CHAPTER – 1

EXCHANGE RATE AND AN ECONOMY
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Topic</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Introduction</td>
<td>2</td>
</tr>
<tr>
<td>1.2</td>
<td>Currency</td>
<td>3</td>
</tr>
<tr>
<td>1.3</td>
<td>Determinant of Exchange Rates</td>
<td>9</td>
</tr>
<tr>
<td>1.4</td>
<td>The Cause of Drastic Currency Changes</td>
<td>12</td>
</tr>
<tr>
<td>1.5</td>
<td>The Effect of Currency Fluctuation on the Economy</td>
<td>16</td>
</tr>
<tr>
<td>1.6</td>
<td>Top Economic Factors that Depreciate U.S. Dollar</td>
<td>20</td>
</tr>
<tr>
<td>1.7</td>
<td>Factors that Drive the U.S. Dollars</td>
<td>23</td>
</tr>
<tr>
<td>1.8</td>
<td>The Hazards of Currency Movement</td>
<td>26</td>
</tr>
<tr>
<td>1.9</td>
<td>A Currency War System</td>
<td>29</td>
</tr>
<tr>
<td>1.10</td>
<td>Dollarization</td>
<td>33</td>
</tr>
<tr>
<td>1.11</td>
<td>Interest Rate and Currency Value and Exchange Rate</td>
<td>35</td>
</tr>
<tr>
<td>1.12</td>
<td>Hedge against Exchange Rate Risk with Currency Exchange Traded Funds</td>
<td>35</td>
</tr>
<tr>
<td>1.13</td>
<td>Economic Factors that affected the U.S. Dollar in 2012</td>
<td>43</td>
</tr>
<tr>
<td>1.14</td>
<td>Effects of Changes in Exchange Rate on Indian Economy</td>
<td>45</td>
</tr>
<tr>
<td>1.15</td>
<td>Exchange Control of Currency</td>
<td>51</td>
</tr>
<tr>
<td>1.16</td>
<td>Conclusion</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>References</td>
<td>56</td>
</tr>
</tbody>
</table>
1.1 INTRODUCTION

International economics has long been concerned with the effects of exchange rate movements on the real economy. Aside from factors such as interest rates and inflation, the exchange rate is one of the most important determinants of a country's relative level of economic health. Exchange rates play a vital role in a country's level of trade, which is critical to most every free market economy in the world. For this reason, exchange rates are among the most watched analyzed and governmentally manipulated economic measures. But exchange rates matter on a smaller scale as well: they impact the real return of an investor's portfolio.

While the impact of a currency’s gyrations on an economy is far-reaching, most people do not pay particularly close attention to exchange rates because most of their business and transactions are conducted in their domestic currency. For the typical consumer, exchange rates only come into focus for occasional activities or transactions such as foreign travel, import payments or overseas remittances.

A common fallacy that most people harbor is that a strong domestic currency is a good thing, because it makes it cheaper to travel to Europe, for example, or to pay for an imported product. In reality, though, an unduly strong currency can exert a significant drag on the underlying economy over the long term, as entire industries are rendered uncompetitive and thousands of jobs are lost. And while consumers may disdain a weaker domestic currency because it makes cross-border shopping and overseas travel more expensive, a weak currency can actually result in more economic benefits.

The value of the domestic currency in the foreign exchange market is an important instrument in a central bank’s toolkit, as well as a key consideration when it sets monetary policy. Directly or indirectly, therefore, currency levels affect a number of key economic variables. They may play a role in the interest rate you pay on your mortgage, the returns on your investment portfolio, and the price of groceries in your local supermarket, and even your job prospects.

A higher currency makes a country's exports more expensive and imports cheaper in foreign markets. A lower currency makes a country's exports cheaper and its imports more expensive in foreign markets. A higher exchange rate can be expected to lower the country's balance of trade, while a lower exchange rate would increase it.
CHAPTER 1: EXCHANGE RATE AND AN ECONOMY

1.2 CURRENCY

For citizens of different countries to conduct trade, they have to buy and sell each other's currencies. The price of a nation's currency, expressed as an amount of a second country's currency, is referred to as the exchange rate. As exchange rates play a significant role in trade and capital flows, it is an important concept in macroeconomics.

The nominal exchange rate is the type of exchange rate that is referenced most often in business discussions. When reports talk of the dollar being worth 1.35 euros or 85 Japanese yen, they are referring to the nominal exchange rate. The real exchange rate is a bit more academic – it is the amount of goods or services from one country that can be traded for another country's goods and services. It can be expressed as the equation: (nominal exchange rate x domestic price) / foreign price.

There are basically two types of international exchange rate systems – fixed and floating. In a fixed exchange system, countries establish the ratio of their currencies and then commit to maintaining those rates. A country supports fixed rates by buying (or selling) foreign reserves in response to changes in demand for the currency.

From day to day, there is minimal change in a fixed rate system – if the exchange rate between dollars and euros is fixed at 1:1.25, businesses, governments and individuals can typically count on that rate being in force at any given time. This is often seen as convenient for companies conducting international trade as it removes the risk and unpredictability of exchange rates.

Fixed rates were commonplace throughout the 19th and 20th centuries, with gold serving as the underlying standard and the British pound serving as the global reserve currency (in other words, almost all countries would accept gold or British pounds to settle accounts). Near the end of World War 2, the Bretton Woods Agreement came into being and largely governed foreign exchange rates into the early 1970s, with fixed rates and the U.S. dollar becoming the new world reserve currency. In practice, most countries have found that a fixed exchange system is too limiting and too expensive to maintain, and as of the early part of the 21st century, China is the only major economy to maintain such a system.

In contrast, a country can elect to allow the market to set the value of its currency. This is called a floating exchange rate system. If a country has floating exchange rates, foreign exchange rates are subject to the same rules of supply and demand as any other good. When there is increased demand for a currency, its value increases.
relative to other currencies. This demand can be driven by consumer tastes (a preference for goods from that country), relative incomes, relative inflation and outright speculation.

Not surprisingly, exchange rates are typically much more volatile in a floating environment; some economists have estimated that rates have been at least twice as volatile since the end of the Bretton Woods system.

(a) Meaning of Exchange Rate

Exchange Rate means the price of a nation’s currency in terms of another currency. An exchange rate thus has two components, the domestic currency and a foreign currency, and can be quoted either directly or indirectly. In a 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.

An exchange rate has a base currency and a counter currency. In a direct quotation, the foreign currency is the base currency and the domestic currency is the counter currency. In an indirect quotation, the domestic currency is the base currency and the foreign currency is the counter currency.

Most exchange rates use the US dollar as the base currency and other currencies as the counter currency. However, there are a few exceptions to this rule, such as the euro and Commonwealth currencies like the British pound, Australian dollar and New Zealand dollar.

Exchange rates for most major currencies are generally expressed to four places after the decimal, except for currency quotations involving the Japanese yen, which are quoted to two places after the decimal.

(b) Fixed Exchange Rate

A government or central bank using a fixed exchange rate has linked the value of its currency to the value of another country’s currency, or the price of gold.

Exchange rates are the rates at which one currency can be exchanged for another. For example, if the United States dollar has an exchange rate of 1:2 to the Canadian dollar, one U.S. dollar will buy two Canadian dollars.
With a fixed exchange rate, a country determines that the value of a single unit of its currency is worth a certain amount of another country’s currency.

For instance, a small country fixes its currency to the U.S. dollar, saying one unit of its money is worth $2. To maintain the rate, the country’s central bank will buy or sell its own currency on the foreign exchange market in return for U.S. dollars.

This will keep the exchange rate steady. But it requires the small country to maintain a large amount of U.S. dollars in reserve so that it can release or absorb extra dollars when necessary.

Fixed exchange rates enable a currency’s value to remain relatively stable, and can help lower inflation, which encourages investment.

But a fixed exchange rate can also cause problems. A smaller country that fixes its currency to a larger country’s currency loses its monetary independence, and in some instances, its control.

A fixed exchange rate is also known as a pegged exchange rate.

A pegged exchange rate occurs when one country fixes its currency’s value to the value of another country’s currency. It makes the exchange rate between the two countries constant and stable. But pegging an exchange rate has both pros and cons.

The biggest advantages come from the effect it has on a country’s exports and trade, especially between a nation with low production costs and another country with a stronger currency. A richer, more mature nation may choose to produce its goods in a less mature nation, where production costs are smaller. When those less mature nations translate their earnings into their domestic currencies, they make a larger profit, creating a win/win situation for both countries.

A pegged exchange rate also supports a rising standard of living and economic growth. And it protects a nation from volatile swings in the foreign exchange rate, which reduces the likelihood of a currency crisis.

Among the disadvantages is the large amount of reserves a central bank has to maintain to make a pegged exchange rate work. Those large reserves can spark higher inflation, which causes prices to rise, creating problems for a country’s economic stability. The central bank must also buy or sell its currency on the open market to keep its value in line with the pegged nation’s currency.
Despite the negatives, many major and minor economies favor a pegged exchange rate. A country can gain trading advantages while protecting its economic interests, but these advantages come at a price.

(c) **Floating Exchange Rate**

A floating exchange rate is a country's exchange rate regime where its currency is set by the foreign-exchange market through supply and demand for that particular currency relative to other currencies. Thus, floating exchange rates change freely and are determined by trading in the forex market. This is in contrast to a "fixed exchange rate" regime.

(d) **Dual and Multiple Exchange Rate**

When faced with a sudden shock to its economy, a country can opt to implement a dual or multiple foreign-exchange rate system. With this type of system, a country has more than one rate at which its currencies are exchanged. So, unlike a fixed or floating system the dual and multiple systems consist of different rates, fixed and floating, that are used for the same currency during the same period of time. (to learn more about these,

In a dual exchange rate system, there are both fixed and floating exchange rates in the market. The fixed rate is only applied to certain segments of the market, such as "essential" imports and exports and/or current account transactions. In the meantime, the price of capital account transactions is determined by a market driven exchange rate.

In a multiple exchange rate system, the concept is the same, except the market is divided into many different segments, each with its own foreign exchange rate, whether fixed or floating. Thus, importers of certain goods "essential" to an economy may have a preferential exchange rate while importers of "non-essential" or luxury goods may have a discouraging exchange rate. Capital account transactions could, again, be left to the floating exchange rate.

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A multiple system is usually transitional in nature and is used as a means to alleviate excess pressure on foreign reserves when a shock hits an economy and causes investors to panic and pull out. It is also a way to subdue local inflation and importers' demand on foreign currency. Most of all, in times of economic turmoil, it is a mechanism by which governments can quickly implement control over foreign currency transactions. Such a system can buy some extra time for the governments in their attempts to fix the inherent problem in their balance of payments. This extra time is particularly important for fixed currency regimes, which may be forced to completely devalue their currency and turn to foreign institutions for help.

Instead of depleting precious foreign reserves, the government diverts the heavy demand for foreign currency to the free-floating exchange rate market. Changes in the free floating rate will reflect demand and supply.

The use of multiple exchange rates has been seen as an implicit means of imposing tariffs or taxes. For example, a low exchange rate applied to food imports functions like a subsidy, while the high exchange rate on luxury imports works to "tax" people importing goods which, in a time of crisis, are perceived as non-essential. On a similar note, a higher exchange rate in a specific export industry can function as a tax on profits.

While multiple exchange rates are easier to implement, most economists agree that the actual implementation of tariffs and taxes would be a more effective and transparent solution: the underlying problem in the balance of payments could thus be addressed directly.

While the system of multiple exchange rates may sound like a viable quick-fix solution, it does have negative consequences. More often than not, because the market segments are not functioning under the same conditions, a multiple exchange rate results in a distortion of the economy and a misallocation of resources. For example, if a certain industry in the export market is given a favorable foreign exchange rate, it will develop under artificial conditions. Resources allocated to the industry will not
necessarily reflect its actual need because its performance has been unnaturally inflated. Profits are thus not accurately reflective of performance, quality, or supply and demand. Participants of this favored sector are (unduly) rewarded better than other export market participants. An optimal allocation of resources within the economy can thus not be achieved.

A multiple exchange rate system can also lead to economic rents for factors of production benefiting from implicit protection. This effect can also open up doors for increased corruption because people gaining may lobby to try and keep the rates in place. This, in turn, prolongs an already inefficient system.

Finally, multiple exchange rates result in problems with the central bank and the federal budget. The different exchange rates likely result in losses in foreign currency transactions, in which case the central bank must print more money to make up for the loss. This, in turn, can lead to inflation.

