

## AN EMPIRICAL STUDY ON FOREIGN EXCHANGE MARKET

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**ABSTRACT:** Foreign exchange market is the largest financial market in the world and the value of activities in currency of one country is used to trade for the unit of currency of another country. There are four main participants in FX market such as 1) companies and individuals 2) capital market 3) Hedger 4) Speculators This research exploring the relationship of international trade of goods and services of companies and individuals associated with the following theories: 1) Supply and Demand Theory of Exchange 2) Purchasing Power Parity 3) International Fischer Effect.

### 1. INTRODUCTION

Prior to the 1920's most economists were not concerned with the workings of the foreign-exchange market and fewer still were even aware of the existence of forward exchange. The reason for this lack of interest was probably the high degree of stability maintained by the major currencies before 1914, under the gold standard. The First World War completely disrupted the international monetary system and it was found impossible at the end of the war to return the leading currencies to their prewar parities. It became the primary goal of central bankers to return the currencies to their prewar parity as soon as possible, without regard to the economic soundness of the policy or its political consequences. Since convertibility could not be immediately restored at the prewar rates of exchange, the major European currencies were "unpegged" with respect to gold and allowed to fluctuate with respect to the dollar.

It was hoped that this system of fluctuating exchange rates would be short-lived and it was planned that as soon as a currency attained its prewar value in terms of the dollar, the central bank would return to a system of fixed exchange rates. During this period of fluctuating exchange rates, exporters and importers were exposed to a foreign-exchange risk unless they hedged in the forward market. The same was true for the interest

arbitrageur, who prior to the war often participated in uncovered interest arbitrage, but who would not consider it after the war, because fluctuations in the exchange rate could easily wipe out all profit. This increased interest in forward exchange by businessmen and arbitrageurs had the effect of increasing the transactions volume of the forward exchange market and, as will be shown later in this chapter, reducing the effectiveness of interest-rate policy as a means of directing the international flow of short-term capital. These two factors were primarily responsible for the birth of interest by economists in the forward exchange market.

The foreign exchange market is the generic term for the worldwide institutions that exist to exchange or trade currencies. Foreign exchange is often referred to as "forex" or "FX." The foreign exchange market is an over-the-counter (OTC) market, which means that there is no central exchange and clearinghouse where orders are matched (Lien, 2009). FX dealers and market makers around the world are linked to each other around the clock via telephone, internet links, and fax, creating one cohesive market.

Undoubtedly, we are now living in a world where all the major economic functions consumption, production, exchange and investment are highly globalized. India import sugar and sugar confectionery from Brazil, Thailand, Guatemala and Spain. American consumers, for example,

routinely purchase oil imported from Saudi Arabia and Nigeria, TV sets from Korea, automobiles from Germany and Japan, garments from China, shoes from Indonesia, pasta from Italy, and wine from France. Foreigners, in turn, purchase American-made aircraft, software, movies, jeans, wheat, and other products. Continued liberalization of international trade is certain to further internationalize consumption patterns around the world (Eun & Resnick, 2012).

It is thus essential for financial managers to fully understand vital international dimensions of currency risk involved in settlement of these trades and the available tools for its management. Understanding the foreign exchange rate movements is not only important for exporters and, importers but also for those who deal in currency market regularly such as, commercial banks, brokers and central banks, traders and speculators, tourists and investors, etc. The exchange of currencies is done in the foreign exchange market, which is one of the biggest financial markets having trading centres in each part of a single world on which the sun never sets (Krugman, Obstfeld, & Melitz, 2012).

The foreign exchange rate is the value of a foreign currency relative to domestic currency. A foreign exchange contract typically states the currency pair, the amount of the contract, the agreed rate of exchange etc. For understanding the movements in the foreign exchange market much emphasis is given on fundamental, behavioural, technical analysis and central bank moves for currency management. Fundamental analysis involves the study of economic fundamentals of a country such as Gross Domestic Product (GDP), Balance of Payment (BOP) Position, Political Stability, Inflation, Interest Rates and Rating by major Global 2 Credit Rating Agencies etc. Non-fundamental factors such as behavioural factor and technical factors also play an important role in the foreign exchange market.

Behavioural factors include Bandwagon effects, Peers/social influences and Rumours etc. Technical analysis is concerned with exchange rate prediction on the basis of historical data.

