Reading

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- Chapter 30: Short-run economic fluctuations

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

Long-run and short-run

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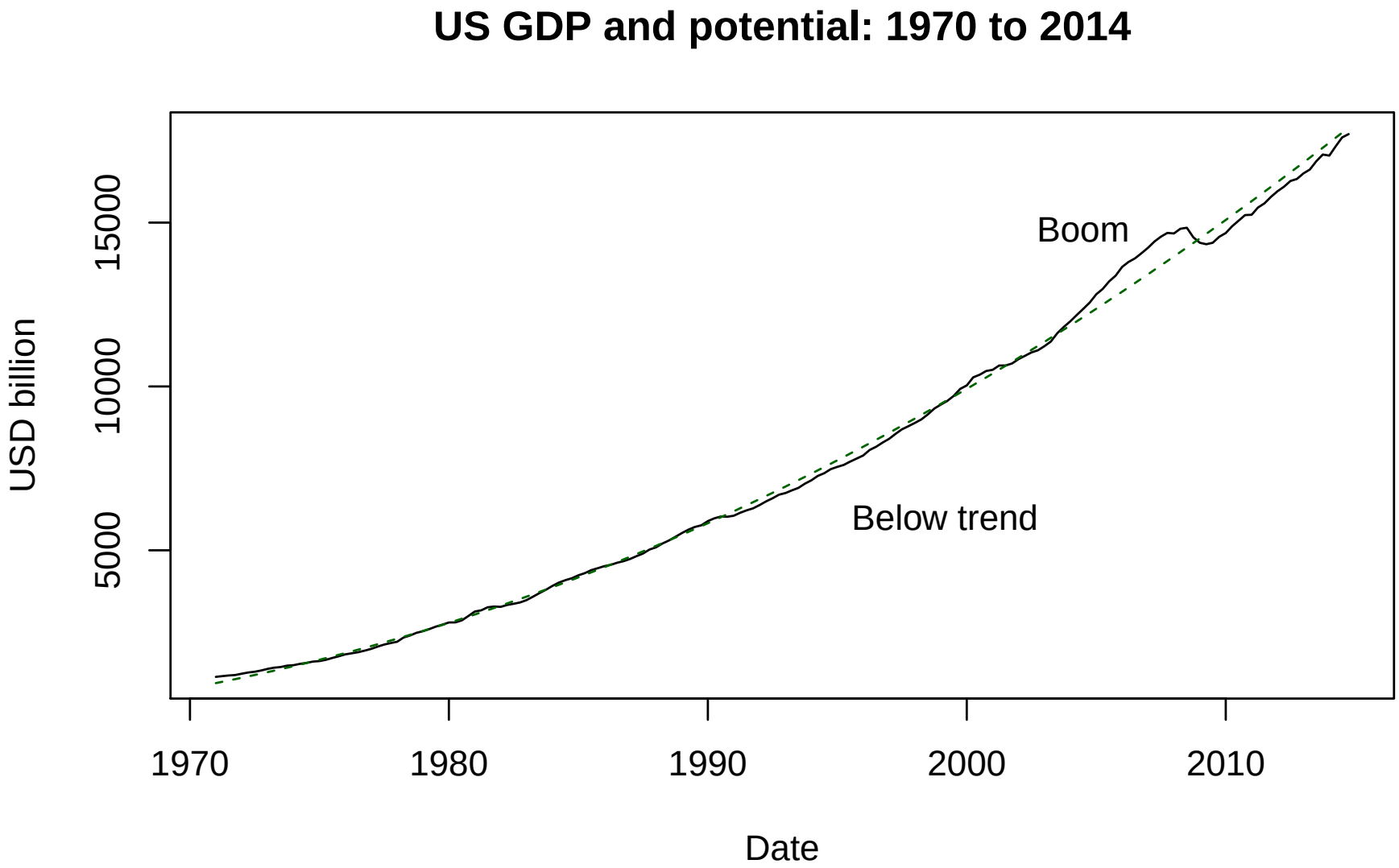
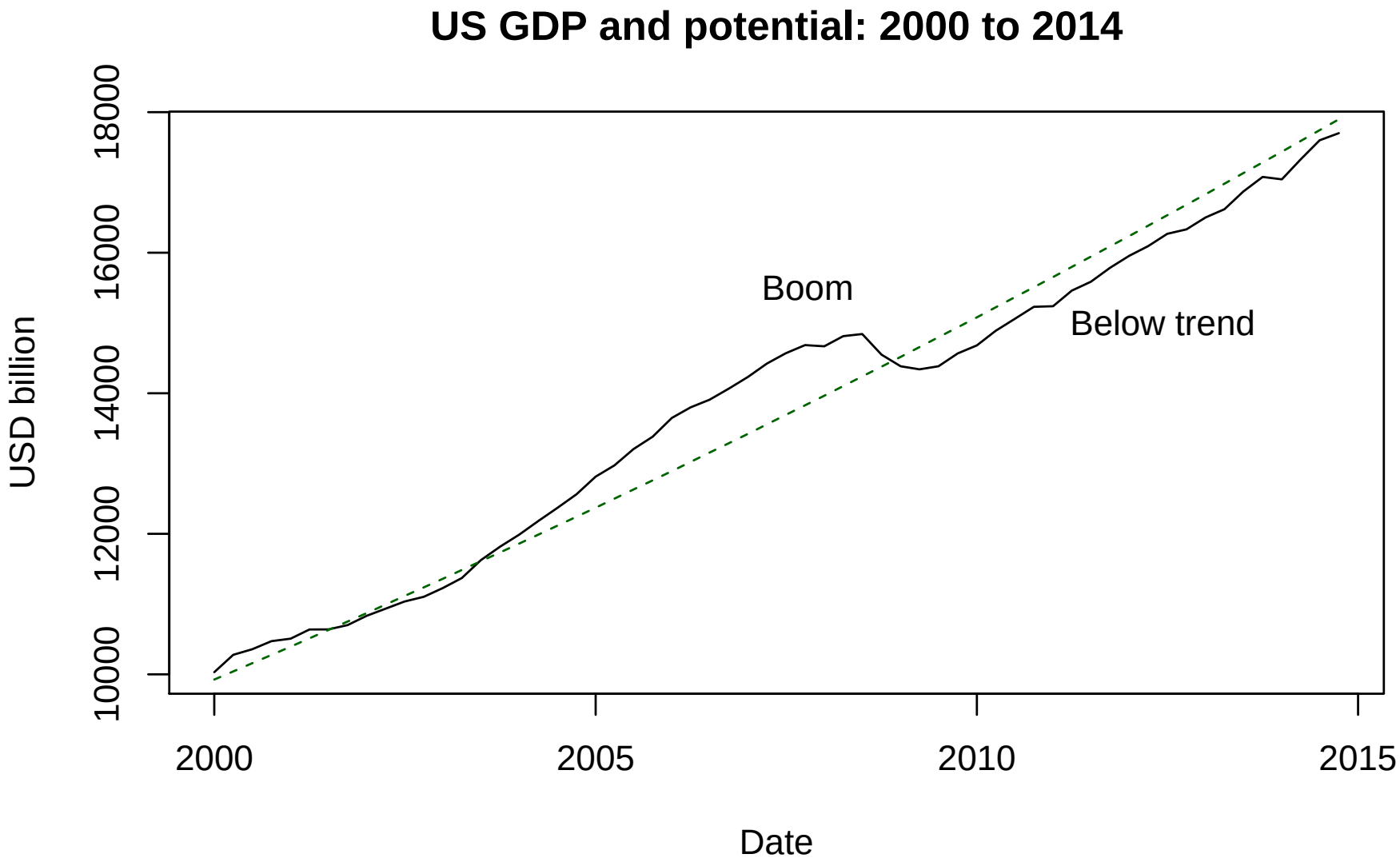
  - Boom and bust
  - Expansion, recession (2 quarters of negative growth)

