

Exchange Rate Determination in Maldives: A Study Based on the Sticky Price Monetary Model

Mariyam Himmath Hassan¹ & Behrooz Gharleghi^{1,2}

¹ Faculty of Business and Management, Asia Pacific University of Technology and Innovation, Kuala Lumpur, Malaysia

² Centre of the Socio-Economics of Ageing (CSEA), Asia Pacific University of Technology and Innovation, Kuala Lumpur, Malaysia

Correspondence: Behrooz Gharleghi, Faculty of Business and Management, Asia Pacific University of Technology and Innovation, TPM, 57000, Bukit Jail, Kuala Lumpur, Malaysia. Tel: 601-9615-3515. E-mail: behrooz@apu.edu.my

Received: March 2, 2015

Accepted: June 8, 2015

Online Published: June 20, 2015

doi:10.5539/ijbm.v10n7p85

URL: <http://dx.doi.org/10.5539/ijbm.v10n7p85>

Abstract

The exchange rate of Maldivian Rufiyaa to US dollar is permitted to fluctuate within a band between MVR10.28 and MVR 15.42 since 2011 after having a fixed exchange rate of 12.85 for a decade. During the year 2007, IMF reported that the exchange rate of the country was misaligned although in the 2008 report, the assessment was considered erroneous. Determination of exchange rate and understanding the exchange rate behavior are therefore essential to a systematic international financial market and to facilitate financial and economic corporations. Yet, no empirical literatures exist regarding the impact of macroeconomic fundamentals on exchange rate in the context of Maldives. Therefore, this study investigates the philosophy of the Dornbusch's Sticky price model of exchange rate determination for Maldivian economy by using quarterly data obtained for a period of 14 years from 2000 to 2013. The result revealed that the sticky price monetary model is not validated for the case of Maldives.

Keywords: exchange rate, money supply, interest rate, gross domestic product, consumer price index, sticky price model

1. Introduction

1.1 Overview of Maldivian Economy

Maldives, officially known as the Republic of Maldives is an archipelago of 1192 palm fringed islands, grouped in to 26 atolls formed in the Indian Ocean. Maldives is an open economy and progressed from the list of least developed country (LDC) on January 2011 (UNDP, 2014).

Exchange rate is one of the most important macroeconomic fundamental especially for Maldives being a developing country and the heavy dependence on foreign trade and tourism. According to the human development report of UNDP, tourism has accounted for almost 30 percent of the GDP for the past 20 years (UNDP, 2014). Maldives has a narrow export base that accounts for 11-15 percent of GDP while average imports account for 61 percent of the GDP. This is due to the heavy dependence on imports for almost all the economic activities (MMA, 2011).

1.2 Exchange Rate Regimes and Economic Performance of Maldives

Maldives moved from a floating exchange rate system to a pegged regime in 1994 where the value of Maldivian currency; Rufiyaa was pegged to US dollar. This system was devalued by 9% in the year 2001 and the buying and selling rates of rufiyaa increased to 12.75 and 12.85, respectively (MMA, 2011).

The expansionary fiscal policy adopted was adopted by Maldives in 2005 to recover the tsunami damages which have led to a high government spending. The debts of the government increased further during the period of 2006-2008 as tsunami aids declined and other international support reduced as Maldives became a middle income country. As Maldivian rufiyaa was pegged to US dollar under a fixed exchange rate regime, there were a lot of pressures for the currency as foreign exchange earnings and government spending were high while tourism

earnings reduced which is the main source of income for the country (UNDP, 2014)

During the year 2009, Maldivian economy faced large external and financial imbalances, due to the global financial crisis which caused severe impact on the economy. According to IMF reports, lack of proper maintenance of the fiscal policy worsened these macroeconomic imbalances. Further, the economy experiences large declines in inflow of foreign currency due to sharp decline in tourism, exports, capital flows and tourism related investment. Public spending increased due to the increased fall in fiscal revenue which led the economy in to recession. The central bank of the country financed the fiscal deficit through monetization (IMF, 2009)

In 2009, MMA initiated open market operations to manage the liquidity in the economy which helped to stabilize the economy and drain the excess liquidity in the economy. Furthermore, the increase in tourist arrivals resulted in recovery of economic activities in the years that followed. However, the persistent shortages in dollar revealed that the real exchange rate of the Maldivian Rufiyaa was overvalued (IMF, 2011). Thus, in 2011, after the value of Rufiyaa reached MVR19 in the black market, the currency was depreciated to MVR15.42 per US dollar. Maldivian Rufiyaa was allowed to fluctuate within a band of MVR10.28 and MVR15.42 per US dollar which is 20% around the previous selling rate (MMA, 2011; UNDP, 2014).

