12. PURCHASING POWER PARITY THEORY

Q:1 Discuss the Absolute Version of PPP Theory?

(A) Purchasing Power Parity (PPP) Theory :-

The Purchasing Power Parity (PPP) Theory was developed by Swedish economist Gustav Cassel. According to PPP theory exchange rate between two Countries is determined by their Purchasing Power in terms of goods and services.

The PPP theory explains the determination of Long-term equilibrium exchange rate based on relative Price-levels of two Countries. When domestic Currency of Country is exchanged for foreign Currency, the domestic Purchasing Power is exchanged for Foreign Purchasing Power.

(B) Assumptions of PPP Theory :-

i) There are no trade barriers between Countries.

ii) All the Prices of goods must be indexed in same year.

iii) The Price Index Number include same basket of good in both Countries

iv) The Concerned goods must be Homogeneous in both Countries.

v) There is One Price Law exist in both countries.

© Versions | Types of PPP Theory :-

(I) The Absolute Version of PPP | **(II) Relative Version of PPP**

(I) The Absolute Version of PPP Theory :-

Under this theory, the exchange rates between two currencies of two different countries is decided by their Purchasing Power. It means the rate of exchange will be determined where internal Purchasing Power of two currencies become equal.

Example :- A Particular basket of goods cost ₹ 7000 in India and $ 100 in U.S.A. It means the exchange rate will be— ₹ 70 = $ 1

$$\text{Rate of Exchange} = \frac{\text{Internal Purchasing Power of India}}{\text{Internal Purchasing Power of U.S.A}}$$

$$R = \frac{₹\,7000}{\$\,100} = ₹\,70$$

$$R = \frac{P}{P_0}$$

P = Prices in domestic country

P_0 = Prices in foreign Country

According to Absolute PPP Theory — a rise in domestic Price level as Compare to Foreign Price level will result in depreciation of domestic currency against Foreign Currency.

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Example :- When the Price of goods in increase to ₹ 7300 in India, while the Prices of same goods have same Price in USA. Then New Exchange Rate —

$$\text{New Exchange Rate} = \frac{\text{Purchasing Power of India}}{\text{Purchasing Power of USA}} = \frac{P}{P_0}$$

$$R = \frac{₹\,7300}{\$\,100} = 73\ ₹$$

Here, Indian Rupee depreciate and USA dollar appreciate due to inflation in India.

(D) Limitations of Absolute Version of PPP :-

1. **Composition of Goods in Basket :-** The basket of goods selected must be Produced in Both Countries. But it is very difficult condition to satisfy because Quality and Quantity of goods is different from One country to other.

2. **Prices of Non-traded goods Neglected :-** The Absolute theory of PPP is applicable to only traded goods, whose Price is equalised in commodity market. It means this theory has neglected Prices of non-traded goods.

3. **Capital Account Neglected :-** The Absolute PPP theory has neglected Capital transactions. According to many economists this theory is not a realistic exchange rate because the inflow and out flow of all capital transactions are ignored.

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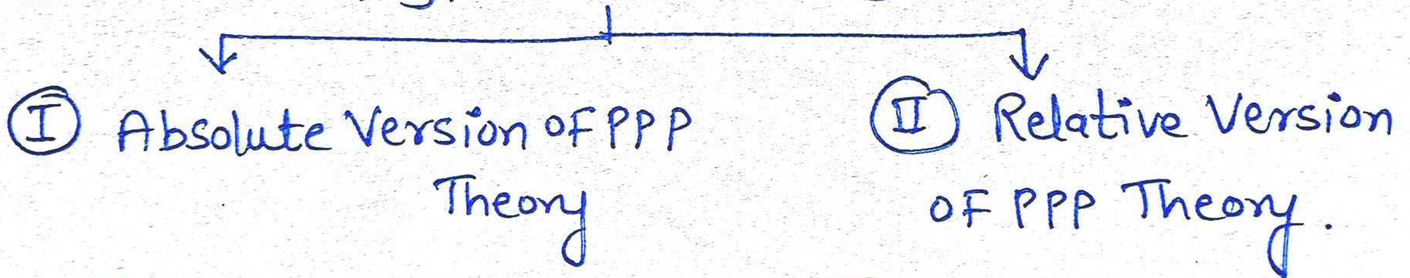
4. **Non-Economic Factors Neglected** :- A number of non-economic factors may affect the domestic price of goods.
Example - Several social and political factors may bring change in the price of domestic goods in long-run.

