Unit 14

UNEMPLOYMENT AND FISCAL POLICY

OUTLINE

A. Introduction
B. The Aggregate Demand function and the multiplier model
C. Household wealth
D. Investment
E. The role of government
F. Linking Aggregate Demand and unemployment

A. Introduction

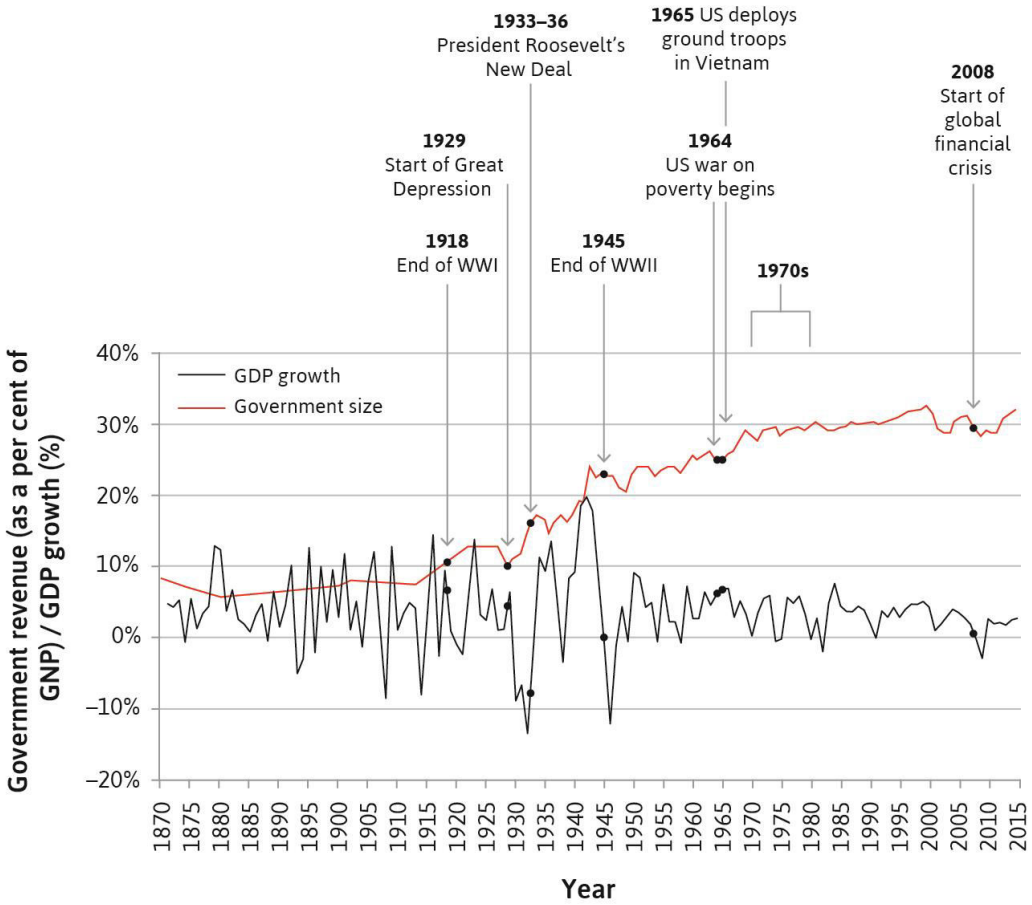
The Context for This Unit

Aggregate demand (GDP) can fluctuate due to consumption and investment decisions. (Unit 13)

Sometimes the aggregate decisions of households and firms can destabilize the economy.

- How can the government stabilize the economy?
- Why might government policies be ineffective?
- How can we model the link between output and unemployment?

This Unit



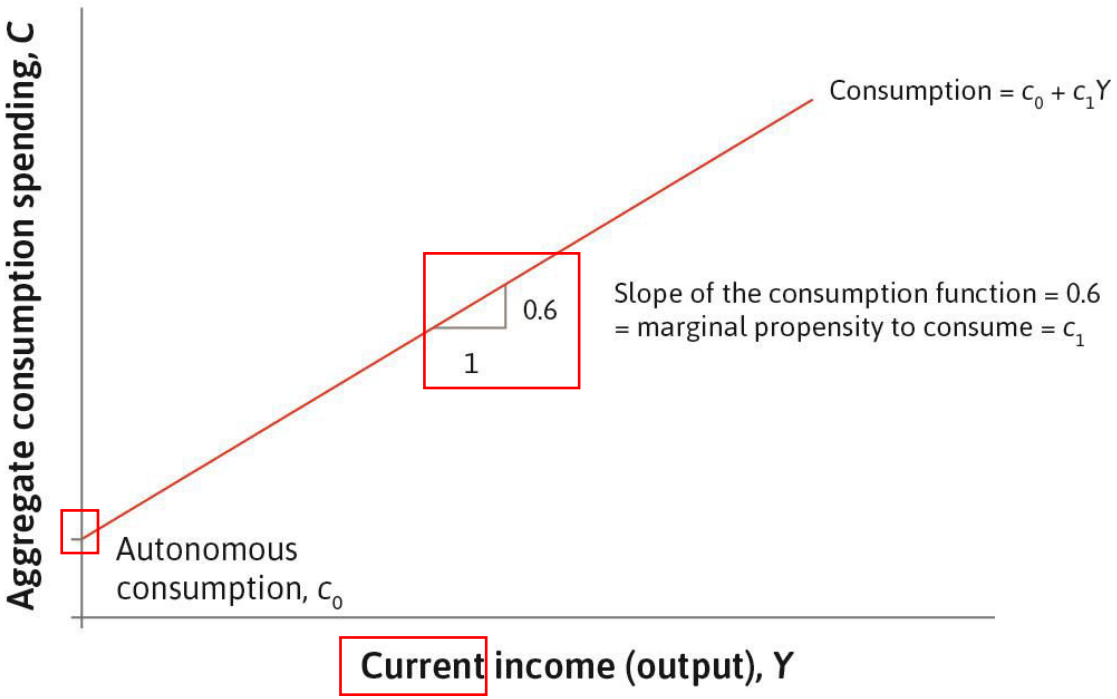
Use a model of aggregate demand to explain how government spending can stabilize the economy

B. The Aggregate Demand function and the multiplier model

Consumption function

Aggregate consumption has 2 parts:

