

UNIVERSITI PUTRA MALAYSIA

REAL EXCHANGE RATE AND ECONOMIC FUNDMENTALS; THE CASE OF A DEVELOPING ECONOMY

AZAM RASOULI

FEP 2004 13

REAL EXCHANGE RATE AND ECONOMIC FUNDMENTALS; THE CASE OF A DEVELOPING ECONOMY

SUPERVISOR:

ASSOCIATE PROFESSOR DR. ZULKORNAIN YUSOP

BY:

AZAM RASOULI

FACULTY OF ECONOMICS AND MANAGEMENT
UNIVERSITI PUTRA MALAYSIA

2004

ACKNOWLEDGEMENTS

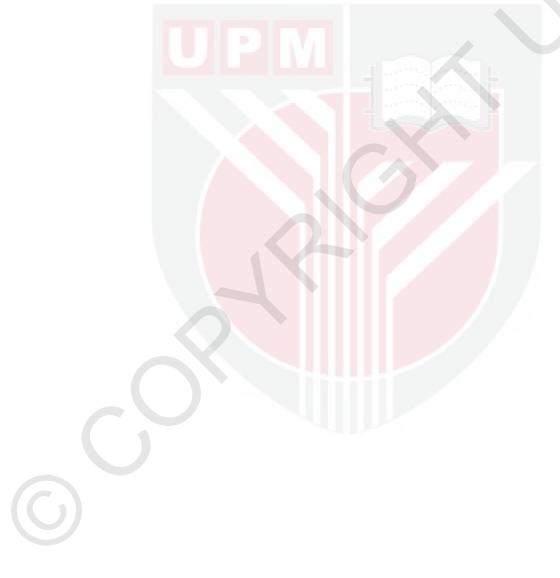
I wish to express my sincere appreciation and gratitude to my supervisor Associate Professor Dr.Zulkkornain Yusop for his Constructive guidance and fruitful suggestions that have made the completion of this project a success. His Productive efforts have made me cherish the importance of self-Reliance and independence in academic research work.

My thanks and appreciations are extended to my husband who I owe him a great deal for his encouragement and support to complete my further study. Also my children for continues and steadfast support and encouragements.

Table of content

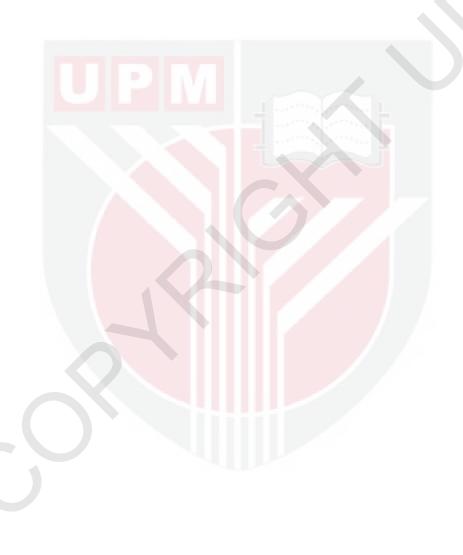
Abstract	1
CHAPTER ONE Introduction	2
1.1 The importance of the real exchange rate	2
1.2 The Real Exchange Rate Definitions	3
1.2.1 Purchasing Power Parity	4
1.2.2 The Definition on the Basis of the Tradable and Non-tradable Goods	4
1.3 Problem Statement	6
1.4 Significant of the Study	8
1.5 Objectives of the Study	8
1.5.1 The General Objective	8
1.5.2 The Specific Objectives	9
CHPTER TWO Back Ground of Iranian Economy	10
2.1 The 1993 Unification and Foreign Exchange System (1993-2002)	10
2.2 Characteristics of the Iranian Economy	14
2.2.1 Nature of Output Fluctuations	14
2.2.2 Inflation control	17
2.2.3 Structure of Financial and Foreign Exchange Market	18
2.4 The Exchange Rate – Growth Rate	21
2.5 Exchange Rate And International Trade Theory	21
CHAPTER THREE Literature Review	28
3.1 literature Review in Advance and developing country	28
3.2 Criteria for Exchange Rate Regime Choice	32
	-
CHAPTER FOUR Methodology and Estimating Methods	35
4.1 The Model	35
4.2 Empirical Model	37
4.3 Estimated methods	38
4.4 Unit Root Test, Augmented Dickey Fuller, ADF, Test	40
4.5 Johansen Cointegration in Multivariate Systems	41
4.6 The Autoregressive Distributed Lag (ARDL) Cointegration Approach	43
4.7 Error Correction Representation:	46
CHAPTER FIVE Result and Discussion	47

