

Multiplier-accelerator models

[Literature](#), [Russian Literature](#)



Multiplier-Accelerator Models The Multiplier-Accelerator Model and its basic tenets were proposed by Ray Harrod and Paul A Samuelsson. It is however, also argued that the work of both the economists was actually an extension of the work done by John M Keynes and Richard Kahn. (Sørensen & Whitta-Jacobsen, 2010). The basic principle of the Multiplier- Accelerator Model outlines that there will be an increase in the output level if investment increases and there will be additional investment when output increases. This increase in output will be due to multiplier effect on exogenous spending. Keynes argued that level of output will increase due to multiplier relationship between output and autonomous consumption. (Hartley, J. et al. 1998). Change in output due to change in investment can be described in following manner:

$$\Delta Y = \Delta I / (1-c)$$

The above relationship indicates that change in output Y equals change in investment and 1 minus marginal propensity to consume.

The Accelerator model is based upon the assumption if current economic activity increases, it will allow entrepreneurs to expand productive capacity by investing into additional capital stock . The Acceleration principle also outlines that there will be an increase in the output level with the increase in investment and there will be an additional investment when output increases.

Model introduced by Paul Samuelson outlines that the consumption is the function of past income and is described by following relationship:

$$C_t = c_0 + cY_{t-1}$$

The above relationship suggests that consumption comprises of overall

autonomous consumption and the propensity to consume with respect to the past income of an individual. Samuelson's model therefore outlines different parametric conditions under which economy can move and as such economic cycles can occur. Samuelsson's model is considered as incomplete as a theory of regular cycles because of its inability to predict regular business cycles however, it is still considered as one of the key advances in macroeconomic theory.

Lloyd Metzler's model was based upon his famous Inventory Cycle principle and suggested that the precise inventory policy as chosen by the producers might have an impact on the economic cycles. This model outlines that the change in output is a relationship between the consumption and investment and investment comprises of the investments made in inventory considering capital stock as constant. (Sørensen, and Whitta-Jacobsen, 2010).

Hicksian Model was also another attempt to understand the business cycles and how consumption and investment actually have an impact on the income level. Hicks assumed that the consumption is the function of past income while investor attempts to maintain a stock of capital in relation with the income.

$$C_t = cY_{t-1}$$

$$I_t = a(Y_{t-1} - Y_{t-2})$$

Since income Y is a combination of both the consumption and income therefore

$$Y = C_t + I_t$$

The combination of income and consumption therefore can generate oscillation in income or growth is generated by both these variables. Hicks

also introduced the concepts of ceilings, floors and autonomous investment. (Rosser, 1991)

Subsequent changes to Hicksian model were made by James Duesenberry who also outlined the different accelerator which could outline both the growth and accelerator.

References

Hartley, J. et al. (1998) Real business cycles: a reader. London: Routledge.

Rosser, J. B (1991) From Catastrophe to Chaos: A General Theory of Economic Discontinuities Boston: Kluwer.

Sørensen, and Whitta-Jacobsen,(2010) Introducing advanced macroeconomics: growth and business cycles. 2nd ed. New York: McGraw-Hill Higher Education.