

Macro for small displays

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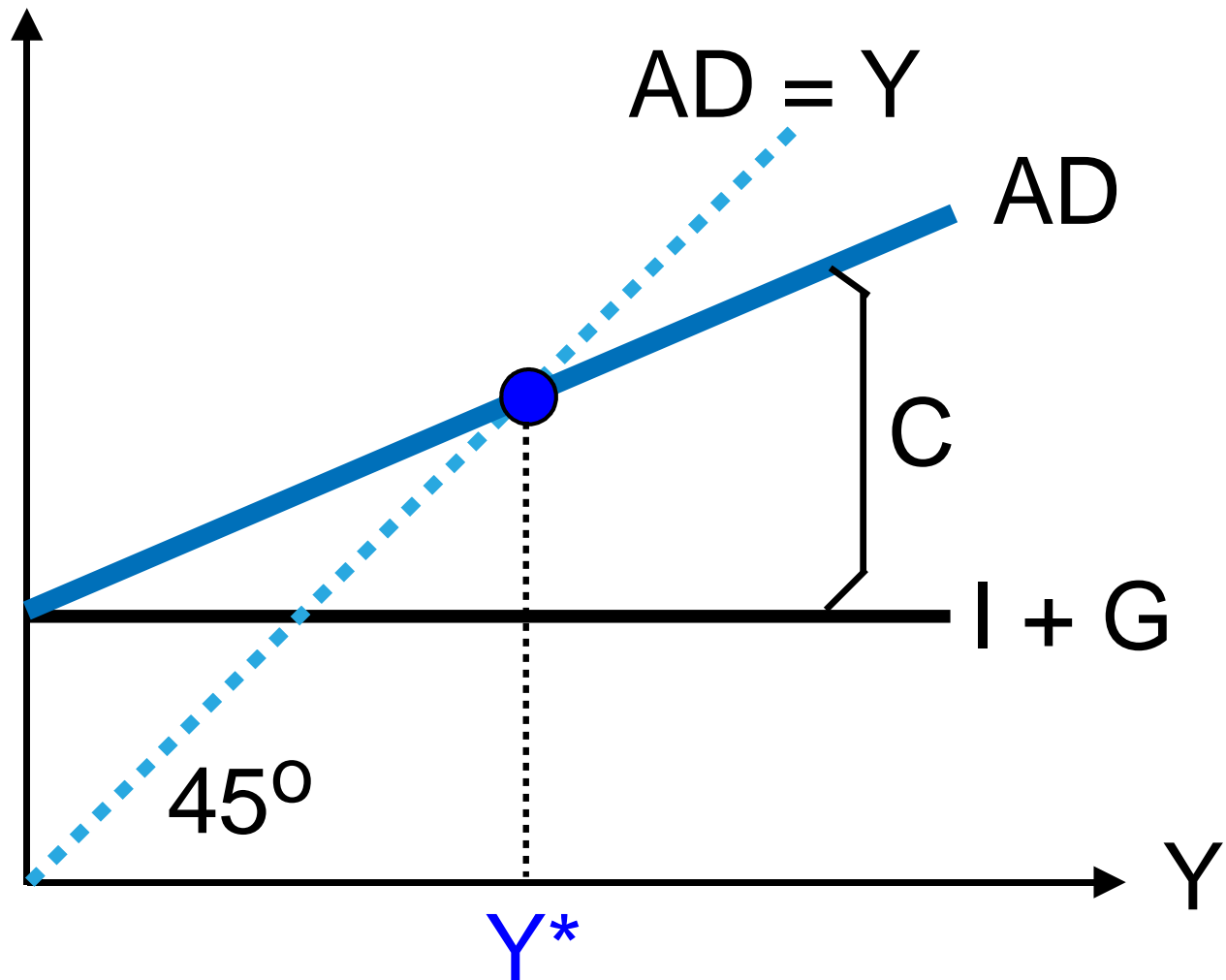
Abbreviations

AD	Aggegate demand
AS	Aggregate supply
C	Consumption
D	Demand
G	Government spending
GDP	Gross domestic product
GNP	Gross national product
I	Investment
i or r	Interest rates
M	Imports
Q	Quantity
r or i	Interest rates
S	Savings
T	Taxes
X	Exports
Y	National income

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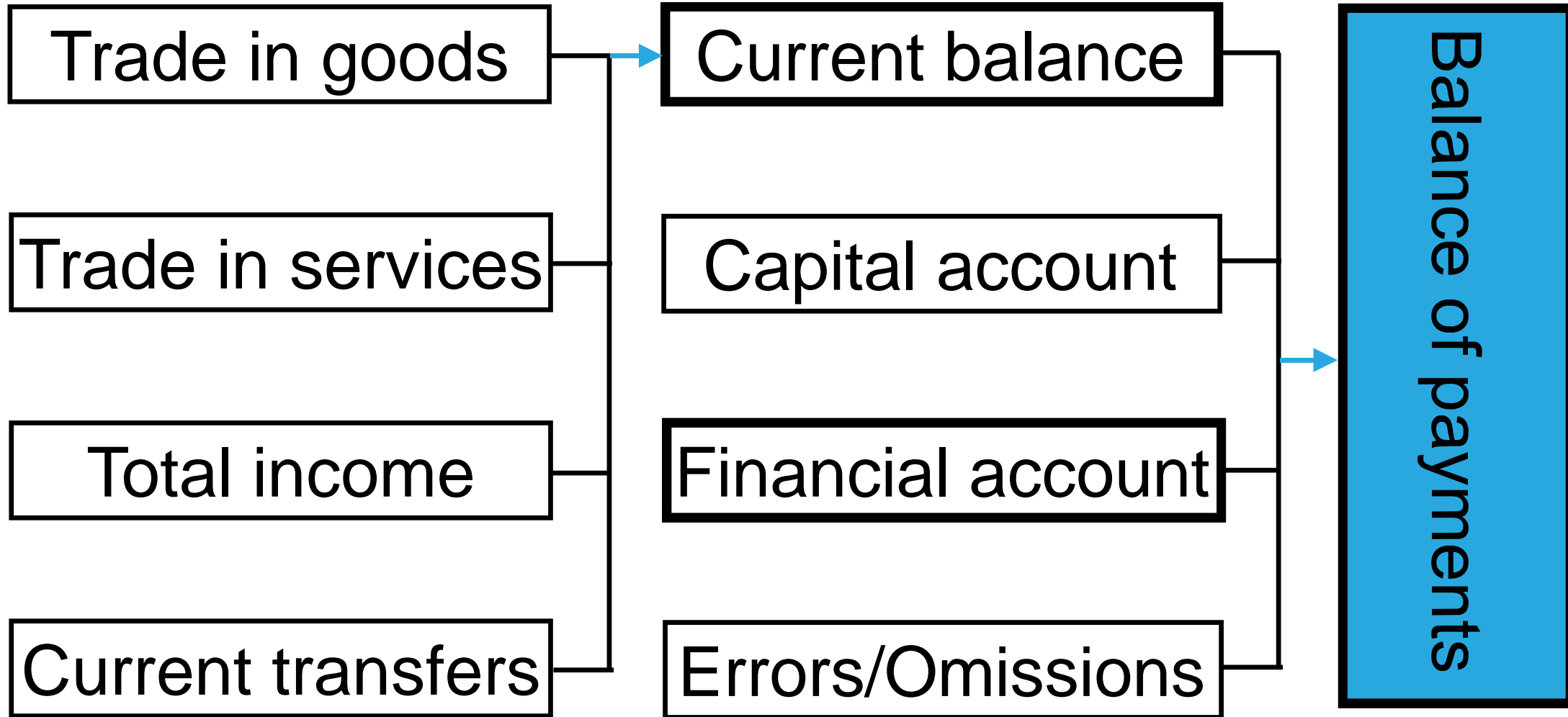
Aggregate demand (Keynes)

planned AD



- $AD = C + I + G$
- $C = a + bY$
- I and G are not dependent on Y .
- Y^* = Equilibrium national income

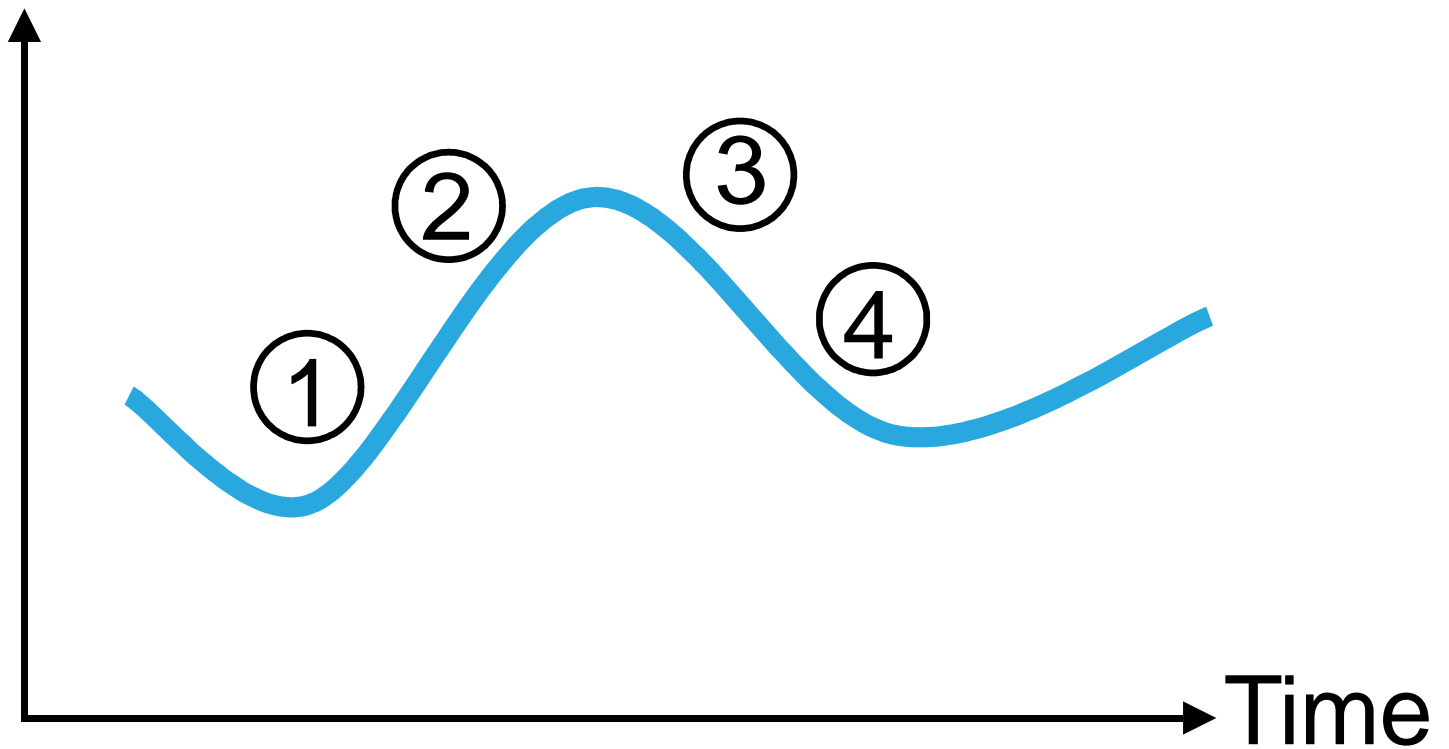
Balance of payments (UK)