2. Literature Review

2.1 Past Literature on Determinants of Exchange Rate

Determinants of exchange rate have been an area extensively studied which has added resourceful literature to the field of economics and finance. These literature suggests four major determinants of exchange rate namely; inflation rate, interest rate, GDP, government interferences (Butt, Rehman, & Azeem, 2010)

Cuiabano and Divino (2010) have reported in their study that macroeconomic variables considered in their research which includes interest rate, money supply, gross domestic product does influence the exchange rate. Hassan and Simione (2011) have explored the factors that influence Mozambican currency under a monetary policy. The research results indicate that there is a relationship between exchange rate and monetary variables which includes money supply, output and inflation.

Khan and Qayyum (2011) have studied the role of monetary fundamentals in determining the exchange rate of Pakistan. The study has suggested that the authorities of Pakistan could use the monetary variables to forecast the exchange rate to prevent volatility. Furthermore, Liew, Baharumshah, and Pua (2009) has examined the long-run relationship between exchange rate and its determinants and the study has chosen Japanese yen as the base currency as Japan is a major trading partner of Thailand. The findings of this research suggest that money supplies, incomes and interest rates of both the countries (Thailand & Japan) would be conducive in predicting and monitoring the exchange rates of both countries.

Similar to the research done by Liew, Baharumshah, and Pua (2009) where the exchange rates of two currencies are evaluated, Craigwell, Wright, and Ramjeesingh (2011) have also investigated the behavior of both US and Jamaica exchange rate. The money variable used in the study is money supply whereas the price variable used in the study is CPI and interest rate which has also been taken from return rates of treasury bills. Real output was not available and hence was omitted from the study. Conclusions drawn from the study has suggested that the micro-market variables are important factors in determining the exchange rate for both Jamaica and US.

2.2 Exchange Rate and Money Supply

One of the most vital elements of the nominal exchange rate is the relative money supply. Money supply and exchange rate can influence each other especially if the country has adopted a monetary policy (Terval, 2012). A monetary policy is one where the respective authorities such as central bank control the money supply of a country in order to stabilize the inflation or interest rate of an economy (The Economic Times, 2015). This could stimulate the economy and eventually influence the value of currency as research done by (Filardo, Ma, & Mihaljek, n.d.) has highlighted that exchange rates play a crucial role in monetary policy decisions of developing economies.

Yin and Li (2014) investigated the relationship between short-run nominal exchange rate changes and macroeconomic fundamentals. The main macroeconomic fundamentals considered in this research were inflation and interest rate. The results of this research concluded that there is a strong relationship between exchange rate and macroeconomic variables. Furthermore, Chang and Su (2014) have also explored the dynamic relationship between exchange rate and macroeconomic variables where money supply and industrial production index (IPI) has been utilized as macroeconomic fundamentals. This study also suggested that exchange rate and monetary variables do explain each other which indicate that monetary-policy makers could use macroeconomic fundamentals in predicting the variance to exchange rate value.

2.3 Exchange Rate and Interest Rate

Although there are several researches studying the relationship between exchange rate and interest rate, the outcomes of these researches are different in nature. Butt, Rehman and Azeem, (2010) has investigated the relationship between exchange rate, interest rate and also inflation for Pakistan. The study has used co integration tests where results illustrate that there only exists a short term relationship between exchange rate and interest rate. However, the study has shown that interest rate changes do impact the exchange rate of Pakistan.