GDP growth and its potential 1



GDP growth and its potential 2



Time series

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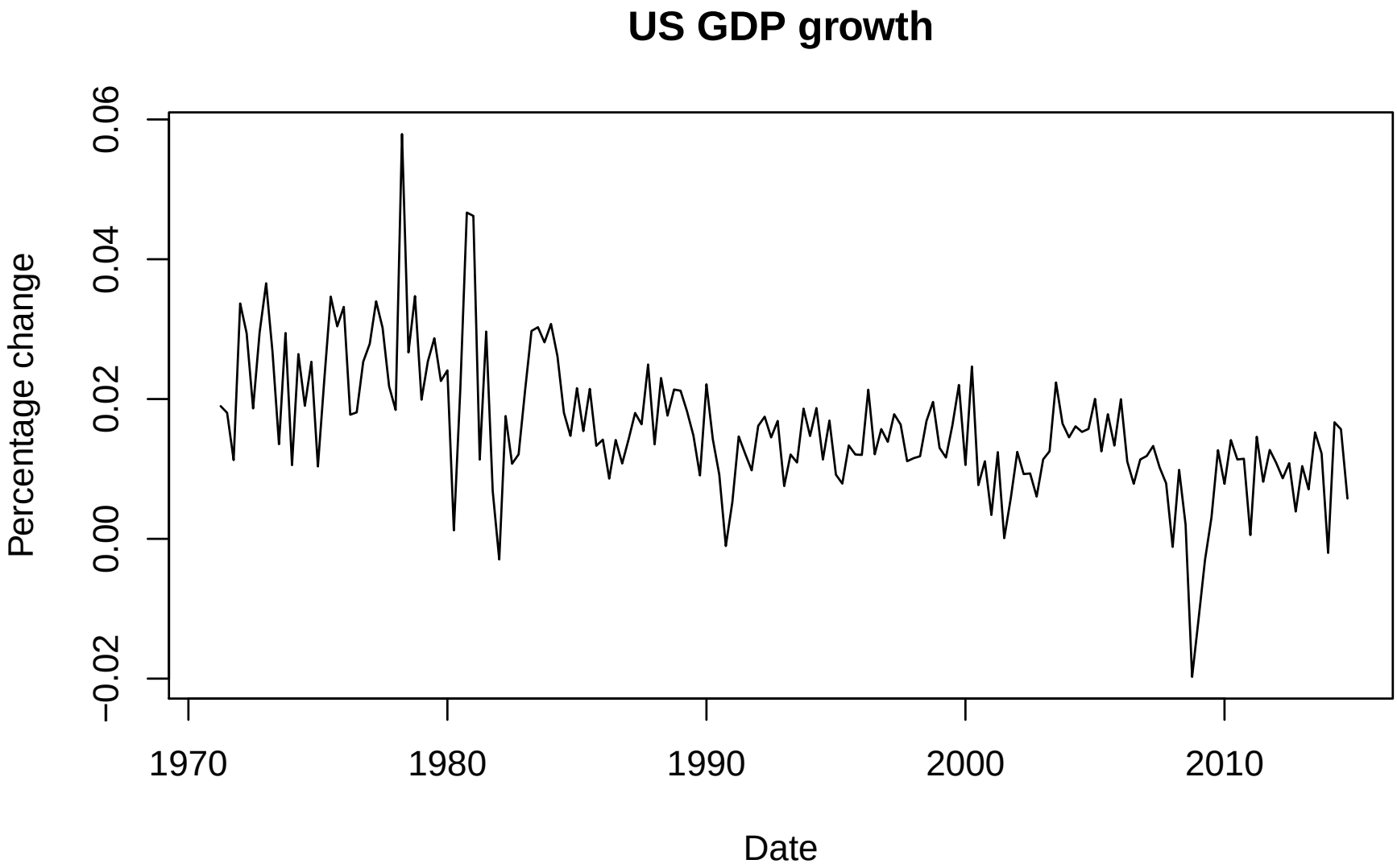
- Data may be *Pro-cyclical* and *Counter-cyclical*

GDP growth


US GDP growth
Percentage change
0.06
0.04
0.02
0.00
−0.02
1970
1980
1990
2000
2010
Date

The business cycle

There are a number of explanations for the business cycle

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- Household decisions

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

Business cycle models

- Supply side (new classical)

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- 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

