republic of the Congo, Côte d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, South Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia and Zimbabwe. To view the map of the 53 African countries, refer to http://www.infoplease.com/atlas/africa.html