CMA Students Newsletter (For Foundation Students)

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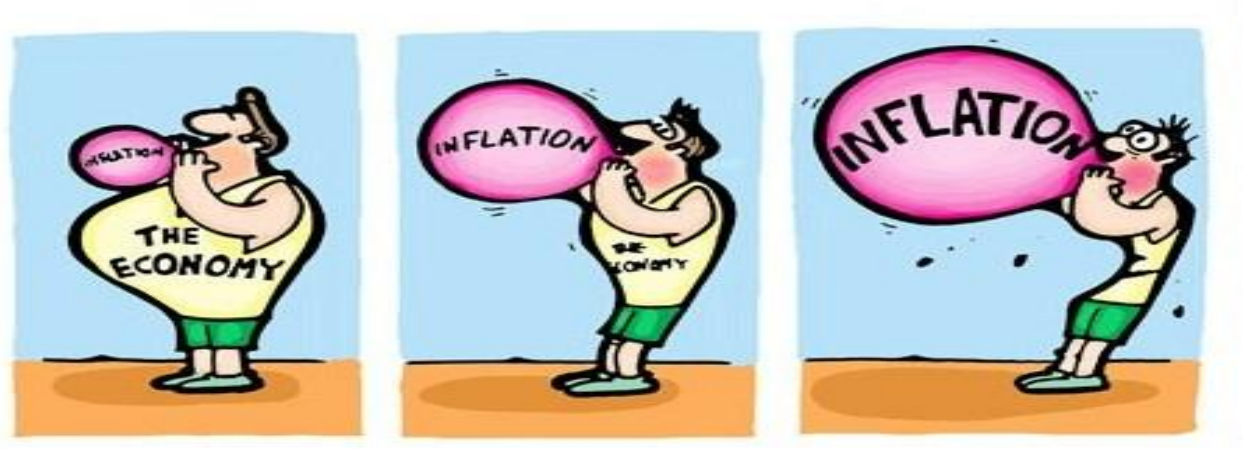
Paper 1: Fundamentals of Economics and Management (FEM)

INFLATION

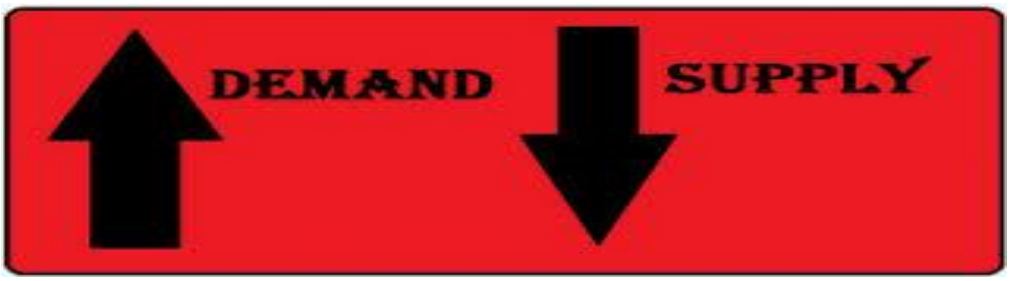


Generally when price level of an economy goes on rising continuously it is known as inflation. So the symptom of inflation is rising price level. More precisely it is Open inflation. But an economy may suffer from inflation without any apparent rise in prices. This is Repressed inflation. Inflationary forces are being repressed by policy measures. According to classical writers inflation is a situation when too much money chases too few goods. In other words it is an imbalance between money supply and Gross Domestic Product. Whereas according to Keynes inflation is an imbalance between aggregate demand and aggregate supply. In an economy if the aggregate demand for goods and services exceeds aggregate supply, then prices will go on rising.

Causes

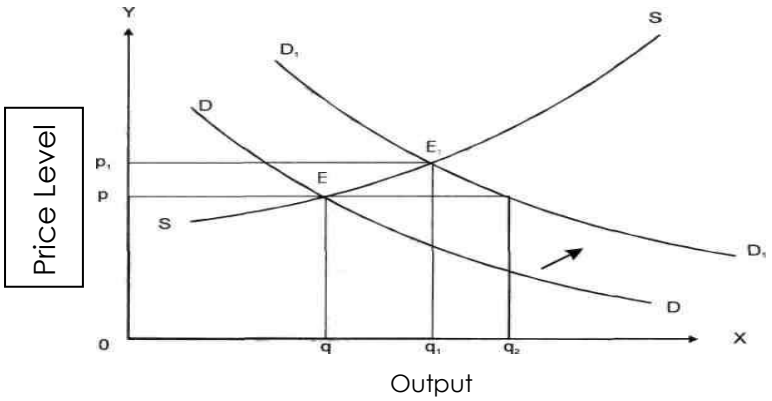
The primary causes of inflation may arises from either demand side or supply side. Accordingly we find two types of inflation.

