

Reading

- Chapter 30: Short-run economic fluctuations
- Chapter 31: Keynesian Economics (p655 - 664 only)

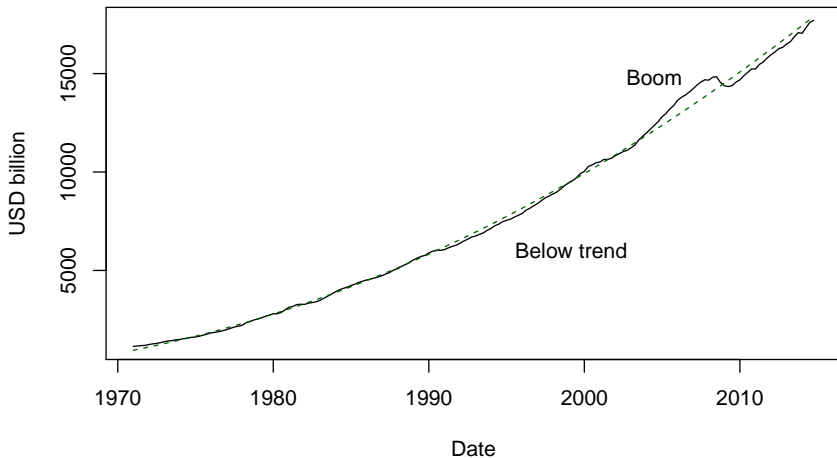
Long-run and short-run

It is usual to distinguish between the long-run growth and short-run fluctuations around the trend

- **Long-run** determined by factors of production and the way that they are combined to create goods and services
 - Efficiency
 - Flexibility
 - Innovation and imagination
 - New Resources
- **Short-run** determined by fluctuations in aggregate demand
 - Boom and bust
 - Expansion, recession (2 quarters of negative growth)

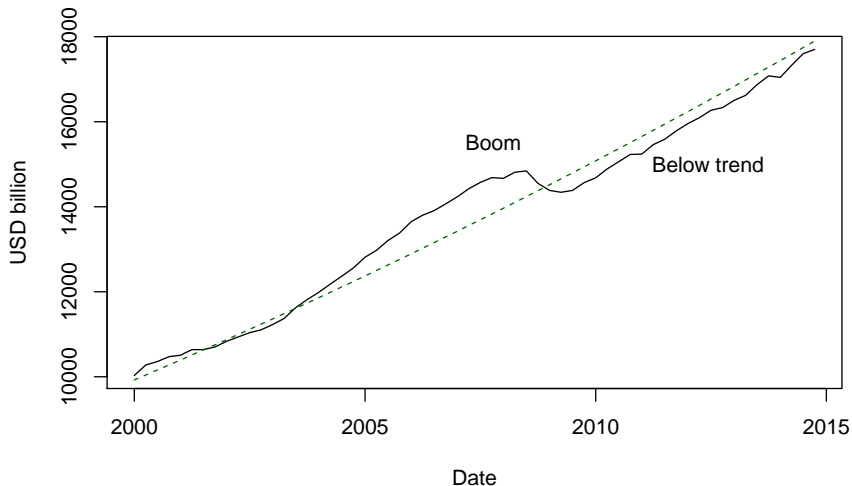
GDP growth and its potential 1

US GDP and potential: 1970 to 2014



GDP growth and its potential 2

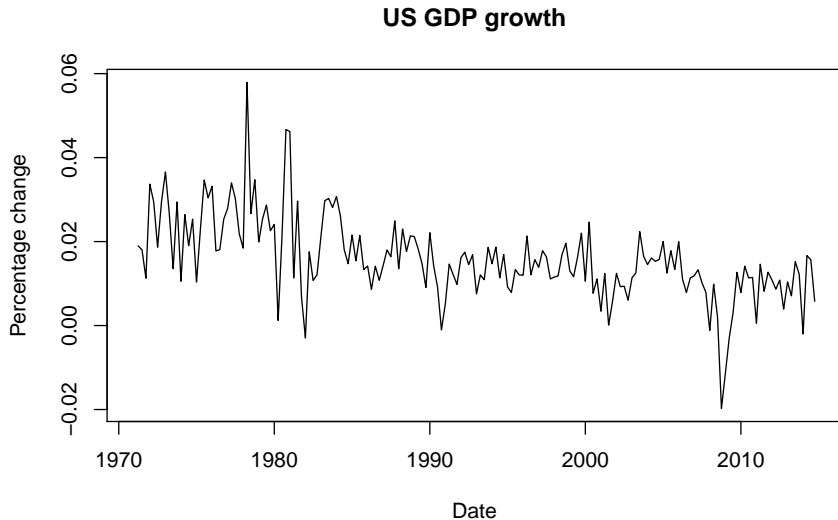
US GDP and potential: 2000 to 2014



Time series

- These are a series of data that change over time
- There are *Stationary* and *Nonstationary* series
- There may be *Deterministic* and *Stochastic* trends
- Data may be *Pro-cyclical* and *Counter-cyclical*