Many techniques have been developed over a period such as Fibonacci retracement levels, moving averages, oscillators, candlestick charts, and Bollinger bands (Edwards, Magee & Bassetti, 2007). Central bank intervenes in the foreign exchange market to achieve many objectives such as controlling inflation, to maintain internal and external balance and prevent resource misallocation or preserve competitiveness and boost growth, to prevent or deal with disorderly markets or crises. There are several methods available to central banks for intervention such as Concerted, Sterilized, Scheduled, Spot Market and Forward Market etc.

## **2. LITURATURE REVIEW**

### **J. SPRAOS**

J. Spraos made the first major contribution after the war.<sup>8</sup> Writing in 1953, Spraos' work was primarily concerned with and shaped by conditions existing at that time in the London foreign-exchange market. The London market was reopened in December 1951 and forward sterling was unpegged. However, there were still in existence foreign exchange controls imposed on British residents. Limitations on outward interest arbitrage virtually eliminated this form of short-term capital movement (inward arbitrage was still possible, however) and the accumulation of speculative foreign-exchange balances (other than unhedged commercial-trading obligations) was illegal. Despite these limitations Spraos made an important contribution. He was the first to investigate the implications of triangular arbitrage on Keynes' suggestion that intervention by the monetary authorities in the forward market would allow a nation to pursue an interest-rate policy independently of her trading partners. Spraos showed that consistency of cross spot rates resulting from spot arbitrage implied consistency of cross forward rates regardless of the existing interest rates in the various countries and, therefore, an independent interest-rate policy was feasible

### **S. C. TSIANG**

S. C. Tsiang was the first economist to publish a systematic theory of forward exchange which explained how the interplay of the operations of interest arbitrage, commercial hedging, and speculation jointly determine the forward exchange rate and how the forward exchange market and the spot exchange market are linked together. While these three operations are normally performed by three different institutional groups (banks, merchants, and speculators), it is not unusual for one of these institutions to be performing two or more of these operations at the same time. Banks are primarily engaged in interest arbitrage, but in a special sense ( as defined by Tsiang) merchants and speculators may also engage in interest arbitrage. Speculation is the major activity of speculators, but banks that take open speculative positions and merchants who leave all or part of their foreign-exchange commitments unhedged can also be considered to be engaged in speculation. Tsiang's theory is based on a detailed description of the determinants of the demand for and supply of forward and spot exchange necessitated by each of these three operations.

#### **EGON SOHMEN**

Egon Sohmen, in his doctoral dissertation, developed a theoretical model of the forward exchange market which was essentially the same Ibid., p. as Tsiang's. Sohmen later extended his dissertation and published a monograph in 1961 which incorporated this model. Some of the theoretical observations made in this monograph, with respect to forward exchange, of this study. Sohmen's most recent contribution extends his theory further by considering not only one spot and one forward market, but any number of forward markets, and sheds additional light on some neglected aspects of forward-exchange theory. Sohmen is probably the most outstanding theoretical apologist for flexible-exchange-rate systems and much of his recent contribution should be read with this in mind.

For example, in *The Theory of Forward Exchange*, Sohmen dispels the folklore that forward hedging on the part of commercial traders

involves an intrinsic risk premium and shows that this is not the case if full convertibility is maintained by the monetary authorities. He does this to counter the argument that flexible-exchange-rate systems increase the cost of world trade and thus reduce its volume. This conclusion rests upon his belief ( as opposed to Tsiang's ) that the subjective marginal-convenience yields are not significant factors and, therefore, interest arbitrage would prevent excessive divergence between interest differentials and forward premia. Suppose that the interest rates in two countries are identical, then the forward rate would be approximately equal to the spot rate and the cost of hedging would obviously be zero. Should the interest rates differ, the cost of forward exchange for the traders of one country will be higher than spot, while the cost to traders in the other country will be less than spot, and for commercial trade as a whole these losses and gains will tend to cancel out over time.

#### **PETER B. KENEN**

In his contribution to forward-exchange theory, Peter Kenen has departed from the traditional aggregate approach based upon the functional classification of forward transactions and has instead sought new insight into the forward market by analyzing the operations of an export-import firm.<sup>21</sup> Kenen shows that an individual firm will engage in the operations of speculation, hedging, and interest arbitrage, and claims that this microeconomic approach reveals certain interrelationships between these operations which the aggregate approach does not.