1. **Autonomous consumption** = the fixed amount one will spend, independent of income
2. Consumption dependent on income



Slope of consumption function

= marginal propensity to consume

Consumption function

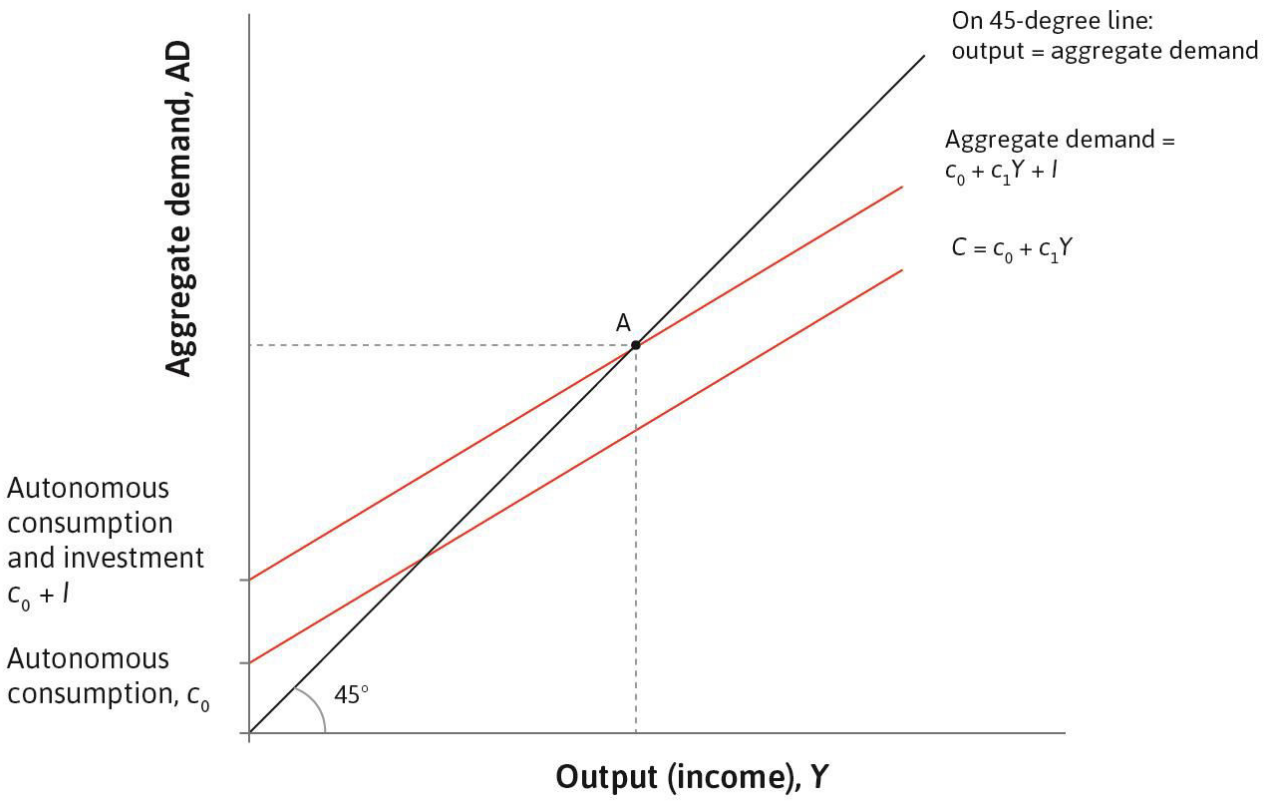
Marginal propensity to consume varies across people:

- poor households with credit constraints react a lot to variation in current income, so their MPC is large
- for wealthy households, current income matters little for current consumption, so their MPC is small

Expectations about future income are reflected in **autonomous consumption**.

Goods market equilibrium

1. **Aggregate demand** (AD) = consumption function + investment
   - investment is assumed to be independent of output (Y)
   - the slope of AD line is below 45° because MPC<1