(i) Demand Pull



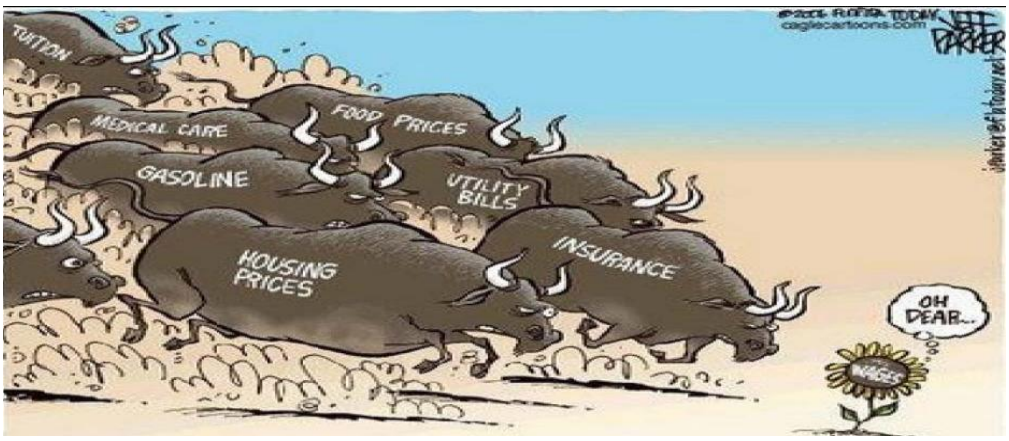
Demand pull inflation is a situation when in an economy aggregate demand exceeds aggregate supply. Aggregate demand may increase due to an increase in money supply, or money income or public

expenditure. The idea of demand inflation is associated with full employment when supply cannot be altered.

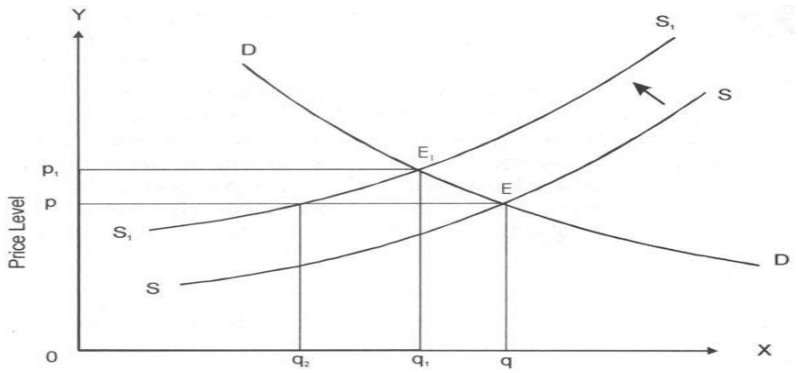


In this graph SS and DD are aggregate supply and demand curves. Op and Oq are equilibrium price and output. Now due to exogenous causes demand curves shifts right-wards to D_1. At the current price Op, demand increase by qq_2. But supply is Oq. Hence excess demand qq_2 put pressure on price, which gradually rises from Op to Op_1. At this price a new equilibrium is achieved where Demand = Supply. The excess demand is eliminated by fall in demand and rise in supply arising out of rise in price.

(ii) Cost Push



Inflation may originate from supply side also. Aggregate demand remaining unchanged, a fall in aggregate supply due to exogenous cause, may lead to increase in price level.



In this graph, the starting point is the equilibrium price (Op) and output (Oq). Suppose aggregate supply has fallen. So the SS curve shifts left ward to S_1S_1. At price Op now supply will be Oq_2 but demand Oq. This will push prices high till a new equilibrium is reached at Op_1. At the new price there will be no excess demand. Inflation is thus a self limiting phenomenon.

Price is related to cost. If cost rises price are bound to increase. The cost structure may rise because of-

1) wage increase not associated with productivity rise,
2) rise in profit margin
3) high import price
4) shortage of essential inputs.

Often inflation is caused by structural maladjustment and unbalanced growth of the different sectors of an economy. A faster rate of growth of the industrial sector and a very slow growth of the primary sector may lead to an increase in food prices which may ultimately lead to an increase in the general price level. This is called Structural Inflation, which is generally found in the less developed countries of the world.