#### **JEROME L. STEIN**

Jerome Stein's approach to forward-exchange theory, when compared with the previously mentioned economists, is unique. Stein appears to be the only one who has a first hand, intimate knowledge of the actual behavior of foreign-exchange traders in the New York market. This factor has resulted in a highly institutionalized approach to forward exchange theory where specific institutions are delegated specific operations in the market. Probably the most

important example of this approach is Stein's analysis of speculative operations in the forward market. According to Stein, the only parties that speculate in the forward market are the large banks, and all other parties in the foreign-exchange market are restricted by bank practice to the spot market. In other words, while it may be theoretically possible for nonbank individuals to speculate in forward exchange, in actual practice they are prevented from doing so.

### **3. THEORETICAL REVIEW & METHODOLOGY**

Foreign exchange market is the largest financial market in the world. In the market currency of one country is used to trade with the currency of another country. Exchange rate plays a very important role in trading good and services internationally. There are several theories that can help to determine the value of currency. The following theories are as follow:

#### **1. Demand-supply theory of exchange**

The theory state that the rate exchange is related to the position of balance of payments of the country that it is being concerned about. A favorable balance of payments result to as an appreciation in the external value of the currency of the country. Unfavorable balance of payments creates a depreciation of the external value. The balance of payments theory of exchange rate is considered the price of foreign money in terms of domestic money which is shown by the free forces of demand and supply in the foreign exchange market. The external value of a country's currency will depend upon the demand for and supply of the currency (Akarani (2010)). A balance of payments deficit of a country shown that demand for foreign exchange exceeds its supply. The price of foreign money in terms of domestic currency must rise which mean the exchange rate of domestic currency must fall. The balance of payments of a country surplus shown a greater demand for domestic currency in a foreign

country than the available supply. The price of domestic currency in terms of foreign money rises (Chand, 2016). The greatest volume of currency is traded in the interbank market, where banks of all sizes trade currency with each other and through electronic networks (Hiranto, 2018).

**2. Purchasing Power Parity (PPP)** is an economic theory which state that the exchange rates between currencies are in equilibrium when their purchasing power is the same in each of the two countries. The basis for Purchasing Power Purity is the law of one prize If there is no transportation and other transaction costs, competitive markets will equal to the price of goods in two countries when the Prices are expressed in the similar currency

**Example;** if a Radio set that sells for 750 Canadian Dollars in Toronto will cost 500 US Dollars in New York when the exchange rate between Canada and the US is 1.50 CAD/USD. If the price of the Radio set in Toronto was only 700 CAD, consumers in New You would then wish to buy the Radio set in Toronto. If this process (called "arbitrage") is carried out at a large scale, the US consumers buying Canadian goods will bid up the value of the Canadian Dollar, thus making Canadian goods more expensive to them. This process continues until the goods have again the same price (Griffin, 2017). There are three cautions with this law of one price.

- 1) As mentioned above, transportation costs, barriers to trade, and other transaction costs, can be significant.
- 2) There must be competitive markets for the goods and services in both countries.
- 3) The law of one price only applies to trade able goods; immobile goods such as houses, and many services that are local, are of course not traded between countries.

There are two forms of the PPP theory:

**1) Absolute Purchasing Power Parity (PPP)** assume that the equilibrium exchange rate between two countries' currencies is equal to the ratio of the price levels in the two nations. Then a price of similar products of two different countries should be equal when measured in a common

currency as per the absolute version of PPP theory.

**2) Relative Purchasing Power Parity theory** is an opposite version which assume that the change in the exchange rate over a period of time should be proportional to the relative change in the price levels in the two nations in the same period. A fall in either currency's purchasing power would lead to a proportional decrease in that currency's valuation on the foreign exchange market (Guinea, 2013).

**3. Fisher's open hypothesis is a hypothesis** in international finance which that suggests differences in nominal interest rate will reflect expected changes in the spot exchange rate between countries. The hypothesis specifically states that a spot exchange rate is expected to change equally in the opposite direction of the interest rate differential which mean that the currency of the country with the higher nominal interest rate is expected to depreciate against the currency of the country with the lower nominal interest rate, as higher nominal interest rates reflect an expectation of inflation (Pruess, 2018).

For example, let assumed that if Switzerland's interest rate is 10% and United States' interest rate is 5%, US dollar should appreciate roughly by 5% compared to Swiss Franc. The rationale for the IFE is that a country with a higher interest rate will also tend to have a higher inflation rate. The increasing in the amount of inflation rate should cause the currency in the country with the high interest rate to depreciate against a country with lower interest rates. The IFE is based on the interest rates analysis which associated with present and future risk-free investments which is different from another method that use inflation rates in order to get the exchange rate movement instead of functioning as a combined view relating inflation and interest rates to a currencies appreciation or depreciation (Prudon, 2018).