5.1 Introduction	47
5.2 Lag Length Selection	49
5.3 Co integration Test	50
5.4 ARDL selected based on Schwarz Bayesian Criterion	53
5.5 Error Correction Representation	55
5.6 Long Run Coefficients	57
5.7 Residuals	59
5.8 Variance Decomposition and Impulse Response Analysis	60
CHAPTER SIX Conclusion and Policy Recommendation	63
References	68
Appendix	71



List of Tables

1.1 Irans' Selected Economic Indicator	12
5.1 Results of Unit Root test	48
5.2 Bounds Test for Cointegration Analysis	52
5.3 ARDL (1,0,0,1,2,2,0)	54
5.4 Estimated Long Run Coefficients using the ARDL Approach	59
5.5 Variance Decomposition of Equilibrium of Exchange Rate	61



List of Figures

1. Islamic Republic of Iran:Share of the Oil Sector in GDP	15
2. Islamic Republic of Iran: Oil Income and Growth of Non-oil	15
3. Islamic Republic of Iran: Oil Prices and fiscal Accounts	16
4. Islamic Republic of Iran: TSE-Based REER and Real Government Expenie	16
5. Plot of cumulative sum of Recursive Residual	60
6. Plot of Cumulative sum of squares of Recursive Residuals	60



ABSTRACT

Real exchange rate is an important variable in economy's growth. Its fluctuation reflected on the stability of a country's currency .as an important criterion shows the competitiveness of a country in the world. Misalignment of the RER causes disturbance on consumer price index and affects the prices of tradable goods, trade balance and the economic growth. Basically, the real exchange rate can be defined as the nominal exchange rate that takes the inflation differentials among the countries into account. Its importance stems from the fact that it can be used as an indicator of competitiveness in the foreign trade of a country.

Because of the important role it plays in an economy as mentioned above, the real exchange rate has been one of the most debated issues both in terms of theory and the practice. This study discusses the existing definitions, calculation methods and interpretations of the real exchange rates. Within this context, the first part of the study will introduce different definitions of the real exchange rates. The calculation methods will be discussed in the second part. Finally, several points that should be taken into account in the interpretation of the real exchange rate movements will be highlighted. The model used in this study is based on the theoretical model developed by Edwards (1989), which is an intertemportal general equilibrium path of the real exchange rate. The ARDL approach of cointegration was applied and the empirical analysis of section five shows that the Iranian economy has been subject to variability in the real exchange rate, reflecting the corresponding variability in both domestic (fiscal deficits and inflation) and external (terms of trade) factors.

CHAPTER ONE

INTRODUCTION

1.1 The Importance of Real exchange rate:

One of the most important issues in developing country after World War II has been Economic growth. The main objective of economic growth hypothesis is assessing of the determinants of economic growth.

A main important factors that affect economic growth, and after breakdown of Bretton woods was the most considered by economist is exchange rate literature among of them, real exchange rate is very important, because RER's fluctuations shows the weakness or powerfulness of a country's currency against other's, and it's misalignment cause disequilibrium on country's economic. Evidence shows by exchange rate control in most of developing country can find a p Basically, the real exchange rate can be defined as the nominal exchange rate that takes the inflation differentials among the countries into account, arallel exchange rate in them and Iran is also included.

Basically, the real exchange rate can be defined as the nominal exchange rate that takes the inflation differentials among the countries into account. Its importance stems from the fact that it can be used as an indicator of competitiveness in the foreign trade of a country.

