

# Macroeconomics for small screens

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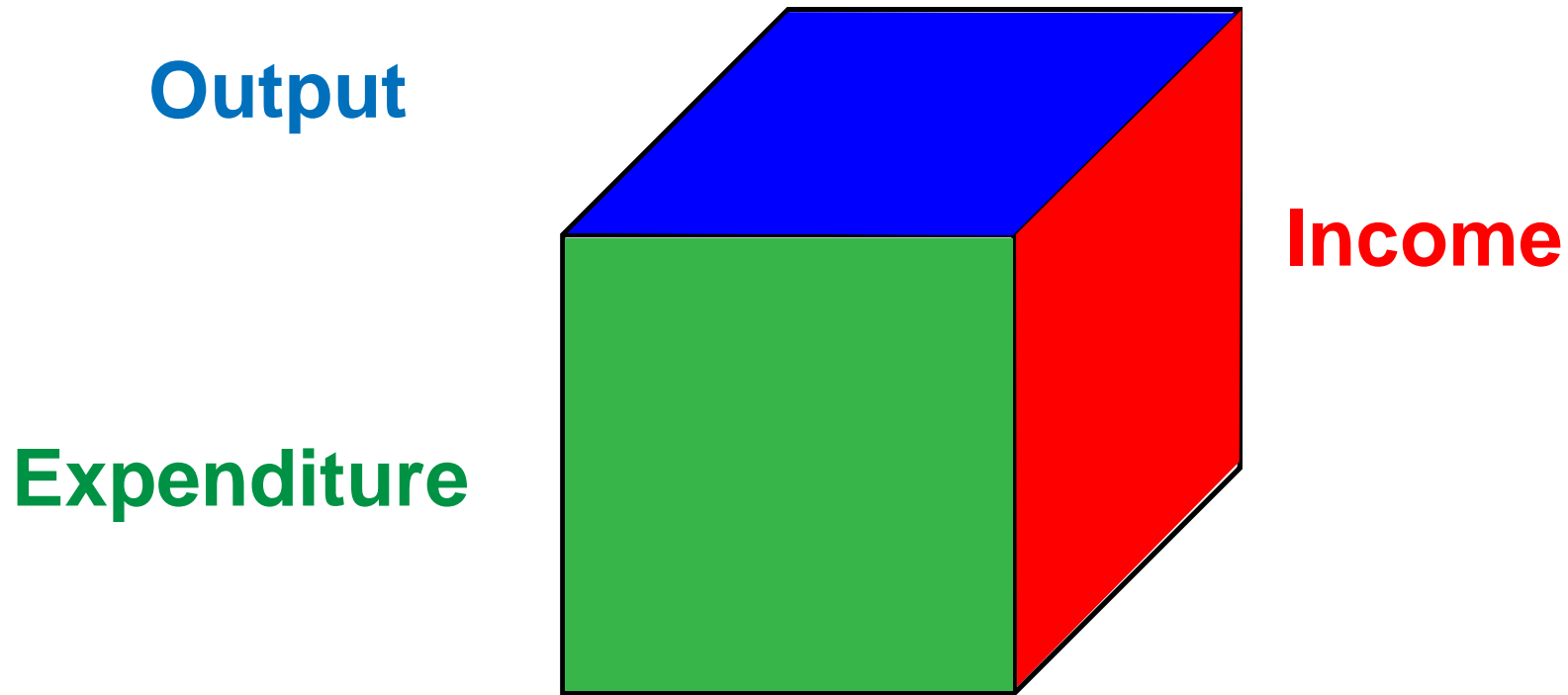
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# Abbreviations *macro*

