Exchange Rate Fluctuations – Major factor affecting the Entrepreneurs in International Trade

Ms.G. Jayashree, Dr.I.Carmel Mercy Priya

***Abstract*— International trade has helped the entrepreneurs to explore their business globally. Globalisation has paved way for the countries to depend on each other for purchase of raw materials, technology, manpower, etc. While doing business with other countries the most important factor affecting the traders is the exchange rate of currencies. The researcher in this study has focused on the importance of exchange rate and the various theories proposed for exchange rate fluctuations. Appreciation and depreciation of currency value affect not only the business traders but also it's an indicator stating the economic status of the country. The paper also concentrates on these areas. Exchange rate fluctuations have become threat for business entrepreneurs in doing business. On the other hand, in order to overcome this threat various hedging tools like forward contract, futures contract , options etc. are being used. The paper is prepared from the data collected from secondary sources.**

***Index Terms*—** Exchange rate, international trade, entrepreneur, currency, interest rate, inflation

I. INTRODUCTION

Exchange rate is termed as the value of one country's currency with another nation's currency. An exchange rate thus has two parts, the domestic currency and a foreign currency. Thus each currency can be quoted by means of direct quotation or indirect quotation. In direct quotation, the price of a unit of foreign currency is expressed in terms of the domestic currency. In an indirect quotation, the price of a unit of domestic currency is expressed in terms of the foreign currency. An exchange rate that does not have the domestic currency as one of the two currency components is known as a cross currency, or cross rate.

It is essential for every businessman to understand the risk involved in exchange rate. Normally the principle every entrepreneur follows is 'Higher the risk, higher the return'. But this principle cannot be applied all the times. Especially in case of international trade the risk involved is very high and it becomes necessary for the businessman to understand the factors that would affect the business transactions. Here in this paper the major factor considered is exchange rate. So it is very much essential for every entrepreneur to understand the major factors and terms affecting the exchange rate in international trade.

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II. OBJECTIVES OF THE STUDY

To study the various factors affecting the exchange rate
To understand and analyse the theories of exchange rate proposed by various economists

III. RESEARCH METHODOLOGY

The study is based on secondary data and information. The paper includes the various factors affecting exchange rate, theories proposed to analyse the change in exchange rate etc.

IV. NEED FOR STUDY

Today's business is to capture their business in global markets. And thanks to the era of globalisation which has paved way for every entrepreneur to achieve the desired business goals. Purchase of good quality raw materials, updated technology, quality manpower, FDI's, product and business diversification etc., has happen to become a opportunity for every business to grow in a better way. Hence it becomes necessary to understand the major factor and risk associated in exchange rate. Trading is done by buying and selling in different currencies. The traders need to be satisfied with the price terms and this price lies on value of exchange rate. Hence the traders need to carry forward their business activities in such a way that turns out to be a profit for both the parties. Thus the study focuses over the concept of exchange rate that enables an entrepreneur to clearly understand the importance of exchange rate in international trade.

V. FACTORS AFFECTING EXCHANGE RATE IN INTERNATIONAL TRADE

- Inflation Rates
- Interest Rates.
- Country's Current Account / Balance of Payments.
- Government Debt.
- Terms of Trade.
- Political Stability & Performance.
- Recession.
- Speculation.

VI. THEORIES OF EXCHANGE RATE

The exchange rate is of either fixed exchange rate or floating exchange rate. If the exchange rate between the currencies remain the same or fixed it is termed as fixed exchange rate and if the exchange rate keeps fluctuating it is floating exchange rate.

There are some theories that are stated to explain how the exchange rate is determined and also explain the various factors influencing the exchange rate fluctuations. The

following theories explain the aspect of exchange rate behaviour;

A. The Purchasing Power Parity(PPP) theory
B. The International Fisher Effect(IFE) theory
C. The Interest Rate Parity(IRP) theory

These theories explain the exchange rate behaviour under the floating rate system. There are various assumptions made in these theories.