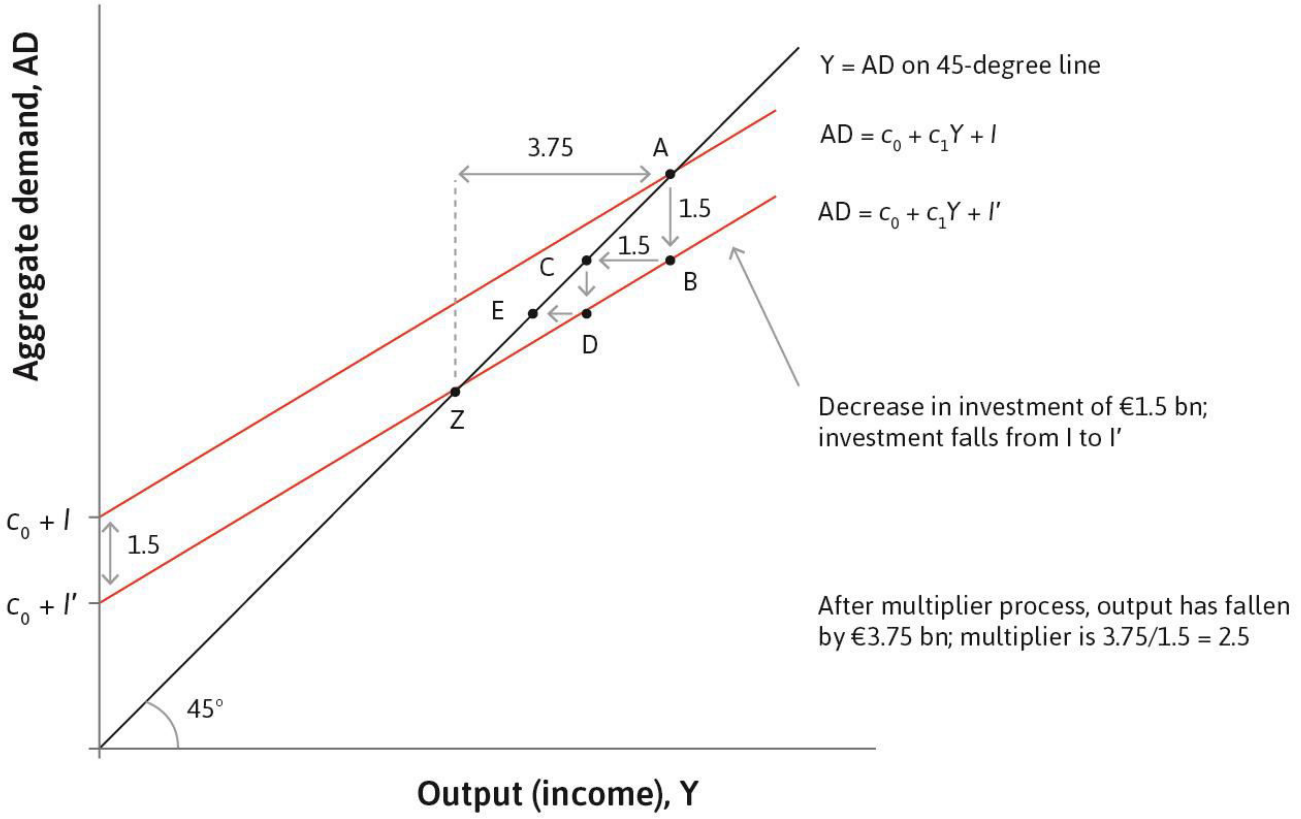


2. 45° line is where Y = AD

Goods market equilibrium: Y = AD

The multiplier process

Fall in investment → fall in aggregate demand → lower output and income → further fall in demand and income → new equilibrium (Z)



The multiplier effect

The total change in output can be greater than the initial change in aggregate demand.

This is because of the circular flow of expenditure, income, and output.

The **multiplier** represents the relative magnitude of this change.

- multiplier = 1: the increase in GDP = the initial increase in spending
- multiplier > (<) 1: the total increase in GDP > (<) the initial increase in spending

Changes in consumption function

Credit constraints and consumption smoothing is reflected in the slope of the AD curve and the size of the multiplier.

Consumption decisions can also shift the AD curve.

- e.g. a fall in house prices will be bad news for a household with a mortgage. They may choose to save more (**precautionary saving**) and hence their autonomous consumption would fall.

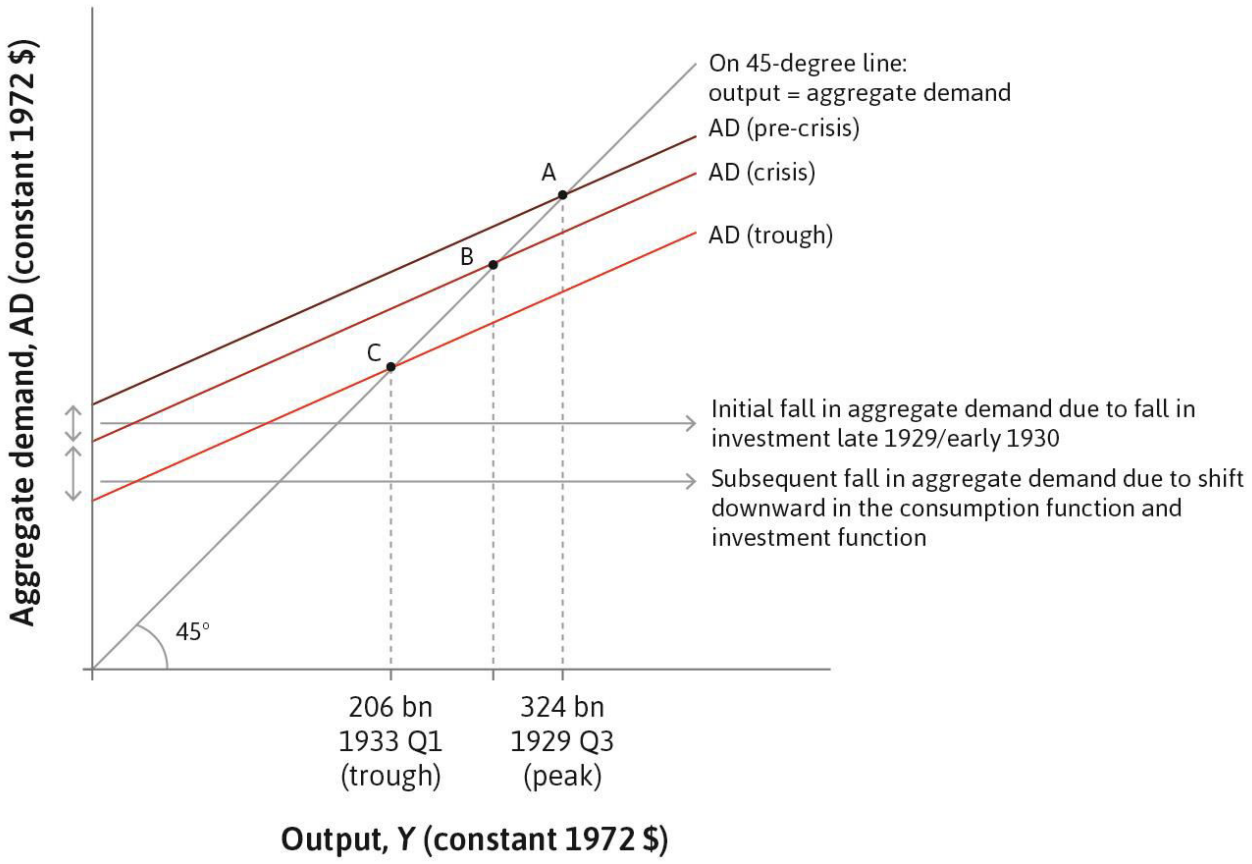
The Great Depression

A: goods market equilibrium (1929)