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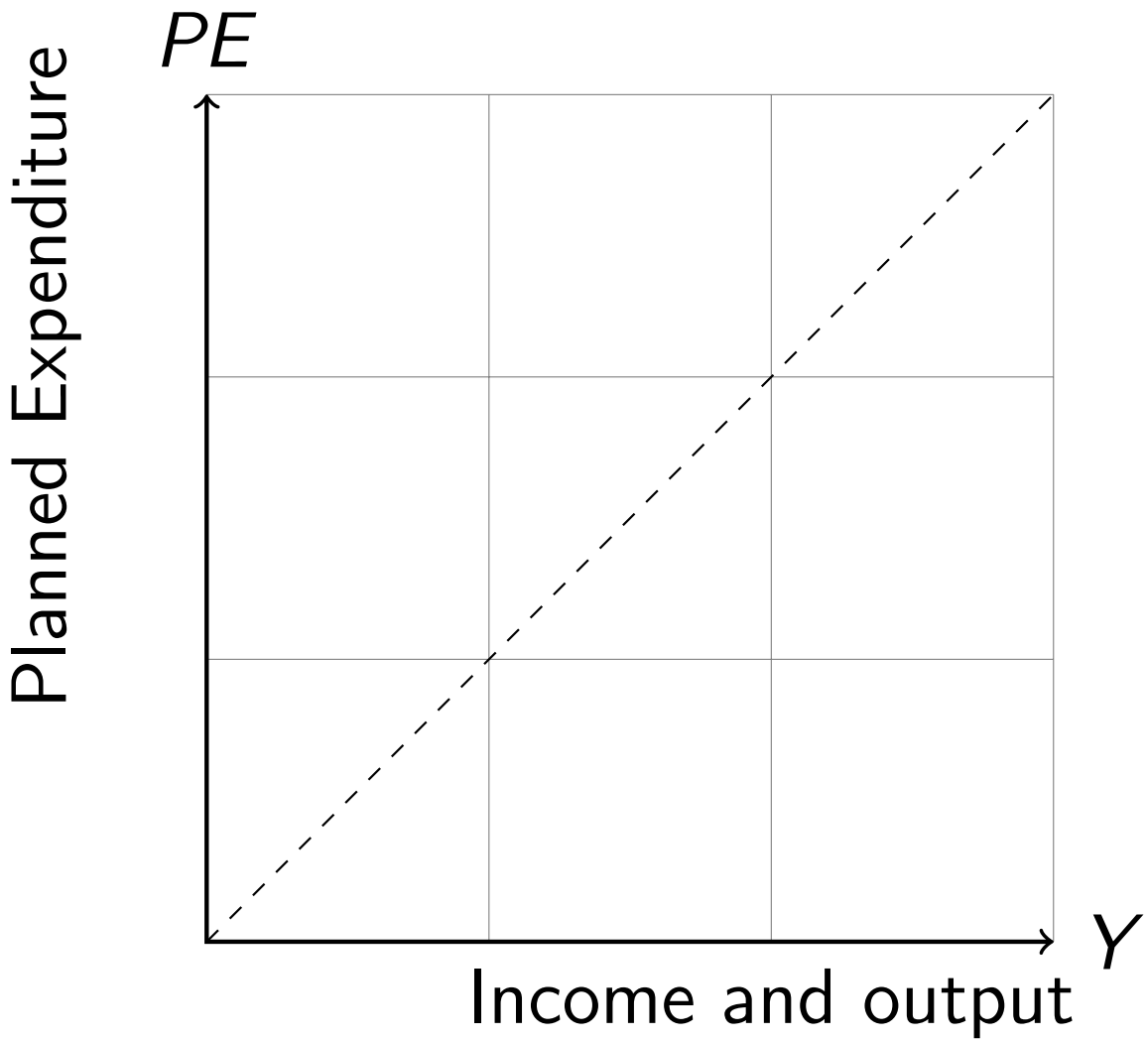
- Actual spending, saving or investment
- Autonomous spending or expenditure
- Inflationary, deflationary or output gap
- Equilibrium (not Keynesian)

Keynesian cross 1



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

Keynesian cross 2

In a closed economy with no government

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- MPC is the *Marginal propensity to consume*

