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Exchange Rate Variability and Macroeconomic Varibles: A Comparative Analysis Study of Regional, Sub-Regional Developed and Developing Countries During 1980-2015

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R e s e a r c h   H i g h l i g h t s

Key results of this research are that the study proposed seven hypothesis against all seven macroeconomic variables (Real Growth, Price Inflation, Government Consumption, Private Consumption, Investment, Export and Import) of Exchange Rate and results indicated there is a postivie relationship and strong association of short-term and long-term between Exchange Rate and its Macroeconomic variables providing satisfactory results as all research objectives were met and research questions were answered. A research philosophy was derived from the results that Exchange Rate Variablity will continously and indefinitly will occur and Price Inflation of a Nation will determine its fluctuations.

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G r a p h i c a l   A b s t r a c t

Conceptual Framework figure that reflects this research hyothesis and results.
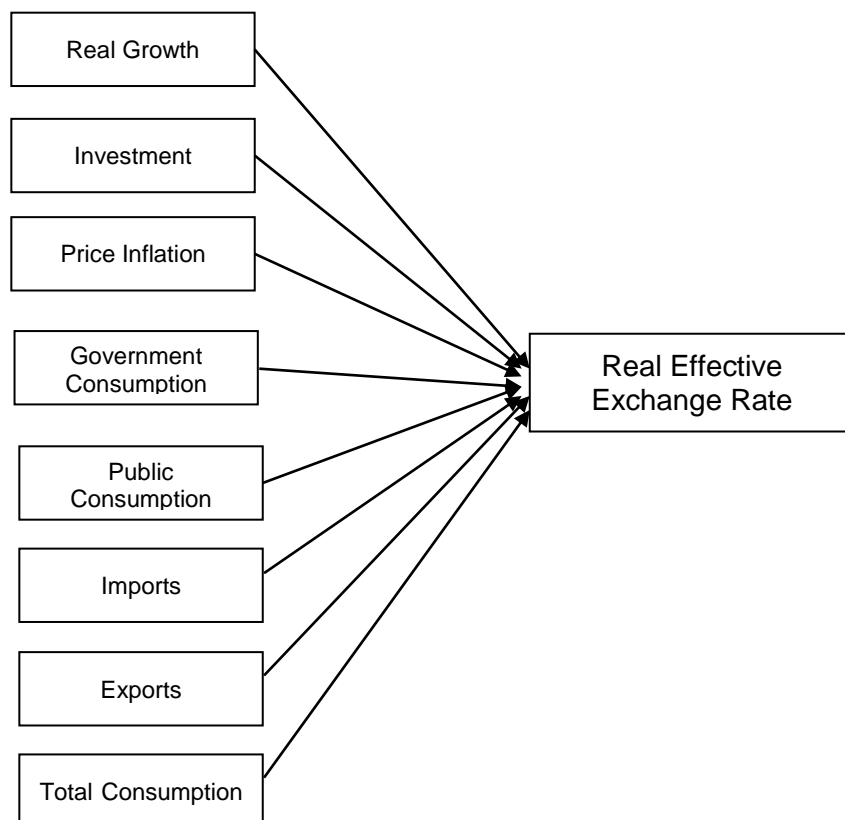
Research Objectives

The aim of the research is to find which Macroeconomic variables are significant and show strong association with Exchange Rate in short-term and long-term to determine its causes for fluctuations.

The purpose of the research is to highlight which Macroeconomic variables have significant and strong association with Exchange Rate on 4 Regional (Africa, Asia, Europe and Latin America) and 13 Sub-regional (Central Africa, North Africa, South Africa, East Africa, West Africa, East Asia, West Asia, South Asia, European Union, Other Europe, Caribbean, Mexico, and South America) levels for 59 Developed and Developing Countries of the World through the World Economic Situation and Perspectives (WESP) Report of 2014.

There are 5 research objectives for this study:

1. To find a long-term relationship between Exchange Rate and Macroeconomic variables in Developed and Developing countries.

2. To analyze co-integration among Exchange Rate, Real Growth, Price Inflation, Government Consumption, Private Consumption, Investment, Export and Import in Developed and Developing countries.

3. To compare the association between Exchange Rate and Macroeconomic variables of the World Economic Regions and Sub Regions of Africa, Asia, Europe, and America.

4. To examine the speed of short-term adjustment among Exchange Rate and Macroeconomic variables in Developed and Developing countries.

5. To provide policy guidelines material to the Regional and Global international financial institutions regarding the controlled mechanism for stability in the Exchange Rate Variability.

There are 5 research questions were developed from 5 research objectives for this study:

1. What is the effect of the long-term relationship between Exchange Rate and Macroeconomic variables in Developed and Developing countries?

2. Whether co-integration exists among Exchange Rate, Real Growth, Price Inflation, Government Consumption, Private Consumption, Investment, Export and Import in Developed and Developing countries?