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Business cycle

Economic activity



Phase

Danger

① Recovery

Inflation

② Boom

③ Recession

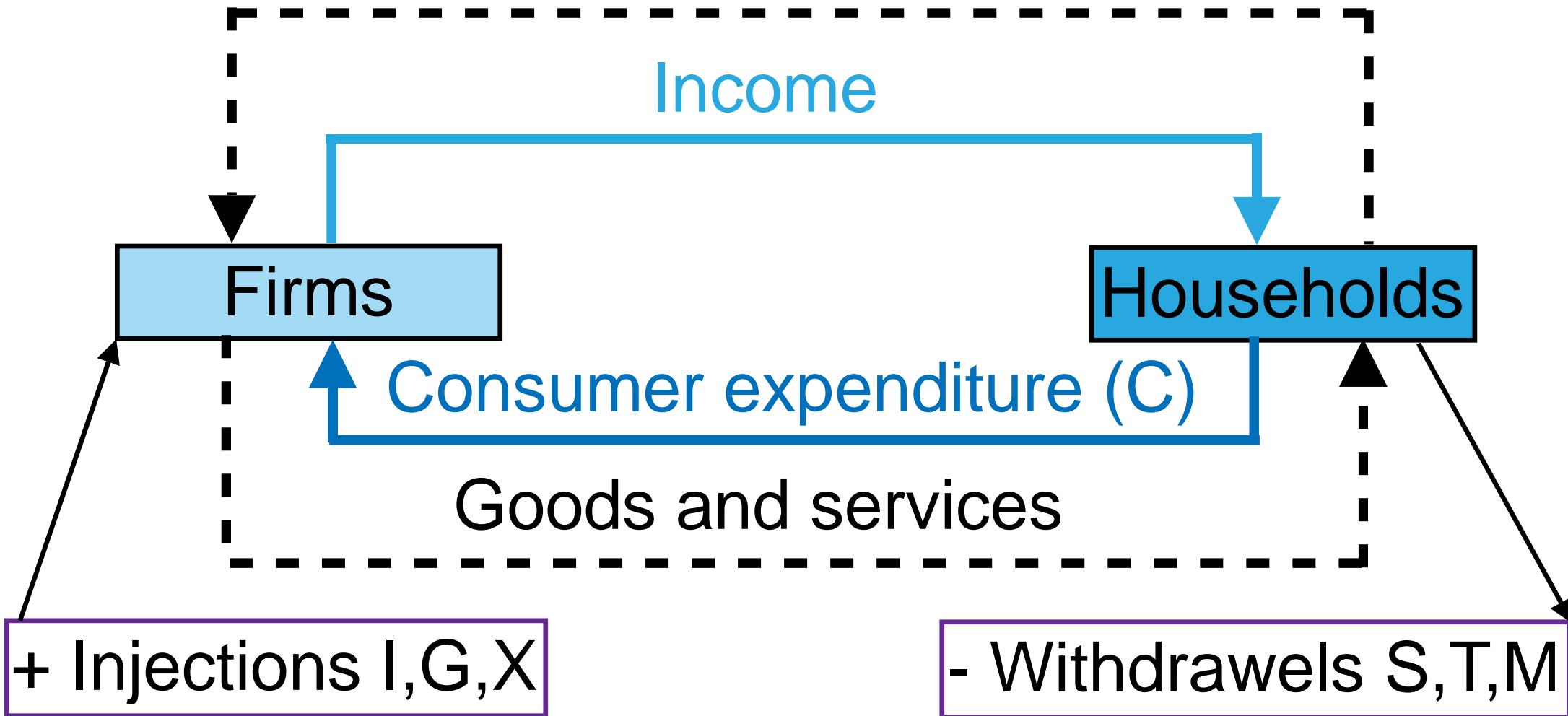
Unemployment

④ Depression

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Circular flow

Factors of production



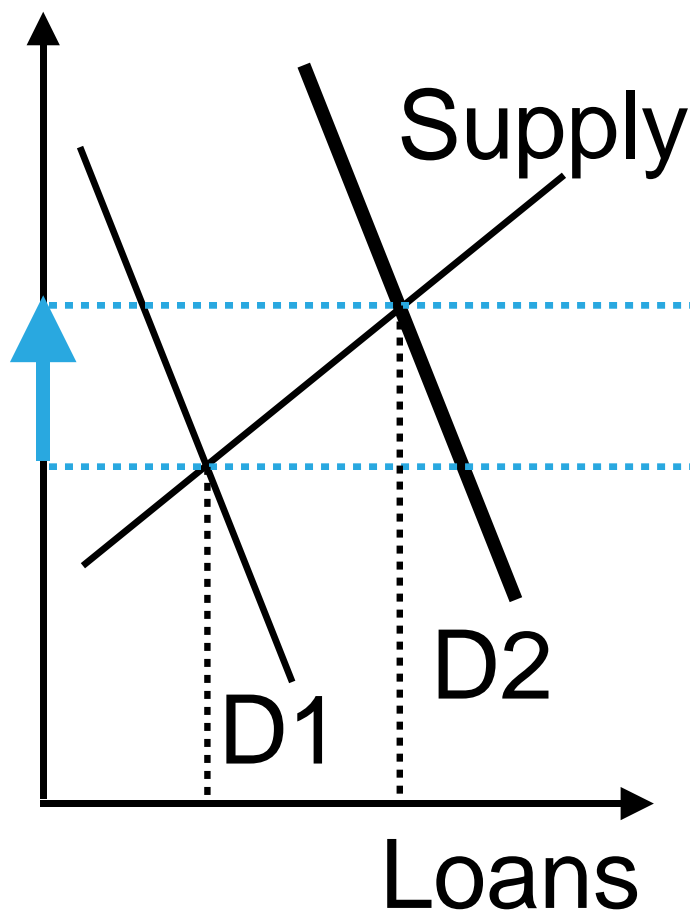
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Crowding-out effect

An increase in government borrowing causes a reduction in private spending (C or I) due to an increase in interest rates.

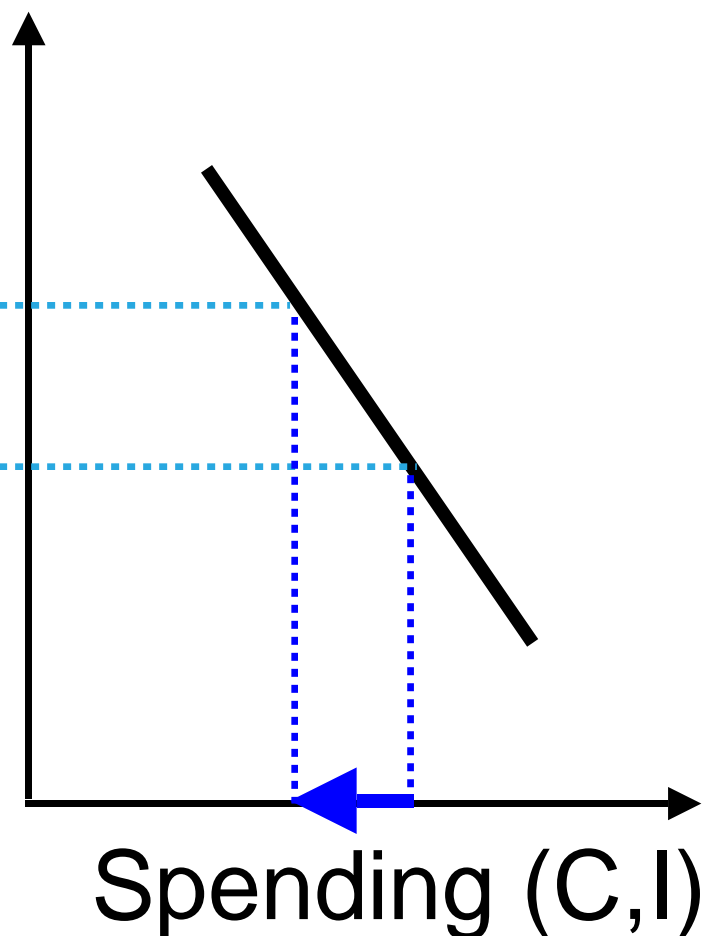
Market for loans

Interest rate



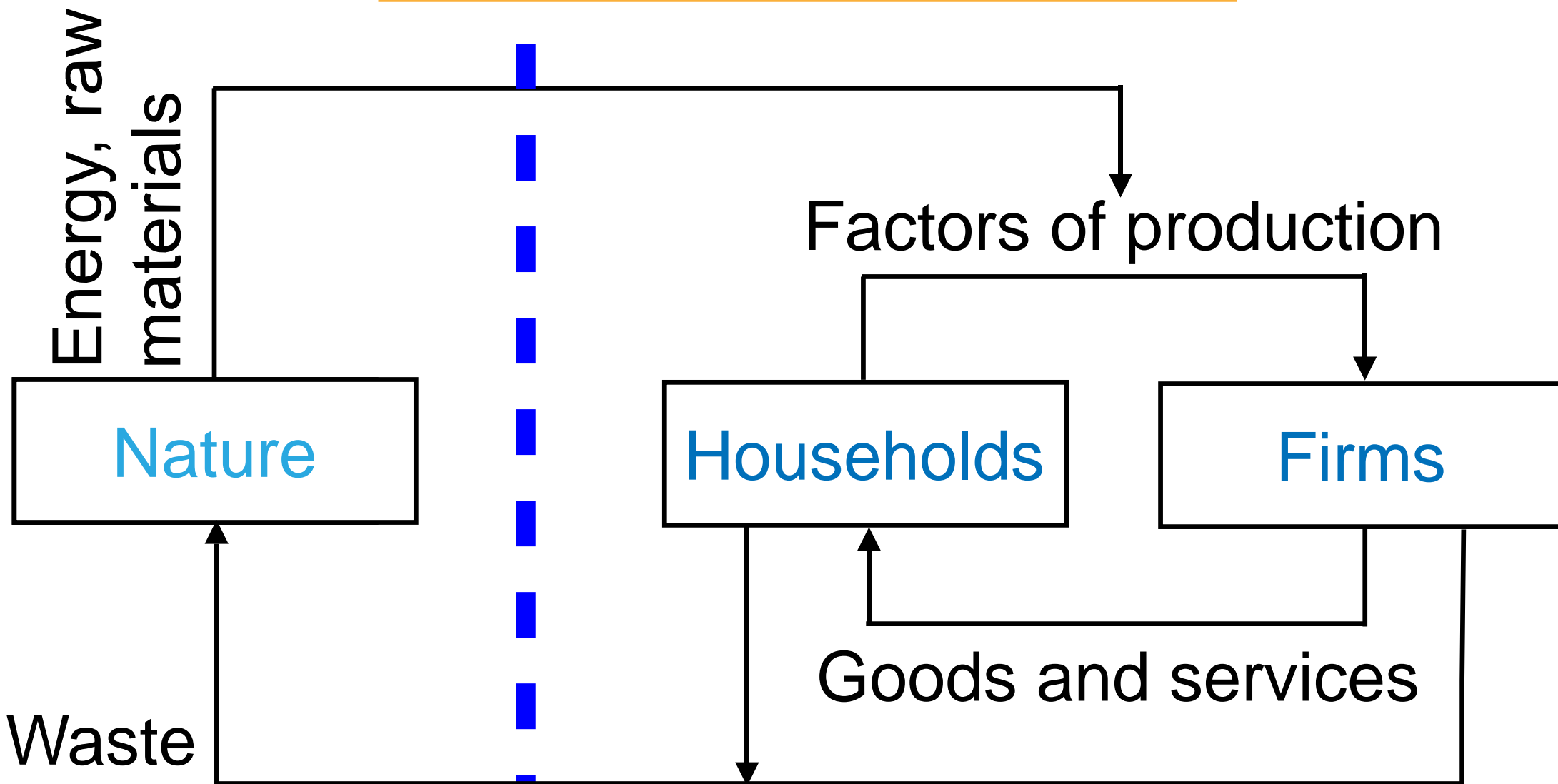
Private spending

Interest rate



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Economy and environment



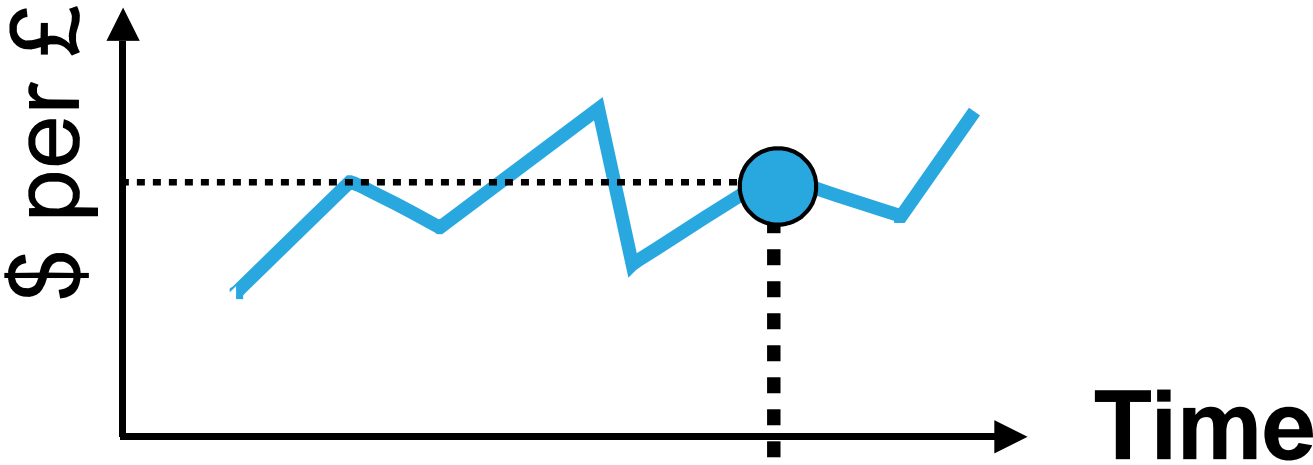
See also: Graham Dawson, Macroeconomics,
Harlow 2006, 553

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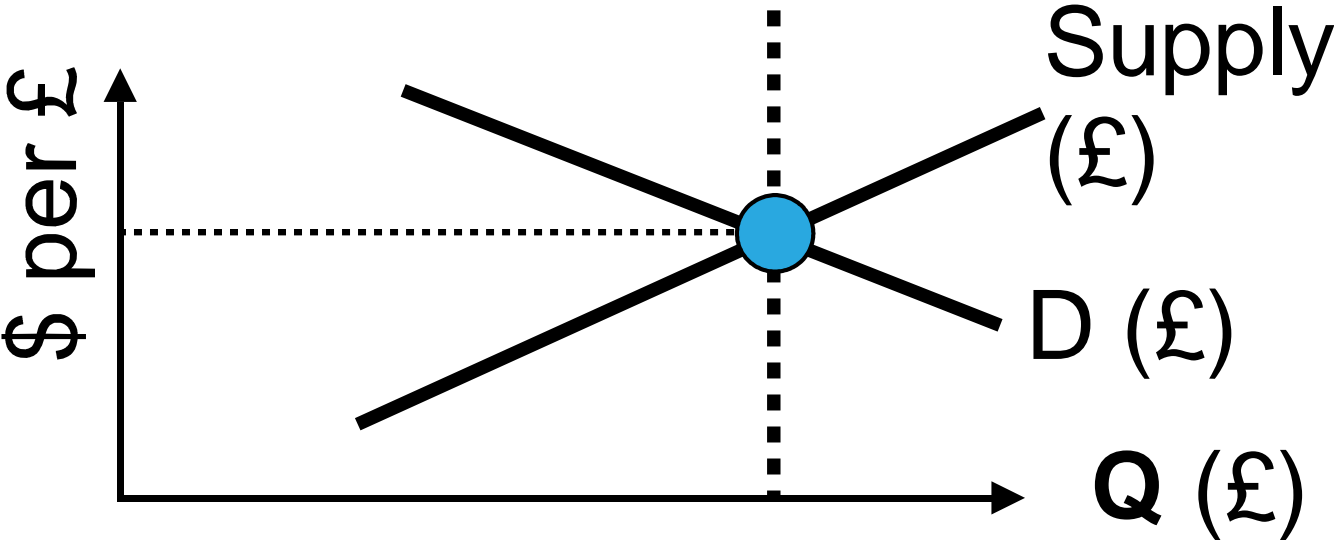
Exchange rates 1 (flexible)

→ Rates by market forces

Rates during a **time period**...