B : fall in investment = downward shift of AD

C: fall in autonomous consumption = further downward shift of AD

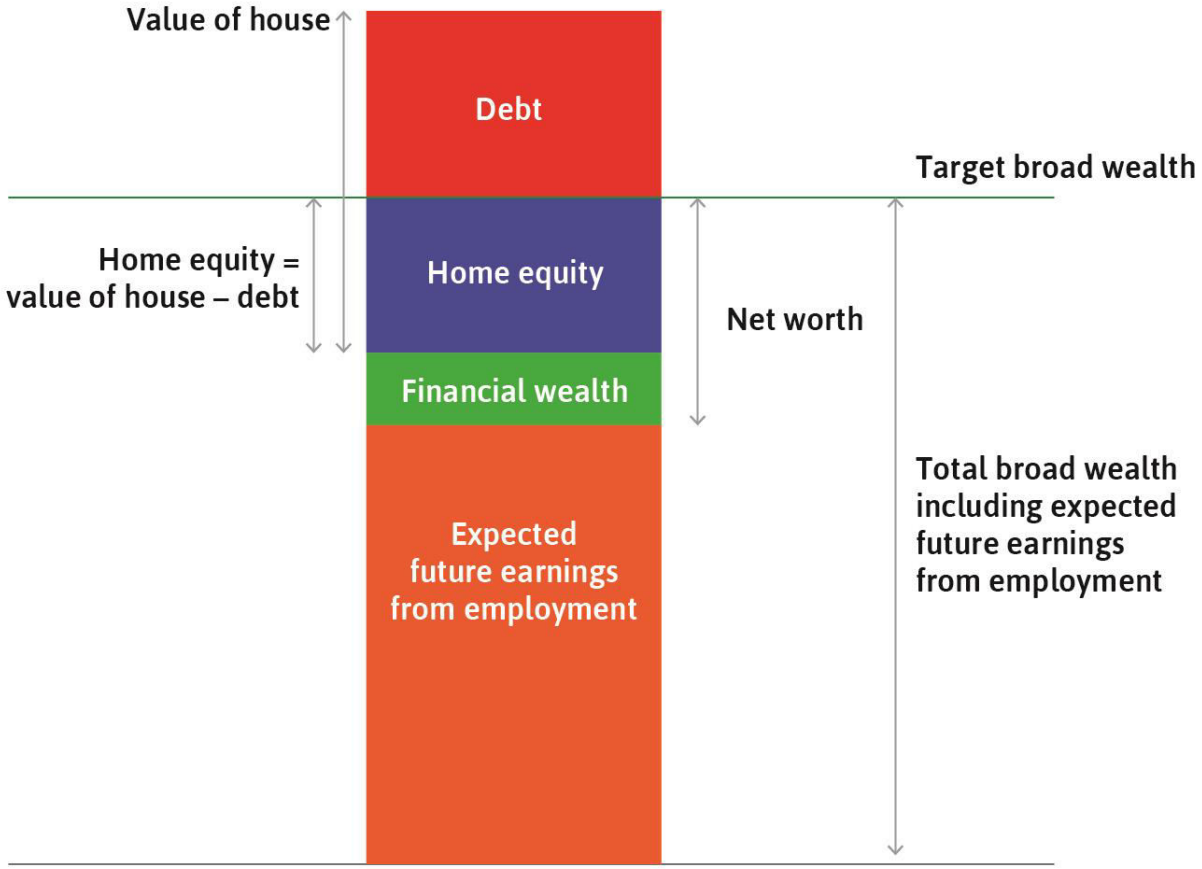
- uncertainty due to stock market crash, pessimism, banking crisis and collapse of credit



C. Household wealth

Household wealth

Household wealth impacts autonomous consumption.

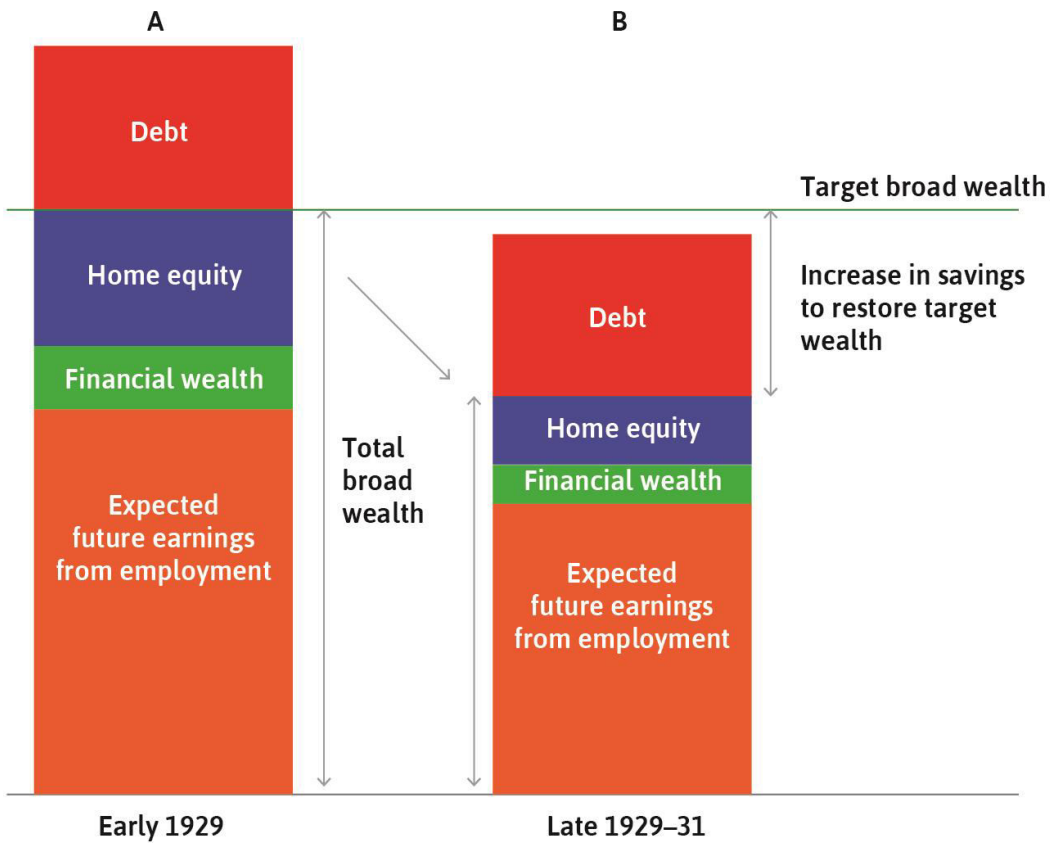


Broad wealth = broad assets – debt

Precautionary saving

Target wealth = the level of wealth that a household aims to hold, based on its economic goals (or preferences) and expectations.

Precautionary saving = An increase in saving to restore wealth to its target level.



A fall in expected earnings will lead to cut in consumption (precautionary savings) to restore target wealth.

