30 Purchasing Power Parity Income & Human Development Index

Q:1 Explain the Principle of Purchasing Power Parity and its Uses?

(A) Purchasing Power Parity (PPP) :-

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. According to this theory, the identical basket of goods in two different Countries must sell for same Price when expressed in the same currency.

(B) Assumptions of PPP Theory :-

1) There are no trade barriers between Countries
2) All the Prices of goods must be indexed in same year.
3) The Price Index Number include same basket of goods in both Countries.

4) The Concerned goods must be Homogeneous in both countries.

© Versions | Types of PPP Theory

1. The Absolute Version of PPP
2. Relative Version of PPP.

1. 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.

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

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

$$R = \frac{₹7000}{\$100} = ₹70$$

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

According to Absolute PPP theory— a rise in the domestic Price Level as Compare to Foreign Price level will result in Depreciation of domestic Currency against Foreign Currency.

Example :- when the Price level of goods increase to Rs. 7300 in India but the Price level is same in U.S.A, then – New Exchange Rate = $\frac{₹\ 7300 \text{ in India}}{\$\ 100 \text{ in USA}}$

$$R = ₹73.$$

Here, Indian Rupee - Depreciate and USA dollar appreciate due to inFlation in India.

2. Relative Version of PPP Theory :-

The Relative Version is different From Absolute Version in terms of method of Calculating Current Equilibrium Rate of Exchange:

Under this method we take a base Period and assumed that the Rate of exchange between two currenciens was in Equilibrium.

This theory explains that changes in the equilibrium rate of exchange between two currencies will be governed by changes in the Ratio of their respective Purchasing Power.

$$R_1 = R_0 \times \left(\frac{P_{h1}}{P_{h0}} \div \frac{P_{f1}}{P_{f0}} \right)$$

$$R_1 = R_0 \times \left(\frac{P_{h1}}{P_{h0}} \times \frac{P_{f0}}{P_{f1}} \right)$$

economicsguidance.com

Example :- Exchange Rate in base year 2010 was $\$1 = ₹60$ Assume that Price Index in both Countries = 100. Now in 2018 Price in India Increase to ₹ 150 and in USA it is 120.

$$R_1 = R_0 \left(\frac{P_{h1}}{P_{h0}} \times \frac{P_{f0}}{P_{f1}} \right)$$

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

$$R_1 = 60 \times 1.25$$

$$R_1 = 75$$

(D) GDP at Purchasing Power Parity :-

Economic Progress of different countries can be compared by their respective GDP or GNP. The value of GDP may be on the basis of current exchange rate or Exchange rate based on Purchasing Power Parity.

GDP, PPP is gross domestic product converted into international dollars using PPP-rates.

GNP, PPP is gross National income converted into international dollars using PPP-rates.

The Level of GDP in different countries may be Compared by converting their value in national currency according to Current Currency Exchange Rate or PPP Exchange Rate.

(E) Uses of PPP Theory :-

1. It is popular theory used by macro economic analysts to compare different countries currencies through a 'basket of goods' approach.
2. It is Useful to Compare economic Productivity and Standard of Living between Countries.

3. PPP Theory is useful to analyse welfare measures, Productivity, consumption Patterns, Capital Formation, health costs and energy efficiency.

(F) Problems/Limitations of PPP Theory :-

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 are different from County to Country.

economicsguidance.com

2. **Prices of Non-traded goods Neglected :-** This theory includes only traded goods whose price is equalised in Commodity market. It means this theory has neglected price of Non-traded goods.

3. **Capital Account is Neglected :-** According to many economists this theory is not a Realistic exchange rate because the inFlow and OutFlow of all Capital transactions are ignored.

4. **Non-Economic Factors Neglected :-** Many Social and Political Factors bring change in the Price of domestic goods in Long-run. These non-economic Factors are neglected.

5. **Transport Cost and other Restrictions Neglected :-** Trade Relations are affected by various Factors like- transport Cost, tariff, Subsidies, Quotas etc. These Factors are neglected by PPP-theory.