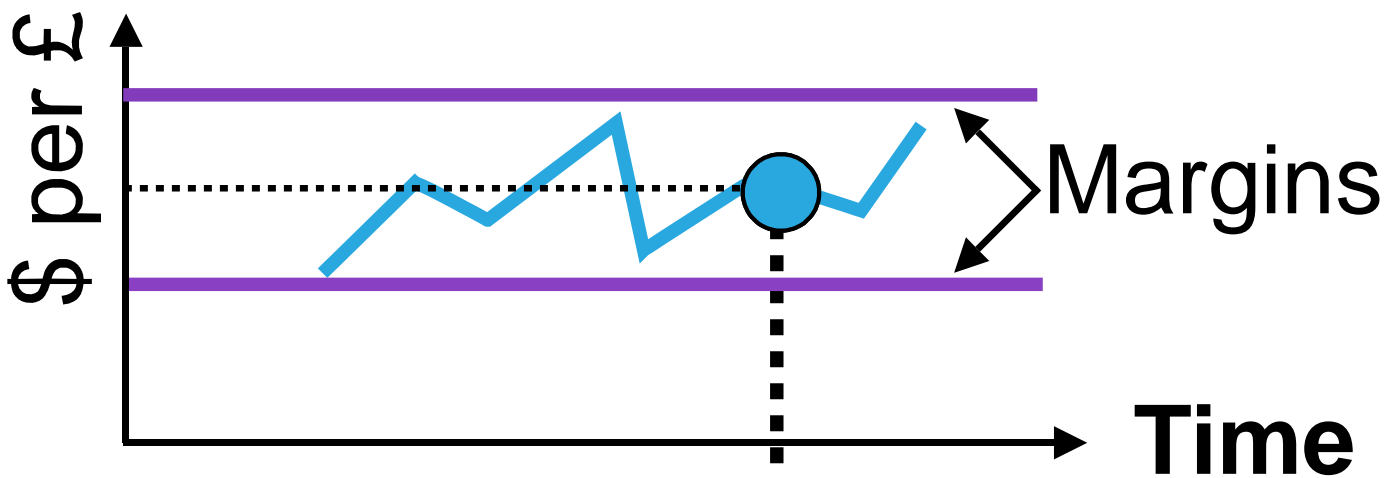
and at a **moment**:



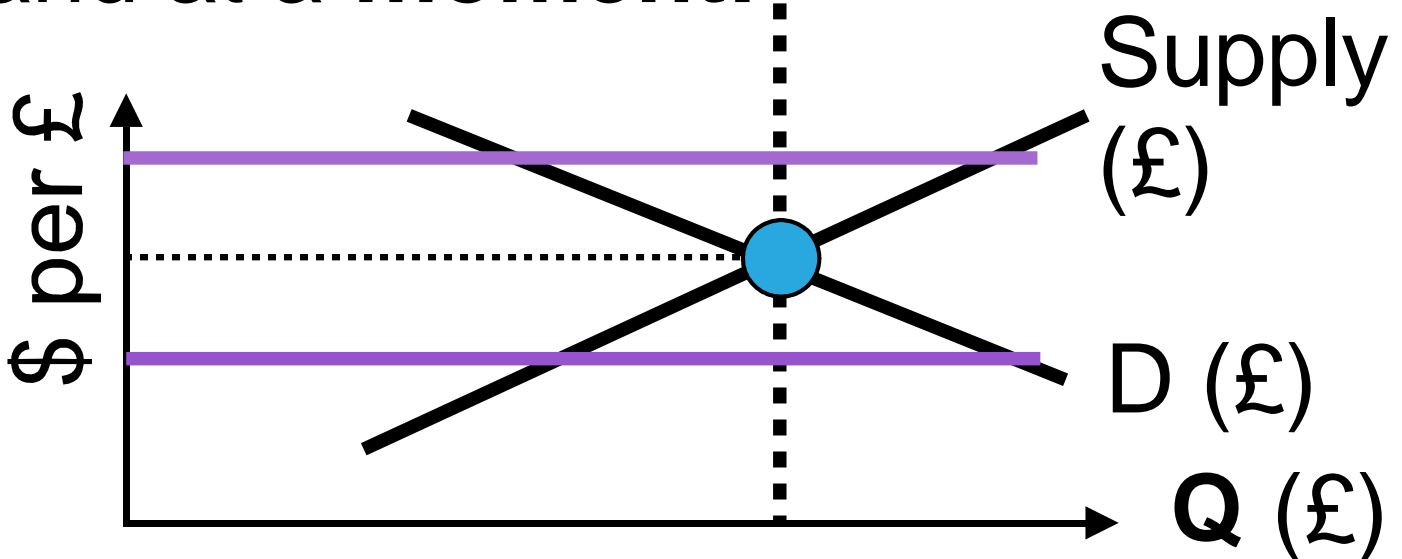
Exchange rates 2 (fixed)

→ Rates by market forces within narrow **margins**

Rates during a **time period**...

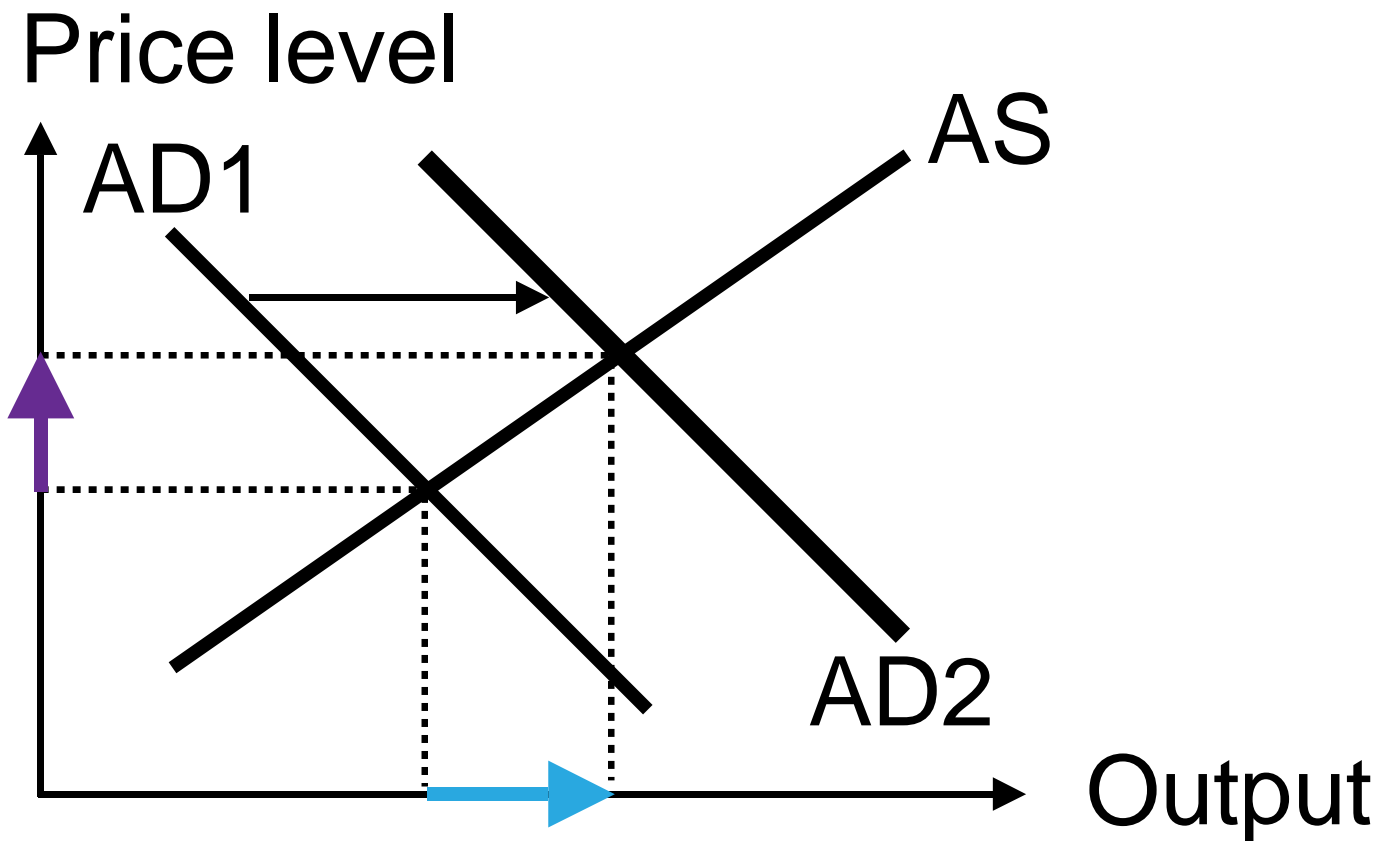


and at a **moment**:



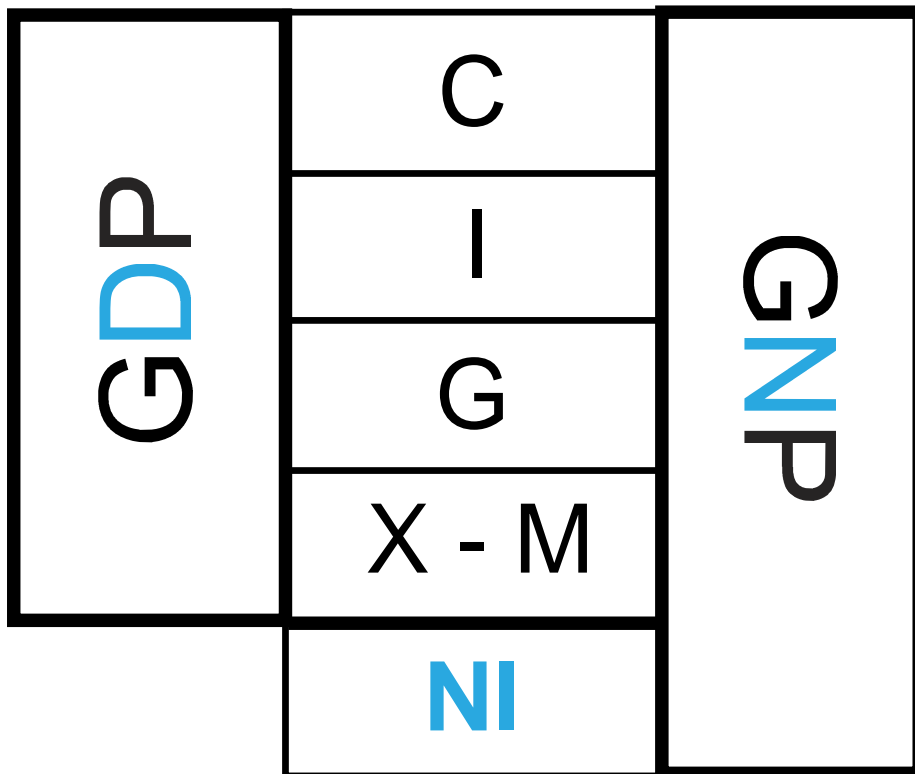
Fiscal policy

By using G and T, AD is changed.
A recession is assumed.



- In this case, the fiscal policy is **partially effective**: **Output** and **price level** are increased.
- The fiscal policy is more effective if the AS curve is less steep.

