

THE MONETARY MOVEMENT OF THE RINGGIT MALAYSIA AGAINST
THE EURO

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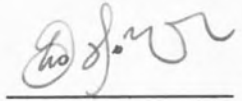
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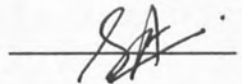
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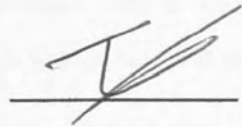

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PERGERAKAN KEWANGAN KADAR PERTUKARAN WANG ASING DI ANTARA RINGGIT MALAYSIA DENGAN EURO

ABSTRAK

Disertasi ini dijalankan dengan hipotesis bahawa suatu siri kadar pertukaran wang asing bukan mengikut sifat perjalanan rawak tetapi mengikut autokorelasi negative peringkat pertama. Penyelidikan ini menggunakan data 6 tahun harian untuk pertukaran wang asing di antara Ringgit Malaysia dengan Euro. Kajian ini dimulakan dengan menjalankan ujian ke atas sifat-sifat asas seperti mengkaji skewness, kurtosis dan kenormalan data siri masa kadar pertukaran wang asing di antara Ringgit Malaysia dengan Euro dan logaritma peringkat pertama pertukaran wang asing tersebut, dengan menggunakan statistik Jarque-Bera. Kedua-dua data tersebut menunjukkan sifat ketidaknormalan. Seterusnya, kewujudan punca unit (unit root) diuji dengan menggunakan ujian Augmented Dickey-Fuller (ADF) dan bukan dengan ujian Dickey-Fuller (DF), seperti yang dirancang untuk menentukan sama ada siri ini mempunyai ciri-ciri pergerakan rawak. Ini adalah kerana siri yang digunakan mempunyai lag 2. Kemudian, siri ini diperiksa sama ada bersifat autokorelasi peringkat pertama dengan ujian Durbin-Watson. Oleh kerana ujian DW mempunyai kekurangan, ujian Breusch-Godfrey Serial Correlation LM dijalankan. Selepas menjalankan semua ujian, kita boleh menyimpulkan bahawa walaupun siri ini menunjukkan kewujudan pergerakan rawak, ujian ADF dijalankan dengan andaian siri tersebut mempunyai varians yang malar. Suatu siri kadar pertukaran wang asing tidak mempunyai min dan varians malar. Walaubagaimanapun, kerana kekurangan data, kita tidak boleh mengkategorikan sama ada siri ini mempunyai ciri-ciri pergerakan rawak atau bersifat autokorelasi peringkat pertama.



ABSTRACT

This research is carried out under the hypothesis that an exchange rate series does not display random walk behaviour but is instead a first order negative autocorrelation. A daily data of 6 years for the Malaysian Ringgit against the Euro exchange rate was used in this research. This paper first tests some basic characteristics, such as the skewness, kurtosis and the normality of the time series data for the Malaysian Ringgit against the Euro exchange rate and the first difference of the logarithms of the exchange rate using the Jarque-Bera statistics. Both the raw and the transformed data showed signs of non-normality. Subsequently, the presence of unit root is tested using the Augmented Dickey-Fuller test (ADF) and not the Dickey-Fuller test (DF) as pre-planned to determine whether this series displayed random walk behaviour. This is because the series is of lag 2. Thirdly, this research checked whether the series is a first order negative autocorrelation using the Durbin-Watson test. Since the DW test has its shortcomings, the Breusch-Godfrey Serial Correlation LM test was then carried out. After running all the tests, we can conclude that even though the series does display some tendency towards random walk, we cannot thoroughly accept it as that because the ADF test is carried out under the assumption that the series has a constant variance. An exchange rate series does not have constant mean and variance. However, because of the lack of the number of observations, we cannot categorise this series either to display random walk behaviour or to have a negative first order autocorrelation.