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

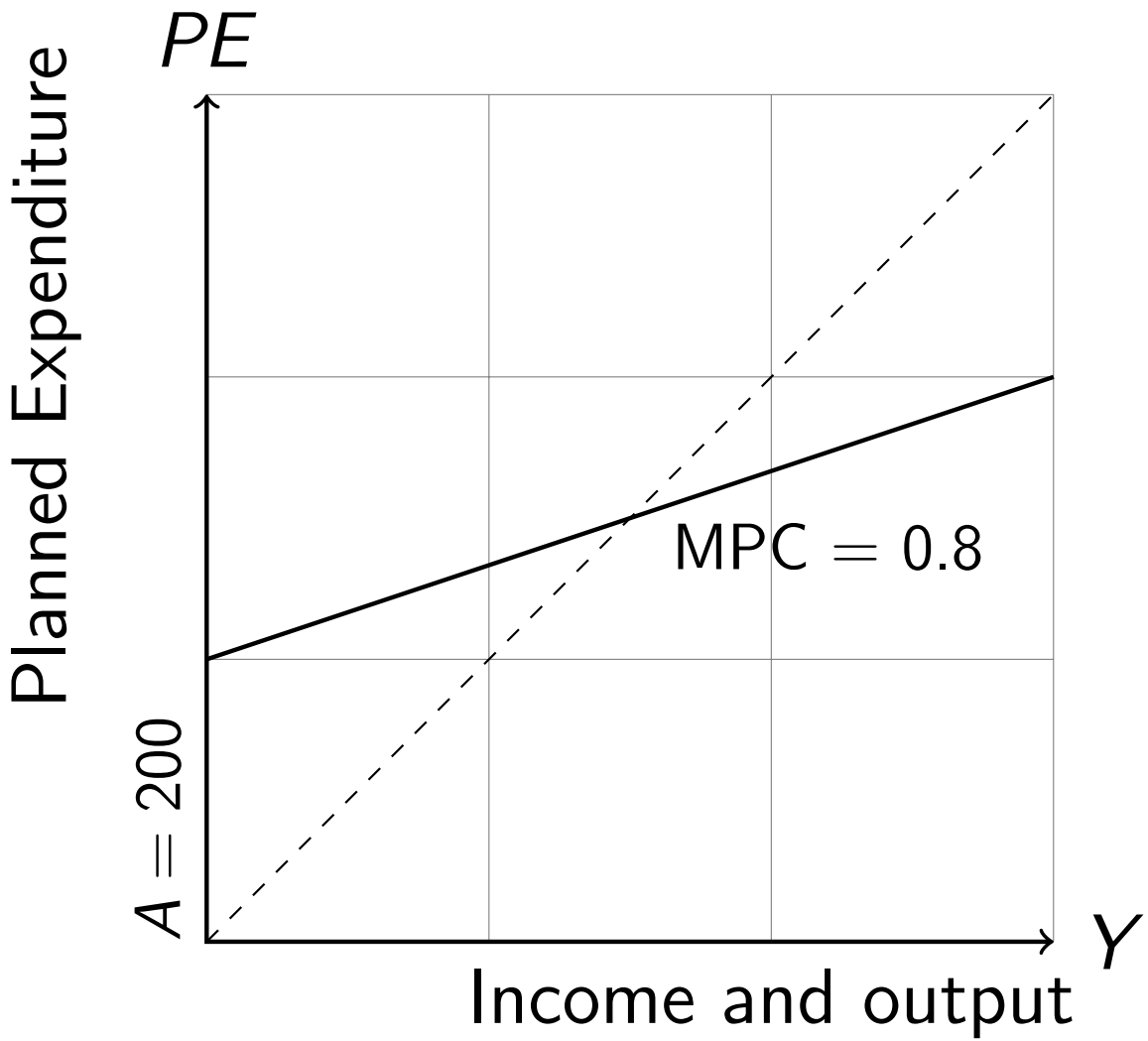
Consumption function

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

$$\begin{aligned} Y &= PE \\ PE &= 200 + 0.8Y \end{aligned}$$

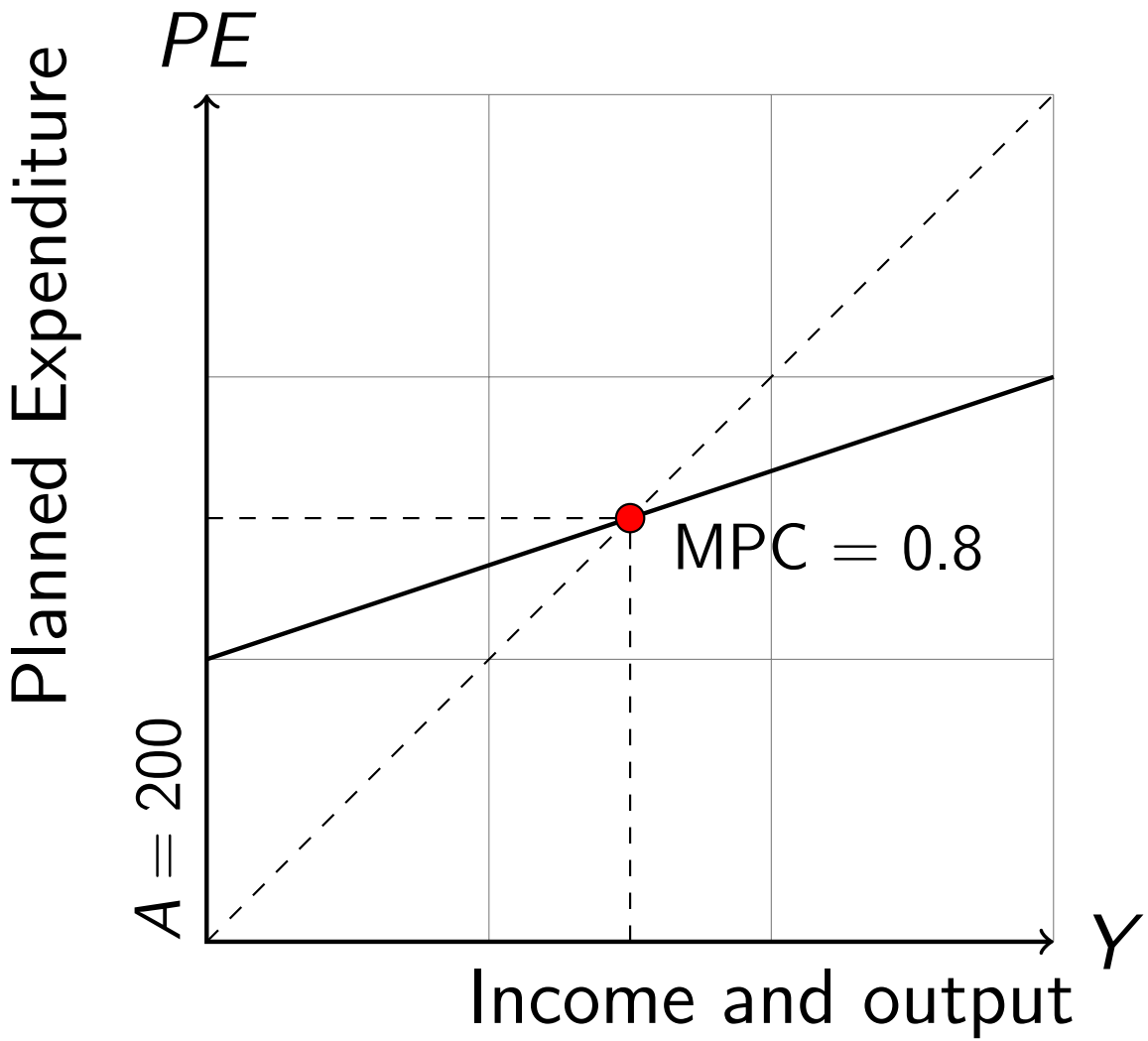
This is the point where the two lines meet

Finding equilibrium 2

Substitute Y for PE

$$\begin{aligned} Y &= 200 + 0.8Y \\ Y - 0.8Y &= 200 \\ Y(1 - 0.8) &= 200 \\ Y &= 200/1 - 0.8 \\ Y &= 1000 \end{aligned}$$

Keynesian cross 4



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

Adding business investment

If business investment is added

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- Let $I = \$50m$
- Now $PE = 200 + 0.8Y + 50$

