Determinants of Exchange Rate and its Impact on Pakistani Economy

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Abstract - This paper is explores the reasons behind the devaluation of Pakistani currency with respect to US $ and answer these questions that, Is interest rate and inflation difference having relationship with exchange rate? Either Exchange rate effect economic growth positively or negatively? Is current account deficit and public debt are determinant of exchange rate? It also checks that how exchange rate fluctuation affects economic growth by evaluating the GDP using data over period of 11 years (2001-2011) of Pakistan. For this purpose we evaluated some of the past literatures on exchange rate, its aim to point out several factors that explains the reason behind Pakistani currency devaluation and its exchange with other currencies specially with US $. The result shows how these determinants fluctuates exchange rate, inflation differential; current account deficit, public debt and interest rate differential are most important determinants which have major impact on exchange rate. We got the resultant that GDP, interest rate, inflation rate and current account affected exchange rate fluctuation but the major and important role played by GDP.

Keywords : Exchange Rate, Inflation Rate, GDP, Interest Rate, Currency, Deficit, Fluctuation.

GJMBR-B Classification : FOR Code : JEL Code : F31
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I. Introduction

Exchange rate plays an important role in international trade. You know about the exchange rate is Value of one currency with purpose of conversion to another currency is called exchange rate in other words the rate at which one currency converted into another. Exchange rate is important factor in this globalization era while considering any country to trade internationally because lower currency rate make its exports cheaper and higher make it expensive vice versa. Appreciation of currency has greater impact on foreign trade.

Exchange rate also has greater impact on profitability of businesses where they have FDI (foreign direct investment). Exchange rate may also enhance the risk and uncertainty to dramatic extent in case of foreign investment. So exchange rate have more important factor to discuss, in this paper I try to check the determinants which may influence our exchange rate and its impact to economy of Pakistan. Chowdhury (1993) studied about fluctuation in exchange rate affects on trade flows of G-7 countries and founded that fluctuation in exchange rate has significantly affect export density of in G-7 countries.

Important determinants which may cause volatility of exchange rate are interest rate differentials, inflation differentials and current account deficit and last which is most important is public debt. How these factors affect the exchange rate and what’s changing take place in overall economy. Sound macroeconomic policies, inflation management may handle the difference in exchange somehow which cause payment deficit. Proper understanding and management of determinants of exchange rate give help and clear view towards developing sound exchange policies to achieve desired economic growth. Investors may invest in that economy where exchange rate is stable because in that type of economy where exchange rate volatile risk is higher and risk aversion investors never invest in this type of economy. To boost up the economy exchange rate must be managed for this purpose the determinants must be focused.

II. Research Questions

Is interest rate and inflation difference having relationship with exchange rate? Either Exchange rate effect economic growth positively or negatively?

Is current account deficit and public debt are determinant of exchange rate?

III. Objectives

To contain the trade deficit which cause by exchange rate volatility should manage by focusing on its determinants.

To check out the determinants are important while considering exchange rate. To check the effect of exchange rate on economic growth.

To check how exchange rate volatility affect Pakistani economy in short run and in long run periods.

To check the trade deficit effect on Pakistani developing economy because it is a strong determinant of exchange rate.

IV. Literature Review

In 1973 when floating exchange rate apply in most of developing countries from fixed exchange rate.
By this change in exchange rate regime most researcher investigate this factor how these impact on economies. 

*Cushman (1983)* introduce the third countries effect in the calculation of exchange rate volatility he argues that there are other factors also included others countries rate also be consider instead of just focusing on countries which are under consideration. Under law of fixed price model prices of all goods in different countries which are internationally traded are same in perfect market.

*Akhtar & Hilton (1984)* shown that there is negative relationship between vitality of exchange rate and volume of foreign trade.

*Gotour (1985)* studied that there is insignificant relationship between exchange rate and volume of trade but he also argue that there must be an indirect relationship. Risk aversion firms are a major factor in exchange rate volatility to produce goods and exports. 

*Rangrajan (1986)* studied about bankers and many traders demand exchange rate volatility risk premium for compensation of that risk.

*Campa & Goldberg (1993)* studied that vitality in exchange rate is negatively related with investment and positive impact was founded by Aizenman (1992) Exchange rate volatility affect the investment decision in long run but there is no significant relationship in short run so all countries who deal in long run investments focus on exchange rate fluctuations while considering a foreign direct investment.

*Rogoff (1998)* studied that exchange rate uncertainty is large problem for exporter and importer. Most of investors not take the risk of exchange instead of many risks are there already exists. For this traders export goods to avoid the risk of exchange rate volatility. 

*BaakMehmood & Vixathep (2002)* results show that exchange rate fluctuation has negative impact on exports in both long run and short run periods. 

*Herberger (2003)* studied the exchange rate uncertainty and economic relationship and concluded that no significant effect between real exchange rate and economic growth.

*Azid et al. (2005)* have shown that volatility of exchange rate and economic growth affected positively if there are flexible arrangements for exchange policies.

*Kemal (2006)* have studied that exchange rate volatility is positively related with exports and negatively with imports in case of Pakistan. He has also concluded that devaluation is also by balancing the trade deficit.

### V. Methodology

Data should be collected by using secondary sources from world economic outlook (April 2012) index mundi, IMF data of Pakistan and Economy watch. these resources are more reliable and having data which may we use in our study.

By checking exchange rate of Pakistan rupee with U.S $ data over period of 11 years (2001-11) of Pakistan. Observe data 11 times from 2001 to 2011. By doing so we gather all information about exchange rate and GDP rate also from world economic outlook then check the impact of exchange rate volatility on GDP. Inflation and interest rate also be collected from index mundi and run regression to check the significance and relationship of these determinants is these factors have significant relate to exchange rate volatility or vice versa. Check the significance of variables by p values. If these are significant then it may have greater impact on exchange rate volatility.
The research use multiple regression equation in order to explore the causal relationship B/w exchange rate represented by \( Y \) with the interest rate, inflation rate, current account and GDP represented by \( X \).

Where \( y \) is dependent variable Exchange rate, and \( X \) is independent variable interest rate, rate inflation rate, current account balance and GDP.

VI. Regression Analysis

Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.926(^a)</td>
<td>.857</td>
<td>.761</td>
<td>5.53946</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), GDP rate, current account, interest rate, inflation rate

ANOVA\(^b\)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1099.888</td>
<td>4</td>
<td>274.972</td>
<td>8.961</td>
<td>.011(^a)</td>
</tr>
<tr>
<td>Residual</td>
<td>184.114</td>
<td>6</td>
<td>30.686</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1284.002</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), GDP rate, current account, interest rate, inflation rate.
b. Dependent Variable: exchange rate.

We use multiple regression equation model. Coefficient of relation R=96.6% shows that strong relation among the variables. Coefficient of determination \( R^2 = 85.7\% \) which shows that our model is best fit model. P-value=0.011 which shows impact of all independent variable on dependent variable is significant. so we can say our model is over all significant.

VII. Conclusion

The result of our research work is summarized as the independent variables strongly related with dependent variable. Theoretically the result is overall significant. exchange rate and economic factor of the country have strong relationship. it shows that when economic factors change exchange rate will also change. our analysis shows that independent variables have positive relation and some have negative relation with exchange rate. Interest rate, inflation rate, current account and GDP are strongly related with exchange rate and overall significant. All these factors influence exchange rate, which have correlation coefficient of R= 92.6% and coefficient of determination \( R^2=85.7\% \). P-value=.011 So overall model is significant. The result is that our dependent and independents variables are strongly correlated.

References Références Referencias


