INFLATION

This is a fact of economic life: In any market, the price of any traded item – farm produce, industrial product, or service – fluctuates with supply and demand. When supply exceeds demand, the price falls. When demand exceeds supply, the price rises.

This is how markets operate. Example: Crude oil prices fell sharply earlier in 2020. Why?

In **macroeconomics**, economists try to estimate an overall trend in prices in an economy, covering a broad range of products.

This is a difficult and very imprecise calculation, but economists do it anyway. They take a particular 'basket of products', estimate the annual price change in them, and then take a weighted average.

This is called the **annual rate of inflation** – because almost always the overall price change is upward, not downward. [The opposite trend is called **deflation**.]

Why is that so? Broadly, because the **aggregate money supply** in a typical economy increases from year to year. So every year there is some more money 'chasing' a typical unit of traded item. **Velocity of money** is also a key factor.

In a large and complex economy, the official inflation figure can never be a very accurate number. Political factors also play a part in how the official inflation rate is calculated. But we still need to understand the concept anyway -- and understand in brief its implications to an individual or business.

Example: Suppose an economy has been consistently showing a 5% annual rate of inflation.

That means that, on average, prices are rising by 5% per year.

Suppose a family's household expenses are Rs. 10,000 per month.

After one year, with 5% inflation, the monthly household expenses will rise to 1.05 x 10,000 = Rs. 10,500.

After yet one more year, the expenses will rise to 1.05^2 x 10,000 = approximately Rs. 11,000.

So if the inflation rate remains steady at R% (say), then after N years the family's monthly expenses will be:

$$FE = E*[1+R/100]^N \qquad \textit{Eqn. 2}$$

where E = current monthly expenditure, R = inflation rate, and FE = future monthly expenditure.

Note that this equation is just the equation of compound interest, except that we have changed the variable names and the meaning of the variables.

Purchasing power:

Another way of saying the same thing is that the **purchasing power** of the Rupee falls by R percent every year.

Suppose Rs. 1000 can buy X amount of goods or services today. After N years, with inflation rate R, the same amount of Rs. 1000 will buy X/([1+R/100]^N) amount of goods, which is < X.

We say 'the purchasing power of the Rupee falls by R% annually'.

How are exchange rates determined between currencies?

Essentially by the **currency markets** – i.e. determined by supply and demand of currencies. But (1) a few currencies are pegged to the US dollar, and (2) central banks intervene in currency markets.

Let us say one US dollar is worth Rs. 75/- today. But that does not imply that one dollar in the US will buy the same amount of goods or services as Rs. 75/- buys in India.

In older days, currency values were pegged to gold -- 'fixed exchange rates'.