An initially more painful, but eventually more efficient mechanism for dealing with economic shock and inflation is to float a currency if it is pegged. If the currency is already floating, another alternative is allowing a full depreciation (as opposed to introducing a fixed rate alongside the floating rate). This can eventually bring equilibrium to the foreign exchange market. On the other hand, while floating a currency or allowing depreciation may both seem like logical steps, many developing nations are faced with political constraints that do not allow them to devalue or float a currency across the board: the "strategic" industries of a nation's livelihood, such as food imports, must remain protected. This is why multiple exchange rates are introduced - despite their unfortunate capacity to skew an industry, the foreign exchange market, and the economy as a whole.

(e) **Set of International Exchange Rate**

International exchange rates show how much one unit of a currency can be exchanged for another currency.

Rates can be floating, which means they continually change based on many factors. Currencies can also be pegged to another currency. That’s when they move in tandem with the currency to which they are pegged.

Supply and demand determines floating rates. If the demand for U.S. dollars from Europeans grows, the dollar’s price will increase in relation to the euro. Interest rates, unemployment rates and inflation reports are a few of the factors that affect exchange rates.
Floating rates are determined by the market forces of supply and demand. How much demand there is in relation to supply of a currency will determine that currency's value in relation to another currency. For example, if the demand for U.S. dollars by Europeans increases, the supply-demand relationship will cause an increase in price of the U.S. dollar in relation to the euro. There are countless geopolitical and economic announcements that affect the exchange rates between two countries, but a few of the most popular include: interest rate decisions, unemployment rates, inflation reports, gross domestic product numbers and manufacturing information.

Some countries may decide to use a pegged exchange rate that is set and maintained artificially by the government. This rate will not fluctuate intraday, and may be reset on particular dates known as revaluation dates. Governments of emerging market countries often do this to create stability in the value of their currencies. In order to keep the pegged foreign exchange rate stable, the government of the country must hold large reserves of the currency to which its currency is pegged in order to control changes in supply and demand.

1.3 DETERMINANT OF EXCHANGE RATES

Numerous factors determine exchange rates, and all are related to the trading relationship between two countries. Exchange rates are relative, and are expressed as a comparison of the currencies of two countries. The following are some of the principal determinants of the exchange rate between two countries. These factors are in no particular order; like many aspects of economics, the relative importance of these factors is subject to much debate.

One theory, called purchasing power parity (PPP), holds that the ratio of two countries' exchange rates should equal the ratio of the prices of identical goods in those two countries. If a gold coin is worth $1 in the United States and the same gold coin would be worth 100 yen in Japan, PPP says that the exchange rate should be $1:100Y. By extension, then, purchasing power parity also holds that changes in relative inflation rates tie into changes in exchange rates.

This theory works mathematically and logically; if there was not such a state of parity, one could buy goods in the "cheap" country, sell them in the more expensive country and reap risk-free profits.

In the real world, though, this theory does not strictly hold true. Not only are there expenses involved in shipping, but there are various trade barriers and tax issues involved. What's more, the notions of specialization and comparative advantage suggest that goods are not exactly the same – some countries can produce goods at lower cost than other countries. Still, when considering price levels on the whole this is less problematic and the theory is somewhat more useful.
CHAPTER 1  EXCHANGE RATE AND AN ECONOMY

One well-known application of purchasing power theory is the Big Mac Index. Created by The Economist, the Big Mac Index evaluates the under/overvaluation of foreign currency relative to current rates by examining the price of a Big Mac in various countries. In concept this should be a reasonably fair test of purchasing power theory, though local taxes, regulations and farm policy to influence the comparisons.

Likewise, the interest rate parity concept is a useful theoretical construct that does not hold true in practice. In essence, interest rate parity holds that the returns from borrowing money in one currency (say dollars), exchanging it for another (yen), investing that currency in interest-earning assets denominated in that second currency (yen-denominated bonds), and purchasing a futures contract to convert back to dollars at maturity of the asset (the bonds) will be equal to simply buying and holding like interest-bearing assets in the original currency.

This concept implies that the differences in nominal interest rates correspond to the difference in rates of change of exchange rates. Now it is certainly true that there is a relationship between interest rates and foreign currency exchange rates. There is a phenomenon in international investing called "yield shopping" where investors seek out interest rates that seem to be in excess of what the exchange rates would indicate. Along these lines, an overvalued currency is associated with relatively low expected inflation and high expected real interest rates. Still, actual experience deviates from this model due at least in part to the fact that there are costs and taxes involved in these transactions and other factors can influence rates as well.

Interestingly, actual experience with real floating exchange rates has shown much less connection between real exchange rates and rates of growth in inflation and monetary supplies. In practice, fluctuations in real exchange rates reflect market forces and investor expectations.

Relative interest rates play a major role in exchange rates between countries. Higher rates will often have the effect of attracting capital to that country, increasing the demand for the currency and lifting the exchange rate.

1. Differentials in Inflation

As a general rule, a country with a consistently lower inflation rate exhibits a rising currency value, as its purchasing power increases relative to other currencies. During the last half of the 20th century, the countries with low inflation included Japan, Germany and Switzerland, while the U.S. and Canada achieved low inflation only later. Those countries with higher inflation typically see depreciation in their currency in relation to the currencies of their trading partners. This is also usually accompanied by higher interest rates.
2. Differentials in Interest Rates

Interest rates, inflation and exchange rates are all highly correlated. By manipulating interest rates, central banks exert influence over both inflation and exchange rates, and changing interest rates impact inflation and currency values. Higher interest rates offer lenders in an economy a higher return relative to other countries. Therefore, higher interest rates attract foreign capital and cause the exchange rate to rise. The impact of higher interest rates is mitigated, however, if inflation in the country is much higher than in others, or if additional factors serve to drive the currency down. The opposite relationship exists for decreasing interest rates - that is, lower interest rates tend to decrease exchange rates.

3. Current-Account Deficits

The current account is the balance of trade between a country and its trading partners, reflecting all payments between countries for goods, services, interest and dividends. A deficit in the current account shows the country is spending more on foreign trade than it is earning, and that it is borrowing capital from foreign sources to make up the deficit. In other words, the country requires more foreign currency than it receives through sales of exports, and it supplies more of its own currency than foreigners demand for its products. The excess demand for foreign currency lowers the country's exchange rate until domestic goods and services are cheap enough for foreigners, and foreign assets are too expensive to generate sales for domestic interests.

4. Public Debt

Countries will engage in large-scale deficit financing to pay for public sector projects and governmental funding. While such activity stimulates the domestic economy, nations with large public deficits and debts are less attractive to foreign investors. A large debt encourages inflation, and if inflation is high, the debt will be serviced and ultimately paid off with cheaper real dollars in the future.

In the worst case scenario, a government may print money to pay part of a large debt, but increasing the money supply inevitably causes inflation. Moreover, if a government is not able to service its deficit through domestic means (selling domestic bonds, increasing the money supply), then it must increase the supply of securities for sale to foreigners, thereby lowering their prices. Finally, a large debt may prove worrisome to foreigners if they believe the country risks defaulting on its obligations. Foreigners will be less willing to own securities denominated in that currency if the risk of default is great. For this reason, the country's debt rating is a crucial determinant of its exchange rate.
5. Terms of Trade

A ratio comparing export prices to import prices, the terms of trade is related to current accounts and the balance of payments. If the price of a country's exports rises by a greater rate than that of its imports, its terms of trade have favorably improved. Increasing terms of trade shows greater demand for the country's exports. This, in turn, results in rising revenues from exports, which provides increased demand for the country's currency (and an increase in the currency's value). If the price of exports rises by a smaller rate than that of its imports, the currency's value will decrease in relation to its trading partners.

6. Political Stability and Economic Performance

Foreign investors inevitably seek out stable countries with strong economic performance in which to invest their capital. A country with such positive attributes will draw investment funds away from other countries perceived to have more political and economic risk. Political turmoil, for example, can cause a loss of confidence in a currency and a movement of capital to the currencies of more stable countries.

The exchange rate of the currency in which a portfolio holds the bulk of its investments determines that portfolio's real return. A declining exchange rate obviously decreases the purchasing power of income and capital gains derived from any returns. Moreover, the exchange rate influences other income factors such as interest rates, inflation and even capital gains from domestic securities. While exchange rates are determined by numerous complex factors that often leave even the most experienced economists flummoxed, investors should still have some understanding of how currency values and exchange rates play an important role in the rate of return on their investments.

1.4 THE CAUSE OF DRASTIC CURREANCY CHANGES

Between the years 2000 and 2010 there were some massive fluctuations in the currency markets. Some currencies saw dramatic rises, while others fell just as precipitously. This was not isolated to emerging economies, but it did affect the world's reserve currencies and largest economies on the planet. Mammoth trends in currencies play a major role in how individual lifestyles and how companies and countries conduct business. In the last decade, Canada, Japan and the Eurozone all saw major moves in their currencies relative to the U.S. dollar. The mega-trends within these liquid currency pairs can be broken down into factors that resulted in the moves.
Throw Out the Financial Theories

Exchange rate movements have proved to be exceedingly hard to predict using financial theories such as the purchasing power parity (PPP). In a 1983 article produced for the National Bureau of Economic Research, Richard Meese and Kenneth Rogoff found that no structural or time series models could effectively produce better forecasting results than a "random walk", and the more future expectations were built into current prices, the harder prices were to predict.

While the study is intriguing, market participants must realize there is an extreme amount of noise in financial markets and often there are definable reasons for the dramatic moves in exchange rates, such as those seen from 2000 to 2010.

On an international scale, a currency is often defined as a way to exchange goods and services between countries with differing economies. Yet currency values determined by a free market, which is open to multiple players with differing opinions and motives, means that actual trade fundamentals and economic data can get pushed aside. According to the Bank for International Settlements, in April 2007 the foreign exchange markets did, on average, $3.2 trillion per day in transactions. Compared to the total of all world trade done in 2006 - $12 trillion - the actual trade data is dwarfed by speculation, which accounts for about 1.4% of currency transactions. Unprecedented speculation may be a major determinant of mega-trends, as positions are entered/Exited by more and more participants.

When we realize that a theory based on trade is unlikely to predict currency markets, other strategies can be employed.

Three methods can be used to help determine the direction of a currency and explain the mega-trends that have occurred in the decade in question. All three can be looked at to help paint a picture of what has occurred and what may occur. The three work together, feeding into and off of each other.

Method 1: Bias in One Currency Compared to a Basket of Others

While country-to-country comparisons are useful, in terms of exchange rates, much can be explained by a pervading bias in one currency versus a basket of others. When one currency is compared to a basket of other currencies, the performance within the basket can partially explain movement within specific currency pairs. The U.S. dollar is a trending currency. As the world's reserve currency, it goes through long-term trends that affect the exchange rates of individual countries. Those countries also have tendencies, which may include ranging or trending tendencies. For example, the dollar index can provide a broad context for trading that occurs within U.S. dollar related pairs. While individual pairs may deviate from the trend as the dollar index fell, so did
these liquid individual pairs. This is logical, considering individual pairs compose the index, but the index provides a broader view.

Tracking the overall index also provides a picture of what is happening to currencies that are affected by other market movements. Currencies that are pegged or subject to significant government intervention may have an impact on the rise and fall of another currency. Since the pegged currency does not move on its own, there can be a spillover effect where another currency is pushed excessively higher or lower (depending on the circumstances). Due to the pegging of a currency and the rate's inability to modify risk or reward, other currencies may absorb this exposure. It is hard to predict which currencies will absorb this phenomenon; therefore, comparing individual pairs to a broader index can expose potential anomalies.

**Method 2: Primary Economic Input**

Some currencies have a large primary input that can have significant sway on the direction a currency moves. An example is commodity prices in relation to countries such as Canada or Australia. Figure 3 shows the inverse correlation between USD/CAD and oil prices (as oil prices rise, the USD falls and CAD rises). During this time, there was also a synonymous relationship where the declining U.S. dollar pushed up oil prices. The overall decline of the U.S. dollar (Method 1) prevented it from recovering fully, even when oil dropped drastically in 2008.

Not only does the price of oil affect how the Canadian dollar performs, but also the exports of oil. Between 2002 and 2007, oil exports increased dramatically, growing from 7% of total exports in 1999 to 20% in 2007, but it came at the expense of some other imports. Therefore, the commodity price is not the only concern; one must also consider how it is dispersed.

In the case of the Japanese yen, low interest rates and the building and unwinding of carry trades has had a significant impact on the yen from 2000 to 2010. Despite this, the overall decline of the dollar index has been played out in the USD/JPY, as the trend was down over the time frame. Currencies tend to overshoot and finding a linkage to a certain commodity or other factors will not provide perfect results. Currencies are affected by many things, including the mass speculation that encompasses most currency transactions.