GDP growth



The business cycle

There are a number of explanations for the business cycle

- Household decisions
- Firm decisions
- Government decisions
- External decisions
- Confidence and expectations

Business cycle models

- Supply side (new classical)
- Keynesian model
- Real business cycle

Keynesian economics

The long run is a misleading guide to current affairs. In the long run we are all dead. Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is long past, the ocean will be flat

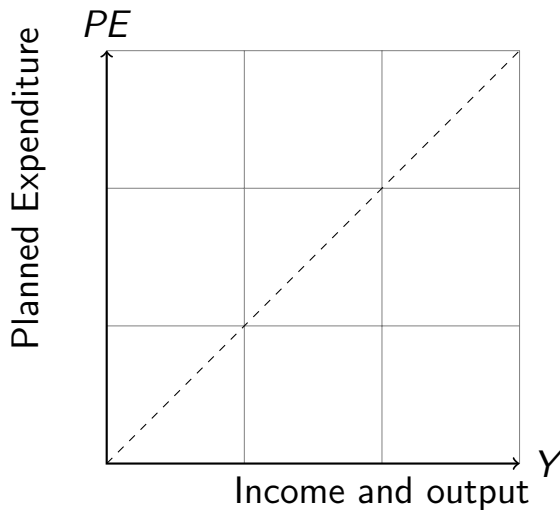
J.M. Keynes

Keynesian concepts

There are a number of key Keynesian concepts

- Planned spending, saving or investment
- Actual spending, saving or investment
- Autonomous spending or expenditure
- Inflationary, deflationary or output gap
- Equilibrium (not Keynesian)

Keynesian cross 1



- 45 degree is equilibrium
- Planned spending = income and output

Keynesian cross 2

In a closed economy with no government

- $PE = C + I$
- I is an *exogenous* variable that is determined by interest rates and business confidence
- C is a *endogenous* variable that partly determined by income (Y)
- MPC is the *Marginal propensity to consume*
- Assume that MPC is 0.8

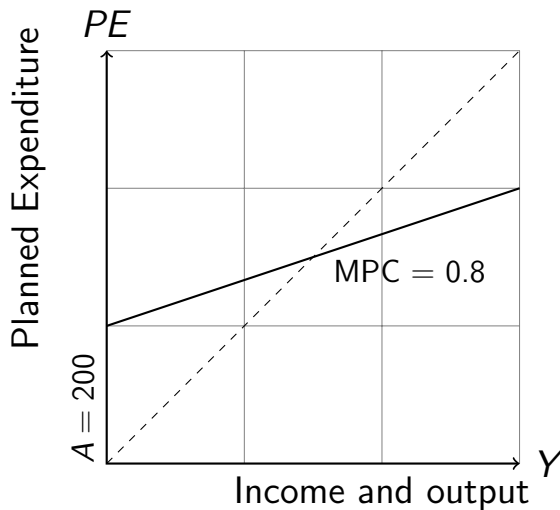
Consumption function

How is consumption determined?

$$C = A + MPC \times Y$$

Where A is *autonomous consumer spending*

Keynesian cross 3



- $PE = A + MPC \times Y$
- Assume $A = 200$
- A is the intercept
- MPC is the slope