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LIST OF SYMBOLS

USD	United States Dollar
GBP	Great Britain Pound
JPY	Japanese Yen
G-5	Great 5 countries
\$	Dollar
£	Pound
¥	Yen
RM	Ringgit Malaysia
€	Euro
SwFr	Swiss Franc
R^2	coefficient of determination



CHAPTER 1

FOREWORD

1.1 INTRODUCTION

The fundamental concept of foreign exchange had existed since the beginning of mankind. In early civilisation, cultivators bartered their crops for skins gathered by hunters. Gradually, trade began to cross borders in which merchants exchanged silks, spices, precious metals, foods and other commodities. When such commerce grew in size and strength, a more systematic approach was adapted, where specific medium of exchange such as, shells, stones, precious metals and gems, were recognised.

Thus the evolution of money started. The expansion of international trade and the transfer of goods from one country to another had caused currencies to take a more important role-play. However, microeconomic aspects like the supply and demand of currency and macroeconomics aspect like inflation, import and export, and foreign investments contributes to the varying worth of currency (Carew & Slatyer, 1995). The exchange value of a certain currency has crucial effects on a merchant's return. Similarly, as international economy becomes more interdependent, the fortune of one country's



currency affects the prosperity of another. Thus, international deals inevitably lead to foreign exchange.

The exchange rate is simply put as the 'price' of a foreign currency (Copeland, 1994). A foreign exchange deal, however, is business transaction involving money between residence of different countries or currencies (Weisweiller, 1990). In a general definition, exchange rate of currency A in terms of currency B is the number of units of currency B needed to buy a unit of currency A. For example, according to Table 1.1, an excerpt from Bank Negara Malaysia's online foreign exchange data, the USD 1 will buy RM 3.80 where as the GBP 1 will buy RM 6.77 and so on and so forth.

Table 1.1 Middle Rates in relations to the RM at 12 noon Malaysian time, equivalent to 1 unit of foreign currency (unless stated otherwise)

2/1/2004	USD	GBP	EUR	JPY100	CHF	AUD	CAD	SGD
	3.8000	6.7684	4.7757	3.5546	3.0619	2.8586	2.9286	2.2361
	HKD100	THB100	PHP100	TWD100	KRW100	IDR100	SAR100	SDR
	48.9451	9.5851	6.8419	11.1864	0.3179	0.0449	101.3252	5.6467

A deeper analysis will provide a clearer definition that exchange rate is actually the domestic currency of a foreign currency. Changes in the exchange rate, whether it depreciates or appreciates, can be caused by a change in the value of one currency or the other currency, or could be changes in both currencies simultaneously.



1.2 HISTORICAL BACKGROUND

Realising the importance of foreign exchange in international trade, countries decided that a uniform system, where all countries will be in terms with, needs to be established.

1.2.1 Bank for International Settlements (BIS)

The first ever organization of such was established in 1930 called the Bank for International Settlements (BIS) in Basle, Switzerland (Weisweller, 1990). This bank assisted young independent countries to set up its own financial institution and practices. It also provided monetary help when a small nation's currency reserve is strained. However, the BIS had its limitation which could not exploit its cause to its full potential.

1.2.2 Bretton Woods Era

An international conference held in New Hampshire, United States, from 1st till 22nd July 1944 by representatives from the United States, France and the Great Britain, brought about the establishment of a new international monetary system, the International Monetary Fund (IMF), and the International Bank for Reconstruction and Development or better known as World Bank. This was the beginning of the Bretton Woods era.

The international monetary system describes whatever the current predominant set of arrangements among countries to determine the value of currencies (Carew & Slatyer,



1995). Most countries would set its own policy concerning the movement of its currency against other currency, but it could also be an agreement between a few countries.