Q:2 Discuss the Concept of HDI and Various Variables included in it?

(A) Human Development Index (HDI):- In 1990, UNDP had Published its first Human Development Report on Human Development Index (HDI). HDI is a Composite measure of Health, Education and Income. Main founder Members of HDI are- Amartya Sen, Mahbub-UL-Haq and Meghnad Desai. HDI helps to enlarges Peoples choice to enjoy Long, healthy and Creative Life.

(B) Meaning:- "HDI measures a Country's total achievement in three dimensions of HD like- Longevity, Knowledge and a decent standard of Living"

(C) Measurement of HDI:- The HDI is measured by Calculating three indices related to three dimensions of Human Development. They are :-

1. The Life Expectancy Index
2. The Education Index
3. The GNI Index

To Calculate the above three index numbers, the minimum and maximum values are Selected for each indicator and then apply following formula :-

$$\text{Dimension Index} = \frac{\text{Actual Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}}$$

At Present, HDI is measured as the Geometric mean of the three dimension indices. But before 2010, HDI was measured in the form of th Arithmetic Mean of three dimension indices.

$$\text{HDI} = \sqrt[3]{\text{Life Expectancy Index} \cdot \text{Education Index} \cdot \text{GNI Index}}$$

The Performance of each country in Human Development is expressed between 0 and 1.

(D) Classification of Countries on the basis of HDI

1. **Very High HD Group :-** When Countries have HDI Value above - 0.8 is known as Very High Human Development.
   Example - Norway, Switzerland, Ireland, Australia, Canada.
2. **High HD Group :-** when Countries have HDI Value between - 0.700 to 0.799 is known as High HD.
   Example :- Srilanka, Brazil, China, Indonesia.
3. **Medium HD Group :-** when Countries have HDI Value between - 0.550 to 0.699 is Known as Medium HD.
   example - India, Bhutan, Bangladesh, Myanmar, Nepal

4. **Low HD Group :-** when Countries have HDI Value below-0.550 is known as Low HD.
example :- Afghanistan, Central African Republic etc.

(E) Limitation of HDI :-

1. **Mixture of Stock and Flow Variables :-** HDI Values include- Adult Literacy Index and Life Expectancy at Birth Index which are Stock Variables. It also include Real Per Capita GDP and Gross Enrolment rates which are Flow Variables. HDI is the mixture of these Stock and Flow Variables which cannot exactly show Correct measurement of Progress.

2. **Not a Comprehensive Measure :-** HDI Value do not include important indicators like- Human Rights, Democracy and Inecquality. Thus HDI is not providing broader view of Human development.

3. **Not Showing Wide Disparities :-** Three dimensions Used to Calculate HDI are Simple Averages. It donot shows Wide disparities in - Life expectancies, Literacy Rate and in Gross National income.

4. **HDI shows only few People's Choices :-** The HDI Index include few Peoples Choice and do not Consider economic, social and Political freedom etc.

5. **Measure Relative HD :-** HDI Index measures Only relative Value but not Absolute Human Development

6) **Long-Term changes only :-** HDI Index shows Long-Run Changes like life expectancy but it do not show short-run Changes.

7) **Not Shows Welfare :-** Higher National income (GNI) do not indicate welfare of economy. Economic welfare depends upon how GNI is spent.
Example :- If a Country spend more on Military and Defence instead of Consumption goods so it do not indicate welfare at higher GNI.

8) **Not Shows Real Economic Development :-** HDI Value indicate Countries with similar GNI Per Capita but it do not shows Real economic development of the Countries.

Q:3 Explain Additional measures introduced by HDR?

(A) **Additional Measures by HDR :-** The Human Development Report has introduced some New Concepts in HDI. They are —

A] Gender Development Index (GDI)
B] Gender Inequality Index (GII)
C] Inequality Adjusted HDI (IHDI)
D] MultiDimensional Poverty Index (MPI)

A] **Gender Development Index (GDI) :-** The GDI also include same variables of HDI but it gave more importance to - Inequality between men and women, Average Achievements of all Peoples.