Furthermore, research done by Kia (2013) to explore the determinants of exchange rate had found that real exchange rate appreciates for interest rate shocks and also change in interest rate has a negative impact on real exchange rate. This study was conducted for a small and open economy. However, results for the study of Ozsoz and Akinkunmi (2012) which was also conducted for a similar type of economy (small and open economy) depicts different results from the study of Kia (2013). Ozsoz and Akinkunmi (2012) conducted the research on Nigeria and have stated that the real interest rate differentials between Nigeria and its major trading associates do explain the changes in the real exchange rate.

It is somewhat proven from researches that small and open economies that are on the verge of developing are more likely to have exchange rates that influence macro variables and vice versa. This has been proven from the study conducted by Afzal and Hamid (2013) which suggests that the interest rate variances can influence the real exchange rate, particularly in emerging economies.

2.4 Exchange Rate and Gross Domestic Product

Gross domestic product (GDP) is the market value of all the final goods and services produced within a country in a given period of the time (Mankiw, 2009). According to Kuepper (2008), gross domestic product is considered as the most comprehensive indicator of an economy. Literature consists of studies that has explored the relationship between exchange rate and gross domestic product; undeniably two very important fundamentals for the growth of the economy (Gharleghi & Shaari, 2012; Zhuk & Gharleghi, 2015).

Afzal and Hamid (2013) have explored the factors influencing real exchange rate movements where the research was carried out for 15 countries from three different regions. The study has concluded that GDP per capita is a substantial driver that contributes to the fluctuations in real exchange rate. Cuiabano and Divino (2010) has determined Brazil's exchange rate which concluded with interesting results. The study discovered that the growth of GDP in Brazil contributed adversely to the exchange rate due to the fall in price of Brazilian currency.

Griffoli et al. (2014) have conducted as empirical study to find the determinants of Swiss franc. The results of the study indicate that GDP per capita plays a significant role in variance of real exchange rate between Swiss Franc and Japanese Yen.

According to the article written by Kuepper (2008), gross domestic product is one of the fundamental factors that affect the currency values. The article has highlighted that GDP is one of the important indicators that foreign exchange traders consider to evaluate the determinants of exchange rate.

2.5 Exchange Rate and Consumer Price Index

Consumer price index is a quantity of overall cost of goods and services bought by households. Consumer price index statistics are used to calculate the inflation of an economy. The yearly change in consumer price index percentage is used to compute the inflation rate. CPI is also considered as one of the important elements in evaluating the cost of living and an important macroeconomic variable (Mankiw, 2015). Foreign exchange traders consider consumer price index as an important element that affects the value of currency and hence the foreign exchange businesses. CPI reports give a clearer picture to these businesses whether the country is making profits or losses on its products and services (Kuepper, 2008; Gharleghi, Shaari, & Sarmidi, 2014).

The study of Korhonen and Junttila (2012) has explored the role of inflation in influencing exchange rate to pass through import prices. The results indicate that ERPT elasticity is low when the inflation level is low and that the ERPT elasticity is higher when the inflation increases. This indicates that inflation has a role in determining the exchange rate movements. This could therefore, indicate that the consumer prices might have a role in exchange rate pass through to prices of imported goods although it might take time.

Mozes and Cooks (2011) have titled their study as the impact of expected and unexpected inflation on local currency and US Dollar returns generated from foreign equities. Results of the study indicate that inflation is adversely related to the local currency performance compared to US Dollar although unexpected inflation has been found to have a significant and a positive impact on the performance of the local currency in comparison to the US Dollar. Furthermore, the study of Bashir and Luqman (2014) has conducted an econometric analysis to

find out the long run determinants of real exchange rate of Pakistan. The long run results revealed that terms of trade and price levels depreciated the exchange rate of Pakistan.

2.6 Dornbusch's Sticky Price Monetary Model

The sticky price monetary model was initially explained in 1976 by Dornbusch which introduced the concept of exchange rate overshooting and provided an explanation for both exchange rate volatility and misalignment from the purchasing power parity (Datta & Mukhopadhyay, n.d). Dornbusch's sticky price monetary theory states that exchange rate can be influenced by money supply, gross domestic product, interest rate and consumer price index. The sticky price monetary model can be expressed as follows:

$$ER = \beta_0 + \beta_1MS + \beta_2GDP + \beta_3IN + \beta_4CPI + \square$$

Where M is Money Supply, G refers to GDP, IN to interest rate and C denotes the consumer prices \square is term for random error (Shahrestani, Anaraki, & Ghaffari, 2009).

