Modern Growth Theories
Lecture 4

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Classical economics

- A capitalist market economy could deviate from its equilibrium level of output and employment. Disturbances are temporary and very short-lived. The market mechanism would operate relatively quickly and efficiently to restore full employment equilibrium.

- Government intervention, in the form of activist stabilization policies, would be neither necessary nor desirable.

- The *laissez-faire* doctrine

- 'Invisible hand' channelling self-interest into some social optimum

Classical economics

- Little attention to either the factors which determine aggregate demand or the policies which could be used to stabilize aggregate demand in order to promote full employment.

- Full employment is the normal state of affairs.

- Say's Law - 'supply creates its own demand'

- Neutrality of money – changes in money supply only affect nominal variables and not real variables. Changes in the money supply affect prices but not the output.

Keynesian economics

- John Maynard Keynes (1883-1946)
- 1936 – the *General Theory of Employment, Interest and Money*
- Actual output level is determined on the extent of the aggregate demand.
- Aggregate demand is a sum of four demand sources (consumption, investment, government spending, and net exports)

$$AD = C + I + G + (E - X)$$

Keynesian economics

- Consumption function – functional relationship between total consumption and disposable income.

$$C = C_a + MPC \cdot Y$$

- Autonomous consumption is the minimum level of consumption that must take place even if a consumer has no disposable income (spending for basic necessities).

- MPC – marginal propensity to consume $\quad MPC = \dfrac{dC}{dY}$

Keynesian economics
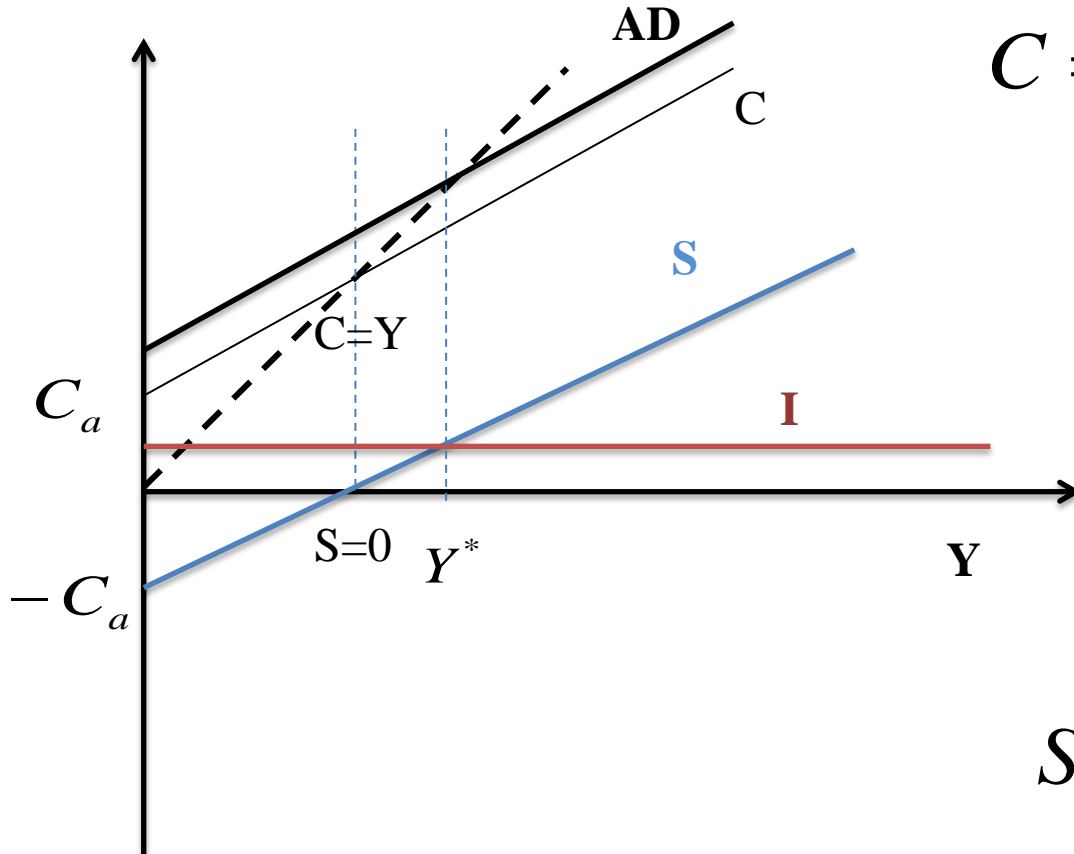
$$AD = C + I$$

$$C = C_a + MPC \cdot Y$$

$$I = I_a$$

$$Y = C + S$$

$$S = -C_a + MPS \cdot Y$$

$$AD = C + I = C_a + I_a + MPC \cdot Y \qquad MPC + MPS = 1$$

Marginal propensity to save (*MPS*)

- *MPS* – is the fraction of an increase in income that is saved. For each additional one unit of income, the savings increase by *MPS*

$$MPS = \frac{\Delta S}{\Delta Y}$$

$$S = -C_a + MPS \cdot Y$$

S	Y
200	1000
300	1600

$$MPS = \frac{dS}{dY}$$

$$MPS = \frac{300 - 200}{1600 - 1000} = \frac{1}{6}$$

$$\Delta S = MPS \cdot \Delta Y$$

Average propensity to save (APS)

- *APS* – **savings ratio**, the proportion of income which is saved.