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3. How the association between Exchange Rate and Macroeconomic variables can be compared among World Economic Regions and Sub-Regions of Africa, Asia, Europe, and America?

4. How the speed of short-term adjustment among Exchange Rate and Macroeconomic variables in Developed and Developing countries can be examined?

5. How the policy guideline material can be assembled to facilitate the Regional and Global international financial institutions regarding the controlled mechanism for stability in Exchange Rate Variability?

The significan of the research is to explore the relationship of Exchange Rate and its 7 Macroeconomic variables among World Economic Regions and Sub-Regions for Developed and Developing countries. The Meo, Chowdhury, and Masood Sheikh, (2018) too used of two co-integration techniques namely JJ Approach (1990) and ARDL Approach (1999) to measure the short-term and long-term impact and association of seven major Macroeconomic variables on Exchange Rate Variability but this study also runs regression test only for short-term.

Methodology

The main purpose of the study is to check the relationship among macroeconomic variables (Real Exchange rate, Real growth Inflation rate, Government consumption, Private consumption, Investment, Export and Imports) in Regional and Sub-regional develloped and developing economies. The research period for the study is of 36 years on annual basis, which starts from January 1980 to December 2015. The collected research data is divided into regional sample groups and then into their sub sample groups from different databases like, world economic outlook (WEO) and International Financial statistics (IFS), available on CD/tape from the International monetary fund (IMF).

Augmented Dickey Fuller (ADF) (1979) and Phillips-Perron (PP) (1988) are generally taken into account to test the stationary of the data. The results of Unit root test are showing that data in context of Africa and Europe are stationary at Level I(0), so Regression test is used to investigiate the short-term relaationship as every economy has its own dynamics and long-term relationship could not be determined in large sample groups comparsing of more than 15 countires. For North Africa, South Africa, Caribbean and Mexico are stationary at 1st difference I(1), so Johansen and Juslius co-integration Approach is used to investigate short-term and long-term relationship. And finally for Asia, East Asia, West Asia, South Asia, Central Africa, East Africa, West Africa, European Union, Other Europe, Latin America, and

South America are stationay at 1st difference I(1), so Autoregressive Distributive Lag ARDL co-integration Approach is used to investigate short-term and long-term relationship.

Results

Regression analysis showed that developed and developing countries, each economy has its own dynamics, and so long term relationship cannot be investigated. Ramasamy and Abar (2015) discussed that turmoil of world economic influences the significantly various economy systems.

In context of developed economies, results of regression analysis are showing that price inflation, Govt. Consumptions and Export are showing significant influence on real exchange rate. The results for price inflation support the findings of Ramasamy and Abar, (2015) as they found that price inflation affected exchange rate significantly. If exports of a country are increased, which cause for increase in demand of currency of that particular country, which ultimately affect the exchange rate (Kanamori and Zhao, 2006). Akhter and Faruqui (2015) also tested the effect of exports on exchange rate and found that exports effects have significant influence on exchange rates. Because of change in inflate rates international trade activities are affected, which further effect the supply and demand of currency and ultimate shows affect in exchange rates (Madura, 2010).

In developing Economies it has been found that Price Inflation (PIN) is showing negative and significant influence on Real Exchange Rate. Regression analysis has been carried in this regard as all variables were stationary at level. The results about price inflation are following the Purchasing Power Parity Theory is also known as an inflation theory and introduced by Cassel (1918). However, the results are showing relationship in short term.

Findings

In scenario of developed economies, the results are showing that price inflation, Govt. Consumptions and Export are showing significant influence on real exchange rate. However, in context of developing Economies it has been found that Price Inflation (PIN) is showing

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negative and significant influence on Real Exchange Rate. Remaining, explanatory variables are demonstrating insignificant influence on real exchange rate.

The results suggest that the policymakers should pay special attention toward exports and reduce the imports of a country; by adopting this policy the level of economic activities should be very operational and effective. This study is also helpful for the investors to make investment decisions by forecasting the trend macro-economic variables as to estimate the direction of share prices.

Time and resources were the key limitations for the researcher with study sample and data collection. As the total number of sovereign states are 196 in the present day world. The data of annual series is collected from statistical databases of World Bank and IMF. The exploratory factor analysis has indicated that out of 196 sovereign states only 59 Developed and Developing countries of World Economic Regions and Sub-Regions have stationarity and normality. As the other remaining 134 countries show non-stationarity and no normality for the annual series data, these countries are excluded from the study. Only few, macro-economies variables have been taken into account to test the short term and long term relationships. The results have been obtained just in context of developed, developing, Regional and sub-regional levels. In future research, the data may be included from other remaining countries. A comparison study among the countries may be carried out in future study. Other macro-economic variables may also be included. In future study, financial markets of all economies may be included to pinpoint the short term and long term among all financial market.

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