3. Research Methodology

3.1 Research Design

Figure 1 depicts the research framework which highlights the main aim of the research which is to find out if Money Supply, Interest rate, Gross Domestic Product and Consumer Price Index could have an impact on the dependent variable of the study; Exchange rate. Correlation and Regression analysis will be performed to identify the relationship between variables. The regression will be utilized through SPSS software.

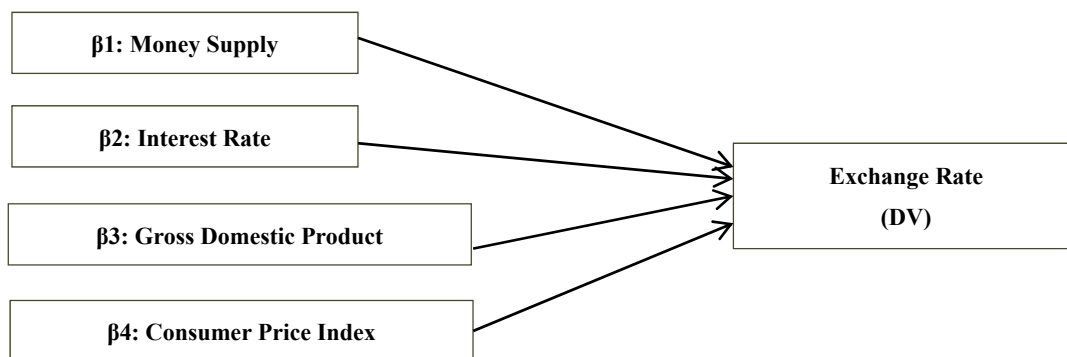


Figure 1. Theoretical framework

3.2 Hypothesis Setting and Variables

β1: For money supply: H_0 : Money supply cannot affect the exchange rate;

β3: For gross domestic product: H_0 : Gross Domestic Product cannot affect exchange rate;

β2: For interest rate: H_0 : Interest rate cannot affect exchange rate;

β4: For consumer price index: H_0 : Consumer Price Index cannot affect the exchange rate.

Null and Alternative hypothesis has been generated for the four independent variables. Hypothesis null (H_0) indicates that the variances to the independent macro variable can affect the exchange rate value of MVR. Hypothesis alternative (H_1) indicates vice versa. The results of the tests have been compared against the null hypothesis to identify the determinants of exchange rate.

4. Empirical Findings

The study requires 280 observations in total which includes 56 sets of data points for each of the macro variable. However, only 238 sets were obtained as GDP quarterly figures are not calculated by the National Bureau of Statics of Maldives. Therefore, quarterly figures of GDP were obtained from the annual figures using interpolation analysis. Frequency conversion commands have been used to interpret the missing values in order to obtain the much needed data for analysis.

4.1 Descriptive Statistics

Table 1. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Exchange Rate	56	11.77	15.41	13.1995	1.14044
Money Supply	56	3019.54	23676.73	10302.3761	6427.66979
Interest Rate	56	8.90	13.00	10.6786	1.08170
Gross Domestic Product	56	539.10	2197.60	1371.0036	495.71438
Consumer Price Index	56	55.45	104.94	71.3357	15.79909
Valid N (listwise)	56				

Table 1 illustrates the descriptive statistics for all the macroeconomic variables analyzed in this study. Each variable has 56 sets of data which represents quarterly statistics for 14 years. Exchange rate mean indicates that the value of Maldivian Rufiyaa on an average was 13.2 per US dollar. Likewise, the average money supplied by the government sums up to 10,302.4. The average GDP totals to USD1372.8, whereas the average interest rate equals to 10.7. While the minimum interest rate is 8.90, the maximum interest rate charged is 13 which explain the average interest rate of 10.7. The mean of CPI is 71.3, which indicate the average consumer price of Maldives for the past 14 years.