The theory branch from the concept, in which the real interest rates are independent of other monetary variables, such as changes in a nation's monetary policy. The IFE provides for the assumption which shown that the countries with

lower interest rates will experience lower levels of inflation, which then result in increasing in the real value of the associated currency when comparing to another country. Alternatively, Countries with higher interest rates will experience depreciation in the value of their currency (Shalishali, 2012).

## METHODOLOGY:

### Hypothesis

H1. Increasing degrees of trust will increase the consumers' purchase intention on Foreign Exchange market.

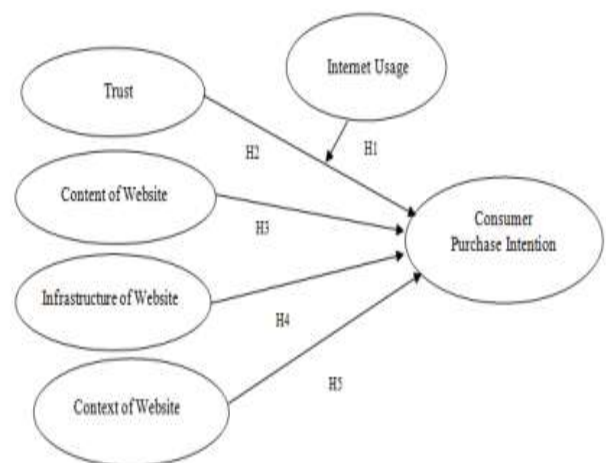
H2. Site involvement (context) positively increases consumers' purchase intention on The Foreign Exchange market.

H3.Site materials (content) positively increase consumers' purchase intention on Foreign Exchange market.

H4. The quality of the Site (Infrastructure) positively increases consumers' purchase intention on the Foreign Exchange market.

H5. Context of the website positively affects consumers' purchase intention on the Foreign Exchange market.

Fig: Conceptual Framework



## 4. RESULTS

The market for foreign exchange Currencies are bought and sold, just like other commodities, in markets called foreign exchange markets. The world's three most common transactions are exchanges between the dollar and the euro (30%)

the dollar and the yen (20%) and the dollar and the pound Sterling (12%).

How currency values are established depends upon whether they are determined solely in free markets, called freely floating, or determined by agreements between governments, called fixed or pegged. Like most currencies, the pound has at times been both fixed, and floating. Between 1944 and 1971, most of the world's currencies were fixed to the US Dollar, which in turn was fixed to gold. After a period of floating, the pound joined the European Exchange Rate Mechanism (ERM) in 1990, but quickly left in 1992, and has floated freely ever since. This has meant that its value is largely determined by the interaction of demand and supply.

### **The demand for currency**

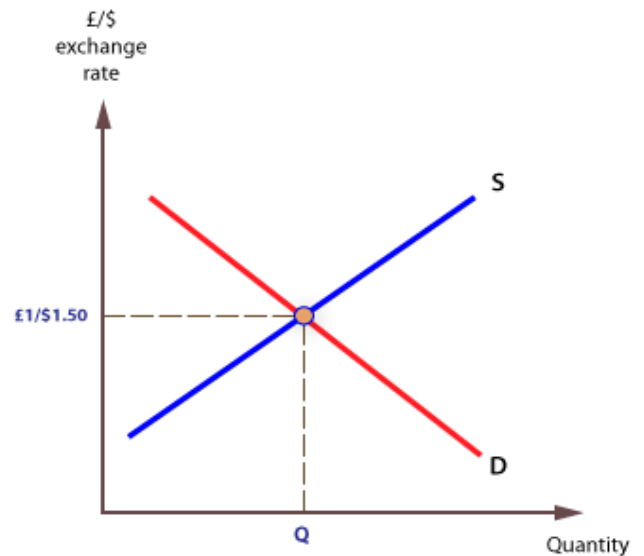
The demand for currencies is derived from the demand for a country's exports, and from speculators looking to make a profit on changes in currency values.

### **The supply of currency**

The supply of a currency is determined by the domestic demand for imports from abroad. For example, when the UK imports cars from Japan it must pay in yen (¥), and to buy yen it must sell (supply) pounds. The more it imports the greater the supply of pounds onto the foreign exchange market. A large proportion of short-term trade in currencies is by dealers who work for financial institutions. The London foreign exchange market is the World's single largest international exchange market.

