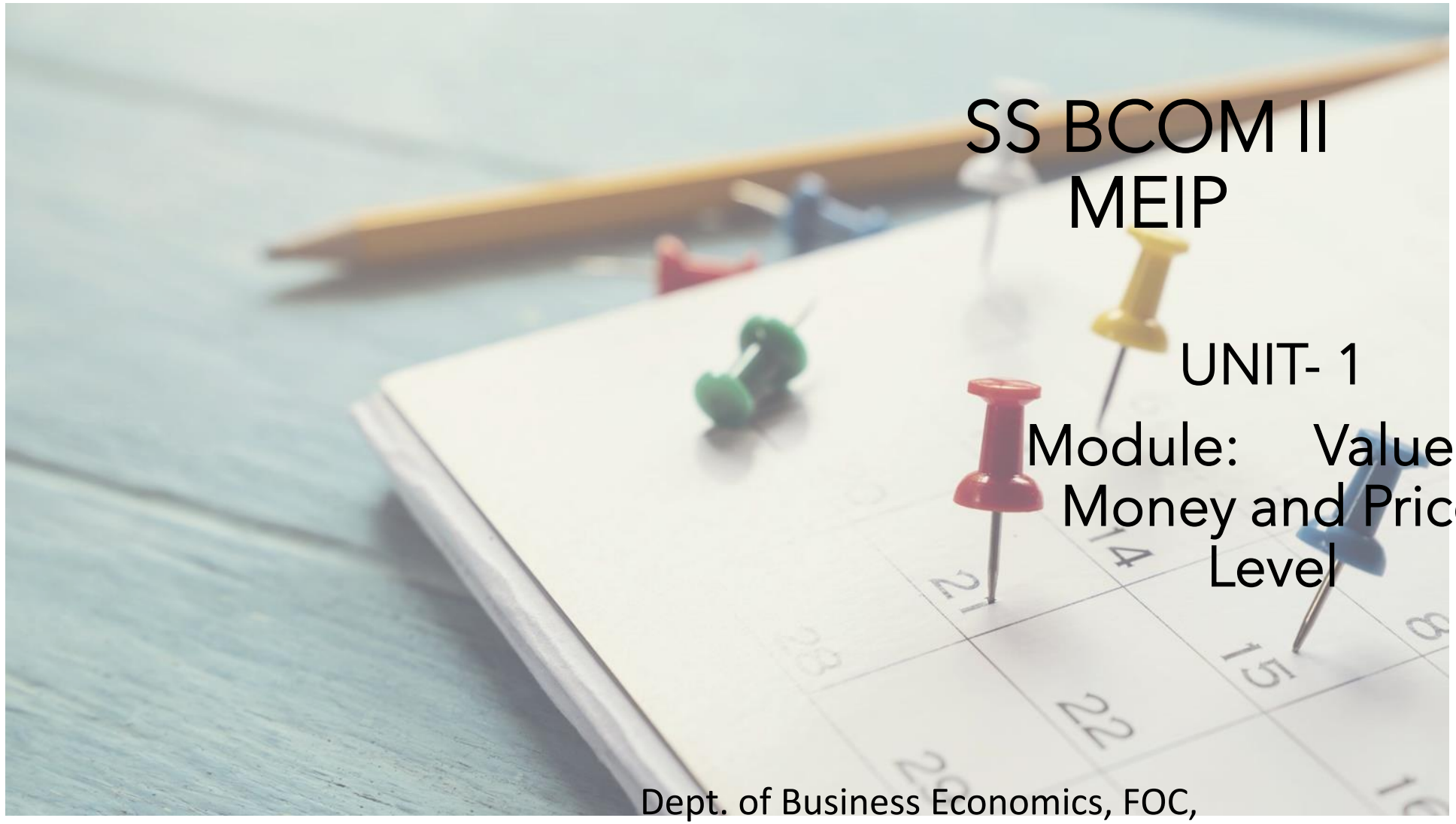

SS BCOM II
MEIP

UNIT- 1

Module: Value of Money and Price Level

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The Value of Money and the Price Level