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, output

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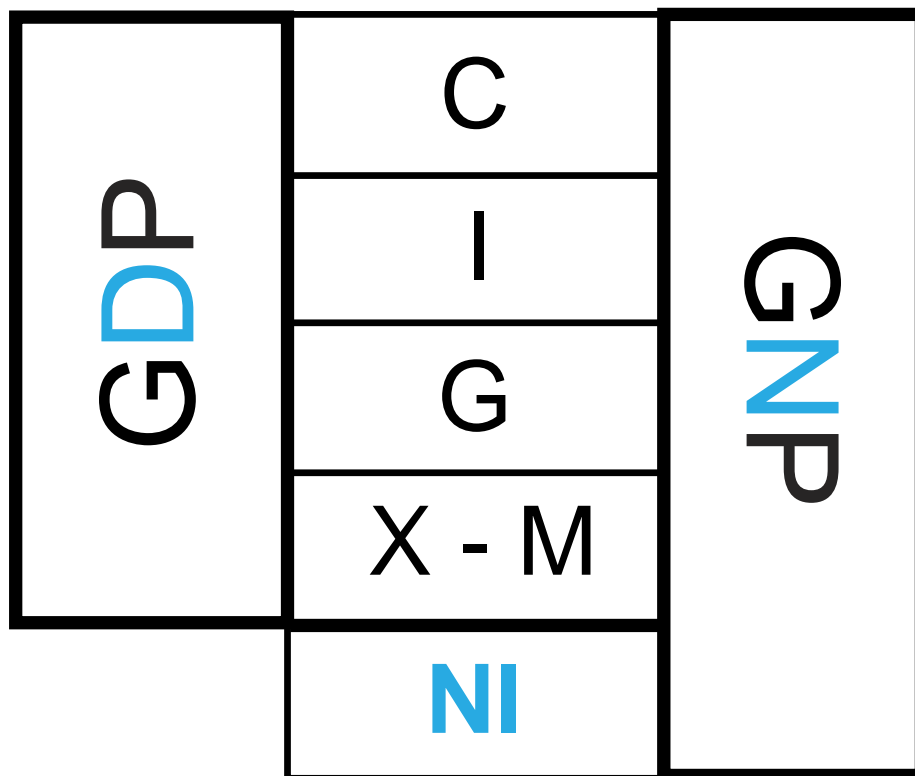
# 11.1 Gross domestic product (methods of calculation)



Calculation of gross domestic product:

- **Expenditure :**  $C + I + G + (X-M)$
- **Output:** Sum of the value added of production
- **Income:** Wages + profits + interest + rent