The standard deviations of all the variables show that the data sets are very precise rather than widely spread. When standard deviation of each variable is compared to the mean it shows that that the values are far from the average which is an indication that the data sets of each macroeconomic variable have been tightly grouped.

4.2 Correlation Analysis

In order to find the relationship between the frequencies of dependent and independent variables, Person correlation was computed. The correlation test results indicate that there is a positive correlation between money supply; gross domestic product and consumer price index with exchange rate whereas interest rate shows a negative correlation with exchange rate according to the correlation results. Also, the correlation results indicate that consumer price index is the most highly correlated variable among the four macroeconomic fundamentals tested.

Table 2. Pearson correlation results

		Money supply	Gross domestic product	Interest rate	Consumer price index
quality	Pearson				
	Correlation	.748**	.656**	-.674**	.861**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	56	56	56	56

4.3 Regression Analysis

Table 3 shows the r-square for the regression.

Table 3. Analysis of R and R²

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.906 ^a	.820	.806	.50237

Data generated in table 3 depicts a strong positive linear relationship between exchange rate and the macroeconomic variable as R-square is 0.820. The coefficient of determination is 82%. The value 82% indicates the extent to which exchange rate can vary due to the change in independent variables. The remaining 18% of variation in exchange rate can be explained by other factors such as political instability, economic crisis etc.

Table 4 provides the result of ANOVA. And it can be seen that there is a significant difference between the variable's mean.

Table 4. ANOVA analysis

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	58.662	4	14.665	58.109	.000
	Residual	12.871	51	.252		
	Total	71.533	55			

Dependent variable: exchange rate;

Predictors: (Constant), Consumer Price Index, Gross Domestic Product, Interest Rate, Money Supply.

Table 5 shows the result of multiple regression. It can be seen that there is a positive relationship between GDP and consumer prices towards the exchange rate. While there is a negative relationship between money supply and interest rate towards the exchange rate. All the relationships are significant except for interest rate as the sig. value is 0.061 which is greater than 0.05.

Table 5. Multiple regression analysis

	B	Std. Error	Beta	t	Sig.
(Constant)	-8.601	4.776		-1.801	.078
Money Supply	-6.278	1.331	-1.603	-4.718	.000
Interest Rate	-.321	.168	-.305	-1.917	.061
Gross Domestic Product	3.867	1.227	.643	3.152	.003
Consumer Price Index	20.538	2.430	1.617	8.450	.000

Table 6 shows the hypotheses testing results. As discussed earlier, all null hypotheses can be rejected except for the case of interest rate which null hypothesis is accepted.

Table 6. Hypotheses testing results

Variable	Beta	Sig.	Findings	Hypothesis Results
Money Supply (β_1)	-6.278	0.00	$(p = 0.000 < \alpha = 0.05)$	<i>Hypothesis null rejected</i>
Interest Rate (β_2)	-0.321	0.061	$(p = 0.061 > \alpha = 0.05)$	<i>Hypothesis null accepted</i>
Gross Domestic Product (β_3)	3.867	0.003	$(p = 0.003 < \alpha = 0.05)$	<i>Hypothesis null rejected</i>
Consumer Price Index (β_4)	20.538	0.00	$(p = 0.000 < \alpha = 0.05)$	<i>Hypothesis null rejected</i>

4.4 Hypothesis Testing-Summary

Table 6 summarizes the interpretations of hypothesis generated from table 5. Hypothesis null failed to reject for interest rate only, indicating no relationship between exchange rate and interest rate while the remaining macro fundamentals could be used to explain the changes in Maldivian Rufiyaa. It could be interpreted from the B value that the exchange rate is decreased by 6.3 units when one unit of money supply increases. Also, exchange rate is predicted to be decreased by only 0.32 units when one unit of interest rate changes while the regression line estimates also indicate that the exchange rate would increase by 3.87 units with every one unit of increase in GDP. CPI has been found as the macro fundamental that would influence exchange rate most when interpreting from the B values of all the variables. Exchange rate is projected to increase by 20 units with an increase in one unit of CPI. In overall it can be concluded that the SPMM is not validated for the case of Maldives.