**Method 3: Government Policy**

In light of factors already discussed, government policy including (but not limited to) monetary policy, balance of payments and foreign assets and liabilities must also be looked at. While exchange rates are largely speculative, a primary driver for what will happen in the future is based on people's perceptions of these concepts.
Monetary policy and interest rates have an effect on exchange rates. A hike in interest rates will not always have the same effect on a currency pair, but an increasing interest rate differential between two currencies will generally increase volatility in that currency pair. Increasing interest rates can appreciate a currency as speculators seek out higher returns. If interest rates begin moving too fast or inflation accelerates, the reverse occurs, as accelerating inflation will have a dampening effect on growth prospects.

Current account imbalances also have an impact on currencies, as large deficits may make foreign countries wary of accumulating the currency. The slow accumulation will mean diminished demand and potential selling by speculators. Central banks around the globe are also partial to increasing returns (speculation) by taking on excess reserves and finding high yield investments.

The movement or return of the actual currency is not the only factor, though. A country's balance sheet and in what currencies they hold most of their assets and liabilities is a very important element. For example, a country's falling home currency may be viewed positively because it increases demand for exports, but it may harm the country if most of their liabilities are priced in another appreciating currency, as debt obligations will become harder to pay. Such relationships also exist in reverse, and in relation to assets that may be escalated or eroded by currency movements.

Tying the Methods Together

Currency movements often defy logic, moving from extreme to extreme. One reason is that speculation involves a vast number of transactions. When analyzing currencies, there is often an overshadowing bias affecting a currency against a basket of other currencies. Certain currencies are also heavily affected by a primary input. The Canadian dollar is affected by oil prices accompanied by oil exports. Other countries may be briefly affected by anomalies that affect a currency for a long time, such as low interest rates in Japan. As traders take advantage of these phenomena, it can push prices beyond what is mathematically feasible and result in greater-than-expected corrections. Finally, when looking at mega-trends, governments and global central banks play a large role by feeding information and creating policy that impacts traders' expectations for the future. As with all speculation, no matter the input (assets, liabilities, interest rates, etc.), as the currency moves to take advantage, there comes a point where profit potential becomes limited. At the same time, the movement of the currency has likely had an effect on other aspects of the economy, leading to an eventual reversal. Currencies are floated to ease economic shocks and help stabilize economies.
Currency fluctuations are a natural outcome of the floating exchange rate system that is the norm for most major economies. The exchange rate of one currency versus the other is influenced by numerous fundamental and technical factors. These include relative supply and demand of the two currencies, economic performance, outlook for inflation, interest rate differentials, capital flows, technical support and resistance levels, and so on. As these factors are generally in a state of perpetual flux, currency values fluctuate from one moment to the next. But although a currency’s level is largely supposed to be determined by the underlying economy, the tables are often turned, as huge movements in a currency can dictate the economy’s fortunes. In this situation, a currency becomes the tail that wags the dog, in a manner of speaking.

Currency Effects are Far-Reaching

While the impact of a currency’s gyrations on an economy is far-reaching, most people do not pay particularly close attention to exchange rates because most of their business and transactions are conducted in their domestic currency. For the typical consumer, exchange rates only come into focus for occasional activities or transactions such as foreign travel, import payments or overseas remittances.

A common fallacy that most people harbor is that a strong domestic currency is a good thing, because it makes it cheaper to travel to Europe, for example, or to pay for an imported product. In reality, though, an unduly strong currency can exert a significant drag on the underlying economy over the long term, as entire industries are rendered uncompetitive and thousands of jobs are lost. And while consumers may disdain a weaker domestic currency because it makes cross-border shopping and overseas travel more expensive, a weak currency can actually result in more economic benefits.

The value of the domestic currency in the foreign exchange market is an important instrument in a central bank’s toolkit, as well as a key consideration when it sets monetary policy. Directly or indirectly, therefore, currency levels affect a number of key economic variables. They may play a role in the interest rate you pay on your mortgage, the returns on your investment portfolio, the price of groceries in your local supermarket, and even your job prospects.
Currency Impact on the Economy

A currency’s level has a direct impact on the following aspects of the economy:

**Merchandise trade:** This refers to a nation’s international trade, or its exports and imports. In general terms, a weaker currency will stimulate exports and make imports more expensive, thereby decreasing a nation’s trade deficit (or increasing surplus) over time.

A simple example will illustrate this concept. Assume you are a U.S. exporter who sold a million widgets at $10 each to a buyer in Europe two years ago, when the exchange rate was EUR 1 = 1.25 USD. The cost to your European buyer was therefore EUR 8 per widget. Your buyer is now negotiating a better price for a large order, and because the dollar has declined to 1.35 per euro, you can afford to give the buyer a price break while still clearing at least $10 per widget. Even if your new price is EUR 7.50, which amounts to a 6.25% discount from the previous price, your price in USD would be $10.13 at the current exchange rate. The depreciation in your domestic currency is the primary reason why your export business has remained competitive in international markets.

Conversely, a significantly stronger currency can reduce export competitiveness and make imports cheaper, which can cause the trade deficit to widen further, eventually weakening the currency in a self-adjusting mechanism. But before this happens, industry sectors that are highly export-oriented can be decimated by an unduly strong currency.

**Economic growth:** The basic formula for an economy’s GDP is $C + I + G + (X – M)$ where:
- **C** = Consumption or consumer spending, the biggest component of an economy
- **I** = Capital investment by businesses and households
- **G** = Government spending
- **(X – M)** = Exports minus imports, or net exports.

From this equation, it is clear that the higher the value of net exports, the higher a nation’s GDP. As discussed earlier, net exports have an inverse correlation with the strength of the domestic currency.

**Capital flows:** Foreign capital will tend to flow into countries that have strong governments, dynamic economies and stable currencies. A nation needs to have a relatively stable currency to attract investment capital from foreign investors. Otherwise, the prospect of exchange losses inflicted by currency depreciation may deter overseas investors.
Capital flows can be classified into two main types – foreign direct investment (FDI), in which foreign investors take stakes in existing companies or build new facilities overseas; and foreign portfolio investment, where foreign investors invest in overseas securities. FDI is a critical source of funding for growing economies such as China and India, whose growth would be constrained if capital was unavailable.

Governments greatly prefer FDI to foreign portfolio investments, since the latter are often akin to “hot money” that can leave the country when the going gets tough. This phenomenon, referred to as “capital flight”, can be sparked by any negative event, including an expected or anticipated devaluation of the currency.

**Inflation**: A devalued currency can result in “imported” inflation for countries that are substantial importers. A sudden decline of 20% in the domestic currency may result in imported products costing 25% more since a 20% decline means a 25% increase to get back to the original starting point.

**Interest rates**: As mentioned earlier, the exchange rate level is a key consideration for most central banks when setting monetary policy. For example, former Bank of Canada Governor Mark Carney said in a September 2012 speech that the bank takes the exchange rate of the Canadian dollar into account in setting monetary policy. Carney said that the persistent strength of the Canadian dollar was one of the reasons why Canada’s monetary policy had been “exceptionally accommodative” for so long.

A strong domestic currency exerts a drag on the economy, achieving the same end result as tighter monetary policy (i.e. higher interest rates). In addition, further tightening of monetary policy at a time when the domestic currency is already unduly strong may exacerbate the problem by attracting more hot money from foreign investors, who are seeking higher yielding investments (which would further push up the domestic currency).

**The Global Influence of Currencies – Examples**

The global forex market is by far the largest financial market with its daily trading volume of over $5 trillion - far exceeding that of other markets including equities, bonds and commodities. Despite such enormous trading volumes, currencies stay off the front pages most of the time. However, there are times when currencies move in dramatic fashion; during such times, the reverberations of these moves can be literally felt around the world. We list below a few such examples:

**The Asian crisis of 1997-98** – A prime example of the havoc that can be wreaked on an economy by adverse currency moves, the Asian crisis began with the devaluation of the Thai baht in July 1997. The devaluation occurred after the baht came under intense speculative attack, forcing Thailand’s central bank to abandon its peg to the
U.S. dollar and float the currency. This triggered a financial collapse that spread like wildfire to the neighboring economies of Indonesia, Malaysia, South Korea and Hong Kong. The currency contagion led to a severe contraction in these economies as bankruptcies soared and stock markets plunged.

**China’s undervalued Yuan:** China held its Yuan steady for a decade from 1994 to 2004, enabling its export juggernaut to gather tremendous momentum from an undervalued currency. This prompted a growing chorus of complaints from the U.S. and other nations that China was artificially suppressing the value of its currency to boost exports. China has since allowed the Yuan to appreciate at a modest pace, from over 8 to the dollar in 2005 to just over 6 in 2013.

**Japanese yen’s gyrations from 2008 to mid-2013:** The Japanese yen has been one of the most volatile currencies in the five years to mid-2013. As the global credit intensified from August 2008, the yen – which had been a favored currency for carry trades because of Japan’s near-zero interest rate policy – began appreciating sharply as panicked investors bought the currency in droves to repay yen-denominated loans. As a result, the yen appreciated by more than 25% against the U.S. dollar in the five months to January 2009. In 2013, Prime Minister Abe’s monetary stimulus and fiscal stimulus plans – nicknamed “Abenomics” – led to a 16% plunge in the yen within the first five months of the year.

**Euro fears (2010-12):** Concerns that the deeply indebted nations of Greece, Portugal, Spain and Italy would be eventually forced out of the European Union, causing it to disintegrate, led the euro to plunge 20% in seven months, from a level of 1.51 in December 2009 to about 1.19 in June 2010. A respite that led the currency retracing all its losses over the next year proved to be temporary, as a resurgence of EU break-up fears again led to a 19% slump in the euro from May 2011 to July 2012.

**How can an investor benefit?**

**Here are some suggestions to benefit from currency moves:**

**Invest overseas:** If you are a U.S-based investor and believe the USD is in a secular decline, invest in strong overseas markets, because your returns will be boosted by the appreciation in the foreign currency/s. Consider the example of the Canadian benchmark index – the TSX Composite – in the first decade of this millennium. While the S&P 500 was virtually flat over this period, the TSX generated total returns of about 72% (in Canadian $ terms) during this decade. But the steep appreciation of the Canadian dollar versus the U.S. dollar over these 10 years would have almost doubled returns for a U.S. investor to about 137% in total or 9% per annum.
Invest in U.S. multinationals: The U.S. has the largest number of multinational companies, many of which derive a substantial part of their revenues and earnings from foreign countries. Earnings of U.S. multinationals are boosted by the weaker dollar, which should translate into higher stock prices when the greenback is weak.

Refrain from borrowing in low-interest foreign currencies: This is admittedly not a pressing issue from 2008 onward, since U.S. interest rates have been at record lows for years. But at some point U.S. interest rates will revert to historically higher levels. At such times, investors who are tempted to borrow in foreign currencies with lower interest rates would be well served to remember the plight of those who had to repay borrowed yen in 2008. The moral of the story – never borrow in a foreign currency if it is liable to appreciate and you do not understand or cannot hedge the exchange risk.

Hedge currency risk: Adverse currency moves can significantly impact your finances, especially if you have substantial forex exposure. But plenty of choices are available to hedge currency risk, from currency futures and forwards, to currency options and exchange-traded funds such as the Euro Currency Trust (FXE) and Currency Shares Japanese Yen Trust (FXY). If your currency risk is large enough to keep you awake at nights, consider hedging this risk.

Currency moves can have a wide-ranging impact not just on a domestic economy, but also on the global one. Investors can use such moves to their advantage by investing overseas or in U.S. multinationals when the greenback is weak. Because currency moves can be a potent risk when one has a large forex exposure, it may be best to hedge this risk through the many hedging instruments available.

1.6 TOP ECONOMIC FACTORS THAT DEPRECIATE U.S. DOLLAR

Currency depreciation, in the context of the U.S. dollar, refers to the decline in value of the dollar relative to another currency. For example, if one U.S. dollar can be exchanged for one Canadian dollar, the currencies are described as being at parity. If the exchange rate moves and one U.S. dollar can now be exchanged for 0.85 Canadian dollars, the U.S. dollar has lost value relative to its Canadian counterpart and has therefore depreciated against it. A variety of economic factors can contribute to depreciating the U.S. dollar. These include monetary policy, inflation, and demand for currency, economic growth, and export prices.