### **Exchange rates**

The equilibrium exchange rate is the rate which equates demand and supply for a particular currency against another currency.



### **Example**

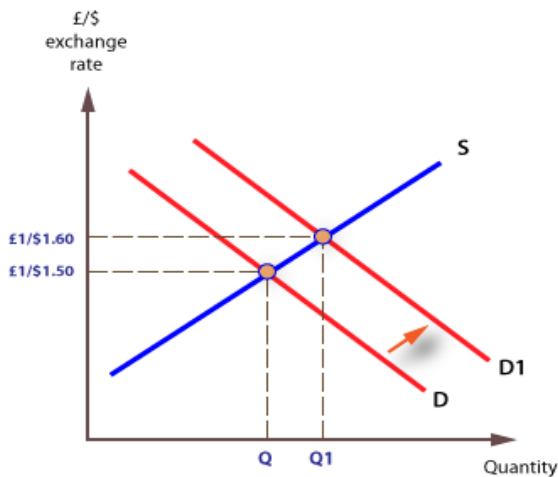
If we assume the UK and France both produce goods that the other wants, they will wish to trade with each other. However, French producers require payment in Euros and the British producers require payments in pounds Sterling. Both need payment in their own local currency so that they can pay their own production costs in their local currency. The foreign exchange market enables both French and British producers to exchange currencies so that trades can take place. The market will create an equilibrium exchange rate for each currency, which will exist where demand and supply of currencies equates.

### **Changes in exchange rates**

Changes in the value of a currency like Sterling reflect changes in demand and supply. On a demand and supply graph, the price of Sterling is expressed in terms of the other currency, such as the \$US.

### **An increase in the exchange rate**

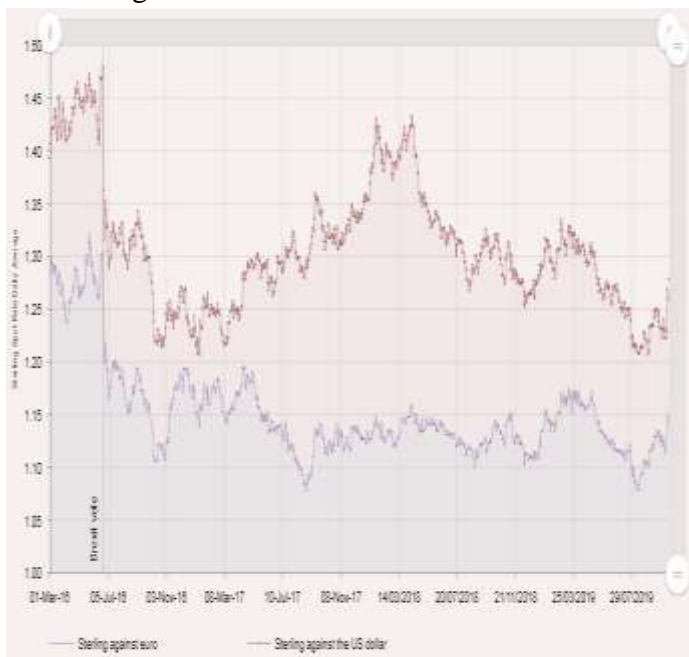
For example, an increase in exports would shift the demand curve for Sterling to the right and push up the exchange rate. Originally, one pound bought \$1.50, but now buys \$1.60, hence its value has risen.



### Exchange rates and interest rates

Changes in a country's interest rates also affect its currency, through its impact on the demand and supply of financial assets in the UK and abroad. For example, higher interest rates relative to other countries, makes the UK attractive the investors, and leads to an increase in the demand for the UK's financial assets, and an increase in the demand for Sterling.

Conversely, lower interest rates in one country relative to other countries leads to an increase in supply, as speculators sell a currency in order to buy currencies associated with rising interest rates. These speculative flows are called hot money, and have an important short-term effect on exchange rates.



## 5. CONCLUSION

Although foreign exchange may be confusing, in today's global marketplace, there is a critical need for almost everyone to understand foreign exchange like never before. As the world shrinks, there is an ever-increasing likelihood that is required to address the risks associated with the fact that there are different currencies used all around the world and that these currencies have an immediate impact on the world. One must be able to evaluate the effects of, and actively respond to, changes in exchange rates with respect to consumption decisions, investment portfolios, business plans, government policies, and other life choices. Moreover, there is an ever-increasing probability that one has to transact in these foreign exchange markets in his or her personal or professional life.

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