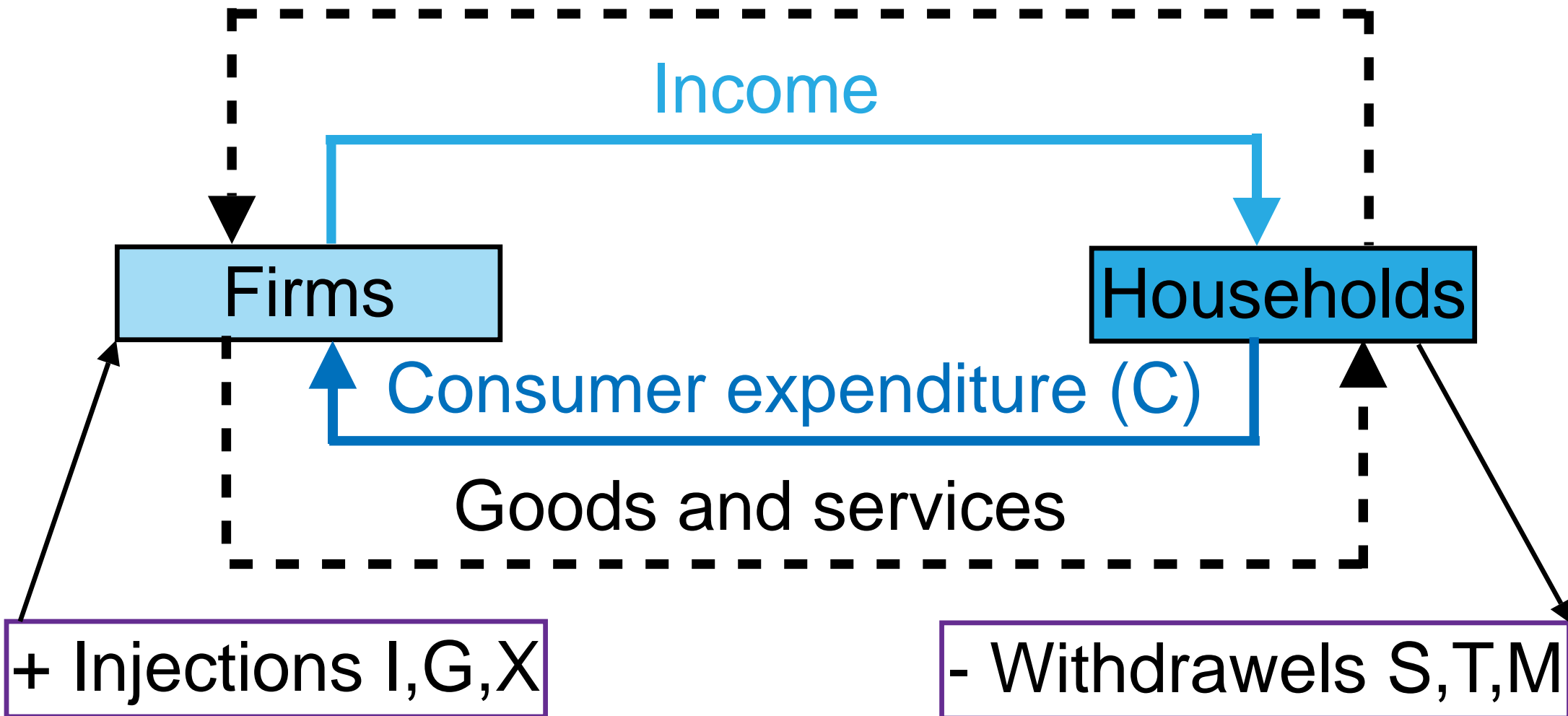
## 11.2 Relation between GDP and GNP



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

## 11.3 Circular flow

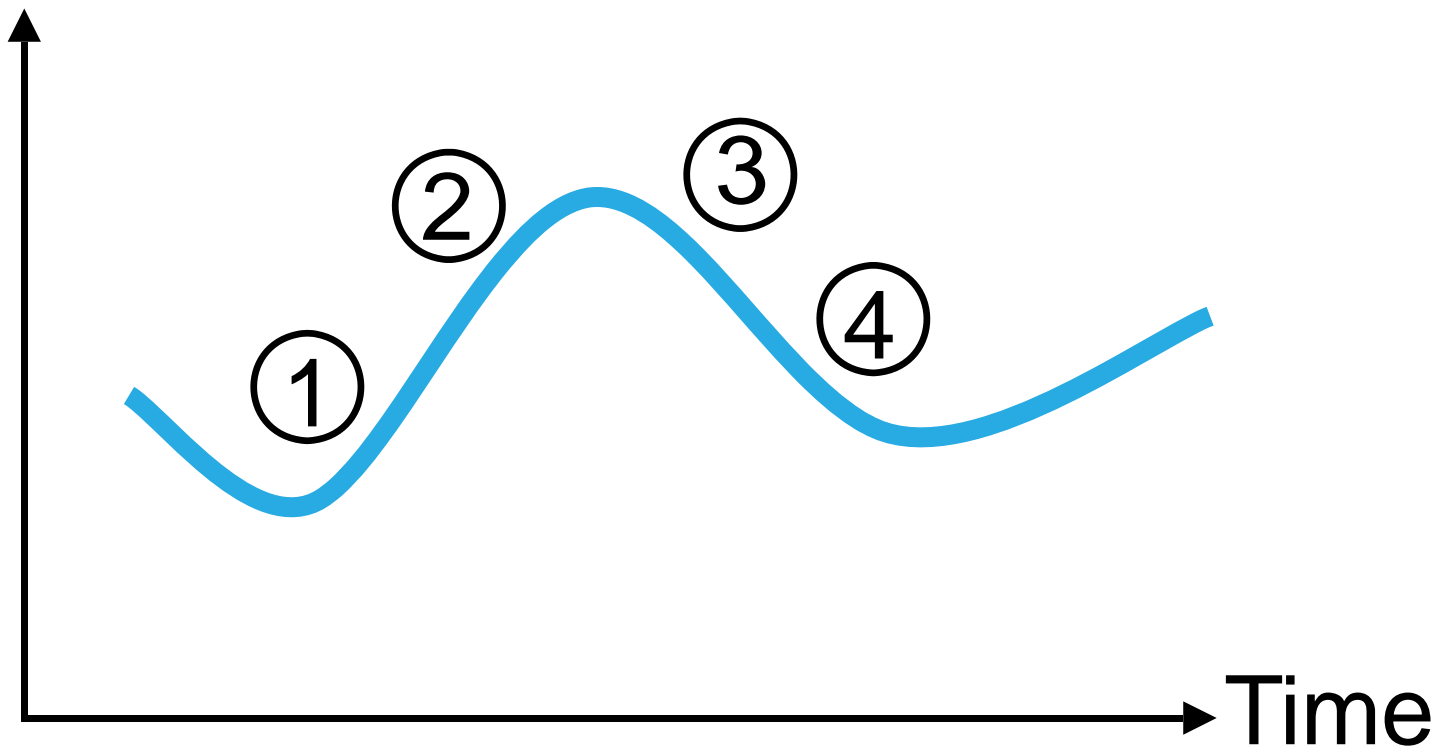
Factors of production



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# 12.1 Business cycle

Economic activity



Phase

Danger

① Recovery

Inflation