Consumption and the housing market

Changes in house prices affect consumption through two channels:

1. Via change in household wealth (home equity)

2. Via change in credit constraints: lower house value makes it more difficult to borrow (greater credit constraint)

D. Investment

Investment spending

Firms' decision about what to do with its profits depends on

- Owner's **discount rate** (ρ)
- **Interest rate** on assets (r)
- **Net profit rate** on investment (Π)

ConsumeSaveInvest

1. Consume the extra income (dividends) if $\rho > r \geq \Pi$
2. Save the extra income/repay debts if $r > \rho \geq \Pi$
3. Invest (at home or abroad) if $\Pi > \rho \geq r$

A lower interest rate makes investment more likely.

Investment spending: supply side effects

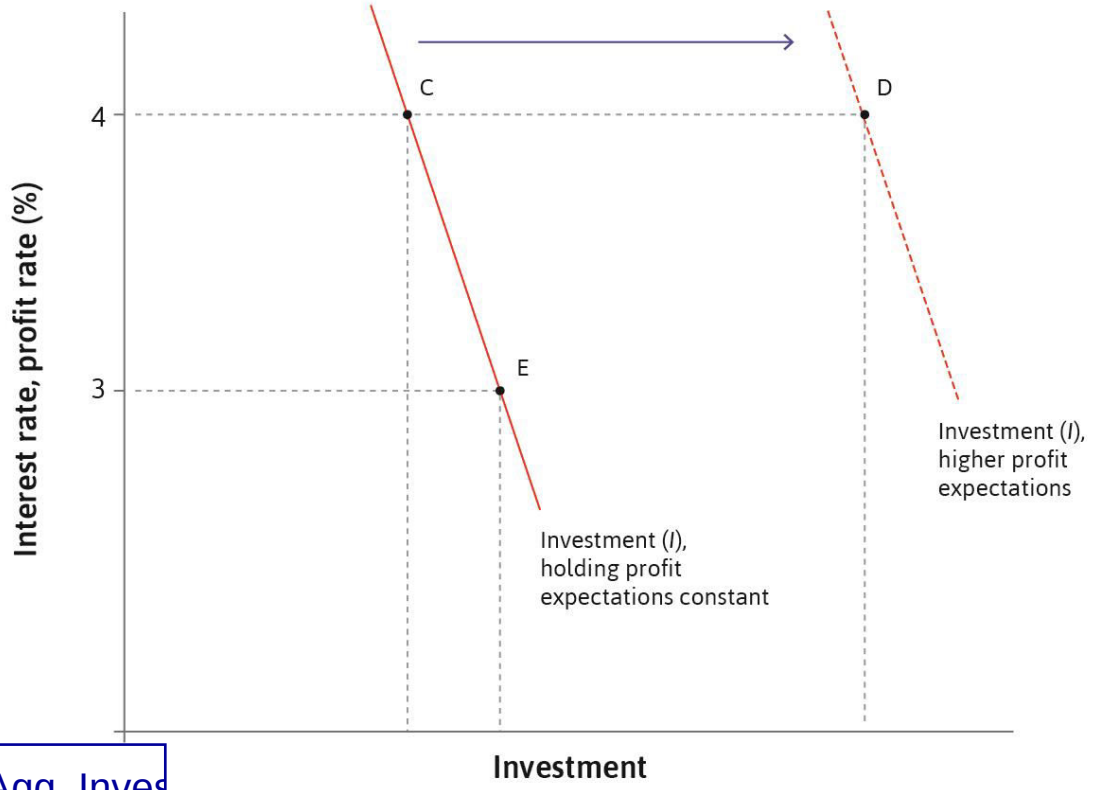
Higher expected rate of profit increases investment, holding r constant.

Improvement in business environment (such as fall in the **risk of expropriation** by the government) also increases investment.

Change in interest rate is a demand-side factor.

Aggregate investment function

Aggregate investment function = An equation that shows how investment spending in the economy as a whole depends on other variables (interest rate and profit expectations).



Factors that shifts Agg. Inves

In practice, investment is not very sensitive to interest rate. Instead, the shift factors are much more important.

E. The role of government

Adding government to aggregate demand

$$AD = C + I + G + NX$$

Government enters AD via

- Government spending: exogenous; shifts AD curve upwards
- Consumption: household's MPC is out of disposable income (1-t)Y
- Investment: depends on the interest rate and after-tax rate of profit

Net exports and aggregate demand

$$AD = C + I + G + NX$$

NX = exports - imports

The amount of exports is taken as exogenous.

The amount of imports depends on domestic income.

Marginal propensity to import = The fraction of each additional unit of income that is spent on imports

The multiplier model again

autonomous co

MPC

disposableinco

$$AD = c_0 + c_1(1 - t)Y + I + G + X - mY$$

Saving, taxation and imports are referred to as leakages from the circular flow of income. They reduce the size of the multiplier.

- some household income goes directly to the government as taxes
- and some income is used to buy goods abroad

Smaller multiplier = flatter AD curve.

Stabilising the economy

The government stabilises economic fluctuations in several ways:

1. Government spending is large and exogenous
2. Higher tax rate lowers the multiplier
3. Unemployment insurance helps households smooth consumption
   - Failure of private market because of **correlated risk, hidden actions, hidden attributes**
4. Deliberate intervention via fiscal policy

The unemployment benefit scheme and proportional tax rate are **automatic stabilizers** = they automatically offset an expansion or contraction of the economy.

The paradox of thrift

In a recession, faced with a household budget deficit, a family worried about their falling wealth cuts spending and saves more.

But in the economy as a whole, spending and earning go together.

