3.13 EXPENDITURE METHOD

3.13.1 Meaning and Composition of *NI* by Expenditure Method

The expenditure method of measuring National Income is also called ***Income Disposal Method*** or ***Consumption and Investment Method***. Expenditure method is a method which measures *the final expenditure on gross domestic product at market price during an accounting year. This total final expenditure is equal to the gross domestic product at market price.*

According to expenditure method, GDP_{MP} is the aggregate of all the final expenditure in an economy during a year, *i.e.*,

$$Y = C + I + G + (X - M)$$

where

Y = National Income

C = Private Final Consumption Expenditure

I = Final Investment Expenditure or Capital Formation

G = Government Final Consumption Expenditure

$X - M$ = Net exports (X stands for exports and M stands for imports).

According to the expenditure method, *composition* of GDP_{MP} is as follows:

1. Private final consumption expenditure
2. Government final consumption expenditure
3. Government fixed investment
4. Business fixed investment
5. Investment on residential construction
6. Inventory Investment or Change in Stock (*i.e.*, Closing stock – Opening stock)
7. Net Exports (Exports – Imports).

GDP_{MP} by expenditure method = 1 + 2 + 3 + 4 + 5 + 6 + 7

3.13.2 Steps Involved in Calculating *NI* by Expenditure Method

The calculation of *NI* by expenditure method is done in three steps:

Step 1. Identification of Economic Units Incurring Final Expenditure

There are four categories of economic units which incur final expenditure within the domestic territory of a country. They are:

(*a*) Household Sector
(*b*) Production Sector
(*c*) Government Sector
(*d*) Rest of the World Sector.

Step 2. Classification of Final Expenditure

The final expenditure is classified into the following three kinds:

1. Final Consumption Expenditure:

(*a*) Private Final Consumption Expenditure.
(*b*) Government Final Consumption Expenditure.

2. Gross Domestic Capital Formation:

(*a*) Gross Domestic Fixed Investment or Gross Domestic Fixed Capital Formation.
(*b*) Inventory Investment or Change in Stock.

3. Net Exports.

Fig. 3.5 shows the classification of final expenditure under the three categories.