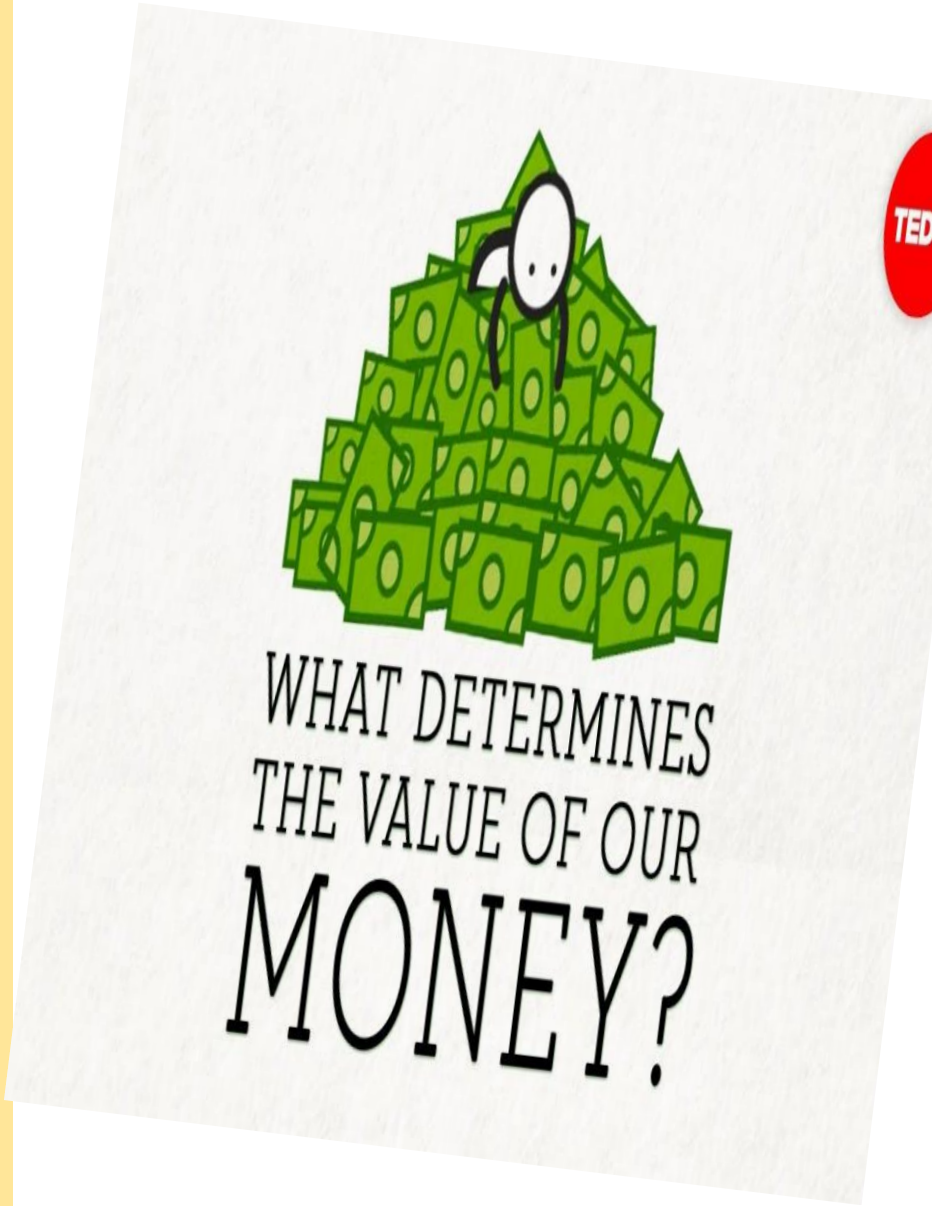
- The value of money is it's purchasing power in terms of goods and services. Value, is ratio of exchange between two goods, and money measures that value through price. The value of money, then, is the quantity of goods in general that will be exchanged for one unit of money.
- The value of money will move in the opposite direction as the prices of commodities.
- The purpose of looking at the value of money is comparing its value at any given time to another point of time.
- The only way of considering the value of money in practice is to express the value of money in terms of certain standard commodities

Three ways of expressing the value of money

- Firstly, value of money is expressed in terms of all commodities whose prices are quoted and recorded in the wholesale markets. The related index of prices is known as the wholesale price index
- Secondly the value of money can be expressed in terms of goods and services which are ordinarily purchased by an average family. Accordingly we have the cost of living index or the consumer price index
- Thirdly we can express the value of money in terms of Labour, that is to say we can consider the value of money in hiring Labour. This is called the labour value of money.