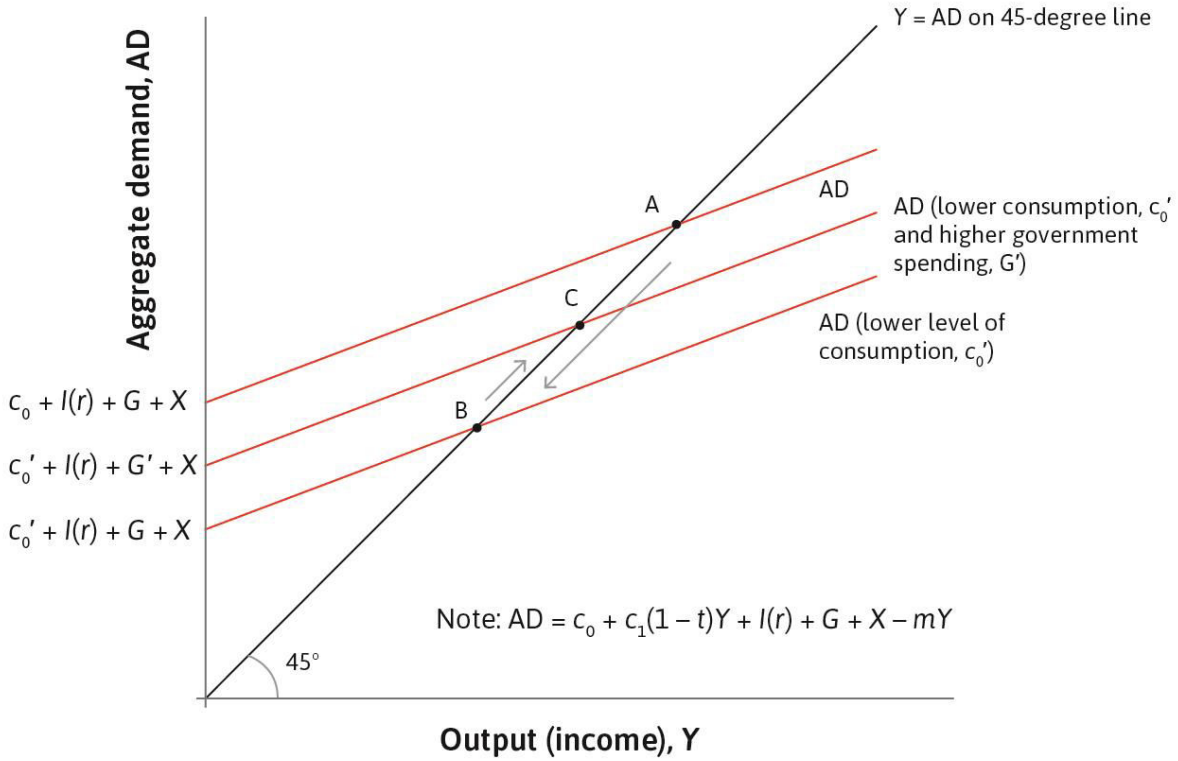
The paradox of thrift = the aggregate attempt to increase savings leads to a fall in aggregate income.

Fallacy of composition: what is true for one part of the economy (a single household) is not true of the whole economy.

Fiscal stimulus

Government can counteract the fall in AD from the private sector via **fiscal stimulus**.

- cut taxes to encourage the private sector to spend more
- increase spending (G), which directly increases AD



The rise in G operates via the multiplier, so the increase in Y will typically be greater than the increase in G.

Financing fiscal stimulus

Budget balance = T - G

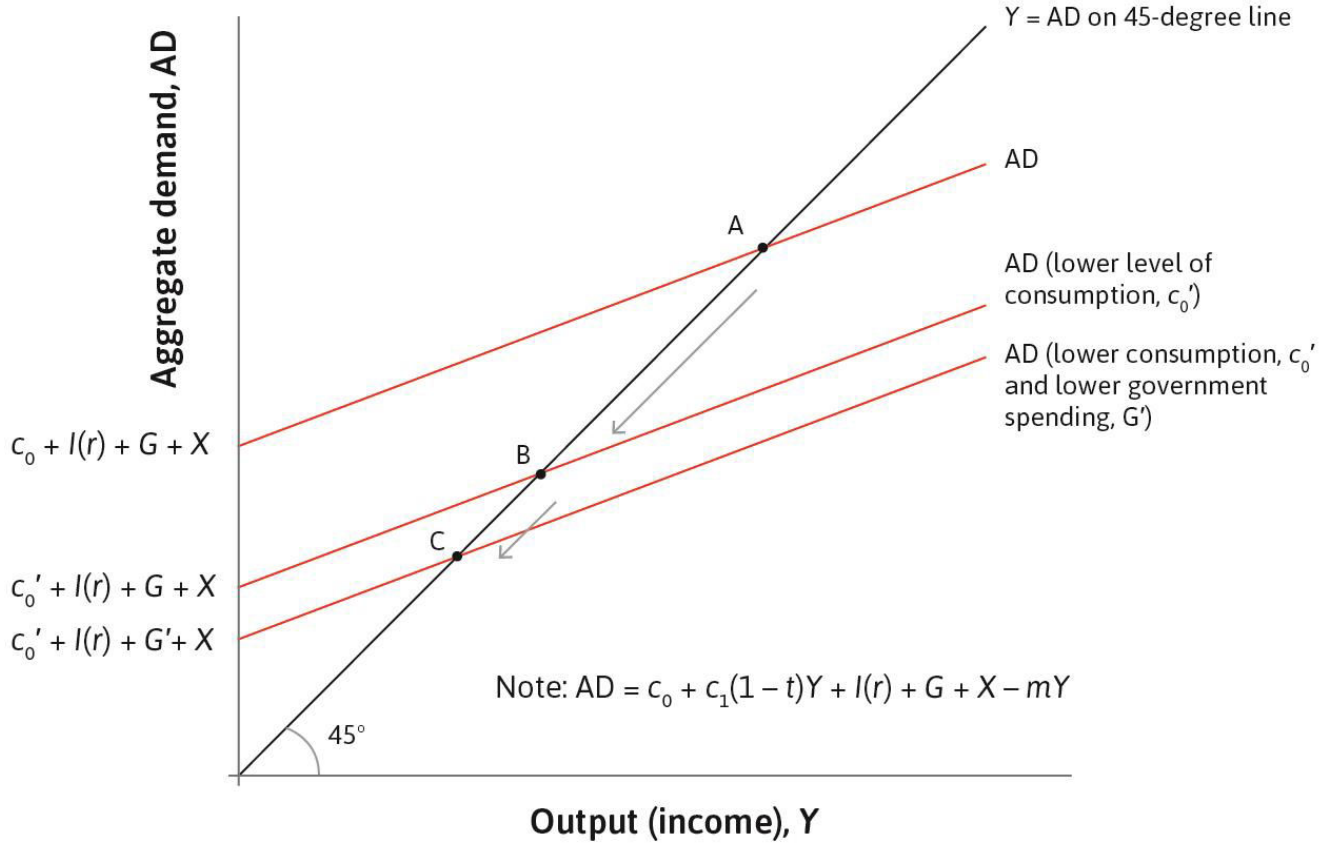
Fiscal stimulus will result in a negative budget balance (**government budget deficit**).

If it is not reversed after the recession, it will increase government debt.

A **government budget surplus** is when tax revenue is greater than government spending.