5. Conclusion

This study has explored the philosophy of the Dornbusch's Sticky price model of exchange rate determination for Maldivian Rufiyaa. The study revealed that Dornbusch's sticky price model cannot be validated as interest rate does not influence exchange rate at a 5 percent probability of error in the analysis. Nevertheless, the macroeconomic fundamentals would be effective in explaining the exchange rate of Maldives given a 10 percent probability of error in the statistical analysis. Therefore, it can be concluded that Dornbusch's philosophy of exchange rate is applicable in the context of Maldives at a 90 percent confidence interval. It is also important to note the other factors that could impact exchange rate apart from the macroeconomic fundamentals highlighted in research. This includes political, social and many more other factors that could pressure the value of exchange rate although the effect could be indirect and insignificant compared to the macro fundamentals focused on this

study. Conducting a time series analysis for Maldives was a challenging task due to lack of proper statistical data maintenance. However, this study is believed to open several research gaps for future researchers who intend to explore the relationship between macroeconomic fundamentals as all the macro variables are interrelated to each other. Perhaps, this research could be a parameter for policy makers, especially the central bank of Maldives to identify the main determinants of exchange rate for Maldives and could be conducive in predicting and monitoring the variances to Maldivian Rufiyaa.

References

- Afzal, M., & Hamid, B. (2013). Factors influencing real exchange rate. *The Intentional Journal of Finance*, 25(4).
- Bashir, F., & Luqman, A. (2014). Long run Determinants of Real Exchange Rate: An Econometric Analysis from Pakistan. *Pakistan Journal of Commerce and Social Sciences*, 8(2), 471-484.
- Butt, B., Rehman, K., & Azeem, M. (2010). The causal relationship between inflation, interest rate and exchange rate: the case of Pakistan. *Transformations in Business and Economics*, 9(2), 95-102.
- Chang, M., & Su, C. (2014). The dynamic relationship between exchange rates and macroeconomic fundamentals: Evidence from Pacific Rim countries. *Journal of International Financial Markets, Institutions and Money*, 30, 220-246. <http://dx.doi.org/10.1016/j.intfin.2014.03.002>
- Craigwell, R., Wright, A., & Ramjeesingh, D. (2011). Exchange rate determination in Jamaica: a market microstructures and macroeconomic fundamentals approach. *Business, Finance & Economics in Emerging Economies*, 6(1), 30-61.
- Cuiabano, S., & Divino, J. (2010). Exchange Rate Determination: An Application of a Monetary Model for Brazil. *International Advances in Economic Research*, 16(4), 345-357. <http://dx.doi.org/10.1007/s11294-010-9276-x>
- Datta, K., & Mukhopadhyay, C. (n. d.). Dornbusch's Sticky-Price monetary model of exchange rate determination revisited on Indian. *Eastern Journal of Economics and Finance*, 1(1), 1-26.
- Filardo, A., Ma, G., & Mihajjek, D. (n. d.). Exchange rates and monetary policy frameworks in EMEs. Retrieved from <http://www.bis.org/publ/bppdf/bispap57c.pdf>
- Gharleghi, B., & Shaari, A. H. (2012). Is Monetary Variable A Determinant in the Ringgit-Dollar Exchange Rates Model? A Cointegration Approach. *Sains Malaysiana*, 41(9), 1163-1169.
- Gharleghi, B., Shaari, A. H., & Sarmidi, T. (2014). Application of the Threshold Model for Modelling and Forecasting of Exchange Rate in Selected ASEAN Countries. *Sains Malaysiana*, 43(10), 1609-1622.
- Griffoli, T., Meyer, C., Natal, J., & Zanetti, A. (2014). *Determinants of the Swiss Franc Real Exchange Rate*. Swiss National Bank Working Papers.
- Hassan, S., & Simone, F. (2011). Exchange rate determination under monetary policy rules in a financially underdeveloped economy: A simple model and application to Mozambique. *Journal of International Development*, 25(4), 502-519. <http://dx.doi.org/10.1002/jid.1806>
- International Monetary Fund. (2008). Staff Country Reports-Maldives 2008 Article IV Consultation. Washington D.C. Retrieved from <https://books.google.com.my/books?id=Y0OP5Dh6nvYC&printsec=frontcover#v=onepage&q&f=false>
- International Monetary Fund. (2009). Maldives: 2009 Article IV Consultation—Staff Report; Staff Supplements; Public Information Notice on the Executive Board Discussion; Press Release on the Executive Board Discussion; and Statement by the Executive Director for Maldives. IMF Country Report No. 10/28. Washington, D.C. Retrieved from <http://www.imf.org/external/pubs/ft/scr/2010/cr1028.pdf>
- International Monetary Fund. (2011). Maldives: 2010 Article IV Consultation—Staff Report; Staff Statement and Supplement; Public Information Notice on the Executive Board Discussion; and Statement by the Executive Director for Maldives. IMF Country Report No. 11/293. Washington, D.C. Retrieved from <http://www.imf.org/external/pubs/ft/scr/2011/cr11293.pdf>
- Khan, M., & Qayyum, A. (2011). Exchange Rate Determination in Pakistan: Role of Monetary Fundamentals.
- Kia, A. (2013). Determinants of the real exchange rate in a small open economy: Evidence from Canada. *Journal of International Financial Markets, Institutions and Money*, 23, 163-178. <http://dx.doi.org/10.1016/j.intfin.2012.09.001>