GDP and GNP (relation)



- NI = Net income from abroad (from labour, from investments)
- If $NI > 0$, then $GDP < GNP$ (more income from abroad than to abroad)
- If $NI < 0$, then $GDP > GNP$ (less income from abroad than to abroad)

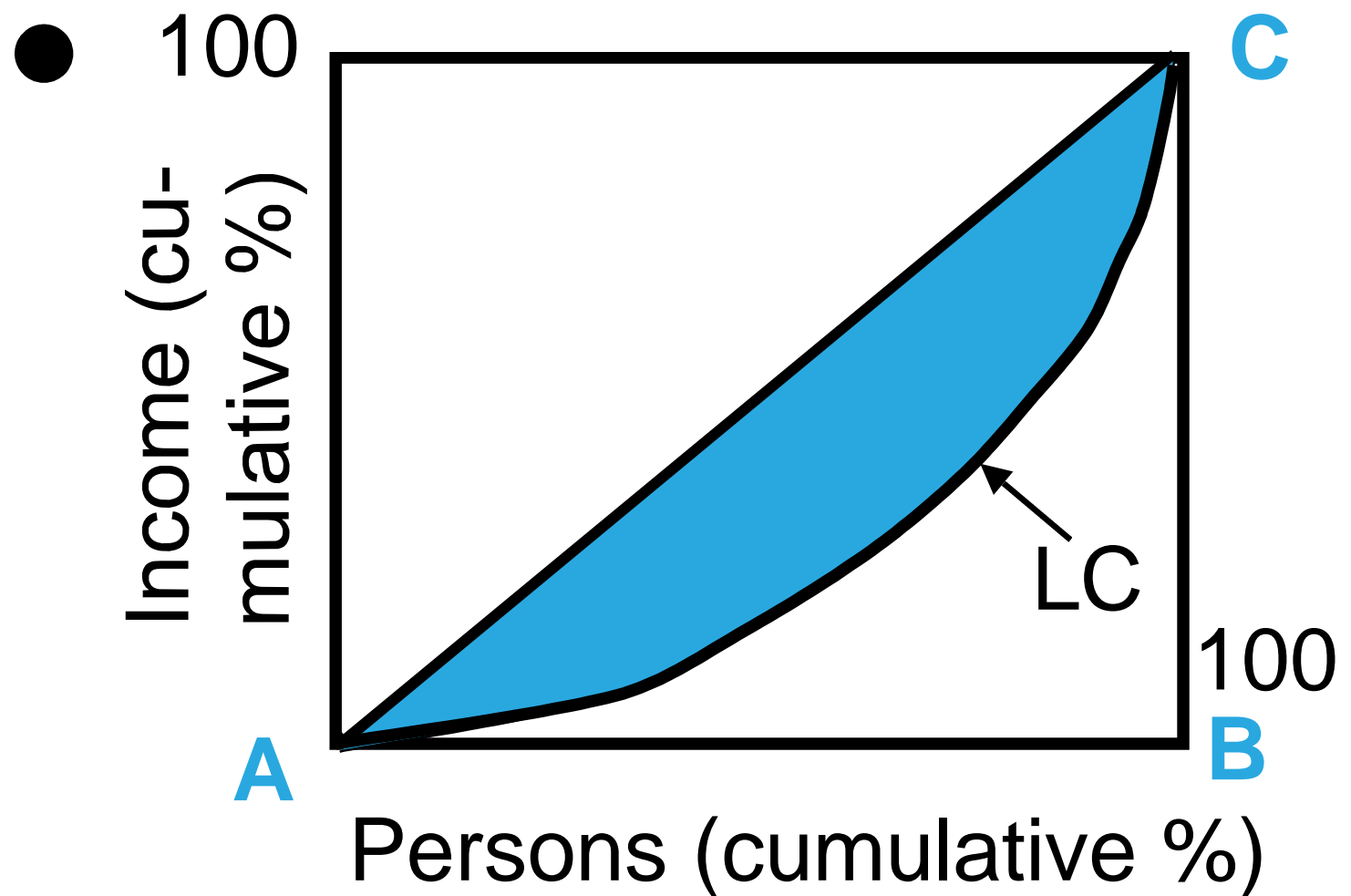
Gini coefficient

- The Gini coefficient is a measure of (in)equality in income.

- Gini coefficient =

$$\frac{\text{Area between diagonal and LC}}{\text{Area ABC}}$$

LC = Lorenz curve



- $0 < \text{Gini coeff.} \leq 1$

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Inflation 1 (nature)

The **two faces** of inflation

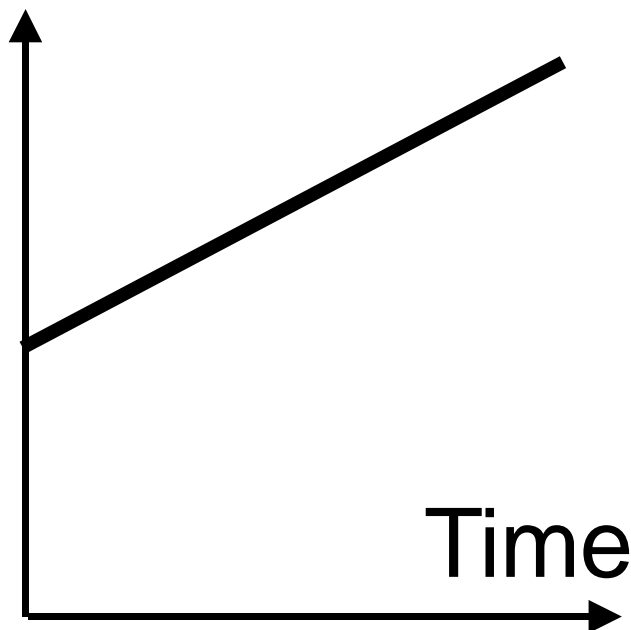
Price level ↑



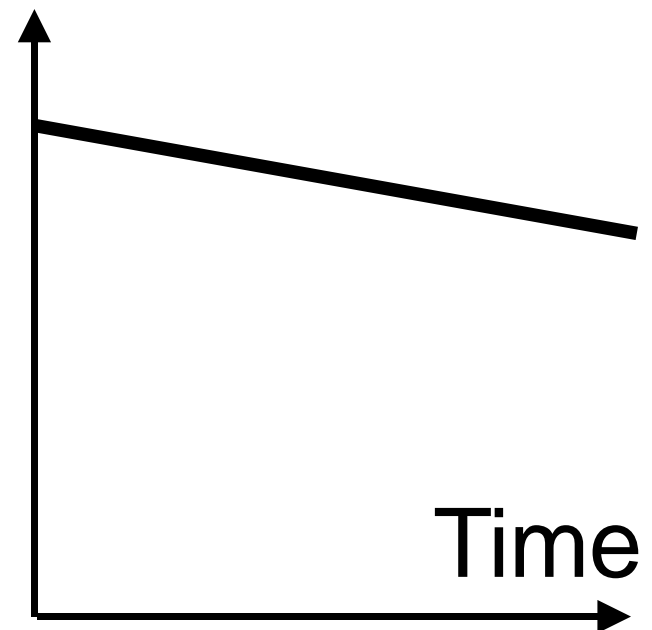
Value of money ↓



Price level



Value of money



Measuring inflation

- Consumer Price Index
- Producer Price Index
- GDP-Deflator

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Inflation 2 (types)

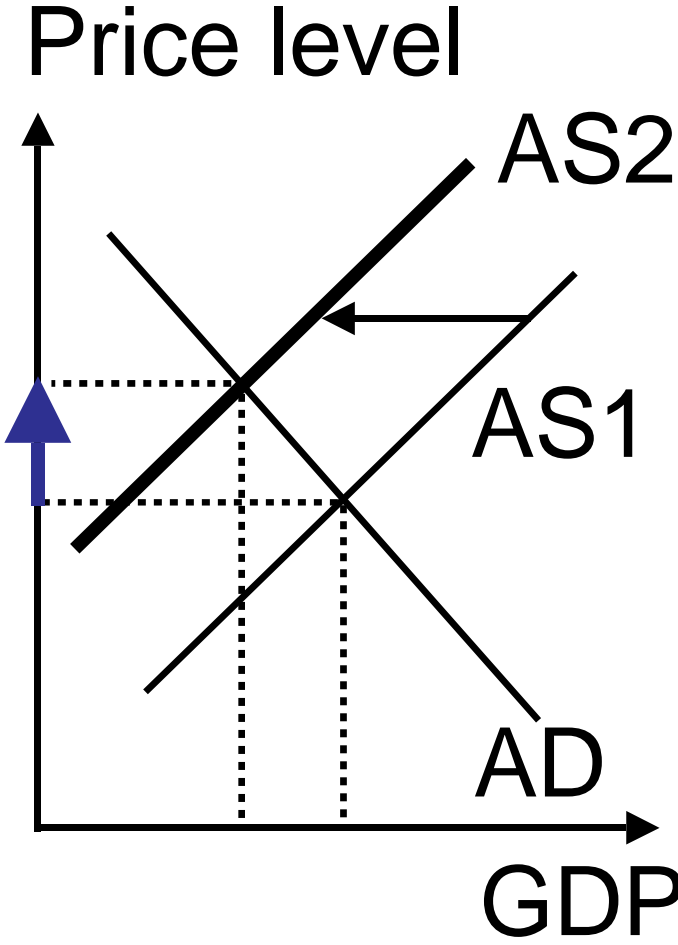
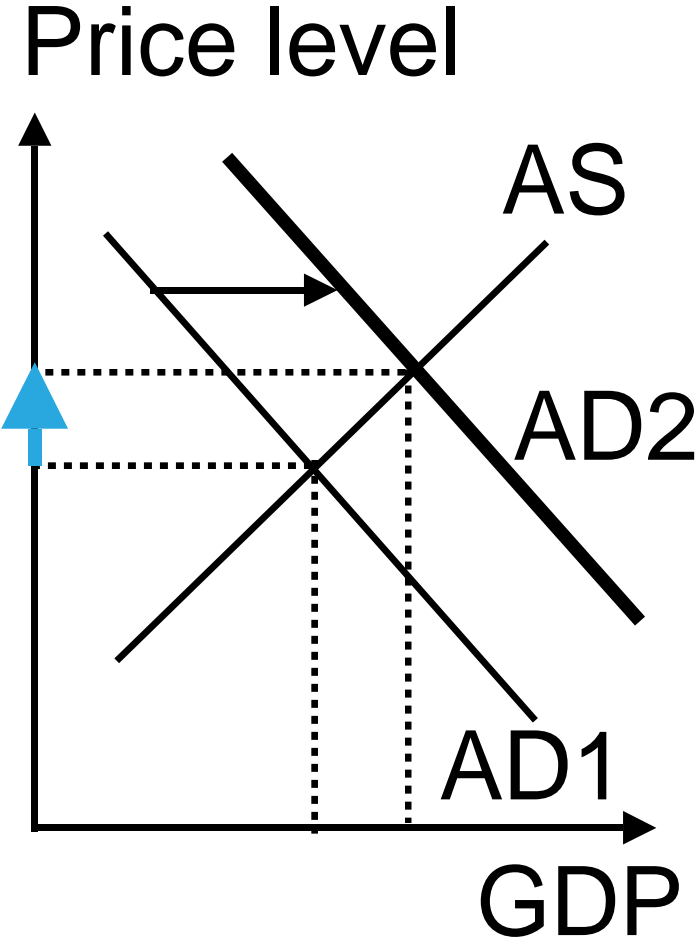
Types of inflation

Demand-pull

Cost-push

Example:
Consumption ↑

Example:
Wages ↑



Inflation 3 (impacts)

① **General** impacts

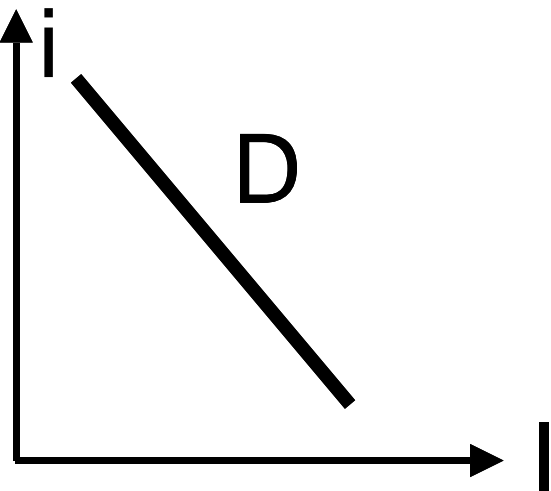
- Uncertainty
- Speculation

② **Special** impacts

- If inflation is **anticipated**:
Cost for avoiding the impacts (time and effort)
- If inflation is **not anticipated**:
Redistribution of income and wealth from lenders to borrowers

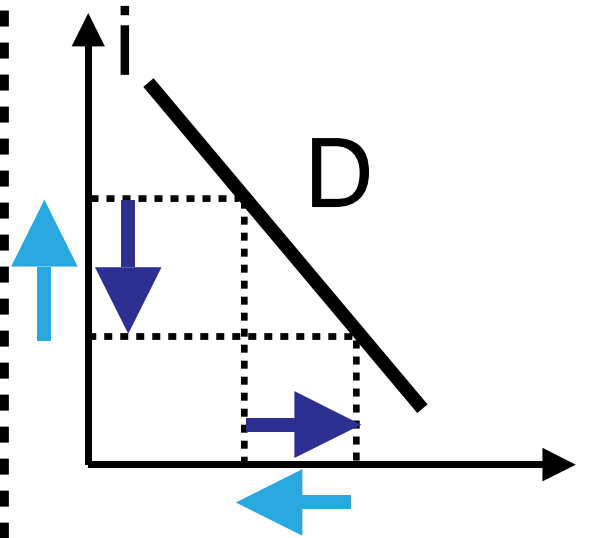
Investment demand

I D curve



Negative relationship between i and I (ceteris paribus)

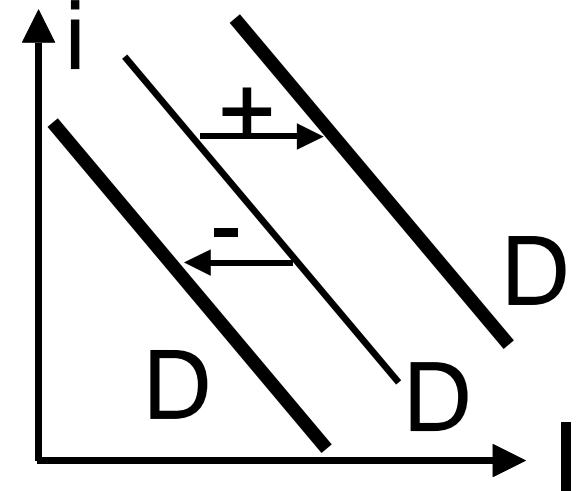
Change in i



Movement along D (ceteris paribus):