Thus, GDI measures overall achievements of men and womens in Three dimensions of HDI like— Life Expectancy
— Educational attainment and
— Adjusted Real Income.

Meaning :- "GDI is a Ratio of the female to Male HDI."

It is measures Gender Inequality according to three basic parameters of HD.

i) **Health** – Life expectancy at birth
ii) **Education** – expected years of schooling For childrens. and Mean years for Adults aged 25 and above.
iii) **GNI Per Capita.**

(B) Gender Inequality Index (GII) :- It is a New index for measurement of gender disparity introduced in 2010-HDR by UNDP. The main aim of GII to overcome the limitation of GDI. It measures the inequalities in 3 dimensions like- reproductive health, Empowerment and Labour market Participation.

i) The Reproductive health is measured by Maternal Mortality Ratio and Adolescent Fertility Rate (AFR) A Higher AFR shows — Early child bearing and Health Risk for mother and child.

ii) The Empowerment is measured by two indicators-
a) Share of Parliamentary seats
b) Higher Education.

Higher Educational facilities Provides more freedom of Knowledge to womens and their involvement in Politics of economy.

iii) The Labour market dimension is measured by women's Participation in Work Force.

© Inequality Adjusted Index (IHDI)

The Human Development Report - 2010 has introduced the Inequality Adjusted HDI. It helps to measure the Average level of Human Development of People in the Society that accounts for inequality in the distribution of- Health, Education and income.

Under Perfect Equality → **HDI = IHDI**

But Under inequality of distribution of Health, Education and income, →

HDI of Avg. Person < Aggregate HDI.

Example India HDI Value in 2017 = **0.640.**

Inequality-Adjusted HDI = **0.468.**

Thus in developing countries we observe more inequalities in Human Development -

(D) MultiDimensional Poverty Index (MPI):-

economicsguidance.com

The Human Development Report-2010 has introduced Multidimensional Poverty Index. It shows Low income of People, Poor health, Poor nutritional Value, Poor education and skills, bad housing conditions, Social Exclusion etc.

The MPI Shows Three Dimensions of Human development i.e- Health, Education and standard OF Living.

MPI Shows that number of People who are Poor and Suffering from number of Problems.

Q:4 State with reasons whether the following statements are True or false :—

1. PPP is based on the Poinciple of Single Price.

Ans:- True. Reasons :- Q:1 A Part.

2. Human Development Index measures the Quality of Life.

Ans:- True. Reasons :- Q:2 A Part

3. India is in the Group of Low Developed Countries.

Ans:- False. Reasons :- Q:2 D Part - 3rd Point

4. Gender Inequality measures Progress made by the entire Population.

Ans:- False. Reasons:- Q:3- B Part.

5. Multidimensional Poverty Index brings out real state of Poverty in a country. True. Q:3 - D Part

Q:5 Select the correct answer and rewrite the statement

1. PPP indicates **Real Value**

a) Real Value b) Nominal value c) Neither.

2. Human Development takes into account **d - All the above**

a) Per capita Income b) Life expectation.

c) Level of Literacy d) all the above

3. HDR - 2016 reports rank in India **b - 131**

a) 125 b) 131 c) 134

4) HDI value of India in 2016 HDI Report **c - 0.624**

a) 0.408 b) 0.582 c) 0.624

5) India Ranks among **b - Medium HD Group**

a) High HD Group b) Medium HD Group c) Low HD Group

6. HDR - 2019 reports rank in India **129**

and HDI value **0.647**

Q:6 - Explain Global Happiness Index.

Global Happiness Index Calculate the happiness of People of a Country on the basis of Healthy Life expectation, Social Support, GDP Per Capita, Freedom to make Life Choices etc.

As Per HDR - 2019 India ranks - 140 out of 156 Countries