Austerity policy

Austerity policy can reinforce a recession by further reducing aggregate demand.



Positive/Negative Feedback Mechanisms

	DAMPENING MECHANISMS OFFSET SHOCKS (STABILISING)	AMPLIFYING MECHANISMS REINFORCE SHOCKS (MAY BE DESTABILISING)
PRIVATE SECTOR DECISIONS	Consumption smoothing	Credit constraints limit consumption smoothing Rising value of collateral (house prices) can increase wealth above the target level and raise consumption Rising capacity utilisation in a boom encourages investment spending, adding to the boom
GOVERNMENT AND CENTRAL BANK DECISIONS	Automatic stabilisers (e.g. unemployment benefit) Stabilisation policy (fiscal or monetary)	Policy mistakes, such as limiting the scope of automatic stabilisers in a recession or running deficits during low demand periods, while not running surpluses during booms

The multiplier in practice

In our model of aggregate demand, the multiplier depended only on the marginal propensity to consume, the marginal propensity to import, and the tax rate.

In reality, it also depends on:

- rate of capacity utilisation (the phase of the business cycle): with fully employed resources, an increase in government spending would **crowd out** private spending
- expectations of the private sector: the multiplier could be negative if rising fiscal deficit erodes consumer confidence

The government's finances

Primary budget deficit = G –T

- procyclical
- the government must borrow to cover the gap between spending and revenue, by issuing bonds

Government debt = sum of all the bonds sold over time to finance budget deficit – matured bonds (repaid debt).

Sovereign debt crisis = a situation in which government bonds come to be considered risky (default risk).

Government debt

A large stock of debt relative to GDP can be a problem because the government has to pay interest on its debt.

However, there is no point at which the government has to pay off all its stock of debt—it can roll it over instead by issuing new bonds.

An ever-increasing debt ratio is unsustainable, but there is no rule that says exactly how much debt is problematic.

Debt-to-GDP ratio

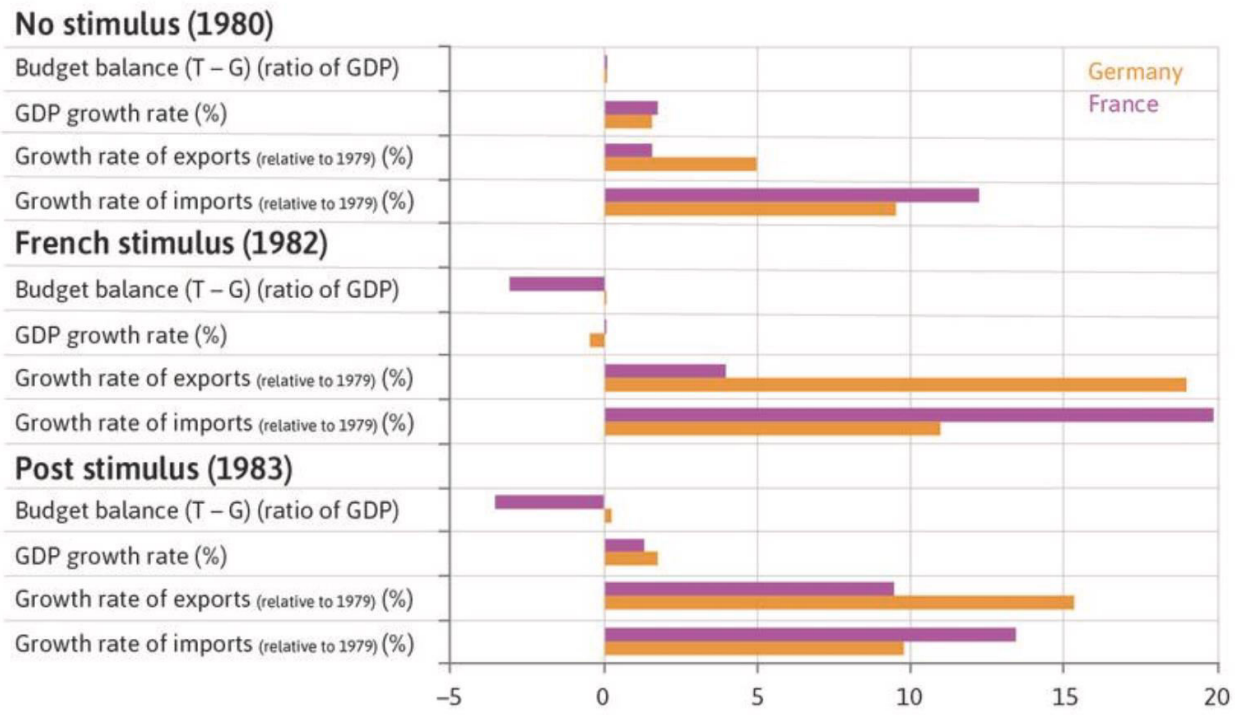
The level of indebtedness of a government is measured relative to the size of the economy (**debt-to-GDP** ratio).

Indebtedness can fall

- if the primary budget balance is positive
- if GDP is growing faster than government debt
- if inflation is high (real value of debt falls)

Foreign markets and aggregate demand

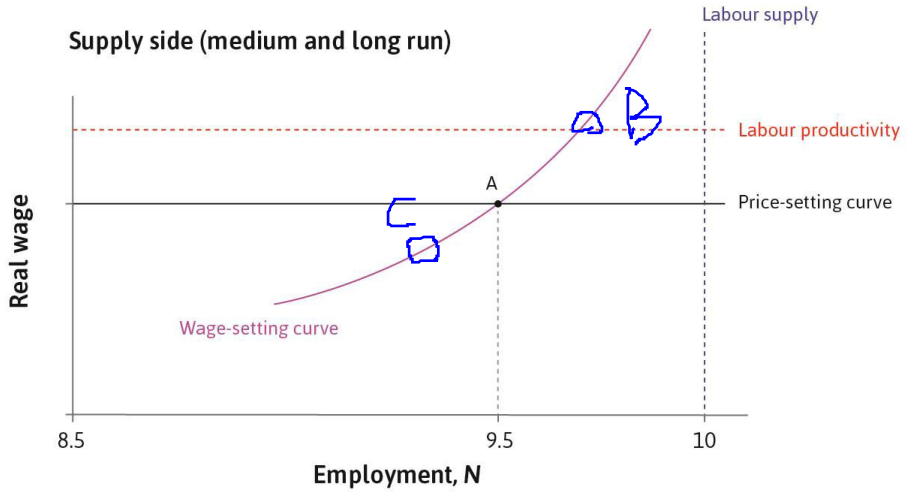
1. Fluctuations in the growth rate of important markets abroad influence the domestic economy via demand for exports.
2. Demand for imports dampens domestic fluctuations.
3. **Foreign trade limits the use of fiscal stimulus if the marginal propensity to import is large.**