- If $i \uparrow$, then $I \downarrow$
- If $i \downarrow$, then $I \uparrow$

Shifting of D

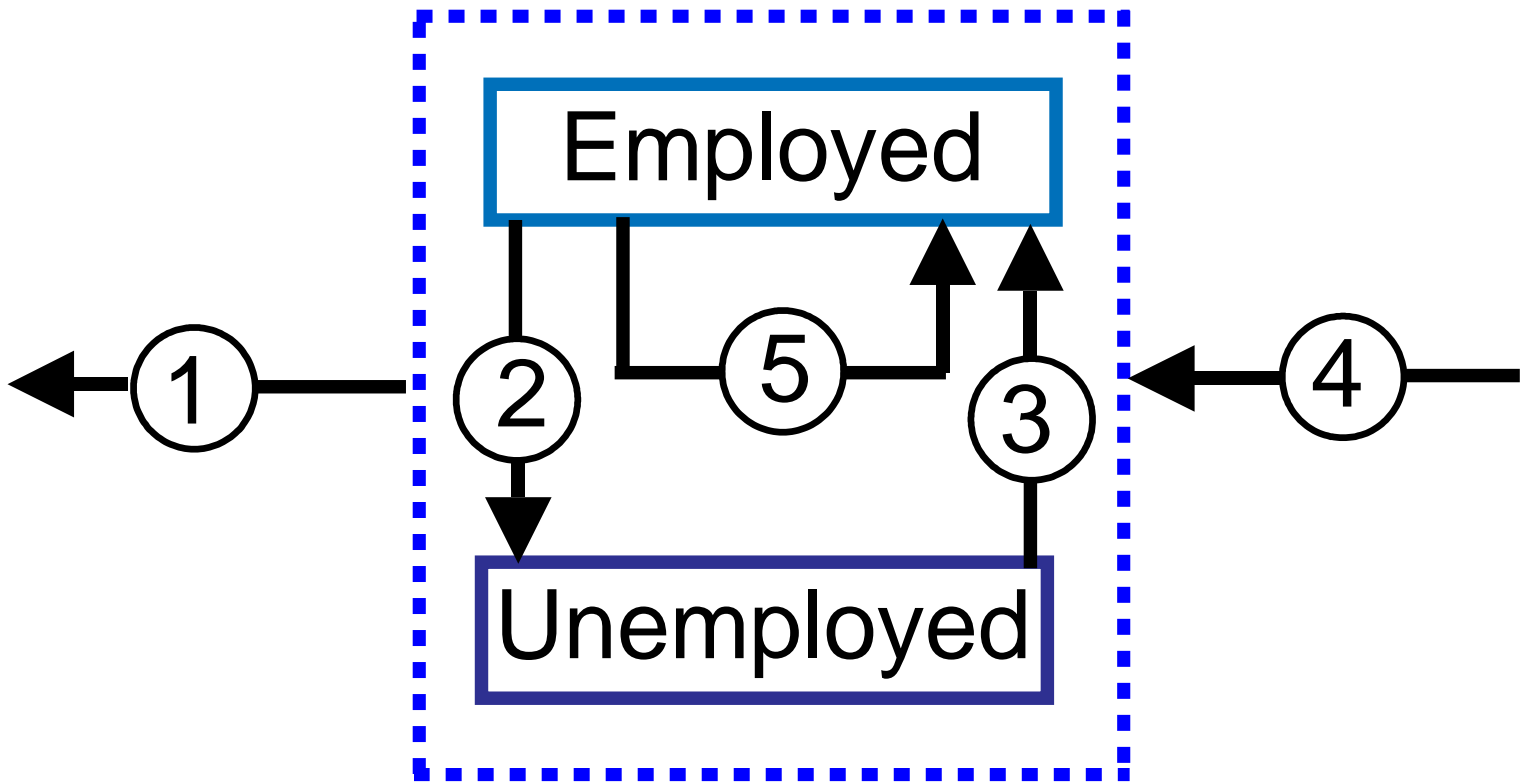


Determinants:

- Growth (+)
- Recession (-)
- Optimism (+)
- Pessimism (-)

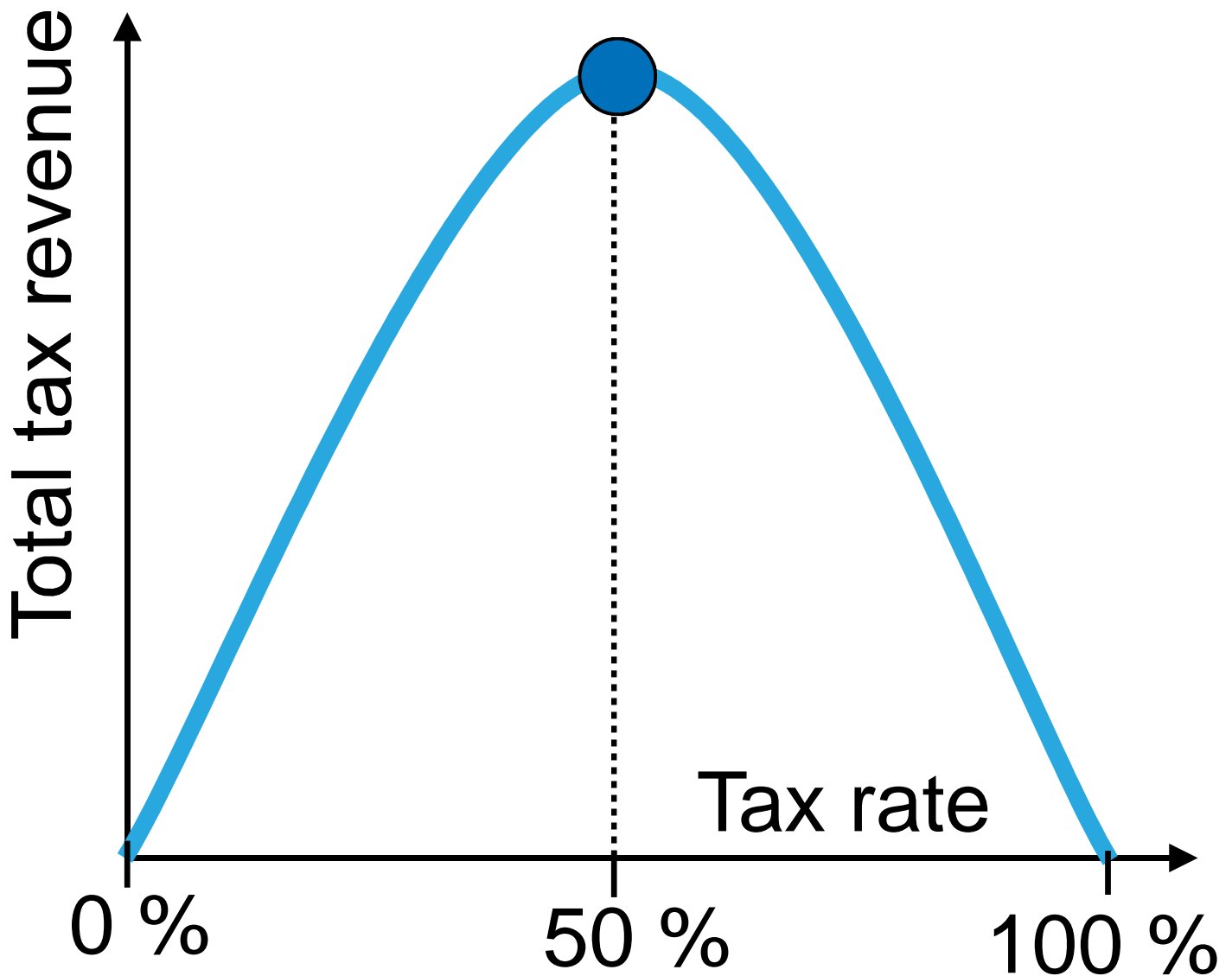
Labour force

The **labour force** consists of **em-
ployed** and **unemployed** persons.



- ① leaving labour force
- ② getting unemployed
- ③ getting employed again
- ④ entering labour force
- ⑤ changing the job

Laffer curve

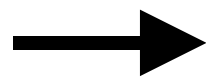


● = peak, at the tax rate of 50 %

In most cases, the peak will not be at the tax rate of 50 %. Nevertheless, total tax revenue will be low if the tax rate is very low or very high.