The IMF is a Washington-based organization that encourages exchange rate policies, which would synchronize the payments between countries. The IMF has 126 member countries. The mechanism in which IMF works is that when a country experiences financial problems of any kind, she approaches the IMF for assistance. Then, the IMF will examine the state of affairs in that country and also its possible solution. IMF usually commits in lending aid over a period of three years. The particular country will have to sign a letter of intent and abide by the conditions set by IMF to overcome the problems. These letters of intent are the formal agreements by the government to take specific course of action to correct poor trends in the domestic economy.

The World Bank's initial objective is to help fund post-war reconstruction in Europe, and foster steady and balanced growth in international trade, as suggested by its name (Carew & Slatyer, 1995). This bank also lends to poor countries which needs financial help in development. The headquarters is situated in Washington DC.

The Bretton Woods era only lasted until 1971, when floating exchange rate was favoured instead of the fixed exchange rate. This was because the gold stock that belongs to the United States could not keep up with the rate of growth of dollars held by the rest of the world central banks. There was a dilemma on whether or not to allow the United States to increase payments because if they did so, the international monetary system is



bound to collapse in a crisis. However, if they choose not to increase the payment, the world will be faced with dire deflation (Gandolfo, 1995).

1.2.3 Smithsonian Agreement

In December 1971, Group of Ten countries met at the Smithsonian Institute in Washington to make a shift in the monetary system. Due to the complications of the fixed exchange rate, they had decided to devalue the US Dollars against gold and other currencies (Carew & Slatyer, 1995). However, this decision did not work and by 1973, most countries have already opted for the flexible exchange rate.

1.2.4 Plaza Agreement and the Louvre Accord

Over the time, the US Dollars grew by strength. In September 1985, a Plaza Agreement was signed by G-5 countries which consist of France, West Germany, Japan, the United Kingdom and the United States of America. This meeting was done to adjust the then exchange rate. The outcome of this meeting had acclaimed that the US Dollars had been over-valued and the international market had to bring it down. The G-5 also had made it known that they would intervene, if necessary, to bring the international exchange rate in line.

In February 1987, the G-5 met again and reached the Louvre Accord agreement in which they decided that the US Dollars have fallen low in enough. They also had taken



steps to ensure that the exchange rate stability will be guaranteed. The foreign exchange needs to be stable because if the US dollar is over-valued against any other currency, the imported products sold in the US will be cheaper than the products made in United States.

1.3 HOW DOES A FOREIGN EXCHANGE MARKET WORKS

1.3.1 Foreign Exchange Trading

The advent of information and communication technology has enabled trading of foreign exchange to be done around the world and around the clock. It is important that the market players keep up with the pace of the exchange rates.

Trading is done 24 hours. When the southern hemisphere is asleep, the northerners will be busy trading, and vice versa. So, in other words, trading never ends except for weekends where the foreign exchange market 'rests'. Only in Hong Kong that the foreign exchange market runs half day Saturday and in Bahrain where it runs whole day Saturday (Carew & Slatyer, 1995). It is of tradition that any important announcement regarding the movements in exchange rates be made on a Sunday, when the market is closed. Unless there is an absolute need, only then such announcements will be made when the market is 'alive'.

A foreign exchange deal can be made through the telephone, telex, interbank market, which is handled by the Reuters Dealing System (Carew & Slatyer, 1995). When



a telephone deal is made, the details of the deal will be put on paper and later sent to be signed by both parties.

Each foreign exchange deal involves four essential characters, namely, purchase and sale, price, value date, and delivery instructions. Nevertheless the core currencies who act as the major players in the current foreign exchange market are the USD, Deutschmarks, GBP, Japanese ¥, Swiss Franc, French Franc and the Canadian \$ (Carew & Slatyer, 1995).

1.3.2 The Market Players

Even though there are many players in the foreign exchange market, the key participants are the banks, merchant banks, corporations, central bank and foreign exchange brokers.

The banks that are involved in the foreign exchange markets are the big-scale banking players, who are large, internationally-operating institutions. In the United Kingdom, they are called clearing banks where as in the United States they are called the commercial banks (Carew & Slatyer, 1995). Only those big operators have the capacity to influence the exchange rate movements. These banks are actively involved in the foreign exchange market both on behalf of their clients, comprising of traders in the import and export business, borrowers and lenders, and also on their own account.