Finding equilibrium

For equilibrium

$$Y = PE$$
$$PE = 200 + 0.8Y$$

This is the point where the two lines meet

Finding equilibrium 2

Substitute Y for PE

$$Y = 200 + 0.8Y$$

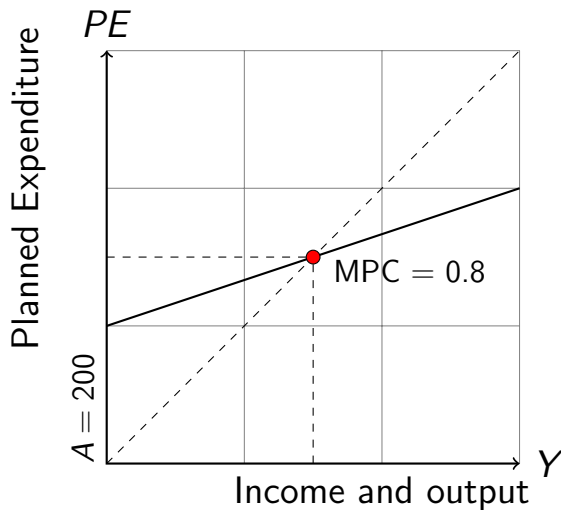
$$Y - 0.8Y = 200$$

$$Y(1 - 0.8) = 200$$

$$Y = 200 / 1 - 0.8$$

$$Y = 1000$$

Keynesian cross 4



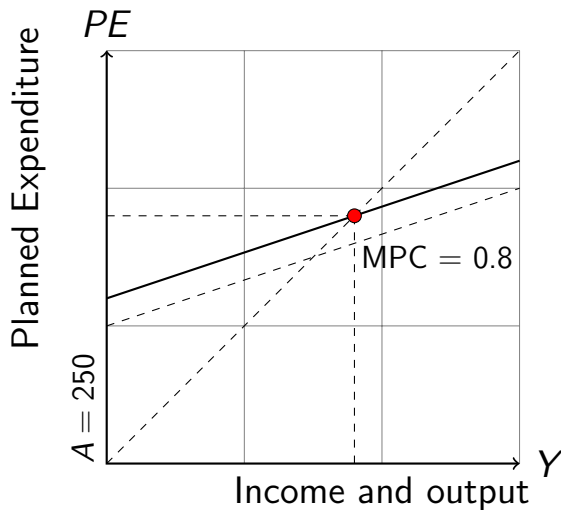
- Equilibrium where $PE = Y$
- This is where Y is equal to 1000

Adding business investment

If business investment is added

- It is assumed to be exogenous and therefore not affected by Y
- Let $I = \$50m$
- Now $PE = 200 + 0.8Y + 50$
- Or $PE = 250 + 0.8Y$
- This is a parallel shift to previous line

Keynesian cross 5



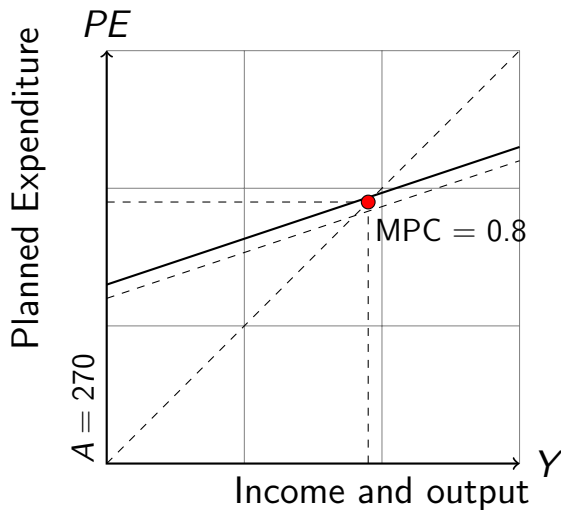
- There is a parallel shift in the PE function
- A is now $200 + 50 = 250$
- MPC and slope remains 0.8

Adding government spending

If government spending is added

- It is assumed to be exogenous and therefore not affected by Y
- Let $G = \$20m$
- Now $PE = 250 + 0.8Y + 20$
- Or $PE = 270 + 0.8Y$
- This is a parallel shift to previous line

Keynesian cross 6



- There is a parallel shift in the PE function
- A is now $250 + 20 = 270$
- MPC and slope remains 0.8

- Equilibrium was £1000 when there was just consumer spending
- What is the equilibrium when business investment is added?
- What is the equilibrium when government spending is added?
- What is the relationship between an increase in autonomous spending and equilibrium output, income and expenditure?

The multiplier 1

An increase in autonomous spending (Business investment or government) will *multiply* through the economy.

$$\Delta Y = A + MPC \times A + MPC^2 \times A + MPC^3 \times A \dots$$

This is equivalent to

$$\Delta Y = \frac{A}{1 - MPC}$$

The multiplier 2

MPS is the *marginal propensity to save*

$$1 - MPC = MPS$$

Therefore,

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

Multiplier 3

A £10m increase in autonomous spending (I or G)

$$\begin{aligned}\Delta Y &= \frac{A}{MPS} \\ &= \frac{10}{0.2} \\ &= 50\end{aligned}$$

Leads to a £50m increase in economic activity.

Adding government and overseas

If the government and overseas sectors are added, taxation and imports reduce the power of the multiplier.

$$\Delta Y = \frac{1}{MPC + MPT + MPM}$$

Where MPT is the marginal propensity of tax and MPM is the marginal propensity to import.