Can we Measure the Value of Money?

- Even when we have decided to express the value of money in terms of certain commodities, we cannot measure the value of money in absolute terms.
- If we want to find out the wholesale value of money, we will have to make a long list of the values of money in terms of various commodities.
- Because money is normally exchanged against a number of commodities, we cannot measure the value of money or any variations in its value.
- How, then, can we talk of the idea of the value of money?
- Answer:
- Although we cannot measure the value of money at any given time, we can certainly know in broad terms how its value changes in the course of time.
- And for most practical purposes we are not interested in knowing the absolute value of money but only interested in knowing how its value changes over a period of time.



Example: Price level and value of money

- Thus, we may be interested to know by how much the value of a rupee has fallen in 2020, as compared to its value in 2000, two decades earlier.
- We can know this by the use of the statistical method of index numbers.
- To construct an index number, we need
- 1) To choose the base year,
- 2) To choose the commodities whose prices are to be taken into account, and
- 3) The expression of the prices of the given year as percentage of the price of the base year.

- For example,
- Suppose we want to construct an index number of the retail price for the year 2020.
- We choose the base year as 2000, a relatively stable year from the economic point of view.
- We choose to take into account the prices of wheat, cloth, sugar and house rent. We take the prices of these commodities for 2000 as 100 and express the price in 2020 as percentages of the prices in 2000.
- Thus consider the following price quantity data

	2000	2020
1. Wheat	Rs. 15/ kg 100	Rs. 60/kg (400)
2. Cloth	Rs.75 / pc 100	Rs. 300/ pc (400)
3. Sugar	Rs. 20/kg 100	Rs. 60/kg (300)
4. House-rent	Rs. 200/= per room 100	Rs. 1000/= per room (500)
		(Prices of 2020 expressed as %-ages of 2000 price levels)
	400/4 = 100	1600/4 =400

P = Σ(prices in 2000 terms x quantities in 2020) /Number of items

= (400+ 400+ 300+ 500)/4 = 400

Value of Money

- In our example the index number of retail prices in 2020 is 400 with base year 2000 as 100.
- This means that on the retail prices in 2020 were 4 times higher than the prices in 2000. It means that the retail value of money in 2020 was only (1/4) = 0.25 times the value of money in 2000.

Difficulties in constructing index numbers using the simple method

- We have given equal importance to all the items.
- However, in reality the rise in the price of sugar or clothes is not as important as the rise in the price of wheat to the consumers.
- Hence more weight should be given to the changes in the price of wheat.
- In general, weights should be assigned according to the relative importance of an item in the consumers budget.

Other Difficulties:

- i) in deciding about the base year
- ii) in deciding the commodities to be selected and
- iii) in deciding the weights to be given
- There are no strictly logical indicators to help in making the decisions.
- Personal judgment and arbitrariness in decisions
- Secondly, if the base year is too far removed, some of the commodities may become obsolete so that the commodity bundles no longer remain comparable.

➔ Logical and mathematical difficulties.