Monetary Policy

In the United States, the Federal Reserve (the country’s central bank, usually just called the Fed), implements monetary policies to either strengthen or weaken the U.S. dollar. At the most basic level, implementation of what is known as “easy” monetary
policy weakens the dollar, which can lead to depreciation. So, for example, if the Fed lowers interest rates or implements quantitative easing measures such as the purchase of bonds, it is said to be “easing.” Easing occurs when central banks reduce interest rates, encouraging investors to borrow money.

Since the U.S. dollar is a fiat currency, meaning that it is not backed by any tangible commodity (gold or silver), it can be created out of thin air. When more money is created, the law of supply and demand kicks in, making existing money less valuable.

**Inflation**

There is an inverse relationship between U.S. inflation rate versus its trading partners’ and currency depreciation or appreciation. Relatively speaking, higher inflation depreciates currency because inflation means that the cost of the goods and services are rising. Those goods then cost more for other nations to purchase. Rising prices decrease demand. Conversely, imported goods become more attractive for consumers in the higher inflation country to purchase.

**Demand for Currency**

When a country’s currency is in demand, the currency stays strong. One of the ways a currency remains in demand is if the country exports products that other countries want to buy and demands payment in its own currency. While the U.S. does not export more than it imports, it has found another way to create an artificially high global demand for U.S. dollars.

The U.S. dollar is what is known as a reserve currency. Reserve currencies are used by nations across the world to purchase desired commodities, such as oil and gold. When sellers of these commodities demand payment in reserve currency, an artificial demand for that currency is created, keeping it stronger than it might otherwise have been.

In the United States, there are fears that China’s growing interest in attaining reserve currency status for the Yuan (also known as the renminbi) will reduce demand for the U.S. dollars. Similar concerns surround the idea that oil producing nations will no longer demand payment in U.S. dollars. Reduction in the artificial demand for U.S. dollars is likely to depreciate the dollar.

**Slowing Growth**

Strong economies tend to have strong currencies. Weak economies tend to have weak currencies. Declining growth and corporate profits can cause investors to take their money elsewhere. Reduced investor interest in a particular country can weaken its
Currency. As currency speculators see or anticipate the weakening, they can bet against the currency, causing it to weaken further.

**Falling Export Prices**

Currency can depreciate when prices for a key export product fall. For example, the Canadian dollar (known as the loonie) weakens when oil prices drop because oil is a major export product for Canada.

**What About Trade Balances?**

Nations are like people. Some of them spend more than they earn. This, as every good investor knows, is a bad idea because it produces debt. In the case of the United States, the country imports more than it exports, and has done so for decades.

One of the ways the United States finances its profligate ways is by issuing debt. China and Japan, two countries that export a significant amount of goods to the United States, help finance U.S. deficit spending by loaning it massive amounts of money. In exchange for the loans, the United States issues U.S. Treasury securities (essentially IOUs) and pays interest to the nations that hold those securities. Someday, those debts will come due and the lenders will want their money back. If lenders believe the debt level is unsustainable, theorists believe the dollar will weaken. Trade balances are also impacted by export prices, inflation, and other variables. The balance of trade changes as a result of other economic factors, it does not cause those factors. For more insight into this issue, read Global Economic Analysis - Currency Appreciation and Depreciation.

**A Complex Equation**

A number of other factors that can contribute to dollar depreciation include political instability (either in a particular nation or sometimes in its neighbors), investor behavior (risk aversion), and weakening macroeconomic fundamentals. There is a complex relationship between all of these factors, so it can be difficult to cite a single factor that will drive currency depreciation in isolation. For example, central bank policy is considered to be a significant driver of currency depreciation. If the U.S. Federal Reserve implements low interest rates and unique quantitative easing programs, one would expect the value of the dollar to weaken significantly. However, if other nations implement even more significant easing measures and/or investors expect U.S. easing measures to stop and foreign central banks efforts to increase, the strength of the dollar may actually rise.

Accordingly, the various factors that can drive currency depreciation must be taken into consideration relative to all of the other factors. These challenges present
formidable obstacles to investors who speculate in the currency markets, as was seen when the value of the Swiss franc suddenly collapsed in 2015 as a result of that nation’s central bank making a surprise move to weaken the currency. For additional insight into currency depreciation, see Currency Depreciation.

**Depreciation: Good or Bad?**

The question of whether currency depreciation is good or bad largely depends on perspective. If you are the chief executive officer of a company that exports its products, currency depreciation is good for you. When your nation’s currency is weak relative to the currency in your export market, demand for your products will rise because the price for them has fallen for consumers in your target market.

On the other hand, if your firm imports raw materials to produce your finished products, currency depreciation is bad news. A weaker currency means that it will cost you more to obtain the raw materials, which will force you to either increase the cost of your finished products (potentially leading to reduced demand for them) or lower your profit margins.

A similar dynamic is place for consumers. A weak dollar makes it more expensive to take that European vacation or buy that new imported car. It can also lead to unemployment if your employer’s business suffers because the rising cost of imported raw materials hurts business and forces layoffs. On the other hand, if your employer’s business surges due to increase demand from foreign buyers, it can mean higher wages and better job security.

A large number of factors influence currency value. Whether the U.S. dollar depreciates in relation to another currency depends on the monetary policies of nations, trade balances, inflation rates, investor confidence, political stability, and reserve currency status. Economists, market watchers, politicians, and business leaders carefully monitor the ever-changing mix of economic factors in an effort to determine how the dollar reacts.

### 1.7 FACTORS THAT DRIVES THE U.S. DOLLARS

When it comes to the decision of whether you should buy or sell dollars, it all boils down to how the economy is performing. A strong economy will attract investment from all over the world due to the perceived safety and the ability to achieve an acceptable rate of return on investment. Investors always seek out the highest yield that is predictable or "safe." Investment from abroad creates a strong capital account and a resulting high demand for dollars.
On the other hand, American consumption that results in the importing of goods and services from other countries causes dollars to flow out of the country. If our imports are greater than our exports, we will have a deficit in our current account. With a strong economy, a country can attract foreign capital to offset the trade deficit. The U.S. can continue as the consumption engine that fuels all the world economies even though it's a debtor nation that borrows this money to consume. This also allows other countries to export to the U.S. and thus keep their economies growing. This explanation is simplistic, but it illustrates a point.

Factors Affecting Dollar Value

The point is that when it comes to taking a position in the dollar, the currency trader needs to assess the different factors that affect the value of the dollar to try to determine a direction or trend. The methodology can be divided into three groups as follows:

**Supply versus Demand for Dollars**

When we export products or services, we create a demand for dollars because our customers need to pay for our goods and services in dollars and, therefore they will have to convert their local currency into dollars. Hence they sell their currency to buy dollars so that they can make the payment.

In addition, when the U.S. government or large American corporations issue bonds to raise capital, and if these bonds are bought by foreigners then again the bonds have to be paid for in dollars and the customer will have to sell their local currency to buy dollars so they can effect payment. Also, if there is strong growth in the U.S. and companies are expanding their earnings then the desire by foreigners to own corporate stocks in the U.S. also requires that they sell their currency to buy dollars to pay for the purchase of stocks.

**Sentiment and Market Psychology**

But what if the U.S. economy weakens and consumption slows due to increasing unemployment? Then the U.S. is confronted with the possibility that foreigners may sell their bonds or stocks and returns the cash from the sale in order to return to their local currency. Hence they sell the dollars and buy back their local currency.

**Technical Factors**

As traders, we have to gauge whether the supply of dollars will be greater or less than the demand for dollars. To help us determine this, we need to pay attention to various news and event items, such as the release by the government of various statistics, such
as payroll data, GDP data, and other market and economy measuring information that can help us to determine what is happening in the economy and to estimate whether the economy is strengthening or weakening.

In addition, we need to determine the general sentiment regarding what the players in the market think the outcome of events is likely to be. Very often, sentiment will drive the market rather than the fundamentals of supply and demand. To add to this mix of prognostication, besides the measurement of supply and demand factors and sentiment, we also have the historical patterns generated by seasonal factors, support and resistance levels, and technical indicators and so on. Many traders believe that these patterns are repetitive and therefore can be used to predict future movements.

**Bringing Them All Together**

Since trading relies on the ability of a trader to take a risk and manage it accordingly, traders usually adopt some combination of the three above methods to make their buy or sell decisions. The art of trading exists in stacking the odds in your favor and building an edge. If the probability of being correct is high enough the trader will enter the market and manage his hypothesis accordingly. To stack the odds in our favor we therefore need to take into account each one of the three methodologies and hopefully find them to be congruent, meaning that they all point in the same direction.

**An Example**

The economic conditions during the recession that began in 2007 forced the U.S. government to play an unprecedented role in the economy. Since economic growth was receding as a result of the large deleveraging of financial assets taking place, the government had to take up the slack by increasing government spending to keep the economy going. The purpose of their spending was to create jobs so that the consumer could earn money and increase consumption thereby fueling the growth needed to support economic growth.

The government took this position at the expense of an increasing deficit and national debt. It financed this increase by essentially printing money and by selling government bonds to foreign governments and investors - resulting in an increase in the supply of dollars. Hence the dollar depreciated as a result. Another concern for countries that rapidly issue debt is that the interest burden will increase and, therefore, more tax dollars will be allocated just to cover the interest rate.

One of the roles of the government is to create the conditions necessary to allow the markets to grow so that is the economy is as close to full employment as possible, but with controlled inflation. Thus when the economy deflates the government will try to do all it can to re-inflate it in a controlled manner.
It may be helpful for a trader to keep an eye on the Dollar Index chart to provide an overview of how the dollar fares against the other currencies in the index. By watching the patterns on the chart and listening to the sentiment in the market, as well as monitoring the major fundamental factors that affect supply and demand, a trader can develop a big picture sense of the flow of dollars and thus develop an insight to choose profitable positions in future trades.

1.8 THE HAZARDS OF CURRENCY MOVEMENTS

Devaluation and revaluation are official changes in the value of a nation’s currency in relation to other currencies. The terms are generally used to refer to officially sanctioned changes in a currency’s value under a fixed exchange rate regime. Thus, devaluation and revaluation are typically one-time events – although a series of such changes can occasionally occur – that are usually mandated by the government or central bank of a nation.

In contrast, changes in the levels of currencies that operate under a floating exchange rate system are known as currency depreciation and appreciation, and are triggered by market forces. Paradoxically, although devaluation and revaluation are becoming less of an issue for the global economy since most major nations have adopted floating exchange rate systems, exchange rate moves continue to exert a very significant influence on the economic fortunes of most nations.

The Fixed Exchange Rate System

Devaluation refers to a downward adjustment in the official exchange rate of a currency, while revaluation refers to an upward adjustment in the exchange rate. In order to understand why they occur, one first needs to get an idea of the fixed exchange rate concept.

In a fixed exchange rate system, a nation’s domestic currency is fixed to a single major currency such as the U.S. dollar or euro, or is pegged to a basket of currencies. The initial exchange rate is set at a certain level and may be allowed to fluctuate within a certain band, generally a fixed percentage either side of the base rate. The frequency of changes in the fixed exchange rate depends on the nation’s philosophy.

Some nations hold the same rate for years, while others may adjust it occasionally to reflect economic fundamentals.

If the actual exchange rate deviates significantly from the base rate and moves out of the permitted band, the central bank will intervene to bring it back in line with its targeted base rate. For example, assume a hypothetical currency called the Pseudo-dollar (PSD) is fixed to the U.S. dollar at a rate of 5 PSD per USD, with a permitted band of 2% on either side of the base rate, or 4.90 to 5.10. If the PSD appreciates (i.e.
it trades below the bottom level of the permitted band) to say 4.88, the central bank will sell the domestic currency (PSD) and buy the foreign currency (USD) to which the domestic currency is fixed. Conversely, if the PSD depreciates and trades close to or above the 5.10 upper end of the permitted band, the central bank will buy the domestic currency (PSD) and sell the foreign currency (USD).

Causes of Devaluation and Revaluation

While devaluation is far more common than revaluation, both occur because the exchange rate has been fixed at an artificially low or high level. This makes it increasingly difficult for the central bank to defend the fixed rate, which in turn attracts the unwanted attention of currency speculators who waste little time in testing the resolve of the central bank to defend the fixed exchange rate. A central bank must have sufficient foreign exchange reserves to be willing to buy all the offered amounts of its currency at the fixed exchange rate. If these forex reserves are insufficient, the bank may have no option but to devalue the currency.