② Boom

③ Recession

Unemployment

④ Depression

## 12.2 Unemployment 1 (types)

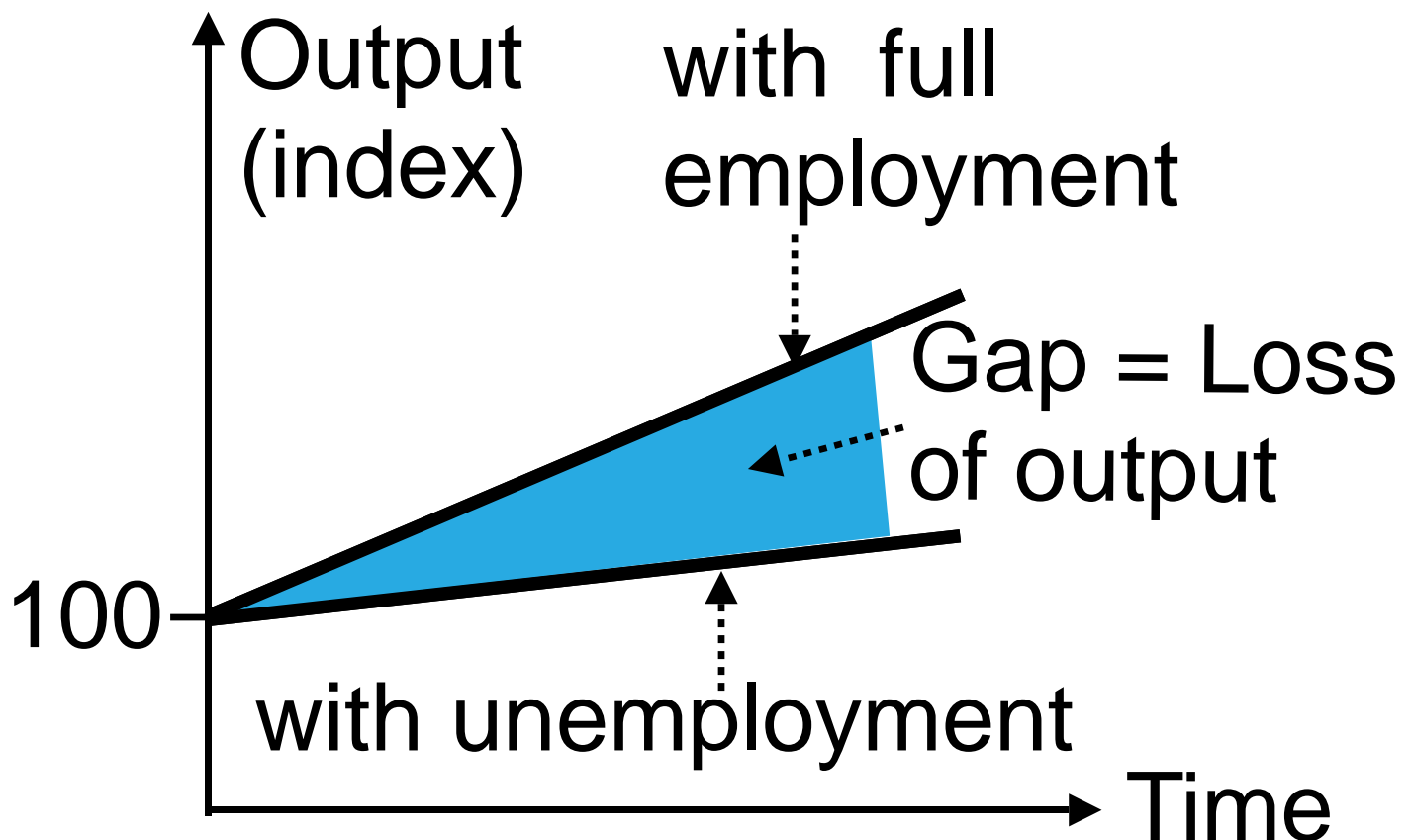
- **Seasonal** unemployment: regular during the year
- **Frictional** unemployment: when joining the labour force or changing the job
- **Structural** unemployment: due to changes in technology
- **Cyclical** unemployment: during recessions



