

# **ESTIMATION OF THE EQUILIBRIUM EXCHANGE RATE IN MALAYSIA**

**BY**

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## Symbols Used in this Thesis

Symbols	Definition
$A(L)$	A finite order polynomial
CCD	Capital and exchange rate controls
CPIJ	Consumer Price Index of Japan
CPIM	Consumer Price Index of Malaysia
CPIS	Consumer Price Index of Singapore
CPIU1	Consumer Price Index of United States
$d(L)$	A finite order lag polynomial.
DEBT	Debt service ratio
EREER	Estimated real effective exchange rate
ERER	Estimated equilibrium real exchange rate
$e_t$	Equilibrium real exchange rate (ERER)
$E_t$	Nominal exchange rate
$FUND_{it}$	Vector of fundamental variables
GCN	Government consumption of non-tradable goods
$I(0)$	Integrated of order zero
$I(n)$	Integrated of order $n$
IR	Interest rate
$i_t$	Logarithm of interest rate
MS	Money supply
$m_t$	Logarithm of domestic monetary supply

NEER	Nominal effective exchange rate
OLS	Ordinary least square
$P_a$	General price level in country $a$
$P_b$	General price level in country $b$
$p_t$	Ratio of the United States WPI to a foreign WPI or the corresponding ratio for the CPI
$P_t^d$	Domestic price index normally represented by local consumer price index or wholesales price index
$P_t^f$	Foreign price index normally represented by foreign consumer price index or wholesales price index
PPIM	Producer Price Index of Malaysia
PPIU1	Producer Price Index of United States
PPP	Purchasing Power Parity
$R_{ab}$	Exchange rate between the currency of country $a$ and currency of country $b$
REER	Real effective exchange rate
RM	Ringgit Malaysia
$s_t$	Logarithm of spot exchange rate
TECH	Technological progress to GDP
TOT	Term of trade
USD	United States Dollar
$u_t$	Disturbance term
WPIJ	Wholesales Price Index of Japan



WPIS	Wholesales Price Index of Singapore
$y_t$	Logarithm of domestic income
$Z_t$	Vector of measuring fiscal and monetary policy
$Z_t^*$	Vector of policy measures that is consistent with equilibrium rate
$\alpha$	Intercept
$\beta$	Partial coefficient
$\gamma$	Speed of adjustment to the policy gap
$\delta$	The error correction term which shows the deviation from the nominal exchange rate with its PPP value.
a	Statistically significant at 10% level.
b	Statistically significant at 5% level
c	Statistically significant at 1%
*	Denotes a foreign variable

## **Abstract**

In this study, we examine the long-run relationships of the exchange rate of ringgit Malaysia through three difference methods. Firstly, we estimate the ringgit Malaysia with a simple Big Mac index. The results show that the ringgit Malaysia is undervalued since 1993. Secondly, we used the co-integrating techniques to examine the long-run relationship of the exchange rate of ringgit Malaysia against United States dollar vis-à-vis other Asian currencies, namely Japanese yen and Singapore dollar against United States dollar. The short-term impact of these variables are also estimated by an error-correction model. Our results show that the Purchasing Power Parity does not hold and the changes of exchange rate has deviated largely from the Purchasing Power Parity. Lastly, we examine the ringgit Malaysia over the last 10 years by using Edwards' model to examine the exchange rate policy and the external competitiveness. This model is used to estimate the Malaysia's equilibrium real exchange rate which is consistent with the fundamentals. The results show that exchange rate of ringgit Malaysia against United States dollar was overvalued before quarter four for year 1999 and has undervalued after 1999.