One of the most famous examples of currency devaluation was the British pound’s exit from the Exchange Rate Mechanism (ERM) in September 1992. The ERM was a precursor to the creation of the euro, and was a system for tying the value of the pound and other currencies to that of the Deutsche mark, in order to get economic stability and low inflation. On September 16, 1992 – a day that was later dubbed “Black Wednesday” in the British press – the pound came under massive speculative attack as currency speculators deemed that the currency was trading at an artificially high level. In a bid to curb the speculative frenzy, the Bank of England took emergency measures such as authorizing the use of billions of pounds to defend the currency and raising interest rates from 10% to 12% to 15% during the day. These measures were to no avail, as the pound was forced out of the ERM, netting legendary hedge fund manager George Soros a $1-billion profit on his short pound position.

Effects on the Economy

Devaluation often has an adverse effect on the economy initially, although it eventually results in a substantial increase in exports and a concomitant shrinkage in the current account deficit, a phenomenon known as the J-Curve. In the initial period after devaluation, imports become much more expensive while exports stay stagnant, leading to a larger current account deficit. The lower value of the domestic currency may also result in imported items costing much more, leading to “imported” inflation. Over time, however, the lower domestic currency makes exports more competitive in global markets, while consumers may eschew expensive imports, leading to an improvement in the current account deficit.
n a number of cases, devaluation has also been accompanied by massive capital flight, as foreign investors pull their capital out of the country. This further exacerbates the economic impact of devaluation, as the closure of industries that were reliant on foreign capital increases unemployment and lowers economic growth, triggering a recession. The effects of the recession may be amplified by higher interest rates that were introduced to defend the domestic currency. Devaluation sometimes also gives rise to a contagion effect, as was exemplified by the Asian crisis of 1997, wherein currency crises affect a number of nations – largely developing economies – with similar, shaky economic fundamentals.

Revaluation does not have the same far-reaching effects as devaluation, since revaluation is generally precipitated by a rapid improvement – rather than deterioration – in economic fundamentals. Over time, a revaluation is likely to result in a nation’s current account surplus shrinking to some extent.

**Portfolio Impact**

Since currency devaluation is by far the more likely event, investors should be aware of the risks posed by devaluation, as it can have an impact on portfolio returns especially in the case of a currency contagion.

Assume that you have 10% of your portfolio in bonds denominated in the Pseudo-dollars described earlier, with a current yield of 5%. Now if Pseudo-dollars undergo 20% devaluation, your net return from these bonds would be -15%, rather than +5%. As a result, the overall return on your portfolio would decrease by 1.5% (i.e. 10% portfolio weight X -15%).

But let’s say that you have a total 40% of your portfolio in emerging market assets and these are afflicted by the contagion effect of the Pseudo-dollar devaluation. If these emerging market assets also decline 20%, your overall portfolio return would be down by a very substantial 8%.

**What to Watch For**

Stay informed about currency capers – One of the biggest currency issues confronting the global economy in recent years has been the artificial suppression of the Chinese Yuan, which has helped China gain massive market share in global exports. China has been allowing the Yuan to appreciate gradually, amid strident calls from the United States and other nations for a rapid revaluation of the Yuan. One way or the other, this issue could have a major impact on the global economy, so stay tuned to developments on this front.
Limit your exposure to emerging markets with deteriorating fundamentals –
Currency contagion is a real threat to your portfolio, so limit your exposure to emerging markets whose economic fundamentals are deteriorating. In particular, look out for nations with burgeoning current account deficits and high rates of inflation. Currencies of nations like India and Indonesia, which have these characteristics, were among the worst performers in the summer of 2013, as the prospect of the U.S. Federal Reserve scaling back its bond buying program (which was seen as a signal of eventual monetary policy tightening) triggered massive capital flight out of emerging markets.

Consider the impact of currency moves on your overall portfolio returns –
Holding assets in a currency that is appreciating can boost your portfolio returns. Conversely, as shown in the example earlier, holding assets in a depreciating currency can take a toll on portfolio performance. Therefore, consider the effect of currency appreciation and depreciation on your overall portfolio returns.

Currency devaluation can be a hidden source of portfolio risk, especially if it results in a contagion effect. Investors should be aware of this risk to their portfolios, and also consider the impact of currency moves on overall portfolio returns.

1.9A CURRENCY WAR SYSTEM

A currency war refers to a situation where a number of nations seek to deliberately depreciate the value of their domestic currencies in order to stimulate their economies. Although currency depreciation or devaluation is a common occurrence in the foreign exchange market, the hallmark of a currency war is the significant number of nations that may be simultaneously engaged in attempts to devalue their currency at the same time.

Are We in a Currency War?

A currency war is also known by the less threatening term "competitive devaluation." In the current era of floating exchange rates, where currency values are determined by market forces, currency depreciation is usually engineered by a nation's central bank through economic policies that may force the currency lower, such as reducing interest rates or increasingly, "quantitative easing (QE)." This introduces more complexities than the currency wars of decades ago, when fixed exchange rates were more prevalent and a nation could devalue its currency by the simple expedient of lowering the "peg" to which its currency was fixed.

"Currency war" is not a term that is loosely bandied about in the genteel world of economics and central banking, which is why former Brazilian Finance Minister Guido Mantega stirred such a hornet's nest in September 2010 when he warned that
an international currency war had broken out. But with more than 20 countries having reduced interest rates or implemented measures to ease monetary policy from January to April 2015, the trillion-dollar question is – are we already in the midst of a currency war?

Why Depreciate a Currency?

It may seem counter-intuitive, but a strong currency is not necessarily in a nation's best interests. A weak domestic currency makes a nation's exports more competitive in global markets, and simultaneously makes imports more expensive. Higher export volumes spur economic growth, while pricey imports also have a similar effect because consumers opt for local alternatives to imported products. This improvement in the terms of trade generally translates into a lower current account deficit (or a greater current account surplus), higher employment, and faster GDP growth. The simulative monetary policies that usually result in a weak currency also have a positive impact on the nation's capital and housing markets, which in turn boosts domestic consumption through the wealth effect.

Beggar Thy Neighbor

Since it is not too difficult to pursue growth through currency depreciation – whether overt or covert – it should come as no surprise that if nation A devalues its currency, nation B will soon follow suit, followed by nation C, and so on. This is the essence of competitive devaluation.

This phenomenon is also known as "beggar thy neighbor," which far from being the Shakespearean drama that it sounds like, actually refers to the fact that a nation which follows a policy of competitive devaluation is vigorously pursuing its own self-interests to the exclusion of everything else.

US Dollar Surging

When Brazilian minister Mantega warned back in September 2010 about a currency war, he was referring to the growing turmoil in foreign exchange markets, sparked by the US Federal Reserve's quantitative easing program that was weakening the dollar, China's continued suppression of the yuan, and interventions by a number of Asian central banks to prevent their currencies from appreciating.

Ironically, the US dollar has appreciated against almost all major currencies since the beginning of 2011, with the trade-weighted Dollar Index presently trading at its highest level in more than a decade. Every major currency has declined against the dollar over the past year (as of April 17, 2015), with the euro, the Scandinavian
currencies, the Russian ruble, and Brazilian real down more than 20% over this period.

The US Strong Dollar Policy

The US economy has withstood the effects of the stronger dollar without too many problems thus far, although one notable issue is the substantial number of American multinationals that have cautioned about the negative impact of the strong dollar on their earnings.

The US has generally pursued a "strong dollar" policy with varying degrees of success over the years. However, the US situation is unique since it is the world's largest economy and the US dollar is the global reserve currency. The strong dollar increases the attractiveness of the US as a destination for foreign direct investment (FDI) and foreign portfolio investment (FPI). Not surprisingly, the US is often a premier destination in both categories. The US is also less reliant on exports than most other nations for economic growth, because of its giant consumer market that is by far the biggest in the world.

The dollar is surging primarily because the US is about the only major nation that is poised to unwind its monetary stimulus program, after being the first one out of the gate to introduce QE. This lead-time has enabled the US economy to respond in a positive manner to the Federal Reserve's successive rounds of QE programs. In its recent World Economic Outlook update, the International Monetary Fund projected that the US economy would grow by 3.1% in 2015 and 2016, the fastest growth rate of the G-7 nations.

Contrast this with the situation in other global powerhouses like Japan and the European Union, which have been relatively late to the QE party. Countries like Canada, Australia, and India, which had raised interest rates within a couple of years after the end of the Great Recession of 2007-09, have had to subsequently ease monetary policy because growth momentum has slowed.

Policy Divergence

So on the one hand; we have the US, which could well hike its benchmark federal funds rate in 2015, the first increase since 2006. On the other hand, there is the rest of the world, which is largely pursuing easier monetary policies. This divergence in monetary policy is the major reason why the dollar is appreciating across the board.
The situation is exacerbated by a number of factors:

Economic growth in most regions has been below historical norms in recent years; many experts attribute this sub-par growth to the fallout of the Great Recession.

Most nations have exhausted all options to stimulate growth, given that interest rates in numerous countries are already either near zero or at historic lows. With no further rate cuts possible and fiscal stimulus not an option (as fiscal deficits have come under intense scrutiny in recent years), currency depreciation is the only tool remaining to boost economic growth.

Sovereign bond yields for short-term to medium-term maturities have turned negative for a number of nations. In this extremely low-yield environment, US Treasuries – which yielded 1.86% for 10-year maturities and 2.52% for 30 years as of April 17, 2015 – are attracting a great deal of interest, leading to more dollar demand.

Negative Effects of a Currency War

Currency depreciation is not the panacea for all economic problems. Brazil is a case in point. The Brazilian real has plunged 48% since 2011, but the steep currency devaluation has been unable to offset other problems such as plunging crude oil and commodity prices, and a widening corruption scandal. As a result, the Brazilian economy is forecast by the IMF to contract 1% in 2015, after barely growing in 2014.

So what are the negative effects of a currency war?

Currency devaluation may lower productivity in the long-term, since imports of capital equipment and machinery become too expensive for local businesses. If currency depreciation is not accompanied by genuine structural reforms, productivity will eventually suffer.

The degree of currency depreciation may be greater than what is desired, which may eventually cause rising inflation and capital outflows.

A currency war may lead to greater protectionism and the erecting of trade barriers, which would impede global trade.

Competitive devaluation may cause an increase in currency volatility, which in turn would lead to higher hedging costs for companies and possibly deter foreign investment.

Despite some evidence that may suggest the contrary, it does not appear that the world is currently in the grip of a currency war. Recent rounds of easy money policies
by numerous countries around the world represent efforts to combat the challenges of a low-growth, deflationary environment, rather than an attempt to steal a march on the competition through surreptitious currency depreciation.

1.10 DOLLARIZATION

Since the abandonment of the gold standard at the outbreak of WWI and the Bretton Woods Conference following WWII, some countries have been desperately seeking ways to promote global economic stability and hence their own prosperity. For the majority of these countries, the optimal way to obtain currency stability has been to peg the local currency to a major convertible currency. However, another option is to abandon the local currency in favor of the exclusive use of the U.S. dollar.

How Pegging Works

The extreme method of pegging lies in a currency board, by which countries "anchor" their local currencies to a convertible currency. The result is that the local currency has the same value and stability as the foreign currency. Pegging has typically been a way to substantiate the value of a local currency against the world's convertible currencies and to stabilize the exchange rate.

The Dollarization Alternative

As an alternative to maintaining a floating currency or a peg, a country may decide to implement full dollarization. The main reason a country would do this is to reduce its country risk, thereby providing a stable and secure economic and investment climate. Countries seeking full dollarization tend to be developing or transitional economies, particularly those with high inflation.

Many of the economies opting for dollarization already informally use foreign tender in private and public transactions, contracts, and bank accounts; however, this use is not yet official policy, and the local currency is still considered the primary legal tender. By deciding to use the foreign tender, individuals and institutions are protecting against possible devaluation of the local exchange rate. Full dollarization, however, is an almost permanent resolution: the country's economic climate becomes more credible as the possibility of speculative attacks on the local currency and capital market virtually disappears.

The diminished risk encourages both local and foreign investors to invest money into the country and the capital market. And the fact that an exchange rate differential is no longer an issue helps reduce interest rates on foreign borrowing.
Disadvantages of Dollarization

There are some substantial drawbacks to adopting a foreign currency. When a country gives up the option to print its own money, it loses its ability to directly influence its economy, including its right to administer monetary policy and any form of exchange rate regime.

The central bank loses its ability to collect 'seigniorage', the profit gained from issuing coinage (the minting of monies costs less than the actual value of the coinage). Instead, the U.S. Federal Reserve collects the seigniorage, and the local government and gross domestic product (GDP) as a whole thus suffer a loss of income.