5. **Transport Cost and other Restrictions Neglected** :- Trade relations are affected by various factors like - transport cost, tariffs, subsidies, quotas etc. These factors directly affect domestic prices which are neglected by Absolute theory of PPP.

Q:2 Explain the Relative Version of PPP Theory?

(A) Purchasing Power Parity Theory
(B) Assumptions of PPP Theory } Same from Q:1
(C) Version | Types of PPP Theory



(II) Relative Version of PPP Theory :- The Relative Version is different from Absolute Version in terms of method of calculating current equilibrium rate of exchange.
In Relative Version, we take a base period and assumed that the rate of exchange between two currencies was in equilibrium.
The Relative Version of PPP theory explain that - Changes in the equilibrium rate of exchange

between two Currencies will be governed by Changes in the ratio of their respective Purchasing Power.

Here Some Past exchange rates is assumed to be the Equilibrium exchange Rate and accepted as Base Rate.

Now Past Equilibrium exchange rate is Compared with Current Equilibrium Exchange rate

This Relative theory explains Changes between Two equilibrium rates mainly due to Changes in internal Purchasing Power of two Countries

FORMULA = $R_1 = R_0 \times \left(\frac{P_{h_1}}{P_{h_0}} \div \frac{P_{F_1}}{P_{F_0}} \right)$

$= R_1 = R_0 \times \left(\frac{P_{h_1}}{P_{h_0}} \times \frac{P_{F_0}}{P_{F_1}} \right)$

R_1 = Current year Equilibrium Exchange Rate

R_0 = Equilibrium Exchange Rate of Base Period.

P_{h_1} = Price Index in home Country in Current year

P_{h_0} = Price Index in Home Country in Base Year

P_{F_1} = Price Index in Foreign Country in Current year

P_{F_0} = Price Index in Foreign Country in Base Year.

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(B) Example :- The exchange Rate in the base year 2010 was 1 \$ = ₹60 in
Let us assume that in base year both Price index in both Countries were 100. Now in the year 2018 the Price in India increase to 150 and in USA country it has increase to 120.

$$R_1 = R_0 \left(\frac{P_{h_1}}{P_{h_0}} \times \frac{P_{F_0}}{P_{F_1}} \right)$$

$$R_1 = 60 \times \left(\frac{150}{100} \times \frac{100}{120} \right)$$

$$R_1 = 60 \times 1.25$$

$$R_1 = 75$$

The Current exchange Rate \$1 = ₹75 and Base Year exchange Rate = \$1 = ₹60. It shows relative changes in exchange rates due to inflation.

(C) Limitations OF Relatives Versions OF PPP :-

1. **Base Period** :- It is very difficult to find base year where exchange rate was in equilibrium level.
2. **Price Index Numbers** :- There are Various Conceptual and Practical difficulties in Calculation of Price Index numbers.
3. **Variation in Prices** :- It is assumed that Prices of goods in basket of same goods must be Uniform.

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But in Practice, Prices of goods are different in different Countries. So it become difficult to Calculate Price Index Number.

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4. **Capital Account Neglected :-** Too much importance is given to Purchasing Power only. But inFlow and OutFlow of all Capital transaction are neglected.

5. **Perfect Competition :-** It is assumed that there is Perfect Competition in Domestic market and in International market. But in reality, market are imperfect. It means we observe monopoly, Oligopoly and monopolistic competition in markets.

6. **Inter-Country Flows of Funds Neglected :-** PPP Theory Compares the internal Purchasing Power of Currencies. It ignores the effects of Inter-Country Flows of funds which can affect demand and supply transactions of country.

7. **Ignore the effect of Change in Exchange Rate on Price level :-** PPP theory assumed that changes in Price level will bring Changes in exchange rates. But it do not Consider the effect of changes in exchange rate on Price level.

8. **Limited Application (Used) to Large Countries :-** The PPP theory may be Useful to small countries where large part of National Income comes from Foreign Trade. But PPP Theory have limited Scope for large Countries like- India, China, USA etc.

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