



JAYOTI VIDYAPEETH WOMEN'S UNIVERSITY, JAIPUR

Government of Rajasthan established

Through ACT No. 17 of 2008 as per UGC ACT 1956

NAAC Accredited University

Faculty of Education and Methodology

Faculty Name- JV'n Dr. Md Meraj Alam

Program- BA (Hons) Economics 2nd Semester

Course – Macroeconomics II

Digital session name – Samuelson's Theory of Business Cycles: Part-2

The five paths or patterns of movements which the economic activity (as measured by gross national product or income) can have depending upon various combinations of the values of marginal propensity to consume (c) and capital-output ratio (v) are depicted in Fig. 13.6. When the combinations of the value of marginal propensity to consume (c) and capital-output ratio (v) lie within the region marked A, with a change in autonomous investment, the gross national product or income moves upward or downward at a decreasing rate and finally reaches a new equilibrium as is shown in panel (a) of Fig. 13.6.

If the values of c and v are such that they lie within the region B, the change in autonomous investment or autonomous consumption will generate fluctuations in income which follow the pattern of a series of damped cycles whose amplitudes go on declining until the cycles disappear as is shown in panel (b) of Fig. 13.6.

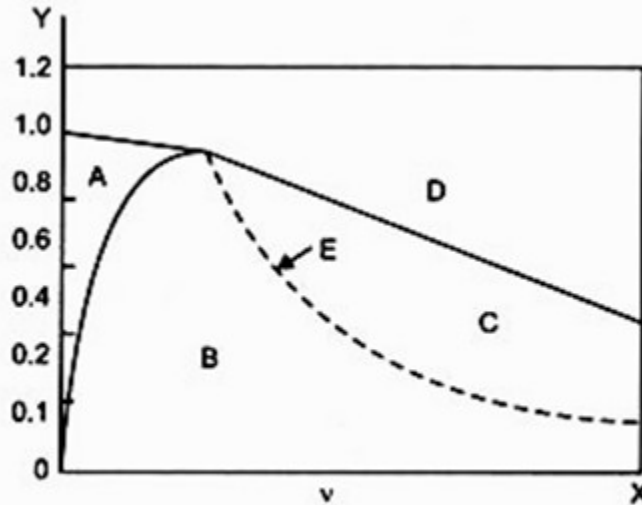


Fig. 13.5. Combinations of c & v

Source: Internet

The region C in Fig. 13.5 represents the combinations of c and v which are relatively high as compared to the region B and determine such values of multiplier and accelerator that bring about explosive cycles, that is, the fluctuations of income with successively greater and greater amplitude.

The situation is depicted in panel (c) of Fig. 13.6 which shows that the system tends to explode and diverges greatly from the equilibrium level. The region D in Fig. 13.5 provides the combinations of c and v which cause income to move upward or downward at an increasing rate which has somehow to be restrained if the cyclical movements are to occur.

This is depicted in panel (d) of Fig. 13.6. Like the values of multiplier and accelerator of region C, their values in region D cause the system to explode and diverge from the equilibrium state by an increasing amount.

In a special case when values of c and v (and therefore the magnitudes of multiplier and accelerator) lie in region E of Fig. 13.5 they produce fluctuations in income of constant amplitude as is shown in panel (e) of Fig. 13.6.

It follows from above that region A and B are alike, they after a disturbance caused by a change in autonomous investment or consumption finally bring about stable equilibrium in the system. On the other hand, the values of c and v and therefore the magnitudes of multiplier and accelerator of region C and D resemble each other but are such that they cause great instability in the system as both of these values cause successively greater divergence from the equilibrium level and the system tends to explode.

The case of region E lies in between the two as the combinations of values of c and v in it are such that cause cyclical movements of income which neither move toward nor away from the equilibrium. It is worth noting that all the above five cases do not give rise to cyclical fluctuations or business cycles.

It is only combinations of c and v lying in regions B, C and E that produce business cycles. The values of accelerator and multiplier in the region A are such that with a disturbance caused by a change in autonomous investment or autonomous consumption, the economic activity (as measured by the level of income or Gross National Product) moves smoothly from an initial equilibrium to a new equilibrium with no cyclical fluctuations or oscillations.

On the other hand, the values of c and v (and therefore of multiplier and accelerator) of the region B produce cyclical fluctuations which are of the type of damped oscillations that tend to disappear over time, that is, the amplitude of the cycles shrinks to zero over a period of time. However, this contradicts the historical experience which reveals that there is no tendency for the cyclical movements to disappear or die out over time.

However, it is worth noting that the case B explains the impact of a single disturbance on income and employment. For example, the effect of a one time increase in autonomous investment goes on diminishing over time if no other disturbance takes place.

However, in reality, further disturbances such as technological advances, innovations, natural disasters and man-made disasters such as security scam in India in 1991-92 do take place quite frequently and at random intervals and in a way they provide shocks to the system.