Adding business investment

If business investment is added

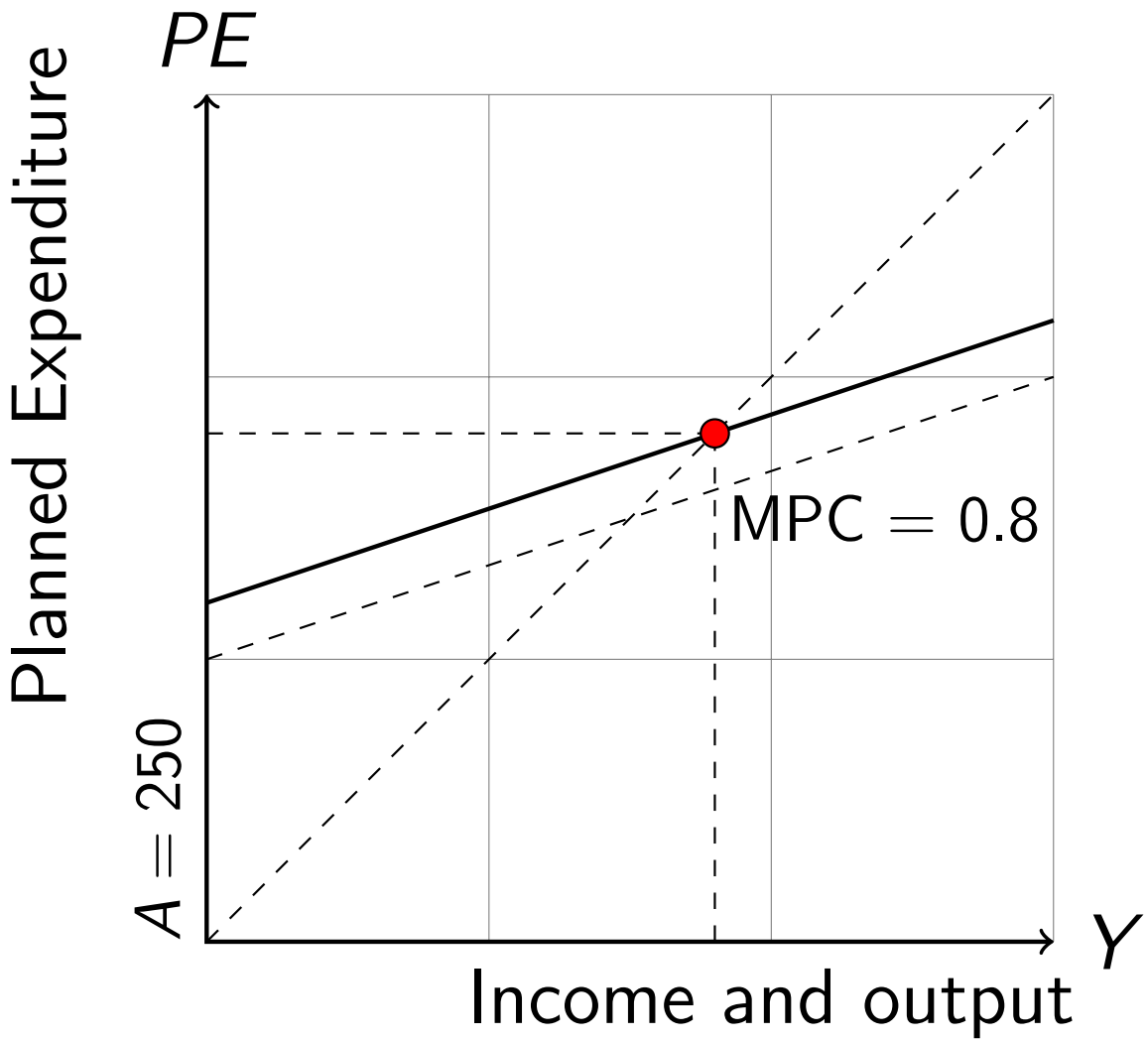
- It is assumed to be exogenous and therefore not affected by Y
- Let $I = \$50m$
- Now $PE = 200 + 0.8Y + 50$
- Or $PE = 250 + 0.8Y$

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

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- Let $G = \$20m$

Adding government spending

If government spending is added

- It is assumed to be exogenous and therefore not affected by Y
- Let $G = \$20m$
- Now $PE = 250 + 0.8Y + 20$

