

Super-multiplier

- **Developed by Hicks**
- **Hicks combined the effect of multiplier and accelerator on the economy**
- **Combined effect of the multiplier and the accelerator is also called the leverage effect which may lead the economy to very high or low level of income propagation.**

Working of Super-multiplier

$$Y = C + I$$

Where,

Y = income

C = consumption

I = investment

$$\Delta Y = \Delta C + \Delta I$$

$$\Delta C = b\Delta Y$$

$$\Delta I = v\Delta Y + \Delta I_a$$

$$\Delta Y = b\Delta Y + v\Delta Y + \Delta I_a$$

$$\Delta Y - b\Delta Y - v\Delta Y = \Delta I_a$$

$$\Delta Y(1 - b - v) = \Delta I_a$$

$$\Delta Y / \Delta I_a = 1 / (1 - b - v)$$

Working of Super-multiplier

$$K_s = 1/1-b-v = 1/mps-v$$

Where,

K_s is a value of super multiplier.

So,

Increase in autonomous investment i.e. I_a will lead to increase in income by K_s times.

So ,

$$\Delta Y = K_s \Delta I_a$$

Numerical example-

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$$b = 0.5$$

$$v = 0.4$$

$$\Delta I_a = \text{Rs. } 100 \text{ crore}$$

$$\Delta Y = 1 / (1 - 0.5 - 0.4) * 100$$

$$= 1 / 0.1 * 100$$

$$= 10 * 100$$

$$= \text{Rs. } 1000 \text{ crore (super multiplier is 10)}$$

$$\text{Multiplier} = 1 / (1 - 0.5) * 100$$

$$= \text{Rs. } 200 \text{ crore (because multiplier is 2)}$$

Table-

Period	Initial investment	$b = 0.5$	$v = 0.4$	$\Delta Y = C+V$	Total increase in Y
▶ t	▶ 0	▶ 0	▶ 0	▶ 0	▶ 0
▶ t+1	▶ 100	▶ -	▶ -	▶ 100	▶ 100
▶ t+2	▶ 100	▶ 50	▶ 40	▶ 90	▶ 190
▶ t+3	▶ 100	▶ 45	▶ 36	▶ 81	▶ 271
▶ t+4	▶ 100	▶ 40.50	▶ 32.40	▶ 72.90	▶ 343.90
▶ t+n	▶ 100	▶ 0	▶ 0	▶ 0	▶ 1000

Total increase in income is in multiple amounts as compared to initial investment.