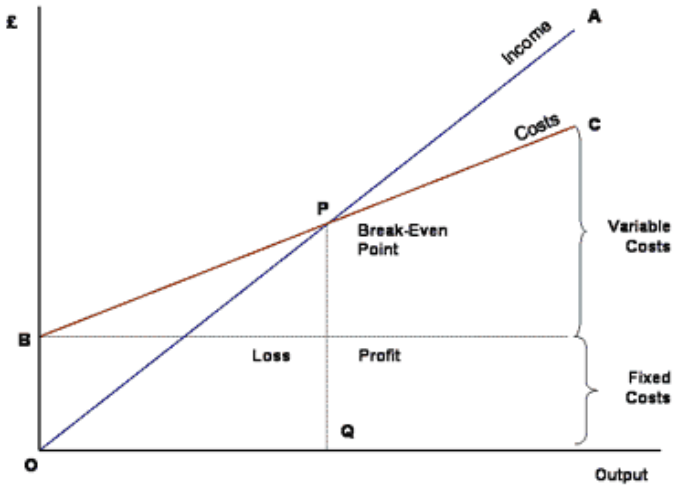
Paper 2: Fundamentals of Accounting (FOA)

Break - Even Analysis

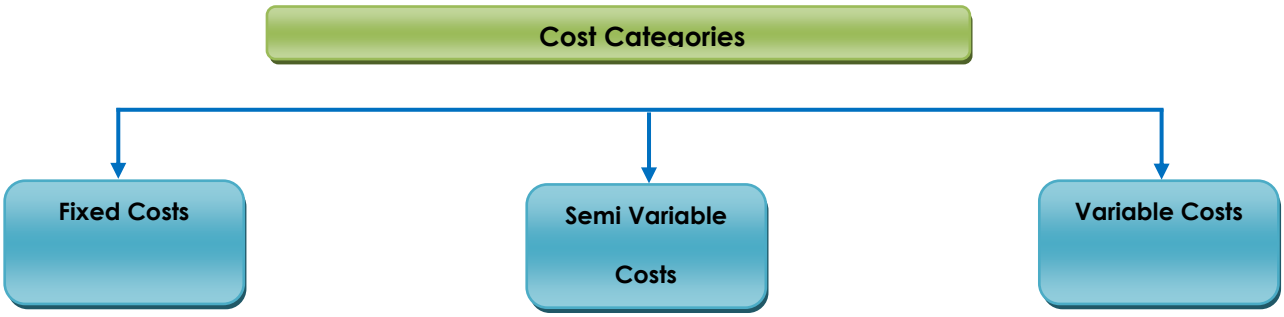
Break-even analysis is a technique widely used by production management and management accountants. It is based on categorizing production costs between those which are "variable" (costs that change when the production output changes) and those that are "fixed" (costs not directly related to the volume of production). Total variable and fixed costs are compared with sales revenue in order to determine the **level of sales volume, sales value or production at which the business makes neither a profit nor a loss (the "break-even point").**

The Break-Even Chart

In its simplest form, the break-even chart is a graphical representation of costs at various levels of activity shown on the same chart as the variation of income (or sales, revenue) with the same variation in activity. The point at which neither profit nor loss is made is known as the "break-even point" and is represented on the chart below by the intersection of the two lines:



In the diagram above, the line OA represents the variation of income at varying levels of production activity ("output"). OB represents the total fixed costs in the business. As output increases, variable costs are incurred, meaning that total costs (fixed + variable) also increase. At low levels of output, Costs are greater than Income. At the point of intersection, P, costs are exactly equal to income, and hence neither profit nor loss is made.