A bank's role in the foreign exchange market is as an intermediary and also as the principal (Carew & Slatyer, 1995). They provide services and also administer their own position beneficially. The difference between banks and corporations is that a bank's aim in the foreign exchange market is to gain profit; not caring about others in the market or the market itself. On the other hand, a corporation's main aim would be to protect their cash flow from fluctuations in the exchange rates.

Banks, in addition, does foreign exchange transactions at the retail level. This means that they would exchange one currency for another in cash or travellers' cheques. Banks main concern is to optimize their profit. Banks make their profits from exchange rate differential, 'spread' in a bank quote meaning the difference between the selling and the buying price, and from fee income. Bankers quote two prices; namely the buying price and the selling price.

Merchant banks play a role in determining the movement of a foreign exchange market although their role may not be very significant. Merchant banks trade with each other and with banks; either directly or through a broker.

Financial institutions consist of superannuation funds and insurance companies. What makes these institutions a major force in a foreign exchange market is their offshore investments and overseas activities. With such investments, they have to manage liabilities and assets.



Companies that are involved in import and export usually monitors foreign exchange because their whole trade is based on this exchange rate. More often than not, these companies will have a treasury department which acts as their internal bank. However, the quantity of foreign currencies traded typically is lesser than a bank, but multinational corporations (MNCs) can influence the movement of the market by large order size.

Central banks are renowned as the guardians of their country's monetary and banking system, and also as the holder of foreign currency reserves (Carew & Slatyer, 1995). There are very few countries which practices absolute 'clean' float. One country that practices such is New Zealand. Most countries, even if they practice floating exchange rate, there tend to be intervention from their central bank.

1.4 RESEARCH BACKGROUND

The importance of the foreign exchange market cannot be disputed. Currently, the US dollar is noted to be the most influential currency. Most trades are done in terms of USD. However, with the advent of Euro, it is expected that the USD is challenged.

Many different researches have been done based on the movement of RM against the USD. This research will look at the possibility of the Euro being a major trading currency for Malaysia instead of the USD.



A foreign exchange market can be divided into two distinguish theories, namely the random walk theory and the efficiency market theory. This research will be based on the hypothesis that the exchange rate series is not a random walk model. As an alternative, it is said that the exchange rate series shows signs of being a negative first order autocorrelation.

1.5 OBJECTIVES

- i. To test some basic characteristics, such as the skewness and kurtosis of the time series data for the Malaysian Ringgit against the Euro exchange rate and to execute normality test.
- ii. To check whether the RM/Euro exchange rate displays random walk behaviour by testing the presence of unit root.
- iii. If the RM/Euro exchange rate series does not display random walk behaviour, then to ensure whether it is a first order negative autocorrelation.

1.6 RESEARCH SCOPE

The scope of this research is test the daily middle exchange rate of Malaysian Ringgit against the Euro over the period of six years, from 4 of January 1999 to 31 of December 2004.



CHAPTER 2

LITERATURE REVIEW

2.1 EURO (€)

The Euro was introduced on 1 January, 1999 as the common currency for eleven out of the then fifteen nations of the European Union (EU). The countries were Austria, Belgium, Germany, Finland, France, Ireland, Italy, Luxembourg, Netherlands, Spain and Portugal (Salvatore, 2000). The national currencies of the member countries became non-decimal subunits of the Euro. The conversion rates between each of them and the Euro became permanently fixed.

There are certain qualities countries need to possess to enter this coalition in terms of economic achievements. These countries should have a certain unemployment and inflation rate, in addition to the capital and mobility issues that they will first have to handle. Three other countries, namely, Britain, Denmark and Sweden chose not to enter this coalition, where as Greece was not allowed to enter because it did not satisfy any of the Maastricht condition of admission.



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