The importance of the real exchange rate for a Central Bank is related to the effects of the real exchange rates on the Central Bank balance sheet and, in turn, its ability to conduct a prudent monetary policy. Any changes in the real exchange rates would lead to fluctuations in short term capital flows. These fluctuations would then have an effect on the Central Bank's net foreign assets. The changes in the volume of net foreign assets would lead to changes in the volume of currency in circulation on the liability side of the balance sheet. Thus, the changes in the volume of currency in circulation would necessitate the management of the liquidity fluctuations in the economy through the utilization of the monetary policy tools by the Central Bank, whose final objective is price stability.

By comparing RER and nominal exchange rate in parallel market in Iran we find that differences between them in years after revolution is more than before revolution. Excess over valued of Rial, which is the result of excess control of exchange rate caused differences in prices of black market rate and RER, that it didn't exist even in America Latin and African countries but at 1989 exchange rate in black market reached to maximum level of 20 times of official rate.

1.2 The Real Exchange Rate Definitions

The various definitions of the real exchange rate can mainly be categorized under two main groups. The first group of definitions is made in line with the purchasing power parity. The second group of definitions, on the other hand, is based on the distinction

In this definition, P_t and P_t^* stand for the domestic and international prices of the tradables respectively, while the prices of the non-tradables are denoted by P_n . In this definition, the decline of r indicates the real appreciation of the domestic currency.

RER is an important variable in economy's growth.it's fluctuation reflected on the value of a country's currency .as an important criterion shows the competitiveness of a country in the world.

Misalignment of the RER cause disturbance on consumer price index and affect the price of tradable goods and therefore changes trade balance that affect the economic growth. Basically, the real exchange rate can be defined as the nominal exchange rate that takes the inflation differentials among the countries into account. Its importance stems from the fact that it can be used as an indicator of competitiveness in the foreign trade of a country.

Because of the important role it plays in an economy as mentioned above, the real exchange rate has been one of the most debated issues both in theory and the practice. This study aims at summarizing the existing definitions, calculation methods and interpretations of the real exchange rates. Within this context, the first part of the study will introduce different definitions of the real exchange rates. The calculation methods will be discussed in the second part. Finally, several points that should be taken into account in the interpretation of the real exchange rate movements will be highlighted.

1.3 Problem Statement:

We can distinguish three different growth episodes in Iran during the second half of the twentieth century: 1950-1977 (corresponding to Persian calendar years 1329- 1356), 1978-1988, and 1989-2000 (Jalali-Naini 2002).

The average growth rate of non-oil GDP in constant prices during the first period was 8.15 per cent per annum (8.46 per cent per annum during 1959-1976). A clear break in growth trend can be observed during the second period. In the third period, there is another break in the trend as economic growth resumes following the end of war with Iraq. The average annual growth rate in the third period is 5.2 per cent per annum. On a per-worker basis, the distinctions between the three different periods are starker. In this case, the average growth rate in the second period (corresponding to the war years) is negative.

With the growing internationalization of production and spatial specialization on a global scale, both interest and concern over specialization along domestic economic sectors has dwindled considerably. Instead a different view of sectorial composition has become popular: tradable and nontradable sectors. This decomposition in the case of an oil exporting country has the added advantage of allowing to trace the impact of an oil-boom, or an oil-bust, on the real exchange rate and the consequent movement of capital and labor between traded and non-traded goods sectors (Gelb 1988).

The internal and external real exchange rates signaled resources out of tradables whilst due to the war the quantity of oil exports declined. The Budget deficits grew, in part due to government finance of war-related expenditures, and given the above-mentioned adverse conditions, total private sector investments fell and its composition changed. The share of private sector investment in machinery and equipment fell relative to the share of private investment in construction.

In post war period Correction of exchange rate misalignment in favor of tradables and lifting of restriction on export could signal the movement of capital and labor to non-oil exports and domestic production of import competing goods, hence increased supply of much needed foreign exchange by the private sector.

A currency board or the replacement of a currency with a foreign currency (euroization or dollarization) denies a country sovereignty in carrying out monetary and exchange rate policies. It removes the possibility to absorb shocks and adjust monetary policy to the macro-economic conditions (cycle). This could be very serious when the effects of macroeconomic shocks and the economic trend in a given country significantly differ from the effects on the country or region in which the central bank is making decisions regarding monetary policy (asymmetric shocks).