- Korhonen, M., & Junttila, J. (2012). The role of inflation regime in the exchange rate pass-through to import prices. *International Review of Economics and Finance*, 88-96.
- Kuepper, J. (2008). Fundamental factors that affect currency value.
- Liew, V., Baharumshah, A., & Pua, C. (2009). Monetary Model of Exchange Rate for Thailand: Long-run Relationship and Monetary Restrictions. *Global Economic Review*, 38(4), 385-395. <http://dx.doi.org/10.1080/12265080903391784>
- Mankiw, N. (2015). *Principles of economics* (7th ed.). USA: Cengage learning.
- National Bureau of Statistics Maldives (2015). Department of National Planning, Republic of Maldives-Home. Retrieved from <http://www.planning.gov.mv/en/>
- MMA. (2011). Press Release. *Maldives Monetary Authority*. Retrieved from <http://www.mma.gov.mv/PRGB20117English.pdf>
- Mozes, H., & Cooks, S. (2011). The Impact of Expected and Unexpected Inflation on Local Currency and U.S. Dollar Returns from Foreign Equities. *Investing*, 20(2), 15-23. <http://dx.doi.org/10.3905/joi.2011.20.2.015>
- Ozsoz, E., & Akinkunmi, M. (2012). Real exchange rate assessment for Nigeria: An evaluation of determinants, strategies for identification and correction of misalignments. *OPEC Energy Review*, 36(1), 104-123. <http://dx.doi.org/10.1111/j.1753-0237.2011.00206.x>
- Shahrestani, H., Anaraki, N., & Ghaffari, F. (2009). The U.S. Economic Downturn and the Euro-Dollar Exchange Rates. *International Business & Economics Research Journal*, 8(9), 49-58.
- Terval, J. (2012). Money Supply Rules and Exchange Rate Dynamics. *International Economic Journal*, 26(4), 547-565. <http://dx.doi.org/10.1080/10168737.2011.558517>
- The Economic Times. (2015). Monetary Policy Definition, Monetary Policy Meaning-The Economic Times. Retrieved from <http://economictimes.indiatimes.com/definition/monetary-policy>
- UNDP. (2014). Maldives Human Development Report 2014. Retrieved from http://hdr.undp.org/sites/default/files/maldives_hdr2014_full_report_0.pdf
- Yin, W., & Li, J. (2014). Macroeconomic fundamentals and the exchange rate dynamics: A no-arbitrage macro-finance approach. *Journal of International Money and Finance*, 41, 46-64. <http://dx.doi.org/10.1016/j.jimonfin.2013.10.004>
- Zhuk, O., & Gharleghi, B. (2015). The Augmented Monetary Model and Exchange Rate Fluctuations; Case of RUB/USD. *Asian Social Science*, 11(10), 231-237. <http://dx.doi.org/10.5539/ass.v11n10p231>

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/3.0/>).