

6.INTEREST RATE PARITY THEORY:**Unit Structure:**

- 6.1 Learning Objectives
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- 6.3 IRP theory
- 6.4 Covered IRP theory
- 6.5 Uncovered IRP theory-implication

6.1 LEARNING OBJECTIVES:

After studying this lesson you are able to:

- Understand the Interest Rate Parity Theory
- Understand the types of Interest Rate Parity Theory
- Understand the Interest Rate Parity Theory implications.

6.2. INTRODUCTION:

Interest Rate Parity theory is used to find out the relationship between at the spot exchange rate and a corresponding forward (future) exchange rate of currencies. It is a theory in which the interest rates differential between two countries remains equal to the differential calculated by using the spot exchange rate and forward exchange rate techniques. Interest rate parity connects interest, foreign exchange rates and spot exchange rates. It plays a crucial role in Forex markets.

According to this theory, the differentials in the interest rate between two different currencies will be reflected in the discount or premium for the forward exchange rate if there is no arbitrage – (arbitrage is the activity of buying shares or currency in one financial market and selling it at a profit in another.)

6.3 INTEREST RATE PARITY (IRP):

The determination of exchange rate in a forward market finds an important place in the theory of IRP. According to interest rate parity theory, equilibrium is achieved when differential in the forward exchange rate is near about equal to the differential in the interest rate. Forward rate always differs from spot rate by an amount which represents difference in interest rates. Under this theory, the currency of a country with a low interest rate will be at a forward premium in relation to currency of a country with an interest rate higher as compared to the other.

Example: If in a spot market, 1 \$ = Rs 60, return on dollar deposits is 5%, return on rupee deposits is 14%, and Rs 1000 are investible funds, Forward Rate after one year can be calculated as under:

If investor invests in rupee deposit, after one year he will get $1000(1 + 0.14) = 1140$. If instead he wants to invest in dollar deposits, he has to convert his investment in dollar deposit at a spot rate, i.e. $16.667 \$ (1000 /$

60). After one year, dollar deposit would fetch $16.667 (1 + 0.05) = \$ 17.50$.

Now this has to be converted into Indian currency. Thus, forward exchange rate $1140 / 17.50 = 65.143$, i.e. after one year forward rate = 1 \$ = Rs 65.143.

In conclusion A higher interest rate in India will push down forward value of Indian rupee against US dollar.

There are two types of Interest Rate Parity

6.4 COVERED INTEREST RATE PARITY (CIRP):

Covered interest rate theory says that the interest rates difference between two countries is nullified by the spot or forward currency premiums so that the investors could not earn an arbitrage profit. If interest rate differential is not equal to forward rate differential, covered interest arbitrage will begin. It will continue till the two differentials become equal.

Positive interest rate differential in a country is equalized by annualized forward discount. Negative interest rate differential in a country is equalized by annualized forward premium. Finally, two differentials will be equal at a point and forward rate is determined.

Process of Covered Interest Arbitrage is explained with help of following example:

Spot rate is 1 \$ = Rs 60 and three months (90 days) forward rate is 1 \$ = Rs 60.75. Interest rates are 18% and 11% in India and USA respectively.

Borrowing a loan in USA of \$ 1000 at 11% interest rate p.a. Converting US dollar into INR at spot rate to get Rs 60000/-.

Investing Rs 60000 in India at 18% interest p.a.

After three months, liquidating Rs 60000 investment in India at Rs 62700

Converting Rs 62700 into US dollar at three month forward, investor will get $62700 / 60.75 = \$ 1032$.

Repaying loan in USA will amount to \$ 1027.5 (\$ 1000 + \$ 27.5 interest).

Profit / Gain = \$ 1032 – \$ 1027.5 = \$ 4.5

□ Covered interest rate parity exists when,

1. $(1+r^{Rs.}) / (1+r^{\$}) < (F/S)$ i.e. when foreign market is an investment market
or
2. $(1+r^{Rs.}) / (1+r^{\$}) > (F/S)$ i.e. when home market is an investment market

6.5 UNCOVERED INTEREST RATE PARITY (UIRP):

UIRP states that there is a relationship between expected changes in spot exchange rate differentiate between two countries and expected change in spot exchange rate is equal to two countries interest rate differential

-IMPLICATIONS OF IRP THEORY:

If IRP theory holds, then it can negate the possibility of arbitrage. It means that even if investors invest in domestic or foreign currency, the ROI will be the same as if the investor had originally invested in the domestic currency.

- When domestic interest rate is below foreign interest rates, the foreign currency must trade at a forward discount. This is applicable for prevention of foreign currency arbitrage.
- If a foreign currency does not have a forward discount or when the forward discount is not large enough to offset the interest rate advantage, arbitrage opportunity is available for the domestic investors. So, domestic investors can sometimes benefit from foreign investment.
- When domestic rates exceed foreign interest rates, the foreign currency must trade at a forward premium. This is again to offset prevention of domestic country arbitrage.
- When the foreign currency does not have a forward premium or when the forward premium is not large enough to nullify the domestic country advantage, an arbitrage opportunity will be available for the foreign investors. So, the foreign investors can gain profit by investing in the domestic market.

Interest Rate Parity:	Purchasing Power Parity:
It focuses on why the forward rate differs from the spot rate and on the degrees of difference that should exist. This relate to specific point of time.	It focuses on how a currency’s spot rate will change over time. The theory suggests that the spot rate will change in accordance with inflation differentials
-Key Variables: Forward rate premium	-Key Variables: Percent change in spot exchange rate
-Basis: Interest rate differential	-Basis: Inflation rate differential

<p>Summary: The forward rate of one currency will contain a premium (or discount) that is determined by the differential in interest rates between the two countries. As a result, covered interest rate arbitrage will provide a return that is no higher than a domestic return.</p>	<p>-Summary: The spot rate of one currency with respect to another will change in reaction to the differential in inflation rates between two countries. Consequently, the purchasing power for consumers when purchasing goods in their own country will be similar to their purchasing power when importing goods from foreign country</p>
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