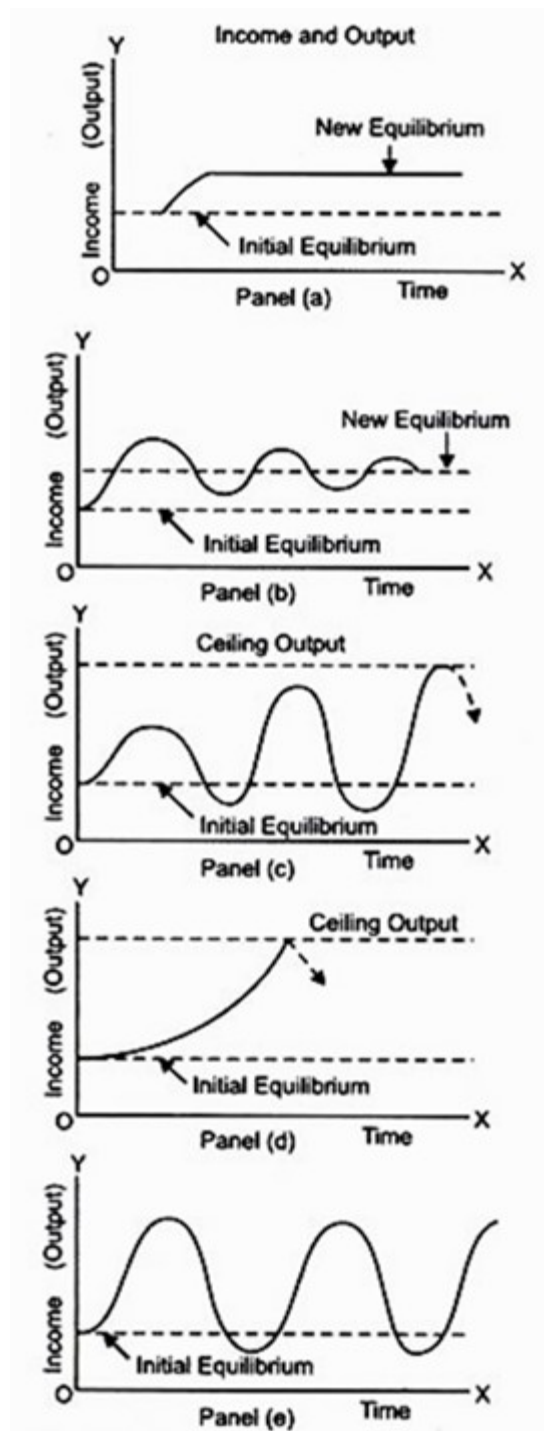


Fig. 13.6. *Interaction between Multiplier and Accelerator: Different Patterns of Income (Output) Movements for Various Values of c and v*

Source: Internet

Thus, the values of c and v of region B can generate cyclical fluctuations over time without dying out if the above-mentioned disturbances are occurring frequently at random. This results in business cycles whose duration and amplitude are quite irregular and not uniform.

As a matter of fact, the business cycles in the real world also reveal such irregular pattern. To sum up, “what otherwise shows up as a tendency for the cycle to disappear in case B may be converted into unending sequence of cycles by the addition of randomly disturbed erratic shock system.”

In case of the values of multiplier and accelerator falling within the region C, though they generate continued oscillations, the cycles produced by them tend to become ‘explosive’ (i.e., their amplitude tends to increase greatly). But they are not consistent with the real world situation where oscillations do not become explosive.

However, the values of multiplier and accelerator falling within region C can be made consistent with the actual world situation by incorporating in the analysis the so called buffers. Buffers are the factors which impose upper limit or ceiling on the expansion of income and output on the one hand or impose a lower limit or floor on the contraction of output and income on the other.

With the inclusion of these buffers the otherwise explosive upward and downward fluctuations arising out of values of multiplier (or MPC) and accelerator (or capital-output ratio) of the region C can become limited cyclical fluctuations, characteristic of the real world situation.

What has been said about case C above also applies to region D where the values of multiplier and accelerator are such that give rise to directly explosive upward or downward movement which can be restrained by the factors determining the ceiling and floor. However, the adequate explanation of the business cycles in this case would require the reasons why the system starts moving in the reverse direction, say, after striking the ceiling.

Hicks in his famous theory of the business cycles provides the reasons which cause movement of the system in the reverse direction after it hits the ceiling or the floor as the case may be. Hicks theory of business cycles will be explained below at length.

Lastly, the case E represents a situation where the business cycles neither try to disappear, nor try to explode, they go on continually with a constant amplitude. This however contradicts the real world situation and is quite impossible. This is because in the real world situation, business cycles differ a good deal in amplitude and duration.

Summing Up:

We have explained the interaction of multiplier and accelerator in case of various values of marginal propensity to consume (c) and capital-output ratio (v). On the basis of the interaction of the multiplier and accelerator the two categories of business cycle theories have been put forward.

One category of these business cycle theories assumes the values of multiplier and accelerator which generate explosive cycles. For example, Hicks' theory of business cycles falls in this category. On the other hand, Hansen has propounded a business cycle theory based on the interaction of multiplier with a weak accelerator which produces only damped oscillations.

Further, as indicated above, the interaction theories have been modified either by incorporating in the analysis erratic shocks or random disturbances or by including so called buffers which check the upward movement of income and output by imposing ceiling of expansion and checking a downward movement by imposing a floor on the contraction of output.

One of the famous theories of business cycles based on the interaction of multiplier and accelerator which also incorporate buffers in his analysis of fluctuations is that put forward by the noted English economist J R. Hicks. We discuss below his theory of business cycles in detail.

Course Outcome: The goal of this paper will be to expose the students to the basic principles of macroeconomics. The emphasis will be on thinking like an economist and course will illustrate how economic concepts can be applied to analyse real-life situations. In this course, the students are introduced to money and interest, theories of inflation, rate of interest, trade cycle and growth models.