Fixed Costs

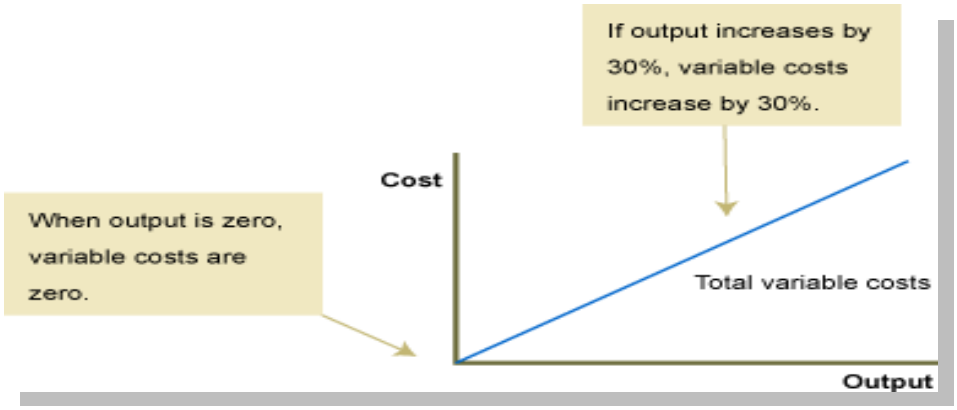
Fixed costs are those business costs that are not directly related to the level of production or output. In other words, even if the business has a zero output or high output, the level of fixed costs will remain broadly the same. In the long term fixed costs can alter - perhaps as a result of investment in production capacity (e.g. adding a new factory unit) or through the growth in overheads required to support a larger, more complex business.

Examples of fixed costs:

- Rent and rates
- Depreciation
- Research and development
- Marketing costs (non- revenue related)
- Administration costs

Variable Costs

Variable costs are those costs which vary directly with the level of output. They represent payment output-related inputs such as raw materials, direct labour, fuel and revenue-related costs such as commission.
A distinction is often made between **"Direct"** variable costs and **"Indirect"** variable costs.



Direct variable costs are those which can be directly attributable to the production of a particular product or service and allocated to a particular cost centre. Raw materials and the wages those working on the production line are good examples.

Indirect variable costs cannot be directly attributable to production but they do vary with output. These include depreciation (where it is calculated related to output - e.g. machine hours), maintenance and certain labour costs.

Semi-Variable Costs

Whilst the distinction between fixed and variable costs is a convenient way of categorising business costs, in reality there are some costs which are fixed in nature but which increase when output reaches certain levels. These are largely related to the overall "scale" and/or complexity of the business. For example, when a business has relatively low levels of output or sales, it may not require costs associated with functions such as human resource management or a fully-resourced finance department. However, as the scale of the business grows (e.g. output, number people employed, number and complexity of transactions) then more resources are required. If production rises suddenly then some short-term increase in warehousing and/or transport may be required. In these circumstances, we say that part of the cost is variable and part fixed.

Paper 3: Fundamentals of Laws and Ethics (FLE)

Indian Partnership Act, 1932

Section 4 says "Partnership is the relation between persons who have agreed to share the profits of a business carried on by all or any of them acting for all."

Essentials of a Partnership:

1. Association of two or more persons.
2. Agreement
3. Business
4. Sharing of profits
5. Mutual Agency

Definitions:

Partner: Persons who have entered into partnership with one another are called individually 'partners'.

Firm: Collectively all the partners are called a 'firm'.

Firm name: The name under which their business is carried on is called the 'firm name'.

Maximum Limit on number of Partners:

a) In case of a partnership firm carrying on a banking business – 10
b) In case of a partnership firm carrying on any other business – 20.

Classification of Partnership:

a) Particular Partnership
b) Partnership at will

Partnership Deed:

a) Name of the firm
b) Names and addresses of partners
c) Nature and place of business
d) Commencement and duration of partnership.
e) Capital contribution of each partner.
f) Profit sharing ratio.
g) Interest on capital and drawings.
h) Rights, powers and duties of partners.
i) Method of valuation of goodwill.
j) Method of valuation of assets on retirement or death of a partner.

Types of Partners:

- Actual/ Active partner
- Sleeping/ Dormant partner
- Nominal partner
- Partner in profits only (example- minor partner)*
- Sub-partner

Position of a Minor as a Partner:

a. Before the admission of a minor as a partner, there must be an existence of partnership.
b. There must be mutual consent of all the partners.
c. A minor can be admitted only to the benefits of partnership.
d. There cannot be a partnership consisting of all the minors *or* of one major and all other minors.
e. Within 6 months of his attaining majority, the minor partner has to exercise his option whether or not to become a partner.

Registration of Partnerships:

Under the Act the registration of a firm is not compulsory but is desirable. As the registration is not compulsory, it can be affected at any stage.

Effects of non-registration:

i. No suit by a partner against the firm or other partner.
ii. No suit by the firm against third parties.

Duties of partners:

1. To attend diligently.
2. Not to claim remuneration for taking part.
3. To contribute equally to the losses.
4. To indemnify the firm for loss caused by his willful neglect or by his fraud.
5. To hold and use firm's property for business purpose.
6. To account for and pay the personal profits from transactions of firm.
7. Not to carry on a competing business.
8. To account for and pay the personal profits from a competing business.