How are changes in Price Level Measured? Price Indices

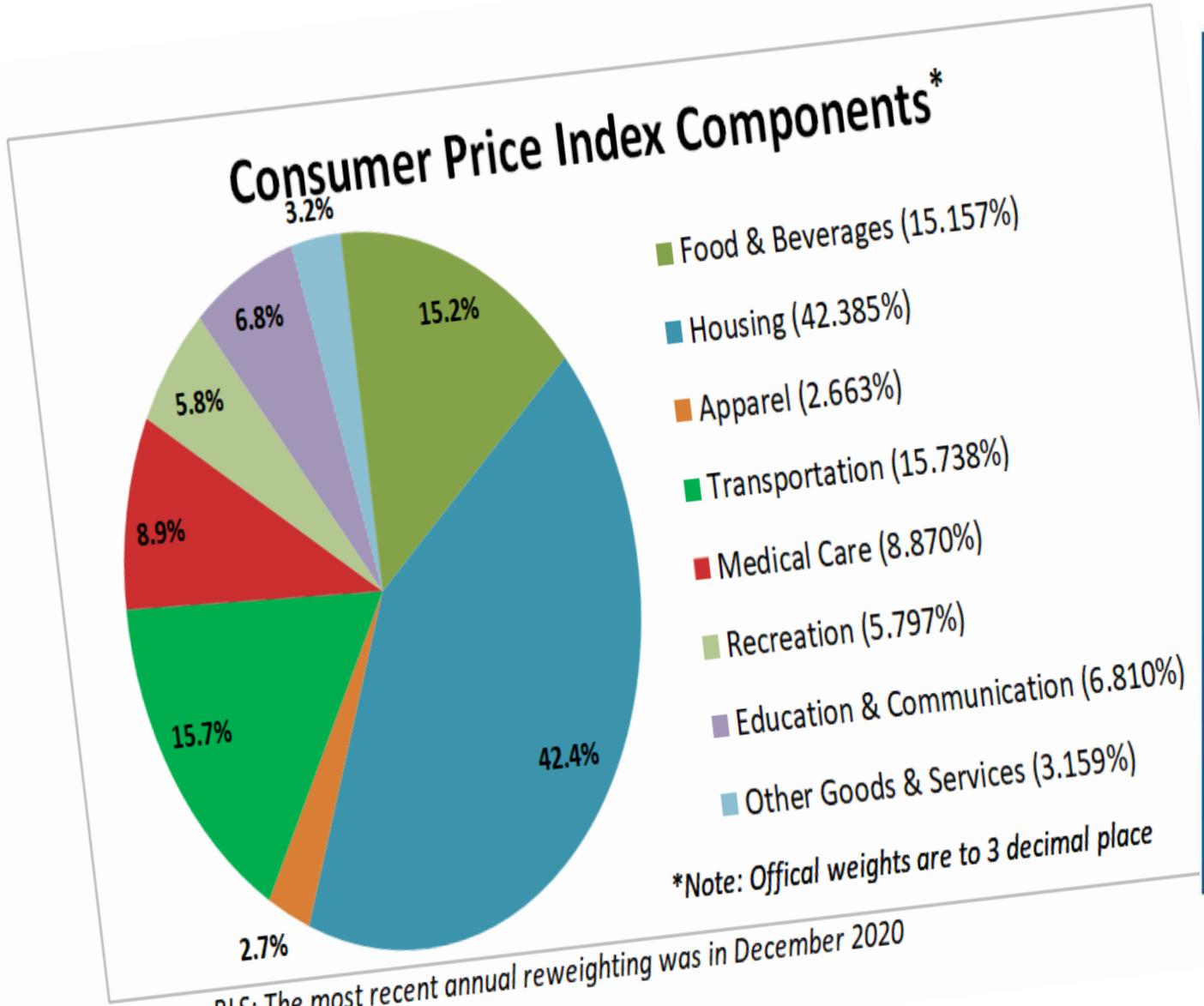
- We need to explain how the prices of various individual goods are aggregated to obtain the measure of general price level. This is done through construction of price index numbers.
- The following types of price indices are generally used :
    1. The Consumer Price Index Number (CPI)
    2. The Wholesale Price Index (WPI)
    3. GDP Deflator

In India inflation is generally measured by changes in wholesale price index (WPI), while in the developed countries such as US it is consumer price index (CPI) that is used for this purpose.

Vs.
The GDP Deflator

Consumer Price Index

- The most commonly used measure of the level of prices, which turns the prices of many goods and services consumed by an average consumer into a single index measuring the overall level of prices.
- The CPI recognizes the need for assigning different weights to different items of consumption (for example, people buy more potatoes than tomatoes, or more atta than maida).
- The price of the more bought commodity are given a greater weight in the CPI than the price of the lesser bought items.
- Statistically, the CPI is the weighted average price of a basket of goods and services purchased by a typical consumer, relative to the price of the same basket in some base year.