## 12.3 Unemployment 2 (impacts)

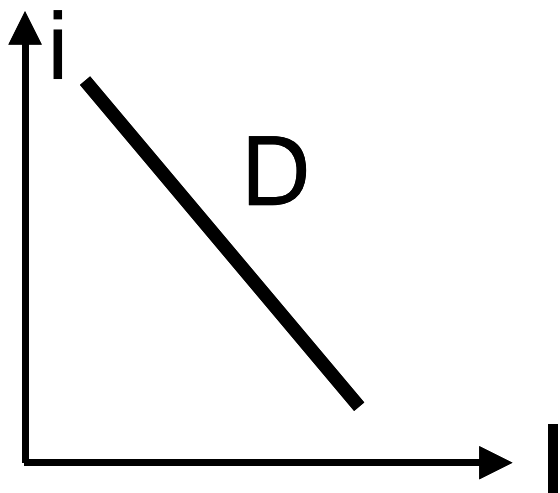
Impacts on the ...

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



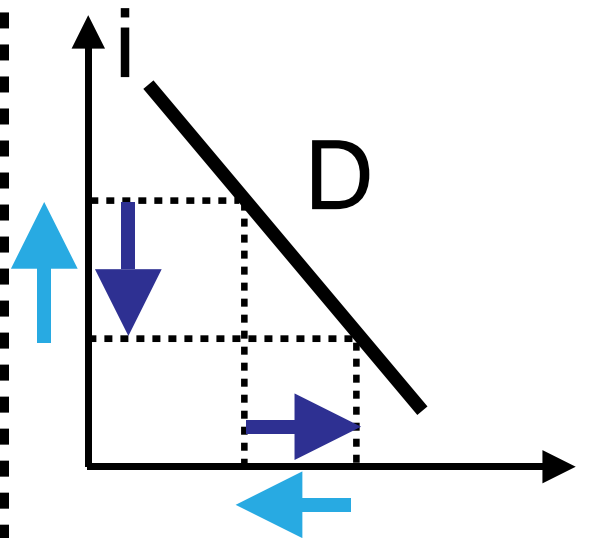
## 12.4 Investment demand

I D curve



Negative relationship between  $i$  and  $I$  (ceteris paribus)

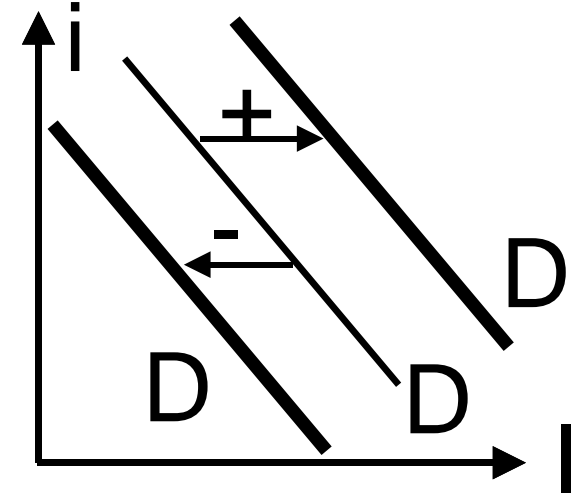
Change in  $i$



Movement along  $D$  (ceteris paribus):