Dissolution of partnership	Dissolution of firm
• Old partnership comes to an end and a new partnership comes into existence. • The business continues under firm's name. • All the assets are revalued.	• Old partnership comes to an end but no new partnership is formed. • The business does not continue under firm's name. • Under firm's dissolution all the assets are realized.

Modes of dissolution of a Firm:

A. By an order of the court.

B. Without the order of the court

1. Dissolution by mutual agreement.
2. Compulsory dissolution (Insolvency, Unlawful)
3. Dissolution on the happening of a contingency (expiry of term, completion of term, death of a partner)
4. Dissolution by notice

Dissolution by order of the Court

The Court may, on the receipt of petition by a partner, order for dissolution on the following grounds:

1. Insanity
2. Permanent incapacity
3. Misconduct
4. Persistent breach of contract
5. Transfer of interest
6. Perpetual losses
7. Any other just and equitable ground

Paper 4: Fundamentals of Business Mathematics and Statistics (FBMS)

LOGARITHM

Let us consider the equation $a^x = N$ $(a > 0)$ where quantity a is called the base and x is the index of the power.

Now x is said to be logarithm of N to the base a and is written as $x = \log_a N$

This is read as x is logarithm of N to base a.

For example: $2^4 = 16$ then $4 = \log_2 16$, $4^2 = 16$, then $2 = \log_4 16$

$3^4 = 81$ then $4 = \log_3 81$

$9^2 = 81$ then $2 = \log_9 81$,

$2^{-3} = \frac{1}{8}$ then $-3 = \log_2 \frac{1}{8}$

Now it is clear from above examples that the logarithm of the same number with respect to different bases is different.

Special Cases:

(i) Logarithm of unity to any non-zero base is zero.

e.g.: Since $a^0 = 1$, $\log_a 1 = 0$.

Thus $\log_5 1 = 0$, $\log_{10} 1 = 0$.

(ii) Logarithm of any number to itself as base is unity.

e.g.: Since $a_1 = a$, $\log_a a = 1$.

Thus $\log_5 5 = 1$, $\log_{10} 10 = 1$, $\log_{100} 100 = 1$.

Laws of Logarithm:

LAW 1.

$\text{Log}_a (m \times n) = \log_a m + \log_a n$.

Let, $\log_a m = x$, then $a^x = m$ and $\log_a n = y$, then $a^y = n$

Now, $a^x \times a^y = a^{x+y}$, i.e., $a^{x+y} = m \times n$

or, $x + y = \log_a (m + n)$

$\therefore \log_a (m \times n) = \log_a m + \log_a n$.

Thus the logarithm of product of two quantities is equal to the sum of their logarithms taken separately.

Cor. $\text{Log}_a (m \times n \times p) = \log_a m + \log_a n + \log_a p$.

Similarly for any number of products,

LAW 2: $\log_a\left(\frac{m}{n}\right) = \log_a m - \log_a n$

Thus the logarithm of quotient of any number is equal to the difference of their logarithms.

LAW 3: $\log_a (m)^n = n.\log_a m$

Thus, the logarithm of power of a number is the product of the power and the logarithm of the number.

CHANGE OF BASE:

The relation between the logarithms of a number of different bases is given by

$\text{Log}_a m = \log_b m \times \log_a b$.

Let $x = \log_a m$, $y = \log_b m$, $z = \log_a b$, then from definition $a^x = m$, $b^y = m$, $a^z = b$.

Hence $a^x = m = b^y = (a^z J = a^{yz} \therefore x = yz$

$\text{Log}_a m = \log_b m \times \log_a b$.

Cor. 1. $\log_a b \times \log_b a = 1$. This result can be obtained by putting m = a in the previous result, $\log_a a = 1$.

Cor. 2. $\log_a m = \log_b m / \log_b a$.

Let $x = \log_a m$, $a^x = m$; take log to the base b we find $x \log_b a = \log_b m$.

$\therefore x = \log_b m / \log_b a$.

Hence the result.

Example: The logarithm of a number to the base $\sqrt{2}$ is k. What is its logarithm to the base $2\sqrt{2}$?

Solution:

Let $(\sqrt{2})^x = N$.

Since $2\sqrt{2} = 2.2^{1/2} = 2^{3/2}$

So $\sqrt{2} = (2^{3/2})^{1/3} = (2\sqrt{2})^{1/3}$

$\therefore (2\sqrt{2})^{k/3} = N$.

$\therefore$ the reqd. number is $\frac{k}{3}$.