- **Law of one price**: This principle states that all the identical products and financial assets should possess same price all over the world. Disparity of prices for identical products enables the arbitrageurs to enter into the market and earn profit.
- **Free role of arbitrageurs**: Since law of one price does not prevail in the economy the arbitrageurs are free to make profit by buying and selling products in different markets at different prices.
- **Unrestricted movement of goods or financial assets**: There is no restriction regarding the movement of goods and financial assets across the countries.

A. The Purchasing Power Parity (PPP) theory

This theory was developed by a Swedish Economist, Gustav Cassel through his article "Abnormal Deviations in International Exchange" published in *Economic Journal* in December 1918. This theory proposes that the rate of exchange rate between two countries is determined by their purchasing power. It is based on the assumptions mentioned above.

The Gold Standard system which was followed during the First World War (1914-1918) measured the exchange rate in terms of ounce of gold. But the gold standard system was not followed for long years. Under the PPP theory it is stated that the purchasing power of a currency is determined by the amount of goods and services that can be purchased with one unit of that currency. This theory can be better explained with an example.

Example: If a product cost 150INR in India and 2USD in United States. Then the exchange rate between INR and USD for that product is 2USD=150INR or 1USD=75INR. But due to a sudden increase of 10% inflation rate in India, the price of the same product increases to 165INR. Therefore, now the exchange rate between INR and USD needs to be adjusted otherwise the arbitrageurs will enter the market. They will purchase the product in the market where the price is low i.e, USA and sell at the market where the price of the same product is higher. So to eliminate arbitrageurs entry the exchange rate has be adjusted as follows;

Prior to the increase in inflation ⟶ 2 USD = 150INR

After the 10% increase in inflation ⟶ INR = 150+10% increase of 150

INR = 150+15 = 165

Therefore , 1INR = 82.5

Thus the product price increase has to get reflected in the exchange rate i.e, 2 USD = 165 INR

Versions of PPP theory;

The PPP theory proposes two versions viz.

a) Absolute Version
b) Relative Version

a)Absolute Version : This version states that the exchange rate between the currencies would equal the ratio of the price levels of the two countries, measured by the respective consumer price indices. It goes like;

$$eo = \frac{Ph}{Pf}$$

Where,

eo = current exchange rate

P*h* = price level in home country

P*f* = price level in foreign country

For example if the consumer price index in India and USA are 4256 and 121 respectively then the USD/INR would be calculated as follows;

$$eo = \frac{4256}{121}$$

then eo = 35.17

i.e., 1USD = 35.17 INR

b) Relative Version

Relative version of PPP theory attempts to explain the changes in exchange rate between currencies changes or fluctuations over the long run. This theory considers inflation is an important factor for change in exchange rate. Therefore the exchange rate changes with the inflation rate differential between two countries. The relationship between inflation rate and exchange rate is expressed as follows;

$$\frac{et}{eo} = \frac{(1+ih,t)}{(1+if,t)}$$

where

et = exchange rate at a time period t

eo = current exchange rate

ih,t = domestic inflation rate at a time period t

if,t = inflation rate of foreign country at a time period t

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B.Fisher Effect (FE) Theory

The Fisher Effect theory is proposed by the economist named Irwing Fisher. Under this theory he had given more importance to the term called 'Interest'. Interest is a reward for waiting made on an investment. A person making an investment in an FD has to wait for a time period to earn an additional amount called 'interest'. Thus the theory prioritize on interest and creates a relationship between interest and exchange rate.

Here Irwin has proposed two types of interest viz.Real interest rate and Nominal interest rate. The real interest does not change with the change in any economic factors. Whereas the nominal interest rate keeps changing with the change in economic factors like inflation rate etc. The theory is generated to study the relationship between exchange rate and both the real and nominal interest rate. The following expression is made to find the exchange rate within a country;

$r = a + i + ai$ ..... equation 1

where

r = nominal interest rate
a = real interest rate
i = inflation rate

Thus with the help of the above equation 1 the nominal interest is obtained and the exchange rate between the countries can be formulated as follows;

$$\frac{e_t}{e_o} = \frac{1+r_{h,t}}{1+r_{f,t}} \quad \text{.....equation 2}$$

Where

$r_{h,t}$ = nominal interest rate of home country for the time period t
$r_{f,t}$ = nominal interest rate of foreign country for the time period t
e_t = exchange rate for the time period t
e_o = current exchange rate

Therefore, the above equation 2 helps to determine the exchange rate of two currencies. The Fisher Effect theory derived the exchange rate with the help of interest rate differential between the countries. Unlike PPP theory the Fisher Effect Theory has various criticisms.