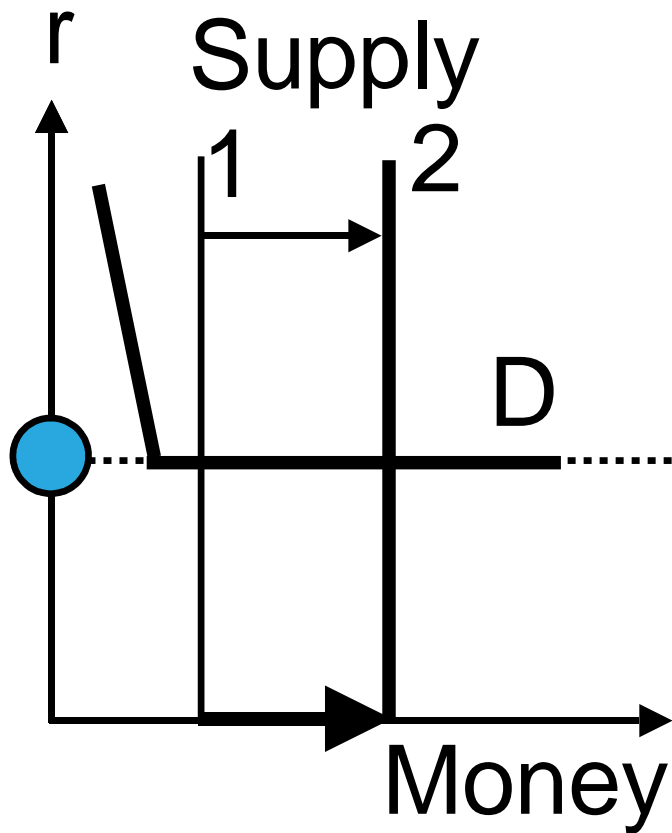
Liquidity trap

r very low

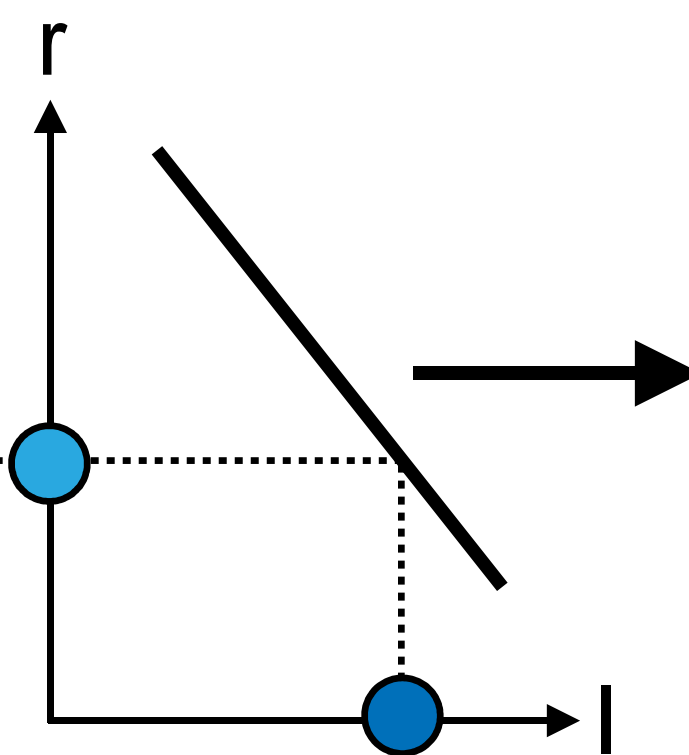


monetary policy **ineffective**

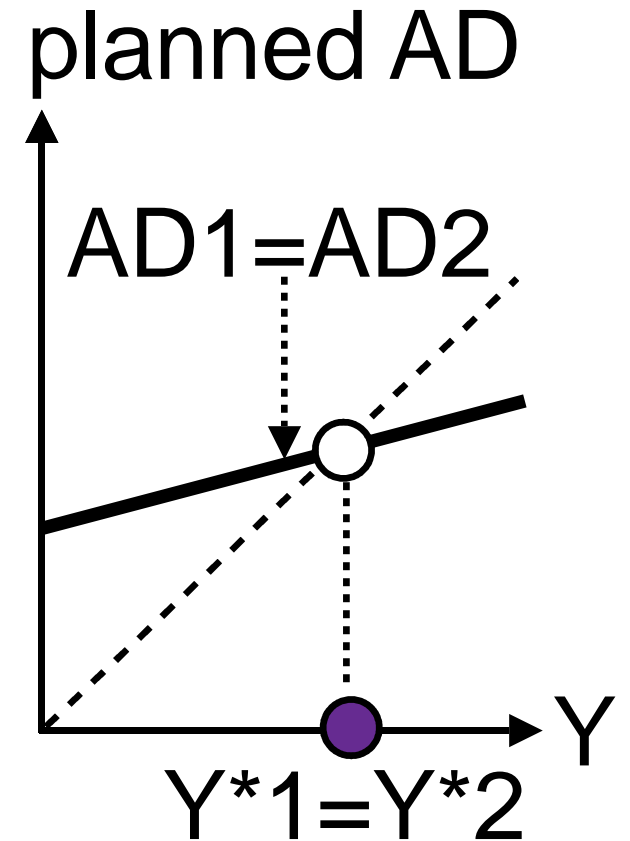
Money market



Investment



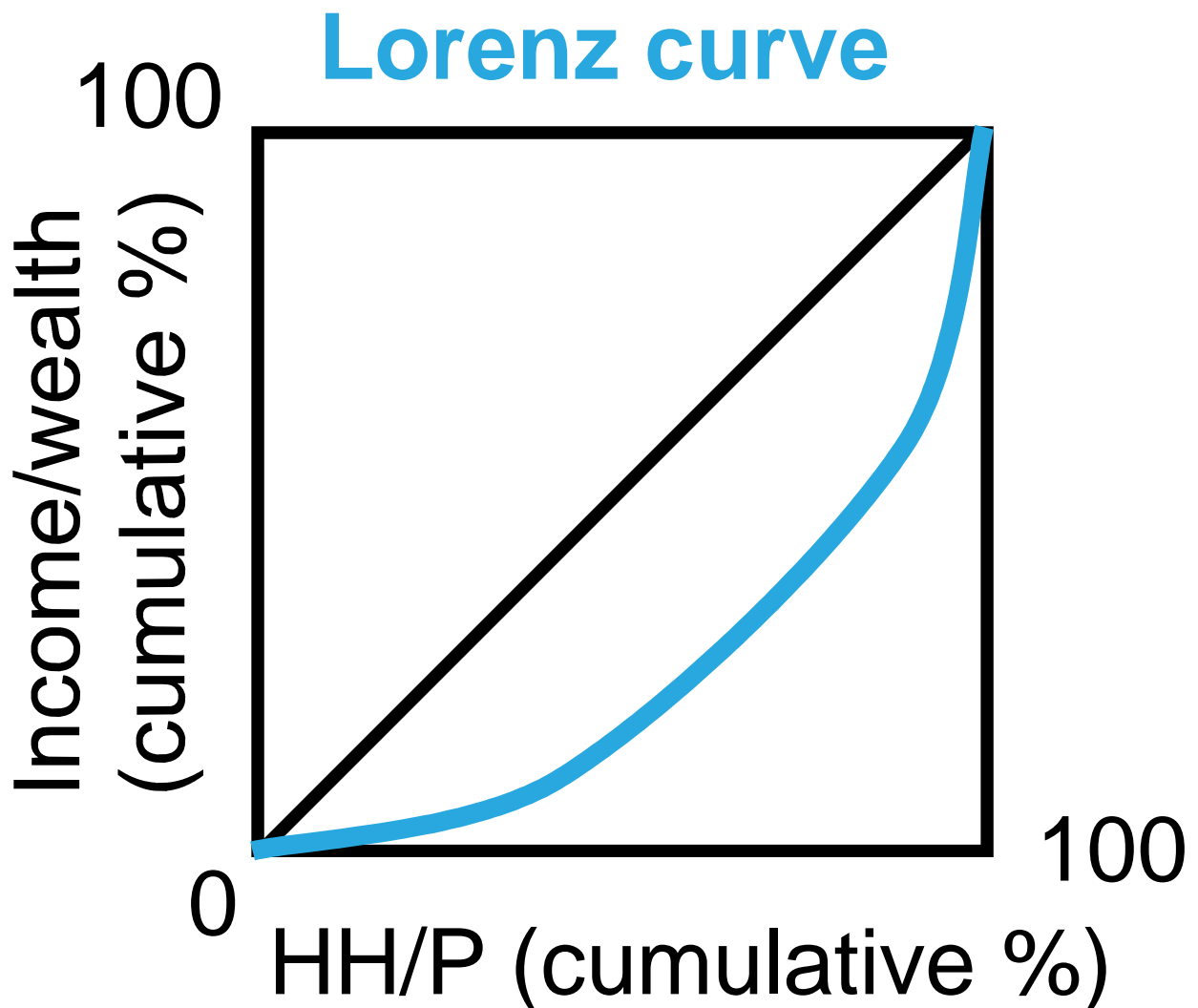
AD (C+I+G+...)



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Lorenz curve 1 (nature, form)

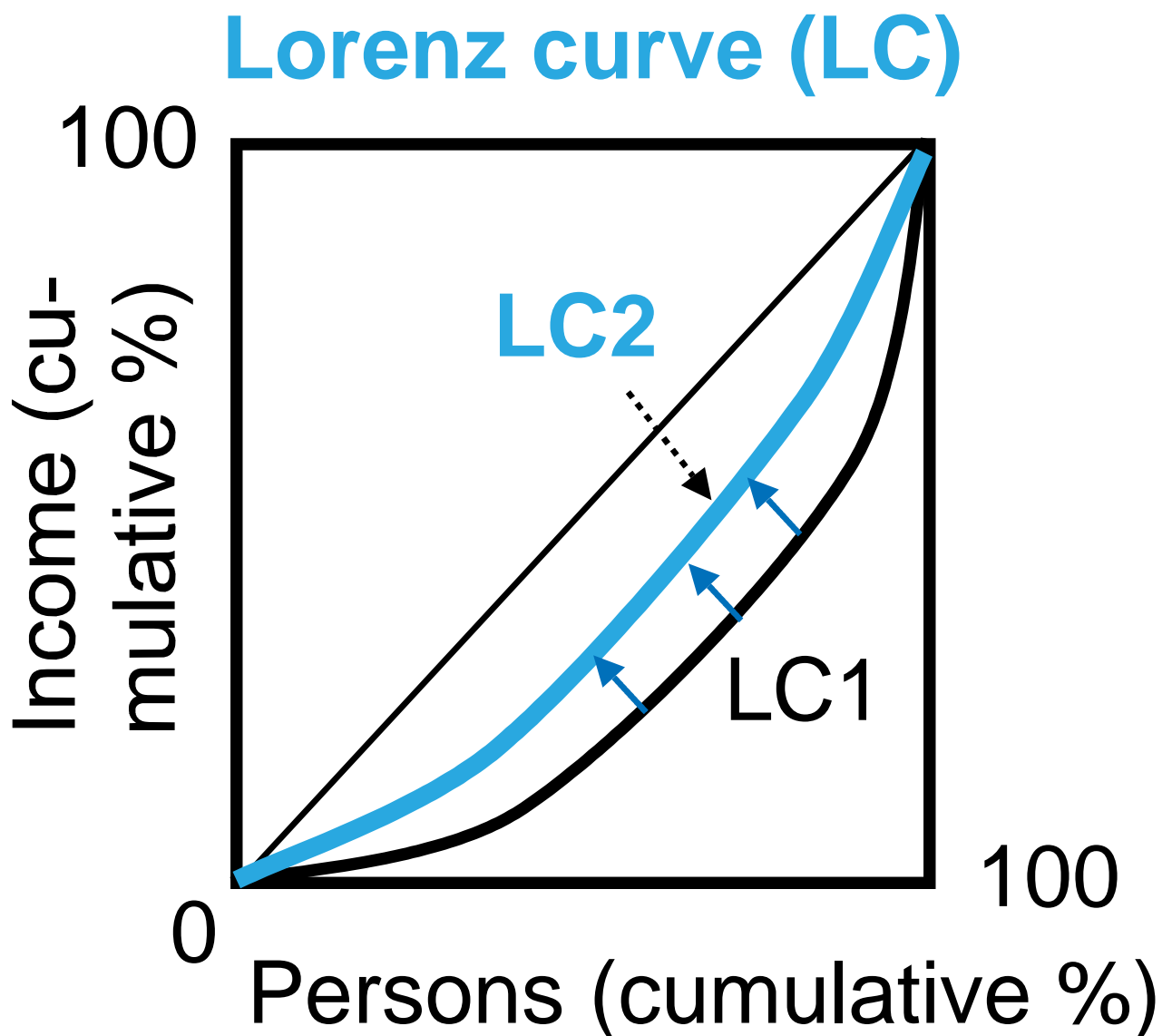
- A Lorenz curve displays the income distribution or wealth distribution among households (HH) or persons (P).



Diagonal of 45° = totally equal distribution

Lorenz curve 2 (redistribution)

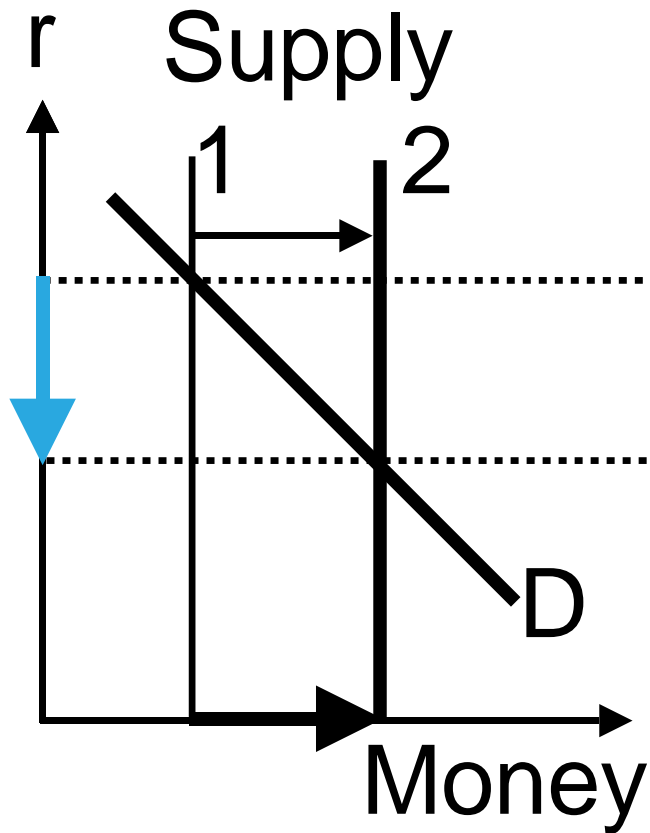
- If a government redistributes income from rich to poor, e.g. by progressive taxes, the Lorenz curve shifts inwards (to the left).



