Factors Affecting Exchange Rate

Introduction:

The exchange rate is one of the most important determinants for organization. Exchange rates play a vital role in an organization, and attract more attention of the organization analyst because the exchange rate can affect the value of an organization as the amount of cash inflow receive from exports or from subsidiary and cash out flow need for imports and investment in foreign country. For this reason, the financial manager of an organization doing international business must continuously watching exchange rates movement. They need to understand what factors influence exchange rate. Here we look at some of the major forces behind exchange rate movements. But first we should understand the exchange rate and foreign exchange market.

Exchange rate mean the price of one currency in term another currency, different currencies have different prices seem like different commodities have different prices determined by demand and supply force in the goods markets. The exchange rate is also determined in the foreign exchange market at a point where demand for and supply of foreign currency equates. The demand for a currency comes from net export and supply of the currency comes from net foreign investment. Any change in the demand for and the supply of currency effect its value just like a good market that if the demand for a currency goes up its value (exchange rate) will be increase, while as supply of currency increase its value (exchange rate) will be decline in the exchange market.

Foreign exchange market is a place where people are involved in the buying of one currency and selling of another currency simultaneously. Foreign exchange transaction can be carried out through exchange broker or dealer. Trading of foreign currency is done in pair like Euro against US dollar or British pound against Japanese Yen.

In different time period different system were used for exchanging foreign currencies.

Gold standard: From 1876 to 1913 the exchange rate were settled by gold standard. Each currency was convertible in to gold at a specific rate, and the exchange rate between currencies was determined by their relative convertibility rate per ounce of gold.

When World War 1 began in 1914, the gold standard was suspended, as result of banking panic in the United States and Europe during great depression, in 1930 some countries attempt to peg their currency to the dollar or pound.

In 1944 an international agreement (known as Bretton wood agreement) called for fixed exchange rates between currencies. This agreement until 1970, during this period government would intervene to prevent the exchange rate movement from more than 1 percent above or below from the initials set rates.

By 1971 the US dollar appeared to be overvalued another conference was needed to be held which the "Smithsonian agreement" the US dollar was devalued relative to their currencies and the exchange rate were allowed to fluctuate by 2.25 percent in either direction from the newly set rate. This was the first step to allow the market forces (demand and supply) for determining the appropriate price of currency in term of another. But the boundaries were still exist for the exchange rate.

In 1973 the floating exchange rate system was introduced and all the officials' boundaries was eliminated for the exchange rate and allowed the currencies to fluctuate in accordance with market forces.

The Pakistani currency "Rupee" was linked to British pound till 1970, but in 1971 it was linked with US dollar because of increasing influence of US in the region. Until 1982 the Pakistani rupee was pegged to US dollar. The currency depreciated by 38.5 percent from 1982 to 1988 when the government of "Zia ul haq" convert it to managed float. The currency was again depreciated as result of bad relationship with donor agencies and partner due to nuclear test in 1998.

Literature review:

The purpose of this study is to examine the relationship between exchange rate variability and its factors. Exchange rates are basically the prices of one currency in terms of other currencies driven by the normal forces of supply and demand. There are a fixed number of Euros, Dollars, Yen, etc.

Zada in (2010) studied the factors affecting exchange rate of Pakistan for the period 1979 to 2008. The multiple regression model was used in which exchange rate was taken as dependent variable while Inflation, interest rate, Foreign exchange reserves, trade balance, money supply and Gross Domestic Product were the independent variables. The study showed that Inflation, interest rate and foreign exchange reserves strongly influence the exchange rate and remained significant at 1% level while other variables GDP, Money supply and trade deficit remained insignificant.

Hussain and Farooq, (2009) analyzed the effects of exchange rate fluctuations on macroeconomic variables for Pakistan for the period of 1982 to 2007.they used quarterly data and concluded that exchange rate volatility, exports of country and reserve money possess long run positive relationship to the growth of economy.

Ahmed, and Hyder (2005) used structural vector auto regression (VAR) model and found that external shocks are important in driving exchange rate fluctuations in Pakistan. The primary source of external shocks is foreign remittances. Their result showed that terms of trade shocks come to have very little effect on Pakistan's real exchange rate. Foreign output shocks lead to a real depreciation of the rupee but their spillover effects on domestic output are rather modest. By contrast positive shocks to remittances from abroad lead subsequently to a significant increase in domestic output and a substantial real exchange rate appreciation.

Galati and Ho (2003) showed that news play a role in fluctuation of exchange rate for Euro and dollar. The results of the study showed that good news bring appreciation while bad news depreciates currency.

Ejaz, Abbas and Saeed (2002) showed a direct relationship between exchange rate and budget deficit under the managed floating exchange system. Their study covered the period of 1982 to 1998 for Pakistan. It is proved that budget deficit is also playing an active role in determining real exchange rate in Pakistan.