In a fully dollarized economy, the central bank also loses its role as the lender of last resort for its banking system. While it may still be able to provide short-term emergency funds from held reserves to banks in distress, it would not necessarily be able to provide enough funds to cover the withdrawals in the case of a run on deposits.

Another disadvantage for a country that opts for full dollarization is that its securities must be bought back in U.S. dollars. If the country does not have a sufficient amount of reserves, it will either have to borrow the money by running a current account deficit or find a means to accumulate a current account surplus.

Finally, because a local currency is a symbol of a sovereign state, the use of foreign currency instead of the local one may damage a nation's sense of pride.

Advantages of Dollarization

Besides reducing risk and protecting against inflation and devaluation, there are some compelling reasons for a country to decide to give up so much control over its economy.

As we mentioned above, full dollarization creates positive investor sentiment, almost extinguishing speculative attacks on the local currency and the exchange rate. The result is a more stable capital market, the end of sudden capital outflows, and a balance of payments that is less prone to crises.

Last but not least, full dollarization can improve the global economy by allowing for easier integration of economies into the world's market.

Many emerging economies already use dollarization to some extent or another. However, many have shied away from it because economies that would consider full
dollarization are those that are still developing. For many countries, having an autonomous economic policy and the sense of individual statehood that comes with it is too much to give up for full dollarization, an extreme option that is for the most part irreversible.

1.11 INTEREST RATE AND CURRENCY VALUE AND EXCHANGE RATE

In general, higher interest rates in one country tend to increase the value of its currency. Higher interest rates also tend to attract foreign investors, thus increasing demand for the domestic currency. But there’s a lot more to it.

The relationship between higher interest rates and inflation complicates matters. When interest rates in a country rise, inflation often follows, and higher inflation tends to decrease a currency’s value. If a country can increase interest rates without increasing inflation, its currency’s value and exchange rates are likely to rise as well.

Political and economic stability, and the demand for a country’s goods and services, are important, too. When there’s greater demand for a country’s goods, there will be greater demand for its currency. Analysts and investors consider a nation’s gross domestic product and trade balance when evaluating its currency. They also look at debt, because high levels will lead to higher inflation rates, and possibly currency devaluation.

As U.S. government and consumer debt has skyrocketed in recent years, the Federal Reserve has kept interest rates near zero. Still, the U.S. dollar generally enjoys favorable exchange rates, partially because it is the reserve currency for much of the world, and is perceived as a safe haven. When determining the value of the U.S. dollar, these factors have trumped inflation and other considerations.

1.12 HEDGE AGAINST EXCHANGE RATE RISK WITH CURRENCY EXCHANGE TRADED FUNDS

Investments in overseas instruments, such as stocks and bonds, can generate substantial returns and provide a greater degree of portfolio diversification, but they introduce an added risk, that of exchange rates. Since foreign exchange rates can have a significant impact on portfolio returns, investors should consider hedging this risk where appropriate. While hedging instruments such as currency futures, forwards and options have always been available, their relative complexity has hindered widespread adoption by the average investor.
On the other hand, currency ETFs, by virtue of their simplicity, flexibility and liquidity, are ideal hedging instruments for retail investors who wish to mitigate exchange rate risk.

Exchange-traded funds (ETFs) appeal to investors of all sizes and the selection and uses continue to change rapidly. While investors who are new to ETFs may assume that these funds are primarily used as a mutual fund substitute, the uses for ETFs have expanded far beyond the realm of just passively investing in managed funds. For experienced investors, ETFs are widely known to be used to invest in asset classes like stocks, bonds, real estate and commodities, but the use of ETFs for hedging is becoming more popular.

In fact, one of the primary benefits of ETFs for hedging can be found in their name; they are traded actively on exchanges making them much more liquid and versatile than mutual funds. Here we'll look at how ETFs can be used for hedging.

**How to Hedge with ETFs**

ETFs can be used like derivatives such as options and futures to take long or short positions in investment portfolios. Forward contracts used in currency hedging between two counterparties were historically reserved for large investors. Now, these types of trades can be scaled down and tailored with ETFs that invest in the underlying currency positions. Investors who are interested in hedging their portfolios against inflation can now link their future returns to commodity prices using targeted ETFs. For small investors or those with limited experience in trading commodity futures, combinations of ETFs can be used to replicate portfolios of precious metals, oil and natural gas - or just about any commodity that is covered by an ETF. The benefits of all of these combinations is the comparatively low transaction and holding costs compared to the costs of futures, options, forwards and other traditional hedging tools. The ability to purchase and sell hedging components in small increments appeals to smaller investors who previously had limited access to hedging due to the larger minimum requirements required with traditional hedging strategies.

Hedging has historically been limited to the use of derivative-based securities like futures, options, forward contracts, swaptions and various combinations of over-the-counter and exchange-traded securities. Because the mechanics of the pricing of the derivative-based securities is based on advanced mathematical formulas like Black and Scholes options pricing models, they have generally been used by large, sophisticated investors. Now investors of all sizes can access hedging tools with ETFs, which are as simple to trade as stocks.
Stock Market Hedging

Investors typically use futures and options on the stock and bond market to hedge their positions or take short-term placements to enter or exit the market. One of the most common and actively traded tools for the equity market are S&P 500 futures, which are used widely by large institutions including pension funds, mutual funds and active traders. Now, ETFs like Pro Shares Short S&P 500 and Pro Shares Ultra Pro Short S&P 500 can be used in lieu of futures contracts to take short positions in the general stock market, making these positions simpler, cheaper and more liquid. While the mechanics of using short equity ETFs is a little different than using futures, and matching the hedged positions may not be as precise, this strategy provides easy access as a means to the end. The position can also be unwound when needed - unlike futures contracts, which expire on a regular basis requiring investors to cash out, take delivery or re-hedge when the contract matures.

Hedging with Currencies

Just like with equity market hedging, prior to the wide acceptance of ETFs the only way to hedge a non-U.S. investment was to use currency forward contracts, options and futures. Forward contracts are rarely available to individual investors as they are often agreements between large entities that are traded over the counter. Also, they are typically held to maturity. Like interest rate swaps, they allow one party to assume the risk of a long position and the other party to assume a short position in a currency to liken their particular needs to hedging or betting. By design, the participants rarely take physical delivery of the currency position and choose to cash out the ending value based on the closing currency exchange rate. During the life of the forward contract, no money is exchanged and the valuation is typically based on the appreciation/depreciation of the swap or held at cost.

Now that ETFs have entered currency hedging, investors can easily hedge long non-U.S. investments by purchasing corresponding amounts of funds take a short U.S. dollar position, such as the Power Shares DB U.S. Dollar Index Bearish. On the flip side, an investor who is based outside of the U.S. can invest in shares of funds like Power Shares DB U.S. Dollar Index Bullish to take a long U.S. dollar position to hedge against their portfolios. Just like substituting futures and options in the equity and bond market, the levels of accuracy when matching the portfolio's value to the hedged position is up to the investor. But thanks to the liquidity of ETFs and their lack of maturity dates, investors can easily make minor adjustments.
Inflation Hedging

So far we have covered hedging portfolios in a traditional sense, offsetting variable risks or maintaining market positions. Inflation hedging with ETFs encompasses similar concepts but hedges against an unknown and unpredictable force. While inflation has ranged in small bands historically, it can easily swing up or down during normal or abnormal economic cycles. While commodities can be considered an asset class all on their own, many investors seek out commodities as a form of hedging against inflation based on the theory that if inflation rises or is expected to rise, so will the price of commodities. In theory, while inflation is rising, other asset classes like stocks may not be rising and investors can participate in the growth of the commodities investments. Commodity investing with ETFs has become very popular and there are hundreds of tools to access precious metals, natural resources and just about any commodity that can be traded on a traditional exchange.

The Benefits of ETFs for Hedging

The benefits of using an ETF for hedging are numerous. First and foremost is cost effectiveness, as ETFs allow small investors to take positions with little or no entrance fees. They typically have very low holding/management fees compared to the total costs of physical deliver or commissions on futures and options. They also provide access to markets (like the currencies market) that would not be cost effective for individual investors; liquidity beyond the levels found in futures and options; lower bid/ask spreads; and the ability to trade openly in stock exchanges. ETF hedging creates additional liquidity in markets, allowing for better "look through" transparency and eliminates the counterparty risk associated with over-the-counter contracts between two parties.

While hedging with ETFs is a relatively new concept and still needs to stand the test of time, it's no secret that their presence is known and investors of all sizes are taking notice.

Impact of Exchange Rates on Currency Returns

The first decade of the new millennium proved to be a very challenging one for investors. U.S. investors who chose to restrict their portfolios to large-cap U.S. stocks saw the value of their holdings decline by an average of more than one-third. Over the approximately nine-and-a-half-year period from January 2000 to May 2009, the S&P 500 index fell by about 40%. Including dividends, the total return from the S&P 500 over this period was approximately -26% or an average of -3.2% annually.

Equity markets in Canada, the largest trading partner of the U.S., fared much better during this period. Fueled by surging commodity prices and a buoyant economy,
Canada's S&P/TSX Composite index rose about 23%; including dividends, the total return was 49.7%, or 4.4% annually. This means that the Canadian S&P/TSX Composite index outperformed the S&P 500 by 75.7% cumulatively or about 7.5% annually.

U.S. investors who were invested in the Canadian market over this period did much better than their stay-at-home compatriots, as the Canadian dollar's 33% appreciation versus the greenback turbocharged returns for U.S. investors. In U.S. dollar terms, the S&P/TSX Composite gained 63.2%, and provided total returns, including dividends of 98.3% or 7.5% annually. That represents an outperformance versus the S&P 500 of 124.3% cumulatively or 10.7% annually.

This means that $10,000 invested by a U.S. investor in the S&P 500 in January 2000 would have shrunk to $7,400 by May 2009, but $10,000 invested by a U.S. investor in the S&P/TSX Composite over the same period would have almost doubled, to $19,830.

**When to Consider Hedging**

U.S. investors who were invested in overseas markets and assets during the first decade of the 21st century reaped the benefits of a weaker U.S. dollar, which was in long-term or secular decline for much of this period. Hedging exchange risk was not advantageous in these circumstances, since these U.S. investors were holding assets in an appreciating (foreign) currency.

However, a weakening currency can drag down positive returns or exacerbate negative returns in an investment portfolio. For example, Canadian investors who were invested in the S&P 500 from January 2000 to May 2009 had returns of -44.1% in Canadian dollar terms (compared with returns for -26% for the S&P 500 in U.S. dollar terms), because they were holding assets in a depreciating currency (the U.S. dollar, in this case).

As another example, consider the performance of the S&P/TSX Composite during the second half of 2008. The index fell 38% during this period - one of the worst performances of equity markets worldwide - amid plunging commodity prices and a global sell off in all asset classes. The Canadian dollar fell almost 20% versus the U.S. dollar over this period. A U.S. investor who was invested in the Canadian market during this period would therefore have had total returns - excluding dividends for the sake of simplicity - of -58% over this six-month period.

In this case, an investor who wanted to be invested in Canadian equities while minimizing exchange risk could have done so using currency ETFs. The following section demonstrates this concept.
Hedging Using Currency ETFs

Consider a U.S. investor who invested $10,000 in the Canadian equity market through the shares MSCI Canada Index Fund (EWC). This ETF seeks to provide investment results that correspond to the price and yield performance of the Canadian equity market, as measured by the MSCI Canada index. The ETF shares were priced at $33.16 at the end of June 2008, so an investor with $10,000 to invest would have acquired 301.5 shares (excluding brokerage fees and commissions).

If this investor wanted to hedge exchange risk, he or she would also have sold short shares of the Currency Shares Canadian Dollar Trust (FXC). This ETF reflects the price in U.S. dollars of the Canadian dollar. In other words, if the Canadian dollar strengthens versus the U.S. dollar, the FXC shares rise, and if the Canadian dollar weakens, the FXC shares fall.

Recall that if this investor had the view that the Canadian dollar would appreciate, he or she would either refrain from hedging the exchange risk, or "double up" on the Canadian dollar exposure by buying (or "going long") FXC shares. However, since our scenario assumed that the investor wished to hedge exchange risk, the appropriate course of action would have been to "short sell" the FXC units.

In this example, with the Canadian dollar trading close to parity with the U.S. dollar at the time, assume that the FXC units were sold short at $100. Therefore, to hedge the $10,000 position in the EWC units, the investor would short sell 100 FXC shares, with a view to buying them back at a cheaper price later if the FXC shares fell.