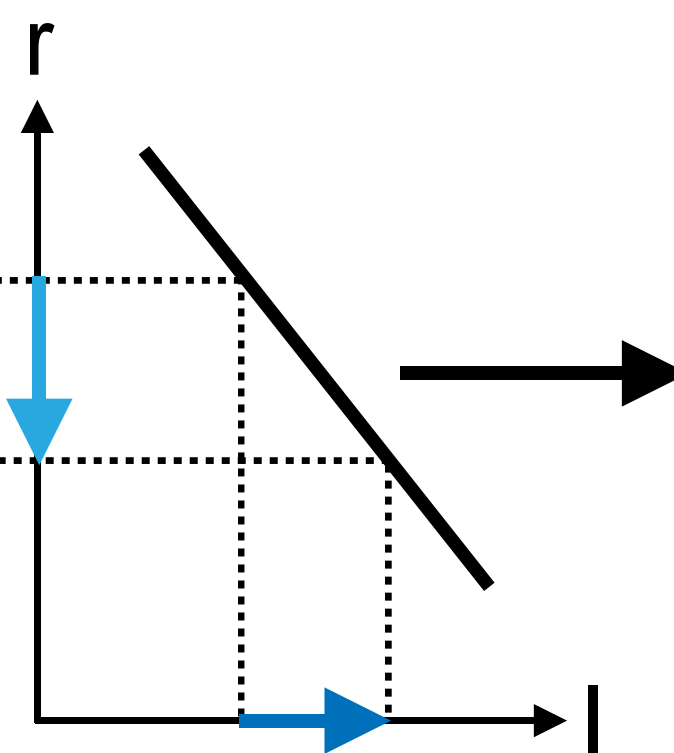
Monetary policy

Keynesian view, expansionary policy in recessions

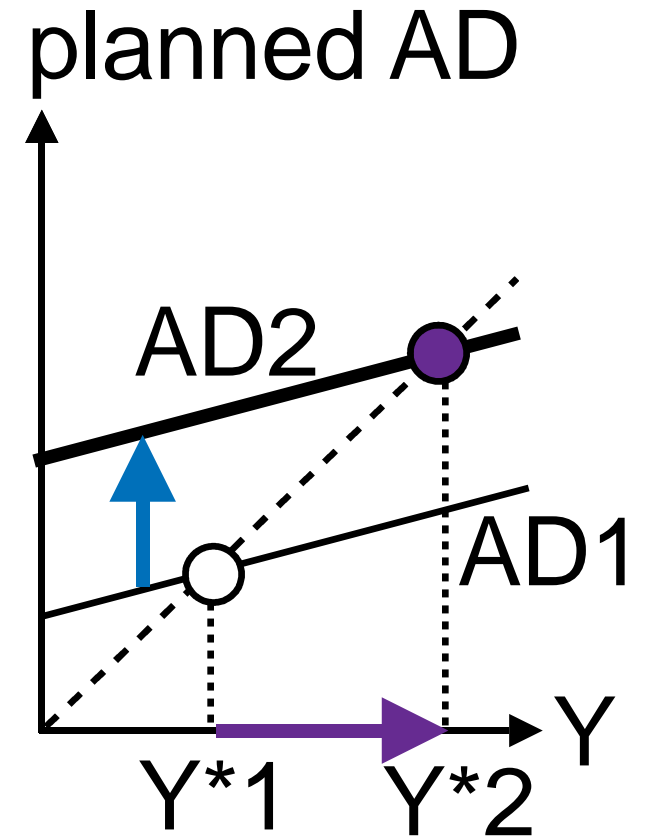
Money market



Investment

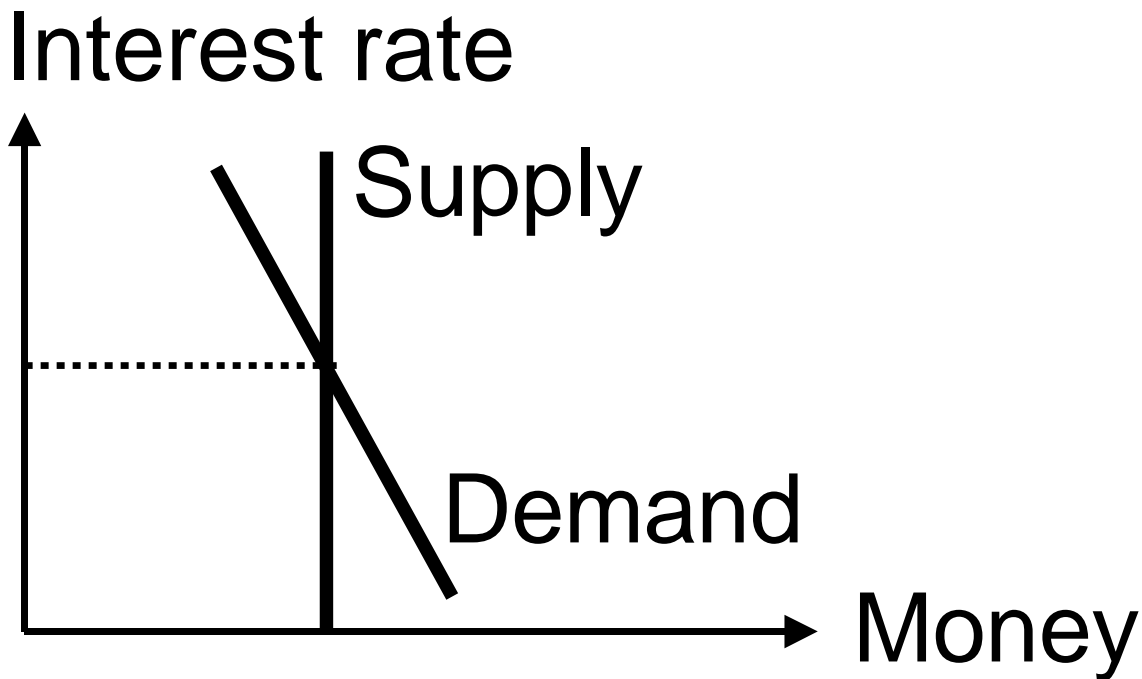


AD (C+I+G+...)



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Money market



- Motives for **demand**:

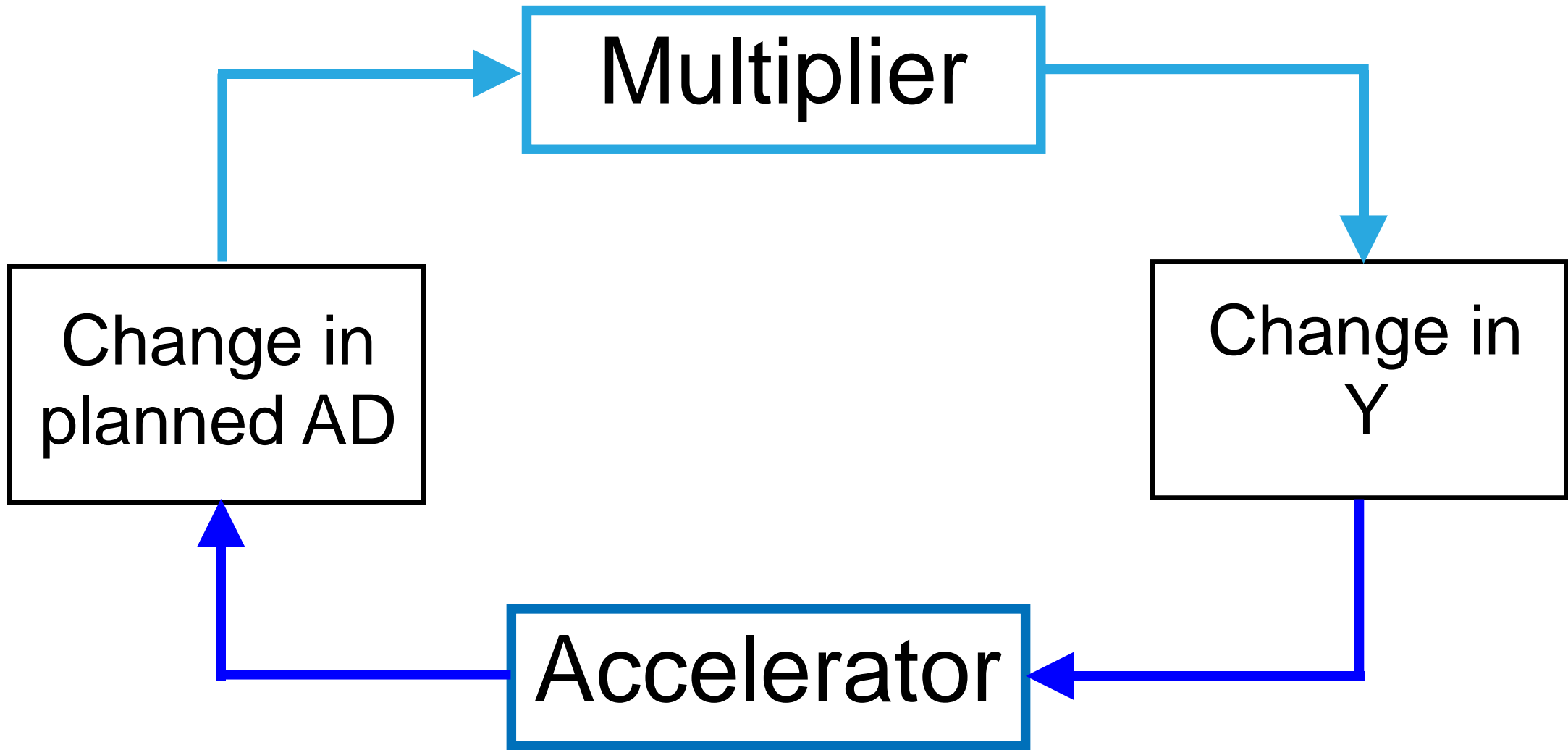
- Transactions
- Precaution
- Speculation

The first two motives depend on income, the third depends on the interest rate.

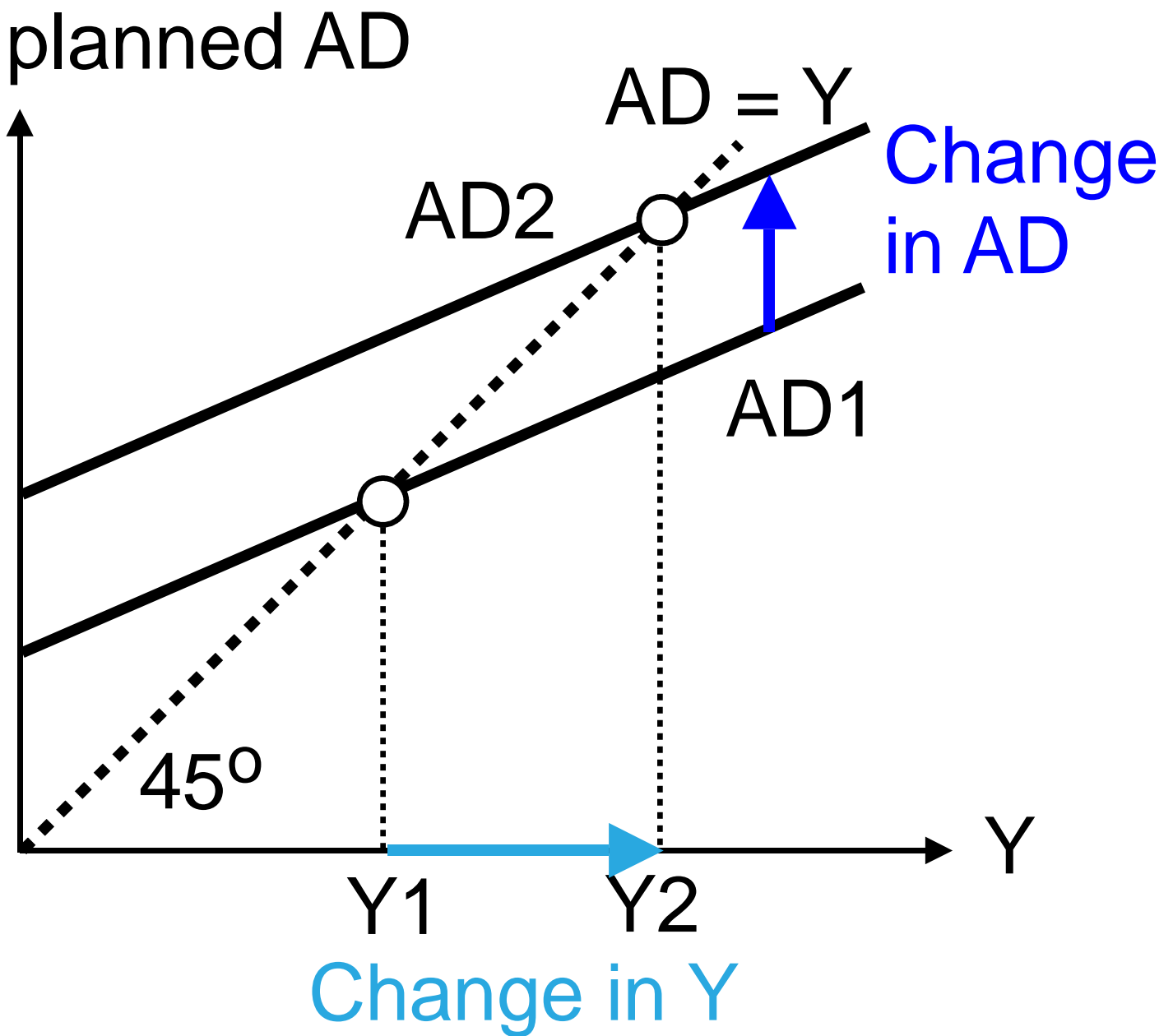
- Money **supply** is determined by the central bank.

Multiplier and accelerator

Interaction



Multiplier and AD



Multiplier

$$= \frac{\text{Change in Y}}{\text{Change in AD}}$$

Objectives and policies



Objectives

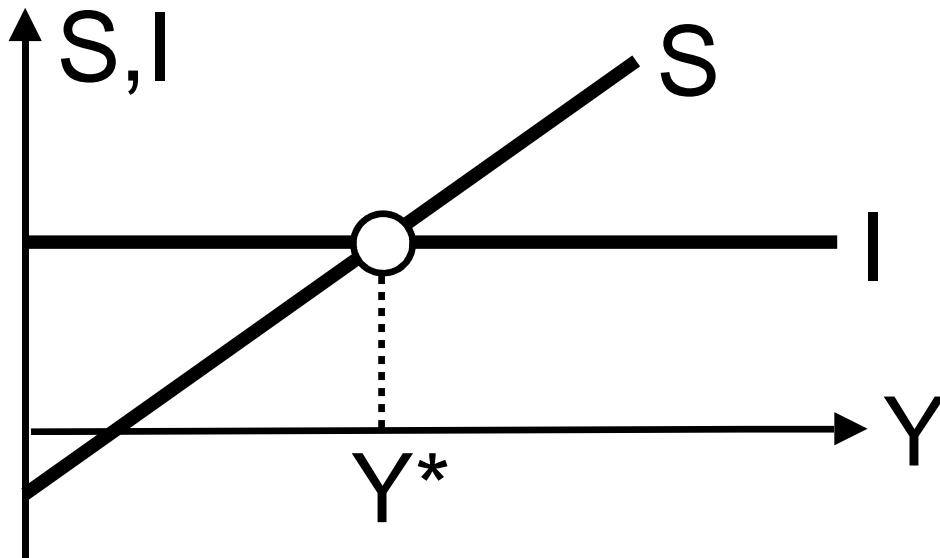
- Price stability
- Economic growth
- Full employment