Consumer Price Index Components*
3.2%
6.8%
15.2%
5.8%
8.9%
15.7%
42.4%
2.7%
Food & Beverages (15.157%)
Housing (42.385%)
Apparel (2.663%)
Transportation (15.738%)
Medical Care (8.870%)
Recreation (5.797%)
Education & Communication (6.810%)
Other Goods & Services (3.159%)
*Note: Offical weights are to 3 decimal place
Source: BLS; The most recent annual reweighting was in December 2020


CONSUMER
PRICE
INDEX
(CPI)
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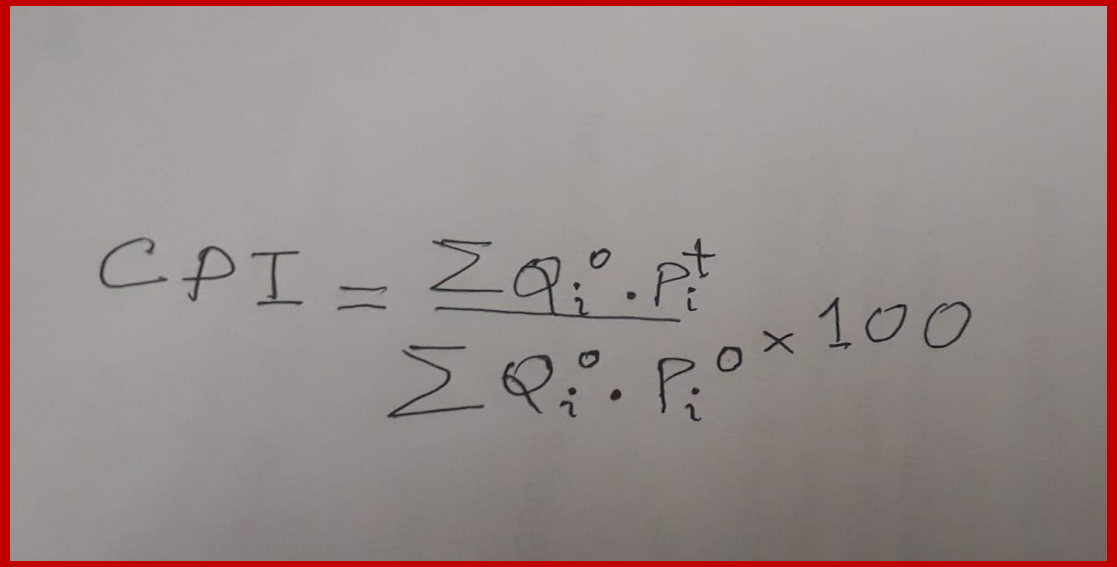
The Consumer Price Index



The GDP Deflator: Another Way of Looking at the Price Level

- In the context of GDP measurement, we have earlier encountered the concept of the GDP deflator.
- The GDP deflator, also called the implicit price deflator for GDP, is given by:
- GDP Deflator = Nominal GDP/ Real GDP.

- The GDP deflator reflects what is happening to the overall level of prices.
- It allows us to separate nominal GDP into two parts: one part measures quantities (real GDP) and the other measures prices (the GDP deflator). That is,
- Nominal GDP = Real GDP x GDP Deflator.
- *Nominal GDP measures the current money value of the output of the economy. Real GDP measures output valued at constant prices.*
- *The GDP deflator measures the price of output relative to its price in the base year.* We can also write this equation as
- Real GDP = Nominal GDP/ GDP deflator.
- (The deflator earns its name as it is used to deflate, that is, take inflation out of, nominal GDP to yield real GDP).

GDP Deflator

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

GDP Deflator vs. the CPI

- The GDP deflator and the CPI give somewhat different information about what's happening to the overall level of prices in the economy.
- There are three key differences between the two measures.