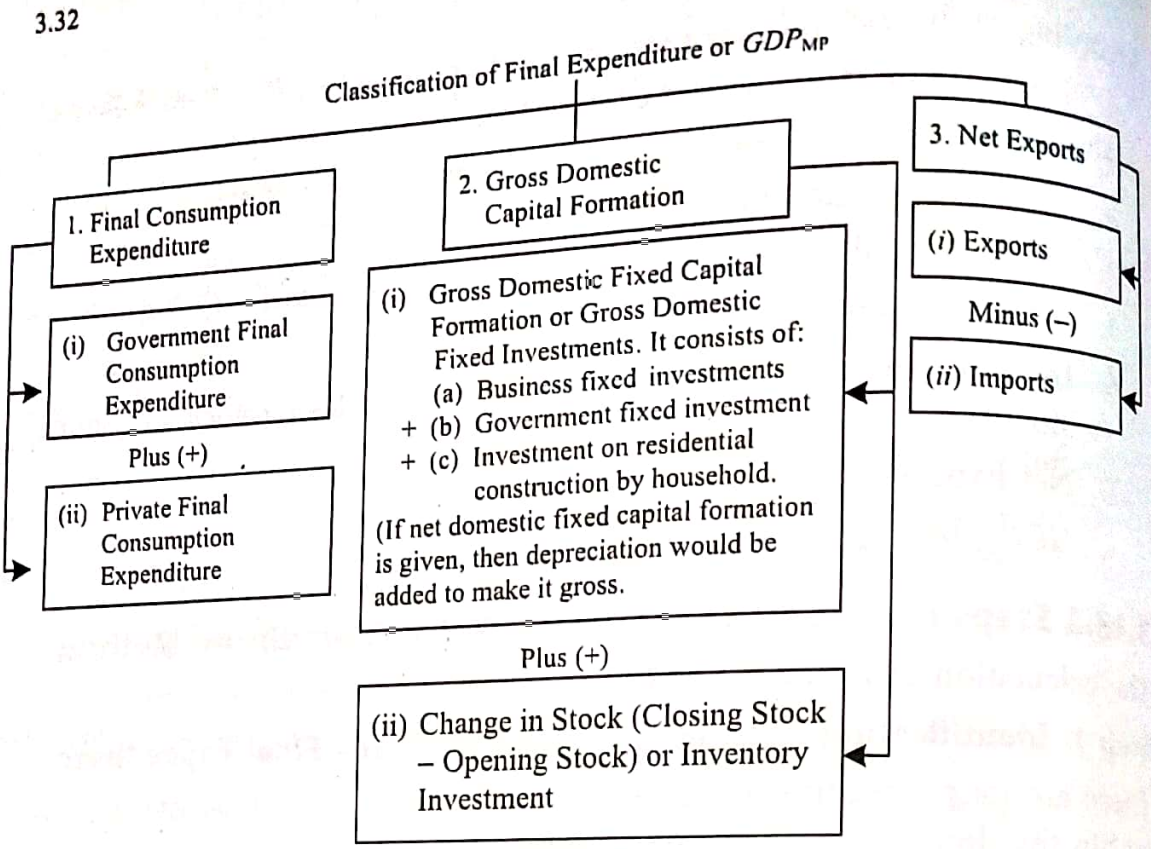

Fig. 3.5 Classification of Final Expenditure or GDP_{MP}

Step 3. Estimation of *NI* by Expenditure Method

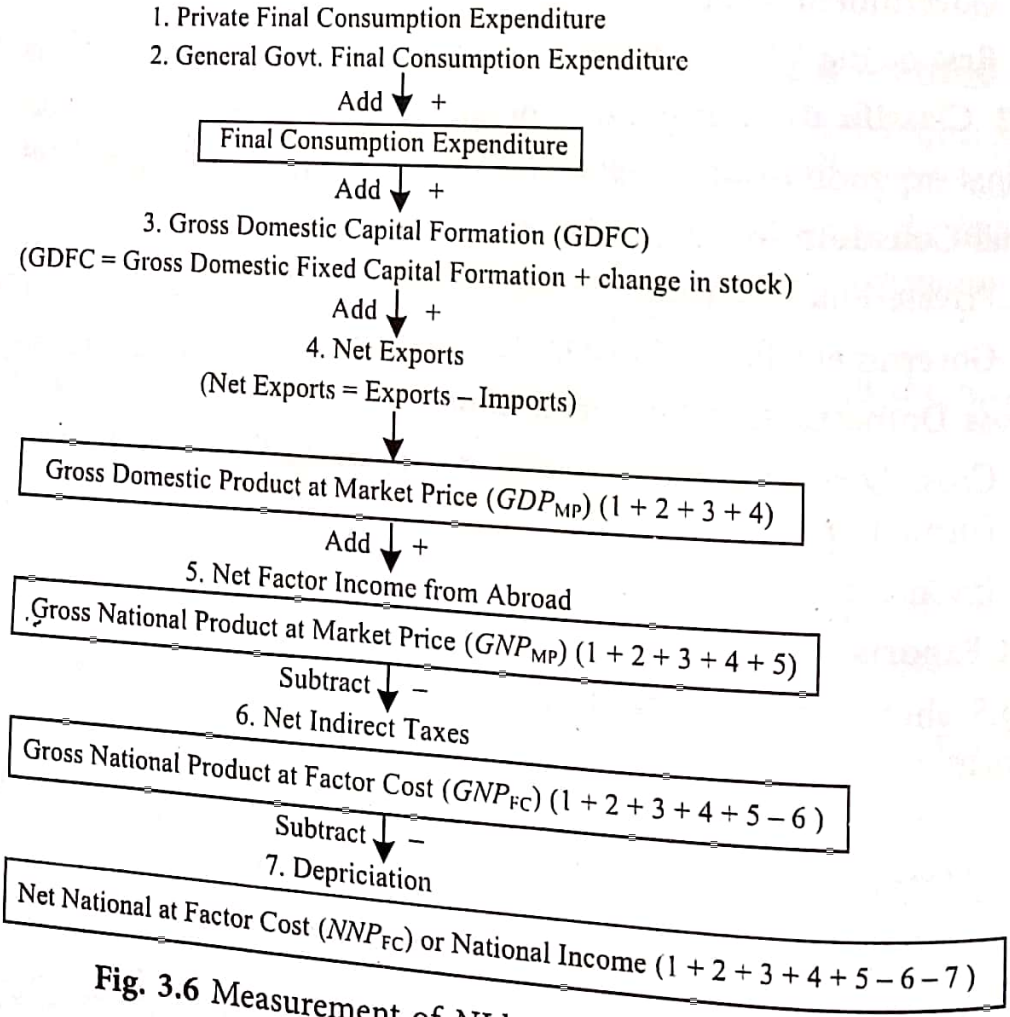

Fig. 3.6 Measurement of *NI* by Expenditure Method

Fig. 3.6 shows how *NI* is calculated by expenditure method.