At the end of 2008, the EWC shares had fallen to $17.43, a decline of 47.4% from the purchase price. Part of this decline in the share price could be attributed to the drop in the Canadian dollar versus the U.S. dollar over this period. The investor who had a hedge in place would have offset part of this loss through a gain in the short FXC position. The FXC shares had fallen to about $82 by the end of 2008, so the gain on the short position would have amounted to $1,800.

The unhedged investor would have had a loss of $4,743 on the initial $10,000 investment in the EWC shares. The hedged investor, on the other hand, would have had an overall loss of $2,943 on the portfolio.

Currency ETFs Are Margin-Eligible

Some investors may believe that it is not worthwhile to invest a dollar in a currency ETF to hedge each dollar of an overseas investment. However, since currency ETFs is margin-eligible, this hurdle can be overcome by using margin accounts (which are
brokerage accounts in which the brokerage lends the client part of the funds for an investment) for both the overseas investment and currency ETF.

An investor with a fixed amount to invest who also wishes to hedge exchange risk can make the investment with 50% margin and use the balance of 50% for a position in the currency ETF. Note that making investments on margin amounts to using leverage and investors should ensure that they are familiar with the risks involved in using leveraged investment strategies.

Currency moves are unpredictable and currency gyrations can have an adverse effect on portfolio returns. As an example, the U.S. dollar unexpectedly strengthened against most major currencies during the first quarter of 2009, amid the worst credit crisis in decades. These currency moves amplified negative returns on overseas assets for U.S. investors during this period. Hedging exchange risk is a strategy that should be considered during periods of unusual currency volatility. Because of their investor-friendly features, currency ETFs is ideal hedging instruments for retail investors to hedge exchange risk.

Exchange rate risk or foreign exchange (forex) risk is an unavoidable risk of foreign investing, but one that can be mitigated considerably through the use of hedging techniques. In order to totally eliminate forex risk, the obvious choice is to avoid investing in overseas assets altogether. But this may not be the best alternative from the viewpoint of portfolio diversification, since numerous studies have shown that foreign investing improves portfolio return while reducing risk.

For the U.S. investor, the subject of hedging exchange rate risk assumes particular importance when the U.S. dollar is surging – as it did during 2014-15 – since it can erode returns from overseas investments. An analysis by Blackrock's Shares shows significant divergence between hedged and unhedged returns for major MSCI indexes in 2014. For example, while the return from the MSCI EAFE Index (hedged to USD) was +5.7% in 2014, the unhedged return was -4.9%.

Of course, for overseas investors, the reverse is true, especially at times when U.S. investments are outperforming. This is because the depreciation of the local currency against the USD can provide an additional boost to returns. In such situations, since exchange rate movement is working in the investor's favor, the appropriate course of action would be to go unhedged.

The rule-of-thumb is to leave exchange rate risk with regard to your foreign investments unhedged when your local currency is depreciating against the foreign-investment currency, but hedge this risk when your local currency is appreciating against the foreign-investment currency. Let's look at a few methods for mitigating this risk.
Methods of Hedging Risk

Invest in hedged assets: The easiest solution is to invest in hedged overseas assets, such as hedged exchange-traded funds (ETFs). ETFs are available for a very wide range of underlying assets traded in most major markets. Many ETF providers offer hedged and unhedged versions of their funds that track popular investment benchmarks or indexes. Although the hedged fund will generally have a slightly higher expense ratio than its unhedged counterpart due to the cost of hedging, large ETFs can hedge currency risk at a fraction of the hedging cost incurred by an individual investor. For example, continuing with the aforementioned example of the MSCI EAFE index – the primary benchmark for U.S. investors to measure international equity performance – the expense ratio for the iShares MSCI EAFE ETF (EFA) is 0.33%. The expense ratio for the iShares Currency Hedged MSCI EAFE ETF (HEFA) is 0.70% (although the Fund has waived 35 basis points of the management fee, for a net fee of 0.35%). The marginally higher fee for the hedged version may have been worth it in this instance, since the EFA (unhedged ETF) was up 5.64% for the year (to August 14, 2015), while the HEFA (hedged ETF) was up 11.19%.

Hedge exchange rate risk yourself: If you possess a truly diversified portfolio, chances are that you have a degree of forex exposure should the portfolio contain foreign-currency stocks or bonds, or American Depositary Receipts (ADRs – a common misconception is that their currency risk is hedged; the reality is that it isn’t). Instruments for Hedging Currency Risk

In such cases, you can hedge currency risk using one or more of the following instruments:

**Currency forwards:** Currency forwards can be effectively used to hedge currency risk. For example, assume a U.S. investor has a euro-denominated bond maturing in a year's time and is concerned about the risk of the euro declining against the U.S. dollar in that time frame. He or she can therefore enter into a forward contract to sell euros (in an amount equal to the maturity value of the bond), and buy U.S. dollars at the one-year forward rate. While the advantage of forward contracts is that they can be customized to specific amounts and maturities, a major drawback is that they are not readily accessible to individual investors. An alternative way to hedge currency risk is to construct a synthetic forward contract using the money market hedge.

**Currency futures:** Currency futures are widely used to hedge exchange rate risk because they trade on an exchange and need only a small amount of upfront margin. The disadvantages are that they cannot be customized and are only available for fixed dates.
Currency ETFs: The availability of ETFs that have a specific currency as the underlying asset means that currency ETFs can be used to hedge exchange rate risk. This is probably not the most effective way to hedge exchange risk for larger amounts. But for individual investors, their ability to be used for small amounts, plus the fact that they are margin-eligible and can be traded on the long or short side, are major benefits.

Currency Options: Currency options offer another feasible alternative to hedge exchange rate risk. Currency options give an investor or trader the right to buy or sell a specific currency in a specified amount on or before the expiration date at the strike price. (See "Trading Forex Options: Process and Strategy"). For example, currency options traded on the NASDAQ are available in denominations of EUR 10,000, GBP 10,000, CAD 10,000 or JPY 1,000,000, making them well-suited for the individual investor.

Exchange rate risk cannot be avoided altogether when investing overseas, but it can be mitigated considerably through the use of hedging techniques. The easiest solution is to invest in hedged investments such as hedged ETFs, since the fund manager can hedge forex risk at a relatively lower cost. However, an investor who holds foreign-currency stocks or bonds, or even ADRs, should consider hedging exchange rate risk using one of the many avenues available, such as currency forwards, futures, ETFs or options.

1.13 ECONOMIC FACTORS THAT AFFECTED THE U.S. DOLLAR IN 2012

Over the past year, the U.S. dollar, as measured by the Dollar Index Spot rate according to Bloomberg, has remained flat at around an index level of 80. The index spent most of early 2012 submerged below 80, but perked up to nearly 84 in July, before settling back at just below 80 to end the year. It recently traded at 80.336, which represents a modest one-year decline of 1.1%.

Comparing the Dollar

The above index provides an indication of how the U.S. dollar trades. Another, perhaps more conventional approach is to compare the dollar to other foreign currencies. Foreign exchange or currency traders make decisions based on their expectations for the dollar and how it will trade in relation to the currencies of other countries. Common currency pairs include the dollar with the Japanese yen, European euro, Canadian dollar, as well as the Swiss franc and British pound.

Traders look to make educated bets on currencies by looking at the economic factors of an underlying issue. At this point, currency trading grows incredibly complex, with
a wide array of factors that may or may not impact the level of a currency, such as the U.S. dollar, or how it trades against competing currencies. Winston Churchill once described how Russia operates as "a riddle wrapped in a mystery inside an enigma" to illustrate that it was extremely difficult to say for certain what motivated it to run its national interests. This also applies to the factors that influence the U.S. dollar and currencies in general.

The U.S. Dollar's Stability

As Churchill did with Russia, currency traders try to key in on the most important drivers of the U.S. dollar. A primary factor is certainly the relationship between supply and demand for dollars. Despite a tenuous government fiscal position and a hit to its reputation courtesy of the financial crisis that included a downgrade of America's credit rating, the U.S. dollar is still seen as one of the safest stores of value in the world, which helps it hold its value. Other countries, including the Hong Kong region of China and Panama, peg their currencies directly to the dollar. Recent estimates show that more than 60 countries have direct currency pegs to the mighty greenback. Another primary factor is sentiment on the dollar, which includes emotional financial markets that trade based off of fear and exuberance, and also shorter-term technical factors that affect nearly every financial asset.

To return again to Churchill's enigma reference, a popular foreign exchange website comprehensively listed 50 factors that help influence the value of the U.S. dollar. Major categories included politics, such as budget deficit and national debt levels, which are important areas of concern these days. The political environment in other countries also plays a role in how the dollar trades compared to other currencies, as referenced above. Entitlement programs such as Social Security and Medicare are important considerations, as an aging population in America will affect how likely the government will be able to cover its obligations in the future.

U.S. Government Policy

Economic theory, returning to the demand for dollars and variability in the money supply, both in the U.S. and internationally, is another key category. The level of U.S. interest rates is very important, especially in comparison to other countries, where traders can invest and potentially earn higher returns on debt. A popular strategy among foreign exchange traders is to borrow in a currency with a low interest rate and use those proceeds to invest in a currency with a higher comparative rate. Other industry and economic indicators, such as unemployment rates and industrial production, also serve as an indicator on how strong a country's economy is, which impacts its currency level.
An Economist article, following the credit crisis cited Alan Greenspan, the former Chairman of the Federal Reserve, as stating that "The United States can pay any debt it has because we can always print money to do that." For this reason, the underlying U.S. dollar remains the most popular and safest currency in the world. As long as the U.S. economy and related factors that affect the government support the payment of national debts and expenses remain sound, this should continue. Currency traders and other currency investors will continue to monitor the variety of factors that affect the dollar closely for signs that they can profit from, how it trades overall, and how it performs in comparison to other foreign currencies.

1.14 EFFECTS OF CHANGES IN EXCHANGE RATE ON INDIAN ECONOMY

Under the recent economic reforms in India, not only have we liberalized the Industrial sector but have also opened up the economy, made our currency convertible and allowed exchange rate to adjust freely. It is important to understand the full implications of opening up the economy and allowing our currency to „float‟.

It is worthwhile to note that under a fixed exchange rate system when citizens of a country spend some of their income on imports it reduces the value of multiplier because imports, like savings and taxes, serve as a leakage from the circular flow of income. On the other hand, exports, like investment and Government expenditure, raise the aggregate demand for domestically pro-duced goods and services and thereby cause an expansion in output through a multiplier process.

However, under a variable or floating exchange rate system, the effect of imports and exports on real output is highly complicated. First, the volume of imports and exports depends not only on income, price level, interest rate but also on the exchange rates themselves.

Thus when due to some factors, foreign exchange rate changes, it will have an effect on the level of GNP and the price level. Further, exchange rates themselves will adjust to the changes in the economy. We discuss below the effects of changes in the exchange rate, especially of depreciations and devaluation of the exchange rate, on exports, imports, national income, balance of payments and the price level in the economy.
CHAPTER – 1  
EXCHANGE RATE AND AN ECONOMY

Effects of Depreciation (or Devaluation) on Imports, Exports and Real National Income:

From our foregoing discussion of determination of exchange rate through demand and supply curves of foreign exchange it follows that when a currency of a country, say Indian rupee, depreciates as a result of demand and supply conditions or is devalued by the Government, the prices of Indian exports in terms of foreign currency (say dollar) will fall.

This will cause the increase in quantity demanded of Indian exports. As a result, Indian exports will increase. On the other hand, depreciation or devaluation of Indian rupee will make the imports from foreign countries more expensive in terms of rupees (for example, a dollar’s worth of US goods will cost more in terms of the Indian rupee) when the Indian rupee depreciates or is devalued.

Thus, higher prices of imports will induce individuals and firms in India to import less and they will make an attempt to substitute domestically produced goods for imports from abroad. Thus, as a result of depreciation or devaluation and consequently increase in exports and decline in imports, net exports will rise and therefore the net aggregate demand for domestically produced goods will increase.

And if level of output, especially industrial output is below full capacity output the increase in net aggregate demand domestic will cause expansion in domestic output and will lead to increase in GDP or real national income. This is illustrated in following Figure. A devaluation or depreciation can therefore serve as a stimulus to the economy.
It will be recalled that in the Keynesian model of determination of real national income (GNP), the effect of net exports, that is, $X - M$, where $X$ denotes value of exports and $M$ denotes value of imports, is similar to investment in its effect on national income. Both raise national income through a multiplier process.