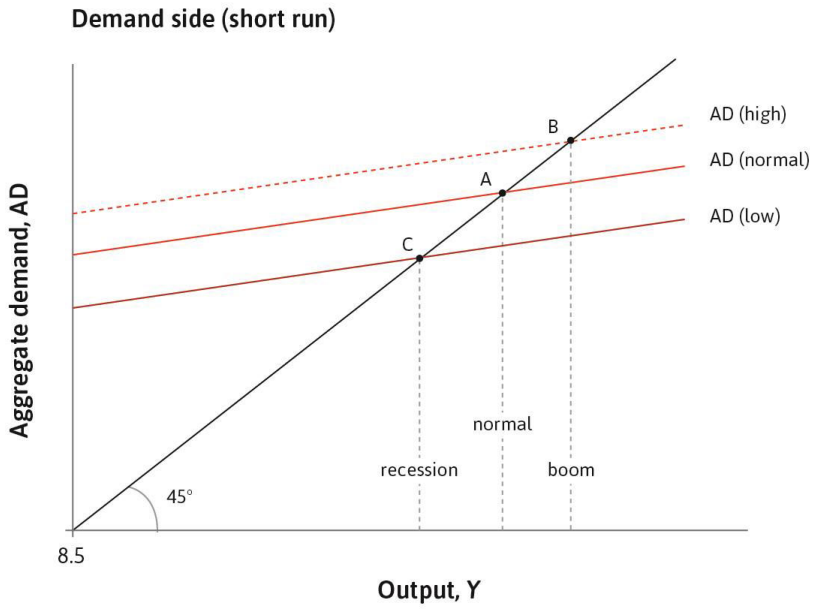
F. Linking Aggregate Demand and unemployment

Aggregate Demand and Unemployment

Supply-side = labour market model
Medium-run model: wages and prices can change, but capital stock, technology and institutions are fixed

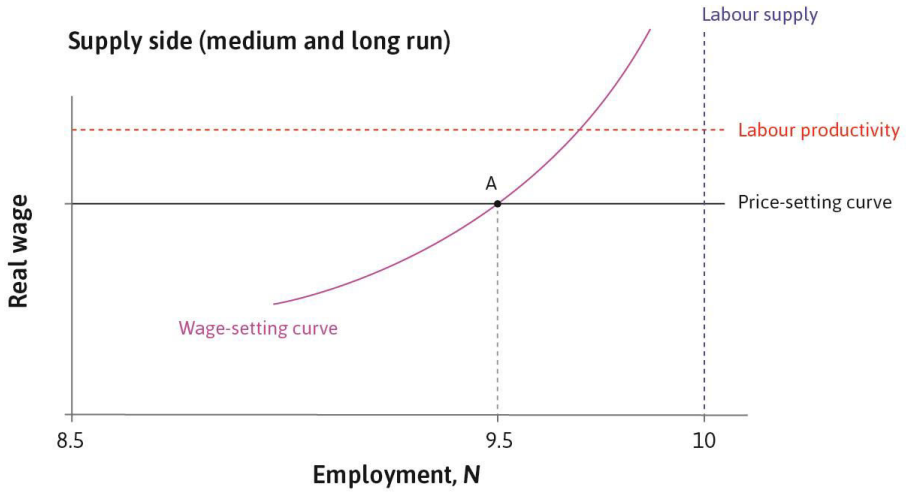


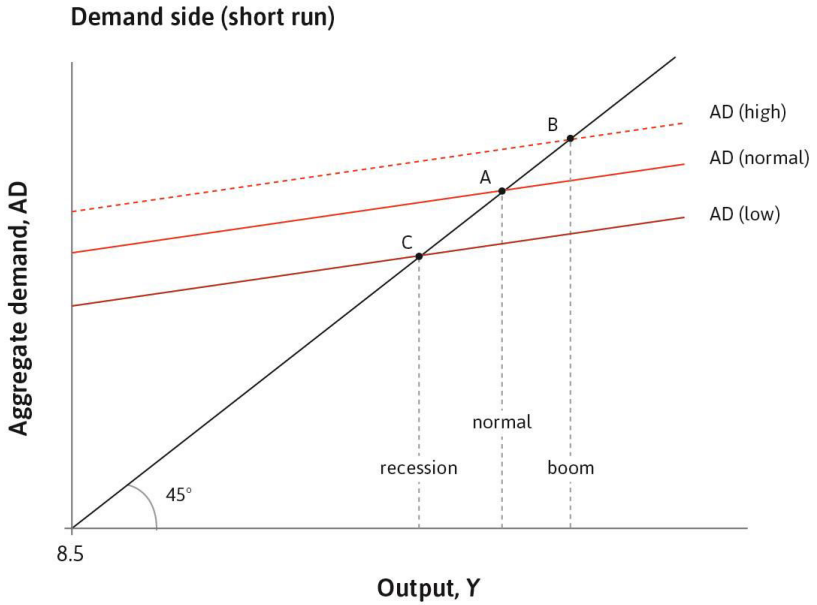
Demand-side = multiplier model
Short-run model: all variables fixed



Production function connects employment (N) and output (Y)

Cyclical unemployment





Fluctuations in aggregate demand around the labour market equilibrium cause cyclical unemployment.

Summary

1. The aggregate demand function and its components:

$$\mathbf{AD = C + I + G + NX}$$

2. Shocks to aggregate demand are amplified by the **multiplier**
3. Government can stabilise economic fluctuations
   - **Automatic stabilisers**
   - **Fiscal stimulus** – offset decline in aggregate demand from the private sector
   - **Austerity** policies amplify the negative demand shock
4. Fiscal stimulus in a recession must be reversed in a boom to prevent **government debt** from escalating (**sovereign debt crisis**)

In the next unit

- The relationship between unemployment and inflation: The Phillips curve
- How governments use monetary policy to affect inflation
- Developing our model of aggregate demand: What happens to wages and prices in booms/recessions