- First, the GDP deflator measures the prices of all goods and services produced, whereas the CPI measures the prices of only the goods and services bought by consumers. Thus, an increase in the price of goods bought by firms or the government will show up in the GDP deflator but not in the CPI.

- Second, the GDP deflator includes only those goods produced domestically. Imported goods are not part of GDP and do not show up in the GDP deflator.

GDP Deflator vs. the CPI (contd.)

The third difference between the two results from the way each measure aggregates the many prices in the economy.

The CPI assigns fixed weights to the prices of different goods. The GDP deflator, on the other hand, assigns changing weights.

That is, the CPI is computed using a fixed basket of goods whereas the GDP deflator allows the basket of goods to change over time as the composition of GDP changes.

A price index with a fixed basket of goods is called a Laspeyres index. A price index with a changing basket is called a Paasche index.

When prices of different goods are changing by different amounts, a Laspeyres (fixed basket) index tends to overstate the increase in the cost of living. By contrast, a Paasche (changing basket) index tends to understate the increase in the cost of living, and the reduction in consumers' welfare.

The CPI is a Laspeyres index, it overstates the impact of the increase in prices on consumers. By using a fixed basket of goods. , it ignores consumers' ability to substitute cheaper goods. By contrast, because the GDP deflator is a Paasche index, it understates the impact on consumers welfare.

However, the difference between the GDP deflator and the CPI is usually not large in practice.

The Wholesale Price Index (WPI)

- The consumer price index is based on retail prices of a few consumer goods making up the consumption basket of the typical consumer.
- On the other hand, the wholesale price (WPI) is constructed to measure the average wholesale prices of all commodities produced and/or transacted in the economy.
- Note:
- 1) The wholesale price index (WPI) measures wholesale prices of commodities, and not their retail prices.
- 2) The WPI is based on all commodities produced and/or sold in the economy. Thus it includes not only consumer goods but also raw materials and capital goods used in industrial production.
- However, WPI does not cover the prices of services such as health,education, transport communication.

Classification of commodities

The commodities included in the construction of WPI are classified into the following three categories.

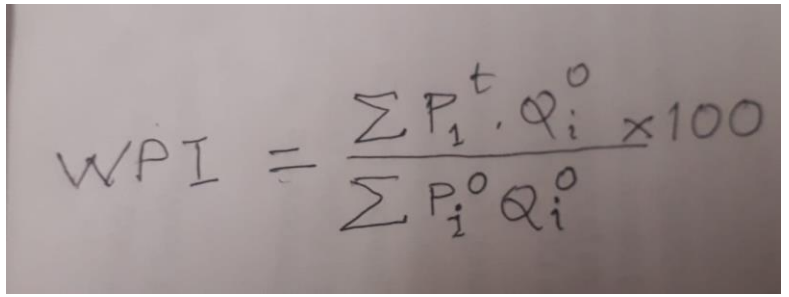
- 1. Primary articles such as food, non-food and minerals
- 2. Manufactured goods
- 3. Fuel, power, light and lubricants

- In India at present wholesale price index is prepared with 2011-12 as the base year.
- Movements in WPI over a period of time is used to measure inflation rate.

- Since WPI is based on changes in prices of all commodities, from change in inflation rate it can be ascertained which particular group of commodities, (for example, whether changes in prices of food products or manufactured goods or of fuel and power) are responsible for rise in general price level.

Constructing the WPI

- The method of constructing WPI is the same used in case of CPI. *The WPI is the weighted average of wholesale prices of all commodities.*
- The weights to various commodities are assigned on the basis of relative values of different commodities to the total value of commodities produced and/or sold in the economy.
- For preparing WPI, price data is collected from all important wholesale markets or centres in the country like that of construction of CPI.
- Laspeyre's formula is used to construct WPI, namely, base-year's values of commodities produced or transacted are used as weights in its preparation.
- Thus WPI is given by the formula



- The above formula indicates the percentage change in the price level of commodities in period t compared to the base year. If wholesale price index for the year 2011 is 198 with base year 2004-05, then it implies that in 2011 general wholesale price level is 98 per cent higher than in 2004-05.

Inflation: CPI vs. WPI