3.13.3 Precautions Involved in Calculating NI by Expenditure Method

The precautions to be taken while calculating national income by expenditure method are:

1. **Final expenditure** is to be included to avoid double counting. Final expenditure is expenditure on consumption and investment.
2. **Intermediate expenditure** like on raw materials, etc. is not included in the calculation of national income.
3. **Expenditure on second-hand goods** is not included as they have already been included when they were purchased originally.
4. **Expenditure on shares and bonds** is not included because buying financial asset is not a production activity because financial assets are neither goods nor services.
5. **Gross investment** is included in total expenditure. Gross investment includes replacement investment and net investment.
6. **Expenditure on transfer** payments by the government is excluded in total expenditure because transfer payment is a payment against which no services are rendered therefore, no production takes place.
7. **Self-use of own produced final products.** For example, a house owner using the house for self. Although explicitly he does not incur any expenditure, implicitly he is making payment of rent to himself.

[Ans 2.] ⇒ (a)

Let there be an increase in autonomous expenditure or investment by ₹ 1000 crore.

It is matched by ₹1000 crore increase in the level of national income. This would lead to an increase in spending by MPC (0.5) times the increase in income and would give rise to further induced expenditure. To meet this induced expenditure, production rises yet further. The process is explained in the below table.

Working of the Multiplier

Round	Increase in Demand	Increase in Production	Total Increase in AE
1	₹1000 Cr.	₹1000 Cr.	₹1000 Cr.
2	0.5 (₹1000 Cr.)	0.5 (₹1000 Cr.)	₹1000 Cr. + 0.5 (₹1000 Cr) = ₹1000 Cr. (1+0.5)
3	$(0.5)^2$ (₹1000 Cr.)	$(0.5)^2$ (₹1000 Cr.)	₹1000 Cr. + 0.5 (₹1000 Cr.) + $(0.5)^2$ (₹1000 Cr.) = ₹1000 Cr. $(1+0.5+0.5^2)$
⋮	⋮	⋮	⋮

The explanation of the above table is as follows :

Round 1 : We start with increase in autonomous expenditure by ₹1000 cr. Production increases by the same amount to meet increase in demand. It leads to equal increase in income.

Round 2 : In the second round, those who receive additional income consume a part of it [depending upon MPC, 0.5] and save the rest. Thus, demand rises by 0.5 (₹1000 cr.). Again production and income rises to match increase in demand.

The process goes on. The total change in Aggregate Expenditure (AE) due to successive rounds of increased expenditure can be summed up as :

$$\Delta AE = ₹1000 \text{ cr.} + 0.5(₹1000 \text{ cr.}) + (0.5)^2(₹1000 \text{ cr.}) + \cdots$$

$$= ₹1000 \text{ cr.} \left[1 + 0.5 + (0.5)^2 + \cdots\right]$$

$$= ₹1000 \text{ cr.} \left[\frac{1}{1-0.5}\right]$$

$$= ₹1000 \text{ cr.} \times \frac{1}{0.5}$$

$$= ₹2000 \text{ cr.}$$

Thus, total change in income is ₹2000 cr.

Multiplier (K) $= \frac{\Delta Y}{\Delta I} = \frac{₹\ 2000\ cr.}{₹\ 1000\ cr.}$

$\Rightarrow \boxed{K = 2}$

(b) At Equilibrium,

$Y = AD$

$\Rightarrow Y = C + I + G + NX$

$\Rightarrow Y = (250 + 0.8\,Y_d) + 100 + 100 + 0$

$\Rightarrow Y = 250 + 0.8\,(Y - T + TR) + 200$

$\Rightarrow Y = 250 + 0.8\,(Y - 100) + 200$

$\Rightarrow Y = 450 + 0.8\,Y - 80$

$\Rightarrow 0.2Y = 370$

$\Rightarrow Y = \frac{3700}{02}$ 1850

$\Rightarrow Y = 1850$

Putting $Y = 1850$ in consumption function

$C = 250 + 0.8\,Y_d$

$= 250 + 0.8\,(Y - 100)$

$= 250 + 0.8\,(1850 - 100)$

$= 250 + 0.8\,(1750)$

$= 250 + 1400$

$= 1650$

Now, $S = Y - C$

$= 1850 - 1650$

$= 200$

(i) Savings at equilibrium level of income = ₹ 200 crore

(ii) Multiplier $= \frac{1}{1-MPC} = \frac{1}{1-0.8} = \frac{1}{0.2} = 5$

Also, $K = \frac{\Delta Y}{\Delta I}$

$\Rightarrow 5 = \frac{\Delta Y}{20}$

$\Rightarrow \Delta Y = 100$

Thus, if investment decreased by ₹ 20 cr., then the change in income will be ₹ 100 cr.