The problem is that under unfavourable external circumstances a rigid fixed exchange rate may become a strong hindrance to economic growth. Also, exiting this type of system is difficult and may exacerbate the destabilization of the economy in a crisis.

Assessments show that real exchange rate misalignment of structural and unsuitable policy exists in Iran's economy. To eliminate of real exchange rate misalignment policy of that caused by economic policies, turn it to equilibrium the policy of devaluate of exchange rate is considerable.

1.4 Significant of the Study

The importance of the real exchange rate for a Central Bank is related to the effects of the real exchange rates on the Central Bank balance sheet and, in turn, with its ability to conduct a prudent monetary policy. Any changes in the real exchange rates would lead to fluctuations in short term capital flows. These fluctuations would then have an affect on the Central Bank's net foreign assets. The changes in the volume of net foreign assets would lead to changes in the volume of currency in circulation on the liability side of the balance sheet. Thus, the changes in the volume of the currency in circulation would necessitate the management of the liquidity fluctuations in the economy through the utilization of the monetary policy tools by the Central Bank, which its final objective is price stability.

1.5 Objectives of the Study

1.5.1 The general Objective

the general objective of this study is to find the relationships between the real exchange rate and the economic fundamentals in a developing economy.

1.5.2 The specific Objectives

The specific objectives of this study are as follows:

- 1. To find short run relationship between equilibrium of real exchange rate and economic fundamentals such as Term of trade, fixed capital formation, the rate of growth of Real GDP, monetary policy (in years 1970-2002)
- 2. To find long run relationship between equilibrium of real exchange rate and economic fundamentals such as Term of trade, fixed capital formation, the rate of growth of Real GDP, monetary policy (in years 1970-2002)
- 3. To suggest some policy recommendations.

REFERENCES:

Ahmad R. Jalali-Naini (2003) " Economic Growth in Iran: 1950-2000", IRIPD

Borda ,C (2002)," The term of trade and exchange rate regime in developing country "
Federal Reserve Bank of New York publication

Celasun, O (2003), "Exchange rate regime considerations in an oil economy: the case of the Islamic republic of Iran ". IMF working paper, WP/03/26

Cheung YW and KON S. (2000) "Economic growth and stationary of real exchange rates: Evidence from some fast-growing Asian countries" Department of Economics, University of California, Santa Cruz, CA 95064, USA

Engle, R.F. and Granger, C.W.J. (1987). "Cointegration and Error Correction: Representation, Estimation and Testing". Econometrica, 55, 251-276.

Kawalec,s and Krzak, M (2002), "Exchange rate policy and economic growth" www.expander.pl

Kiguel, Miguel and O'Connel (1995);" parallel Exchange rates in Developing Countries" The world bank Research Observer Vol.10NO 1

Max, G (2002),"Too sensatial: On the choice of exchange rate regime". Cambridge, Mass.: MIT Press.

Mundell, Robert A. (1968), "International Economics" (New york: Macmillan)

Peter T and Symansky, S (1997)," Economic Growth and real exchange rate: an overview of the Balsaa –Samuelson Hypothesis in Asia", National Bureau of Economics Research working paper 5979

Pesaran, M.H., Shin, YongCheol and Smith, R. (2001). "Bound Testing Approaches to the Analysis of Level Relationships". Journal of Applied Econometrics, 16, 289-326.

Pesaran and Shin(1997); "an Aut regressive Distrubited Lag Modelling Approach to Cointegration Analaysis", Department of Applied Economics, University of Cambridge, England

Sandararajan, Lazave, and Williams (1999), "exchange rate unification, the equilibrium real exchange rate, and choice of exchange rate regime: The case of Islamic republic of Iran". IMF working paper, WP/99/15

Senhadji A. ."Sources of Economic Growth: An Extensive Growth Accounting Exercise". IMF Working Papers, WP/99/77

Valentine piana (2001)," Exchange rate a key concept in economy".

www.economicswebinstitute.org/glossary/exchrate.htm