Adding government spending

If government spending is added

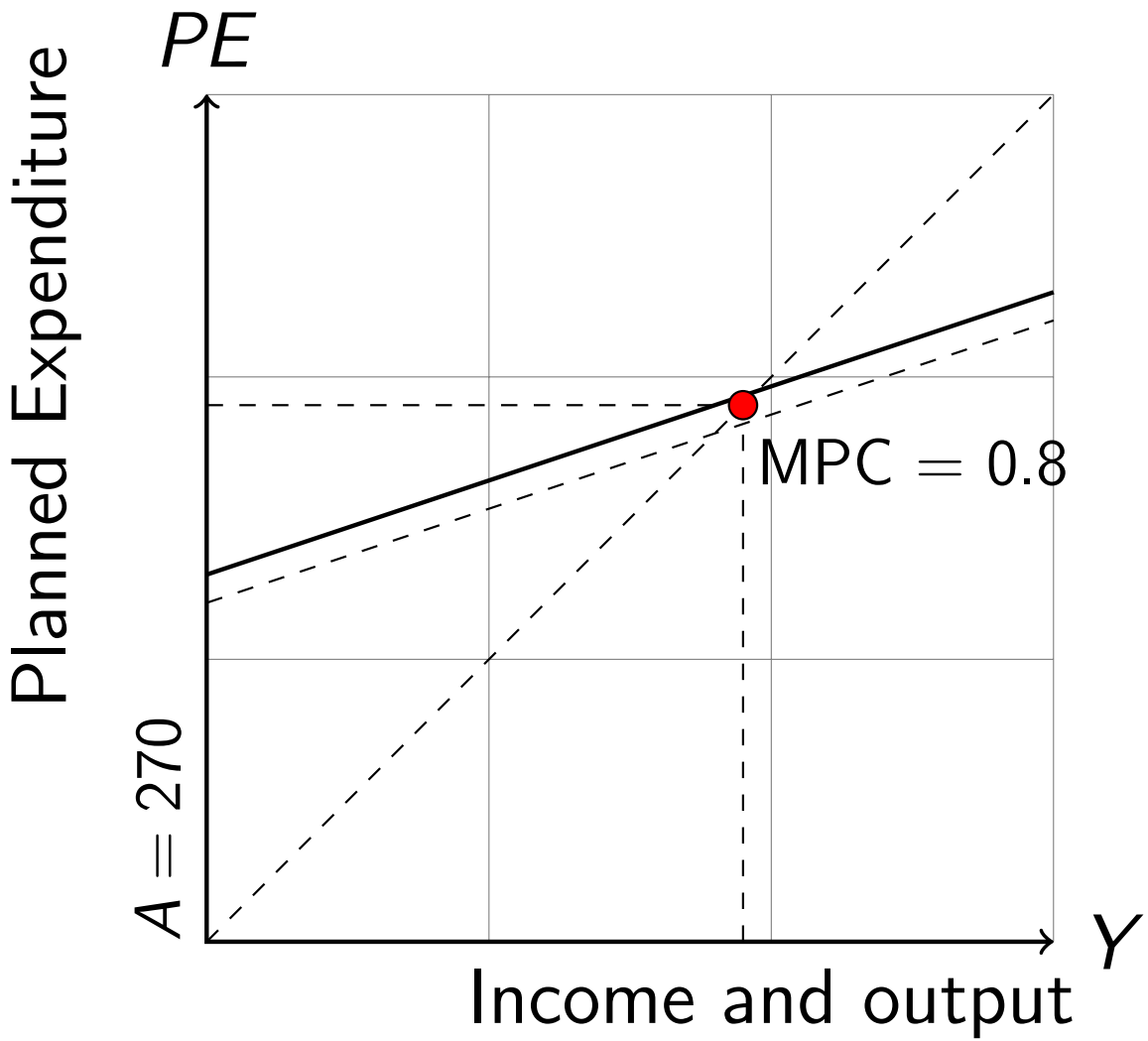
- It is assumed to be exogenous and therefore not affected by Y
- Let $G = \$20m$
- Now $PE = 250 + 0.8Y + 20$
- Or $PE = 270 + 0.8Y$

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

For You

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- 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.

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

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 propenstiy of tax and MPM is the marginal propensity to import.