It may be noted here that because of the favorable effect of depreciation or devaluation of national currency on exports, imports and real GNP, the countries are tempted at times to intervene in the foreign exchange market, devalue their currency to provide stimulus to their economies.

However, if one country devalues its currency to stimulate its economy, the other countries can also do so. Now, when all countries attempt to devalue their currencies, there will be no gain in real income for any of them. Such a situation actually occurred during the early years of Great Depression (1929-33). In their attempt to maintain their exports and protect their level of income and employment, many countries devalued their currencies without bothering about its adverse effects on the economies of the other countries.

Such policies of competitive devaluation are generally called “beg thy-neighbor” policies. Since all followed this beg thy-neighbor policy, no one could maintain their export sales and protect domestic employment and level of economic activity which were badly hurt by the severe depression that gripped their economies.

On the contrary, the appreciation of a national currency will have opposite effect. When the currency of a country appreciates, its exports will become costlier causing a decline in them, whereas its imports will become cheaper resulting in increase in them.

As a result net exports of the country will decline leading to the decrease in net exports and will therefore cause leftward shift in the aggregate demand curve $AD$ as is shown in following Figure. This will cause fall in both real GDP and price level.
Devaluation or Depreciation and the Balance of Trade: The J Curve:

As explained above lowering of the value of a currency of a country tends to raise its exports by making its goods cheaper for foreigners. On the other hand, devaluation or depreciation makes the imports from abroad expensive in terms of domestic currency (rupees in case of India) and therefore the imports tend to fall. With exports increasing and imports declining, it is expected that devaluation (depreciation) will reduce a country’s trade deficit.

As a matter of fact, in recent years when a country experienced a severe disequilibrium in the balance of trade or balance of payments, it devaluated its currency to raise exports and reduce imports and thus to restore equilibrium in the balance of payments.

However, it may be noted that the effect of devaluation or depreciation on balance of trade is ambiguous and quite uncertain because a good deal depends on the price elasticity of exports and imports of a country.

For example, if the price-elasticity of exports in terms of a foreign currency of a country is less than unity, the value of exports in terms of a foreign currency will fall as increase in physical volume of exports will be more than offset by the depreciation of the currency. On the other hand, if the demand for imports is inelastic, they will not decrease despite devaluation.

Many economists are of the view that devaluation is likely to worsen the balance of trade for the few quarters (probably three to six) after the initial devaluation. However, they think after a time lag, the balance of trade may improve. In fact, a concept called J. Curve effect has been put forward.

According to this, after the initial depreciation the balance of trade moves according to the shape of the letter J. This means that in the first few quarters following devaluation the balance of trade becomes worse and after that it becomes positive and starts improving.

This J-curve effect is shown in Fig. 35.8 where along the X-axis we measure time, that is, quarters after devaluation and on the Y-axis we measure the balance of trade. If the value of balance of trade is positive, that is, if the balance of trade lies above the zero line and the curve rises the balance of trade improves.
If the balance of trade is negative, it will be below the zero line and if the curve slopes down, it implies that balance of trade worsens. It will be seen from Fig. 35.8 that in the first few quarters, the balance of trade remains negative and also deteriorating and then starts improving and ultimately in the long run turns positive.

Now, pertinent question arises how the J-curve comes about. We will explain this with reference to devaluation (depreciation) of rupee. It may be recalled here that balance of trade is equal to the value of exports minus value of imports. Thus;

Balance of Trade = Value of Exports in Rupees – Value of Imports in Rupees

It may be noted that value of both exports and imports is equal to the volume of exports or imports multiplied by the rupee price of exports and imports respectively. The depreciation (devaluation) of the currency affects both the volume and rupee price of exports and imports.

First, depreciation (devaluation) of currency increases the volume of exports and reduces the volume of imports, both of which have a favorable effect on the balance of trade, that is, they will lower the trade deficit or increase the trade surplus. This has been explained above.

Secondly, as a result of devaluation, rupee-price of exports is not likely to change much in the short run. The rupee-price of exports depends on the domestic price level and, in the short run the devaluation (depreciation) of rupee will have only a very small effect on the domestic price level. On the other hand, the rupee-price of imports increases immediately after devaluation.

Imports into India from abroad would be more costly because as a result of devaluation a hundred rupee note will buy fewer US dollars and pound starlings than
before. Thus, a rise in the rupee-price of imports has a negative effect on the balance of trade, that is, it will tend to increase the trade deficit or reduce the trade surplus.

Price effect and quantity effect of devaluation. An example will make clear the negative effect of depreciation or devaluation on the balance of trade as a result of devaluation or depreciation. Suppose the rupee cost of a particular US machine goes up from Rs. 50,000 to 60,000 following the devaluation of rupee from Rs. 46 per dollar to Rs. 44 per dollar.

Thus with the rise in price of a US machine, Indians will spend more on a US machine than before. This is a price effect. But increase in the price of the US machine will lead to the decrease in the quantity demanded of US machines by the Indians.

This is the quantity effect. Now, the net effect of devaluation on the value of imports depends on whether quantity effect is larger than price effect or vice versa. And this depends on the price elasticity of imports. It therefore follows that net effect of devaluation (depreciation) on the balance of trade could go either way. The historical experience shows that initially the negative effect predominates.

This is because whereas the effect of devaluation/depreciation on the price of imports is quite fast, it takes some time for quantity of imports to decline in response to the rise in rupee-price of imports and the value of exports to increase in response to the fall in price of exports in terms of foreign currency.

According to the J-Curve Effect, the initial effect of devaluation/depreciation on the balance of trade is negative and when in the long run imports and exports adjust to the changes in prices, the net effect on the balance of trade becomes positive. The more price elastic is the demand for exports and imports, the greater the improvement in the balance of trade in the long run.

**Depreciation or Devaluation and Inflation:**

The devaluation or depreciation of currency tends to raise the price level in the country and thus increase the rate of inflation. This happens because of two reasons. As a result of depreciation/devaluation, prices of imported goods rise. In case of imports of consumer goods rise in their prices directly leads to the increase in the rate of inflation.

In case of imports of capital goods and raw materials, the rise in their import prices will not only directly raise the price level but as they are used as inputs in the production of other goods, rise in their imports prices will also push up the cost of production of these other goods and thus will bring about cost-push inflation.
Second, as explained above, depreciation makes the exports cheaper and therefore more competitive in the world markets. This causes the exports of goods to increase and reduces the supply and availability of goods in the domestic market which tends to raise the domestic price level.

Besides, due to higher prices of imported goods, people of a country tend to substitute domestically produced goods for the now more expensive imports. As a result, the aggregate demand or expenditure on domestically produced goods and services will increase causing either expansion in output of goods or rise in their prices or both. However, if the economy is working close to the capacity output, the effect will be more on raising prices of goods.

1.15 EXCHANGE CONTROL OF CURRENCY

Exchange control is also being used as a protective device in modern times. However, the main object of exchange control is to maintain the stability of the fixed exchange rate of a currency and keep the balance of payments in regular order.

Some leading economists have defined the term “exchange control” as follows:

G.N. Halms defines it thus: “By exchange control we refer to measures which replace part of the equilibrating functions of the foreign exchange market by regulation alien to the pricing process.”

According to Haberler, exchange control refers to “The state regulation excluding the free play of economic forces in the foreign exchange market.”

P.T. Ellsworth provides a comprehensive definition of exchange control in the following words: “Exchange control means dealing with the balance of payments difficulties, disregards market forces and substitutes for them the arbitrary decision of government officials. Imports and other international payment are no longer determined by the international price comparisons, but the considerations of national need.”
Under the system of exchange control, the economy has the following broad features:

i. State has full control over the foreign exchange market.
ii. Only those possessing licenses can deal in foreign exchange.
iii. There is regulation on imports.
iv. Exporters have to surrender their foreign exchange earnings to the central bank.
v. Rate of exchange is determined officially by the government. It is rigidly fixed and market demands of supply forces have no effect on it.
vi. There is government monopoly and monopsony of exchange substituted for the competitive market.

Method of Currency Exchange Control

Following are the important Methods of Exchange Control

(1) Intervention:

It is a commonly adopted mild form of exchange control.

Demand and supply forces are allowed to play their role in the market. But, the government may intervene with these forces by pegging up or pegging down the exchange rates. Pegging up implies fixation of exchange rate artificially higher than the market rate.

Pegging down implies fixing exchange rate artificially lower than the market rate. When the exchange rate is pegged up there is a high demand for foreign exchange and the government has to satisfy it.

In the case of pegging down, people demand more local currency and give up their foreign holdings. Naturally, in a less developed economy, under the pressure of balance of payments disequilibrium, to maintain pegging up of exchange rate is a difficult proposition.

(2) Exchange Clearing Agreements:

It is a revolutionary innovation to the international and commercial systems. Under the system, exchange clearing agreements are made between two nations for settling their accounts through their central banks.

Clearing between individual exporters and importers is not allowed, but done country-wise at an interval of time. Under the system, the importers pay in domestic currency
CHAPTER – 1 EXCHANGE RATE AND AN ECONOMY

to central bank and exporters get payment through the central bank in the home currency.

The main shortcomings of the scheme are:

i. It permits only bilateral trade and discourages multilateral trade.
ii. It is not based on the sound principle of international trade.
iii. It increases the burden of central banks.
iv. There may be exploitation of small nations by big nations as the latter are in a strong bargaining position.

(3) Blocked Accounts:

Blocked accounts imply restrictions on the transfer of foreign capital or transfer of funds by foreigners to their home countries. When the policy of blocked accounts is adopted, the central bank deposits assets of foreign nationals in their accounts but they are not allowed to convert these credit balances into their home currencies for some period. This device harms the reputation of the country. It is adopted only during wartime or in grave circumstances.

(4) Payment Agreements:

To overcome the difficulties of delay involved in settling international payments and for the centralization of payments observed in clearing agreements, the device is defined as payment agreements.

Under this scheme, a creditor is paid as soon as information is received by the central bank of the debtor country from the creditor country’s central bank that its debtor has discharged his obligation and vice versa. Payment agreements have the advantage that direct relation between the exporters and importers is maintained.

However, payment agreements suffer from two defects: (i) The agreements could only be debited or credited for licensed payments; (ii) The balances in the accounts could only be used for payment from one partner to another.

(5) Gold Policy:

Exchange control can also be affected by manipulating the buying and selling price of gold. Such a policy affects exchange rates through its effect on the gold points. For example, the Tripartite Agreement of 1936 between the U.K., France and the U.S.A. sought to control exchange rates by fixing the purchase and sale prices of gold at a level at which these parties proposed to fix up the exchange rate.
(6) Rationing of Foreign Exchange:

Under the system, all foreign exchange earnings are to be surrendered by exporters to the central bank at a fixed change rate and then allocation is made by the government for imports on a priority basis in fixed amount only.

(7) Multiple Exchange Rates:

The system of multiple exchange rates is adopted to reduce the deficits in the balance of payments. Under the system, different rates of exchange are set up for different exports and imports. It is a rationing by price rather than by quantity. It is better, since it does not directly restrict free trade.

The following are the merits of the multiple exchange rates system:

i. It is better than devaluation.
ii. It encourages exports and proves a disincentive in effect to imports.
iii. It helps to adopt discriminations against goods and countries.
iv. It helps in encouraging the inflow and minimizing the outflow of capital.
v. It provides an additional source of revenue to the government.

But, the system increases the burden of central bank and may also create a lot of confusion. It is not a very feasible system.

The system has the following drawbacks:

i. Instead of correcting the balance of payments, it adversely affects the growth of international trade and maximization of world output and welfare.
ii. It puts too much arbitrary powers into the hands of the government to influence foreign trade.
iii. It creates undue complexities in calculation, due to different exchange rates for different imports and exports which may be changed from time to time, resulting in uncertainty in foreign trade.
iv. The system has a formidable administrative problem of effective control. Utmost vigilance has to be maintained against the undervaluation of export invoices and overvaluation of import invoices and care should be taken to see that exporters do not sell their proceeds of foreign exchange in the black market and importers do make specific and proper use of the allotted foreign exchange. Further, the system is also likely to breed corruption.
1.16 CONCLUSION

As economies grow in size the interdependence of economies also increase resulting into more and more cross border trade and movement of capital. The single most important factor that determines the size and direction of this is exchange rate between two countries. Wealth creation is an outcome of movements in exchange rate as money is getting invested overseas. With collapse of Bretton Woods and its Fixed Exchange Regime even intervention of central bank of respective country in foreign exchange market may not bring about desired results. The only remedy lies in hedging but that instrument is more used for speculative purpose than as a tool for risk aversion.
References


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