Data collection:

Data was collected from different sources such as state bank of Pakistan, world development indicator, the global economy web sites etc. In this study different choices were included to find out the interaction of exchange rate and exogenous factors. For this study we take annual exchange rate as dependent variable and inflation, interest, income level and government control are independent variable for the period of 2000 to 2013. The nature of the data is panel data for three countries china, Japan and Pakistan.

INFLATION:

Inflation is just the price of things increasing due to money becoming less valuable. Inflation in a country refers to a situation of excess money supply in relation to availability of goods and services, which cannot expand in short time to adjust the prices or bring down the inflation. Therefore exports lose their competitiveness and imports become cheaper. This may lead to a situation of trade deficit or imports exceeding exports. This would increase the demand for foreign currency and weaken that country's currency.

Interest rate:

An interest rate is the rate at which interest is paid by borrowers for the use of money that they borrow from lenders. The interest rate is a percentage of principal paid a certain number of times per period for all periods during the total term of the loan or credit. Interest rates are normally expressed as a percentage of the principal for a period of one year, sometimes they are expressed for different periods like for a month or a day. Exchange rate or value of a currency is driven by its supply and demand. If a country has high interest rate that will attract more investors to buy

that currency to invest and demand for the currency increase. Changes in interest rates also affect the foreign exchange market.

Government control:

Another factor that can affect the exchange rate is the government. If the government believe that intervention in the foreign exchange market is effective and the result will be consistent with government policy, so the government participate in trading in the foreign exchange market to influence the foreign exchange rate. The government generally participate by buying and selling the domestic currency so as to stabilize it at a level that it deems realistic and ideal. The government of foreign country can also influence the exchange by other ways including imposing foreign exchange barriers, imposing foreign trade barriers and affecting macro variable such is inflation rate, interest rate, and income level.

Income level:

Another factor affecting exchange rate is the income level of the country. Because the income level can affect the amount of demand for imported goods. The rise in domestic income level will tend to increase the demand for imports. The increase in imports will cause the current and deteriorate. The increase in imports purchased will increase the need to convert domestic to foreign currency. As a result, the exchange rate of the domestic currency will decrease.

Methodology:

A multiple regression model is used for this panel data set to analyze the exchange rate behavior. The exchange rate is taken as a dependent variable and the inflation rate, interest rate, income level and government control are taken as an independent variable or explanatory variable.

The multiple regression model is under

$$Y = \alpha + \beta (inf) + \beta (int) + \beta (inc) + \beta (gc) + u$$

Where,

Y = exchange rate α = intercept

β = slope

INF = inflation

Int= interest

Inc= income

GC= government control

Result in table:

Analysis of the result:

The F value is 1.4 percent which indicate that the overall model is significant because the F value is less than 5 %.The result table show that the R- square value is equal to 74 percent which mean that 74% fluctuation in the dependent variable exchange rate is due to the independent variables interest rate, income level, inflation and government control and the remaining 26 % is because of other variables. It is evident from the result that P-statistics and t-statistics of each variables including the constant term in the model is significant at 1.48% level and show very strong influence on the exchange rate except inflation which t-statistics value is less than 2% and is insignificant and show very little influence on the exchange rate. The interest rate has very strong effect on the exchange rate as its beta value is 10.72 which mean 1 unit change in the interest rate can bring 10.7 units change in the exchange rate. There is a positive relationship between exchange rate and interest rate as interest rate increase demand for deposit in domestic currency will also increase. Because if the interest rate of a country increase there would be higher demand of that currency because people would like to earn more and will start buying a currency which has higher interest rate as a result increase in demand for local currency appreciate the its value. Second variables which has strong effect on the exchange rate is government control its beta value is 1.75 which mean one unit change in the government control can bring 1.75 units change in the exchange rate, And If see its p- value 0.051 which is less than 5% and t- value which is greater than 2%. The exchange rate and government control have positive relationship because if the government intervene in the market and start buying of local currency against selling of foreign currency the supply of local currency decrease and its demand remain unchanged as a result the value of local currency goes up. Third variables which has effect on the exchange rate is inflation and its p-value is 0.87 which is less than 5% and is significant. The inflation beta value is 0.22 which indicate that one unit change in inflation can bring 0.22 unit change in the exchange rate. The fourth variable is income level which significant because its t- value is 8.44 and p- valueis 3.76 which greater than 2% and less than 5% and show very weak influence on the exchange rate.

Conclusion:

From this study the analysis of the factors affecting exchange rate result show that interest rate and the government control is the most important factor that bring volatility in exchange rate in the country as it contributes more to variations in exchange rate. The results further indicate that income level and inflation rate also bring volatility in the exchange rate and these both devalues in exchange value of currency. Inflation has a negative effect on exchange rate as when inflation increases it reduce the value of currency but in this study the inflation has positive relationship with interest rate. Furthermore as income level increase demand for import goods also increase as result people start buying foreign currency to buy imported goods. Base on this study it is clear that the interest rate, government control, inflation and income level play important role in the exchange rate variation.

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