Policies to target objectives

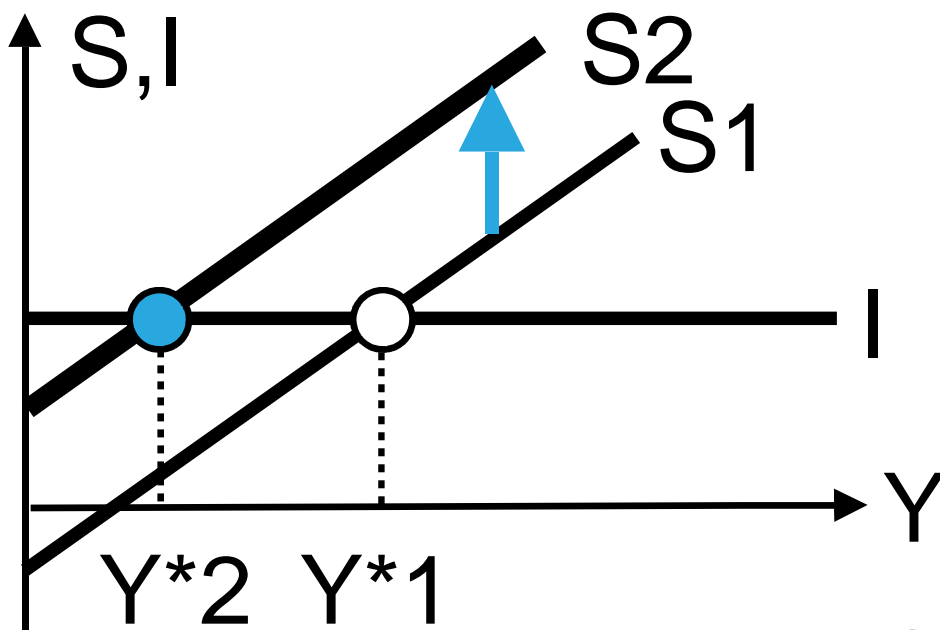
- Fiscal policy
- Monetary policy

Paradox of thrift

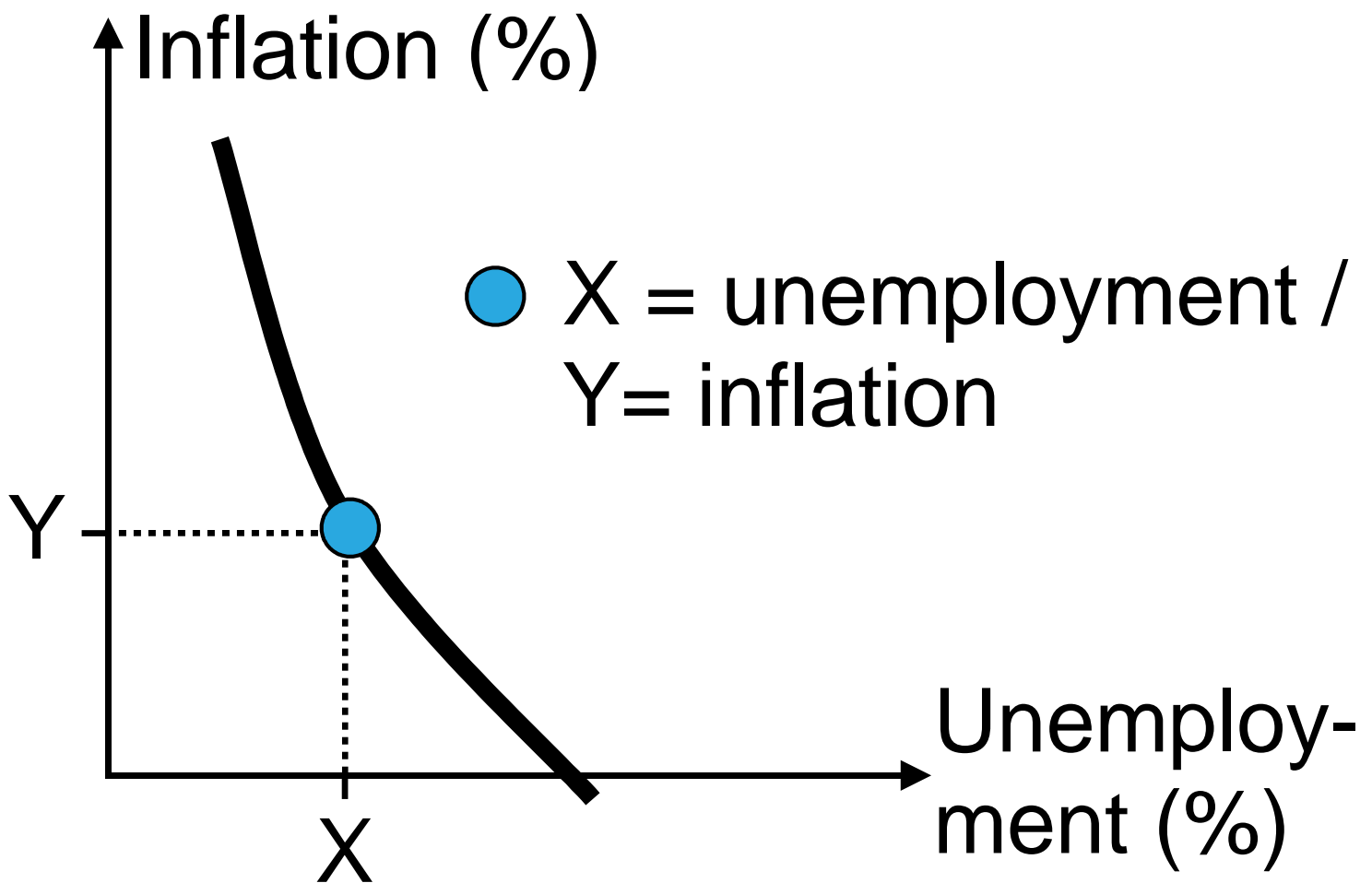
- Equilibrium Y^* : $S = I$



- More private saving does **not** result in higher **S** at Y^*2
→ **Paradox of thrift**



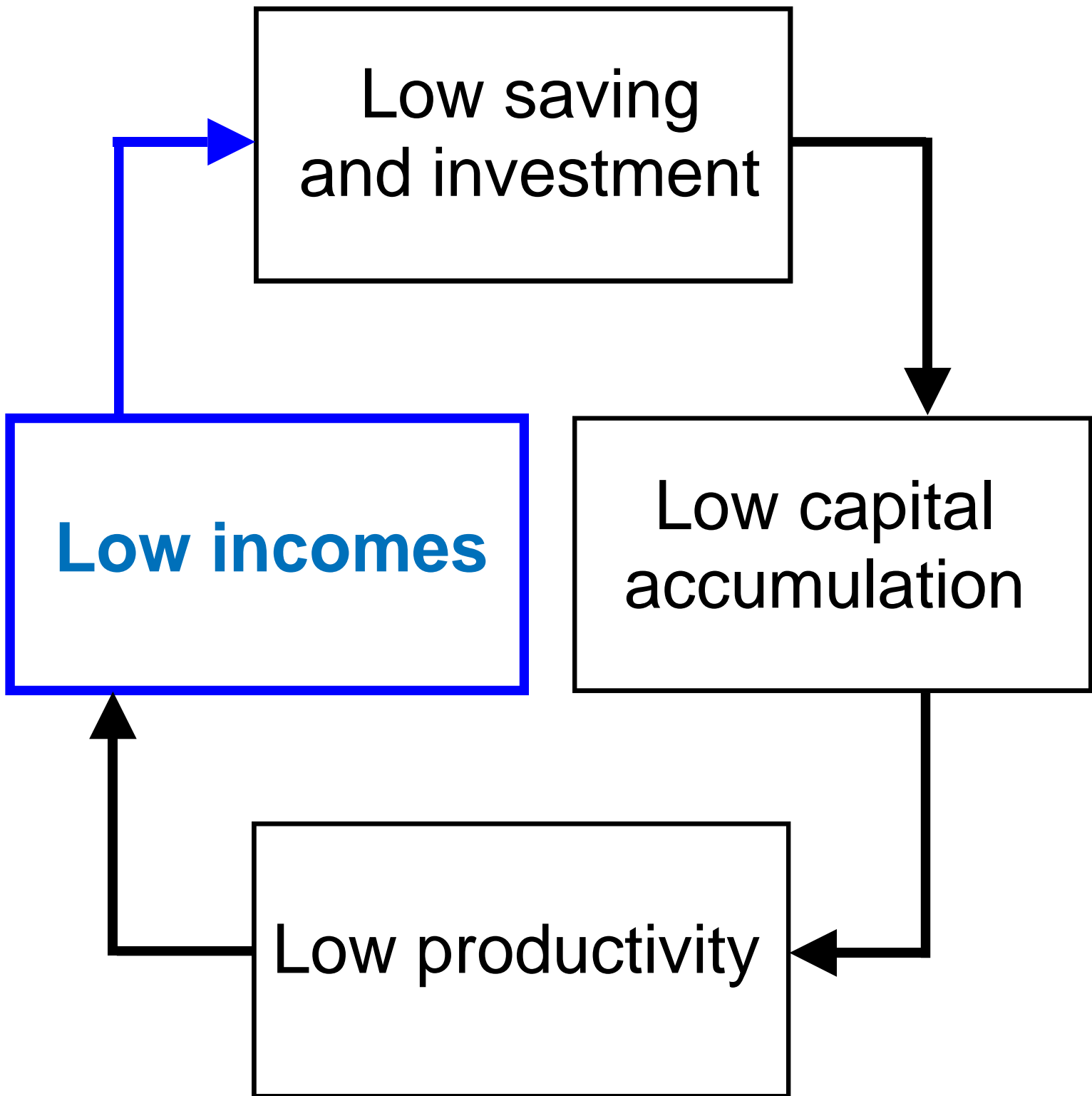
Phillips curve



- The Phillips curve describes a negative relationship between inflation and unemployment.
- Since the 1970s this relationship has not been constant any more. The curve is shifted sometimes.

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Poverty (vicious circle)



Source: Samuelson/Nordhaus:
Economics, 18th ed, 583

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Quantity theory of money

- $M * V = P * Q$
 - M = Money supply
 - V = Velocity of circulation
 - P = Price level
 - Q = Output
- If V (pattern of payments) and Q (full employment) are constant, then it can be said:
| A rise in M results in a proportional increase in P, e.g. more money, more inflation.
- Classical and monetarist view: Monetary policy just changes the price level (and not other variables).

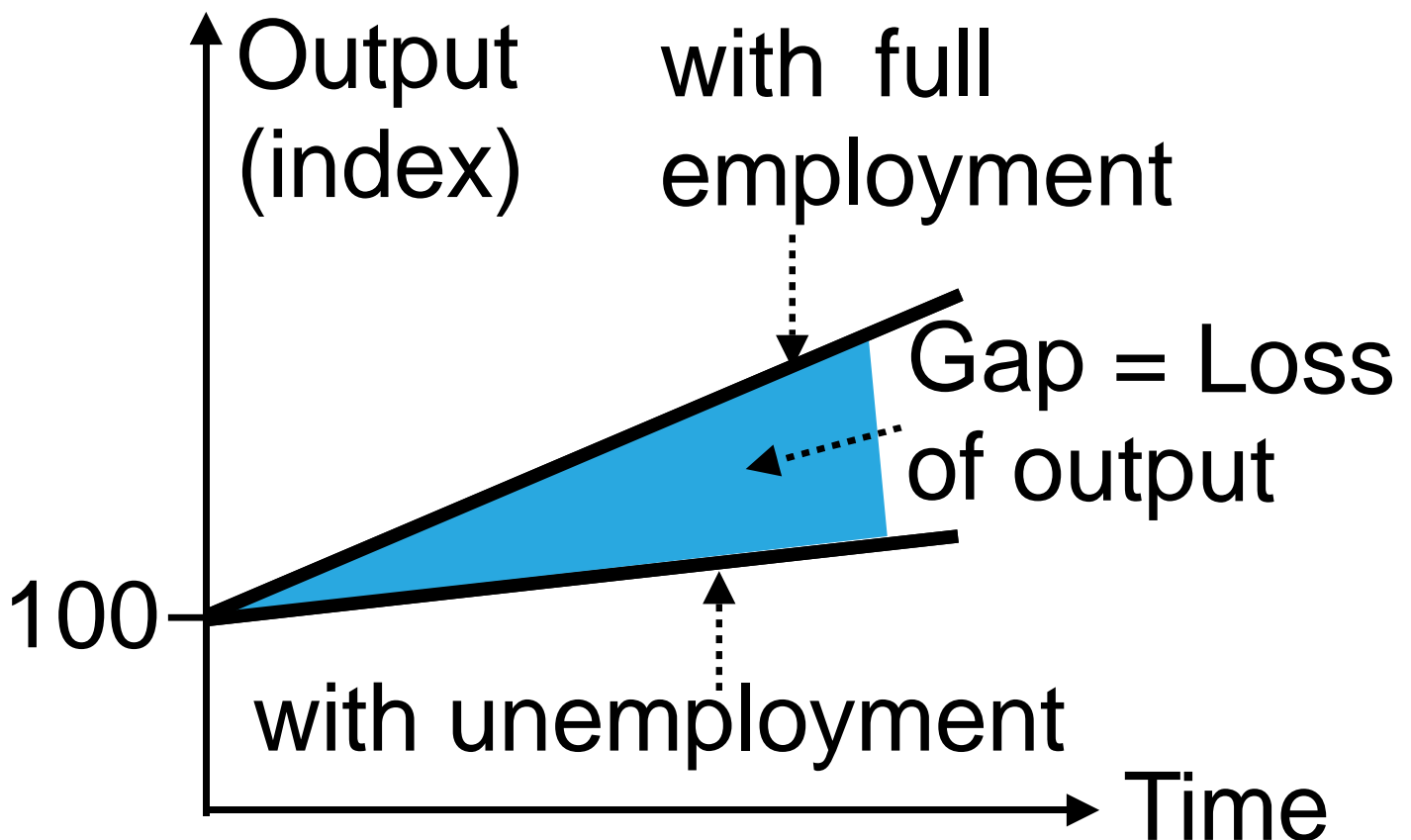
Unemployment 1 (types)

- **Seasonal** unemployment: regular during the year
- **Frictional** unemployment: when joining the labour force or changing the job
- **Structural** unemployment: due to changes in technology
- **Cyclical** unemployment: during recessions

Unemployment 2 (impacts)

Impacts on the ...

- **personal level**
 - Frustration
 - Loss of skills
- **macroeconomic level**
 - Loss of output



Wealth (virtuous circle)

