Macro Economics: Part-2

Investment, Gross vs Net, and Depreciation
Investment

Investment is defined as the addition to the existing stock of real capital assets, such as the construction of new factories, machinery, transportation facilities and addition to new inventories.

In economics, investment is taken as real investment but not as financial investment (like purchase of securities, bonds, debentures, shares and second hand assets etc.)
Investment refers to increase in the stock of capital

\[ I = \Delta K \]

Here  \( I = \) Investment.

\( K = \) Capital stock.

\( \Delta K = \) change in capital stock during the year.

Capital formation- it is the process that increase the stock of capital.
## Components of Investment

<table>
<thead>
<tr>
<th>Fixed investment</th>
<th>Inventory investment</th>
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</thead>
<tbody>
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<td>1. F.I refers to increase in the stock of fixed assets (like plant and machinery) of the producer during an accounting year.</td>
<td>1. It refers to change in inventory stock during the year.</td>
</tr>
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<td>2. Eg- a producer has stock of 10 machines at beginning of the year 2019, and he has 15 stock of machines at the end of 2019. Fixed investment of a producer is 15-10= 5</td>
<td>2. Producer hold the stock of i. Finished goods. (unsold goods)</td>
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<td></td>
<td>ii. Semi finished goods (goods in process of production)</td>
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<td>iii. Raw material.</td>
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Stock and Flow Variable

• **Stock Variable** – A stock is a quantity of any economic variable which is measured at a particular point of time. For example: 102 crores population of India on 31\textsuperscript{st} march, 2001. total capital of Rs. 5 crores on 31\textsuperscript{st} march, 2007 etc.

• **Flow Variable** – A flow is a quantity of any economic variable which is measured during a period of time. For example: monthly wages of a worker, the per hour speed of a train, production of cloths during a year.
Some Examples of Stock and Flow Variables

1. The level of water in the tank is a stock, the amount of water draining from the tank is a flow.
2. A person’s wealth is a stock, income and expenditures are flow.
3. The number of employed people is a stock, the number of people losing their jobs is a flows.
4. The amount of capital in the economy is a stock, the amount of investment is a flow.
5. Total money supply is a stock, change in money supply is a flow.
• **Gross Investment** - The *total capital formation* in a given period in an economy is termed as gross investment.

• It includes both *stock investment* and *gross fixed capital investment* {Fixed business Investment, Residential Investment, Government Investment}.

• **Net Investment** – We know that capital goods suffer wear and tear and obsolescence during the production process. This is known as *capital depreciation*.

• Hence a significant part of current output of capital goods goes in maintenance and replacement. *It is deducted from gross investment* to get net investment.

• Therefore –

Net Investment = Gross Investment – Depreciation
Depreciation

Depreciation or *consumption of capital* is the value of capital goods which is used up or consumed in the process of production.

It is a general practice with every production enterprise that they make provision for the *consumption of fixed capital* over its expected lifetime.
Formula of calculating depreciation.

\[
\text{Depreciation} = \frac{\text{Cost of the capital asset} - \text{scrap value}}{\text{Estimated life of the capital asset}}
\]

Eg. In an economy when capital value of the asset is 1000 Crore rs, estimated life of the asset is 20 years, and scrape value is zero, calculate ‘Depreciation on Capital asset.

\[
\text{Depreciation} = \frac{1000-0}{20} \text{ Crores rs}
\]

Depreciation = 50 Crores rs
Depreciation is also known as

1. Consumption of fixed capital.
2. Replacement cost of fixed capital.
4. Capital consumption allowance.
# Depreciation (Consumption of fixed capital)

1. It means loss of value of fixed assets while these are being continuously used in the process of production.
2. It is due to
   - Normal wear and tear.
   - Accidental damages.
   - Expected obsolescence.

3. Depreciation is managed by depreciation reserve fund.

# Capital loss

1. It refers to loss of fixed assets while these are not in use.
2. Loss of value due to
   - Natural calamities (floods, earthquakes, etc.)
   - Fall in the value of the assets.

3. Capital loss is managed through insurance of the fixed assets.
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**Expected obsolescence**

Fall in the value of fixed assets due to Change in technology and change in demand.

**Unexpected obsolescence**

Fall in the value of fixed assets due to natural calamities or Economic recession.
Circular flow of Income, two sector & four sector economy