C.International Fisher Effect (IFE) Theory

This theory is also known as Fisher's Open proposition. The PPP theory states that the exchange rate is determined by the inflation rate differential between the countries and the Fisher Effect theory explained the importance of interest rate differentials across the countries. The International Fisher Effect took into consideration of the above said two theories and concluded by saying that the exchange rate movement equals the interest rate differential between the countries concerned.

According to this theory the exchange rate moves in an equal but opposite direction with the interest rate of the countries. Suppose the nominal interest rate of a country is high then the country experience depreciation of currency value and vice versa. For example; the interest rate in India is comparatively higher than USA. Hence India suffers from depreciation of INR. Investors would be willing to invest in currency which would appreciate in future. If INR value appreciates it attracts more FDI's and foreign investments. Thus this theory enables the reader to understand the concept of interest and inflation in computing the exchange rate between the countries and its mathematical expression goes like;

$$\frac{e_t}{e_o} = \frac{1+i_{h,t}}{1+i_{f,t}} \longrightarrow \frac{1+i_{h,t}}{1+i_{f,t}} = \frac{1+r_{h,t}}{1+r_{f,t}}$$

Thus the exchange rate calculated as;

$$\frac{e_t}{e_o} = \frac{1+r_{h,t}}{1+r_{f,t}}$$

Therefore, the IFE theory explained the importance of interest rate differential in computing the exchange rate between the countries. But the magnitude of change of increase or decrease in interest rate may not be the same level of increase or decrease in exchange rate. Sometimes the changes in exchange rate may be more than the difference in interest rate.

D. Interest Rate Parity (IRP) Theory

The IRP theory explains how the exchange rate is determined in the future date. This theory makes a comparison between the spot and forward exchange rate. Forward rate can either be a premium or discount. The IRP theory postulates the forward rate differential in the exchange rate of two currencies that equals the interest rate differential between the two countries.

The theory is expressed mathematically as follows;

$$\frac{F}{S} = \frac{1+r_h}{1+r_f}$$

$$F = S\left\{\frac{1+r_h}{1+r_f}\right\}$$

Where ,

F = Forward exchange rate for a specific future period
S = Spot exchange rate
r_h = nominal interest rate of the security in the forward market in domestic currency
r_f = nominal interest rate of the security in foreign currency invested in foreign currency

The exact version of IRP theory is given as;

$$\left[\frac{1+r_h}{1+r_f}\right] - 1 = p$$

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where;

p = forward premium or discount of the foreign currency
r_h = interest rate of the domestic country for the equivalent period
r_f = interest rate of the foreign country for the equivalent period

Calculation of Forward premium or discount:

$$p = \frac{F - S}{S}$$

where;

F = Forward exchange rate
S = Spot rate
p= premium/discount percent

Therefore, IRP theory not only focuses in understanding the exchange rate of currencies but also explains the forward rate of the currency value. It enables the traders to forecast the premium or discount value of the currency.

CONCLUSION

Entrepreneurship is a skill to manage all business activities and ensure the long run survival of the business. Globalisation has encouraged entrepreneurs to engage in export and import of products/services. In addition, it has become necessary to understand the risk involved in international trade. Here in this study the researcher had given a detailed understanding of exchange rate and the various theories proposed by different economists in exchange rate determination. In order to avoid the risk involved in exchange rate various hedging tools such as forward,futures,options,swaps contract are used in international markets. This enables the trader to offset his/her risk to some extent. Therefore, the study can be concluded by saying that today the entrepreneurs are motivated to engage in international trade so as to increase the value of their country's currency.

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