S	Y
200	1000
320	1600

$$APS = \frac{S}{Y}$$

$$S = APS \cdot Y$$

$$APS = \frac{200}{1000} = 0.2$$

$$APS = \frac{320}{1600} = 0.2$$

$$MPS = \frac{120}{600} = 0.2 = APS$$

Numerical example

$$C = 10 + 0.8 \cdot Y$$

$$MPC = 0.8$$

$$I = 10$$

$$Y = C + S$$

$$S = -10 + 0.2 \cdot Y$$

$$MPS = 0.2$$

$$AD = C + I = 20 + 0.8 \cdot Y$$

$$\boxed{AD = Y} = 20 + 0.8 \cdot Y$$

$$Y^* = 100$$
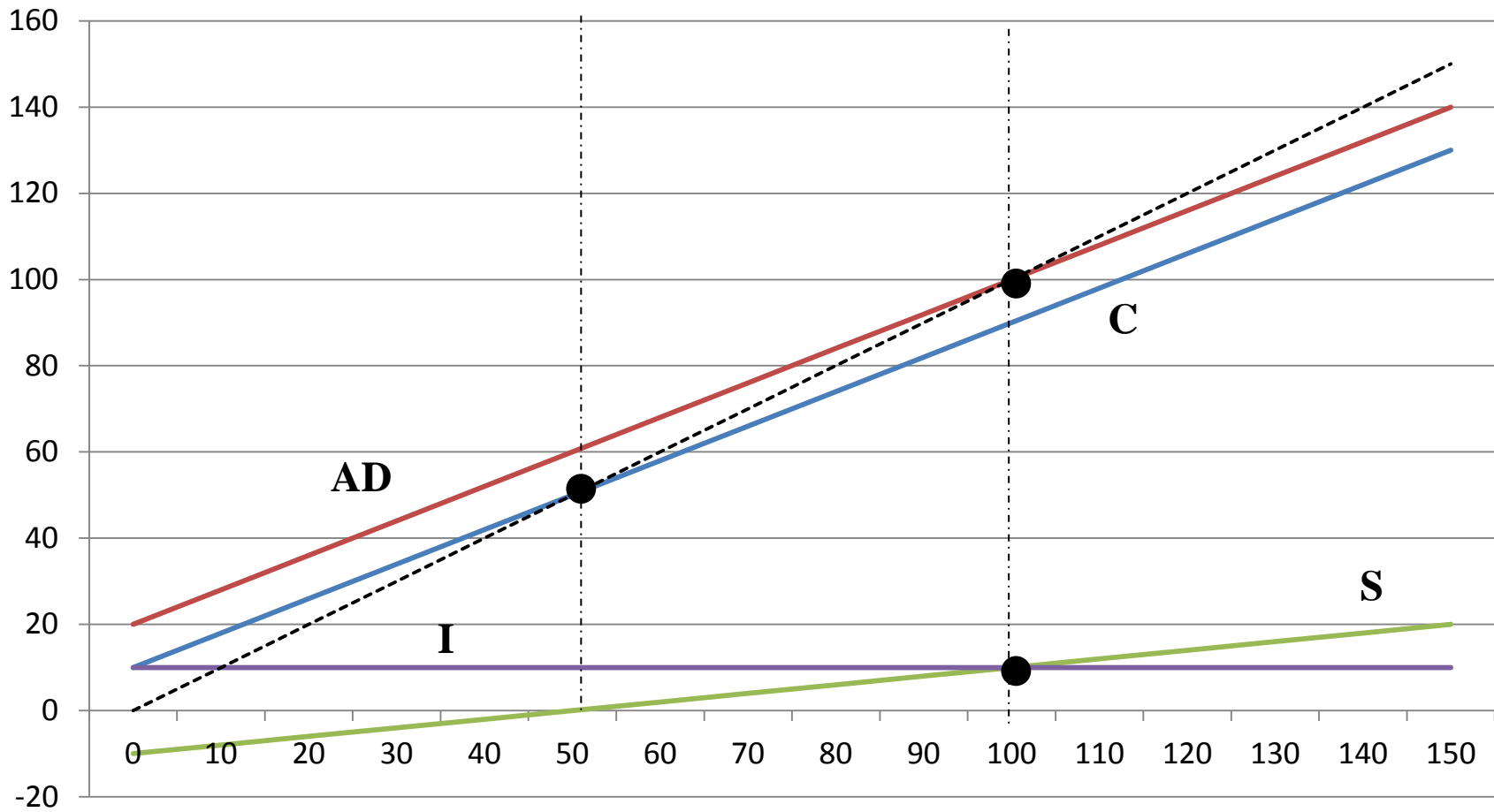
$$C = 10 + 0.8 \cdot Y$$

$$I = 10$$

$$Y = C + S$$

$$AD = C + I = Y$$

$$S = -10 + 0.2 \cdot Y$$

$$S = I$$

$$-10 + 0.2 \cdot Y = 10$$

$$Y^* = 100$$

Multiplier

$$Y = C_a + I_a + MPC \cdot Y$$

$$Y = \frac{1}{1 - MPC}(C_a + I_a) = \frac{1}{MPS}(C_a + I_a)$$

$$\frac{dY}{dI_a} = \frac{1}{1 - MPC} > 1$$

Keynesian economics

$$AD = C + I + G + (E - X)$$

$$C = C_a + MPC \cdot Y_d \qquad Y_d = Y - T \qquad Y_d = T_a + t \cdot Y$$

$$I = I_a \qquad G = G_a \qquad E - X = EX_a - MPI_m \cdot Y$$

$$Y = \frac{1}{1 - MPC \cdot (1 - t) + MPI_m} \left(C_a + I_a + G_a + EX_a - MPC \cdot T_a \right)$$

B. Snowdon, H.R. Vane, 2005, *Modern Macroeconomics. Its Origins, Development, and Current State, p. 64*