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

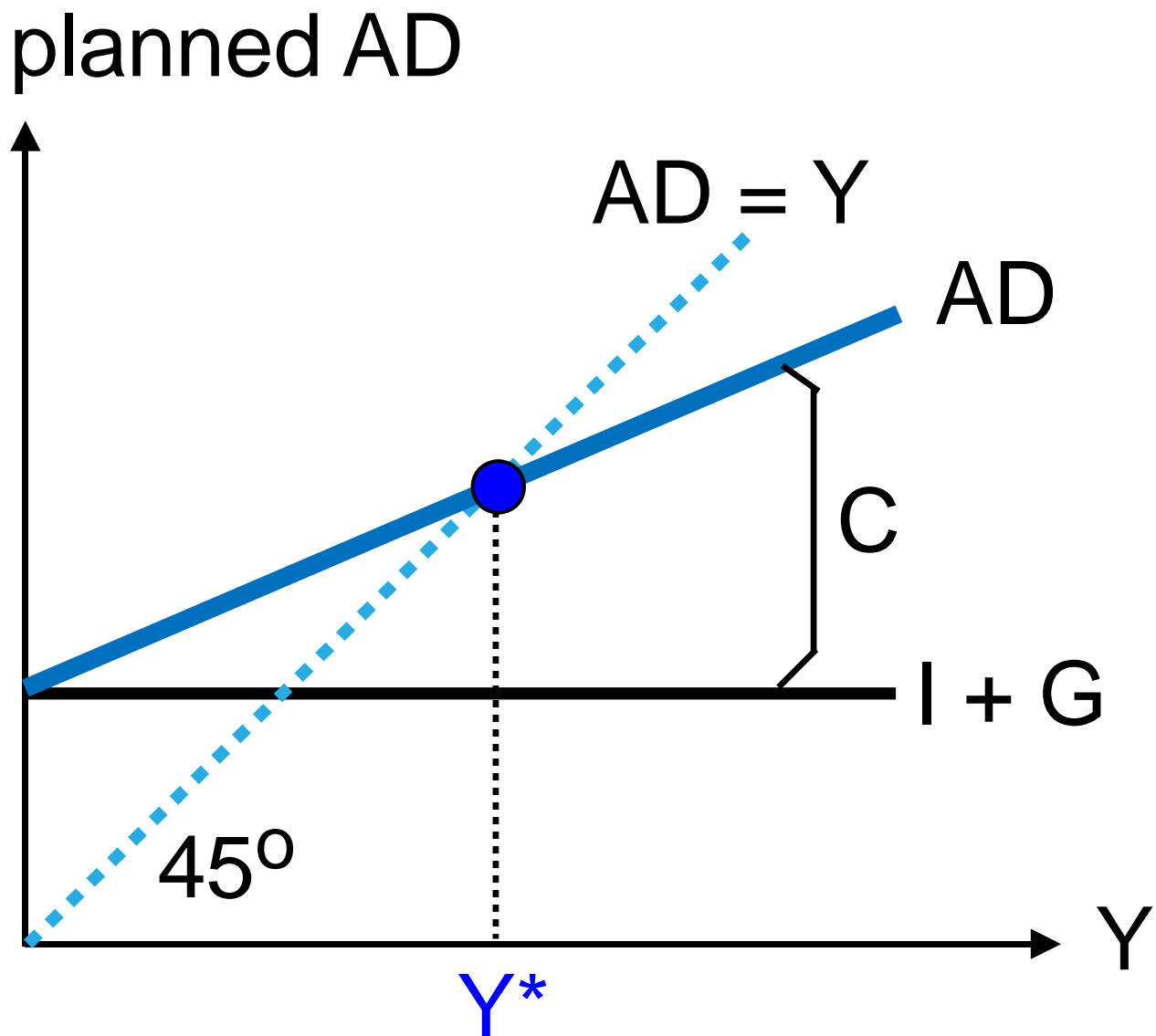
Shifting of  $D$



Determinants:

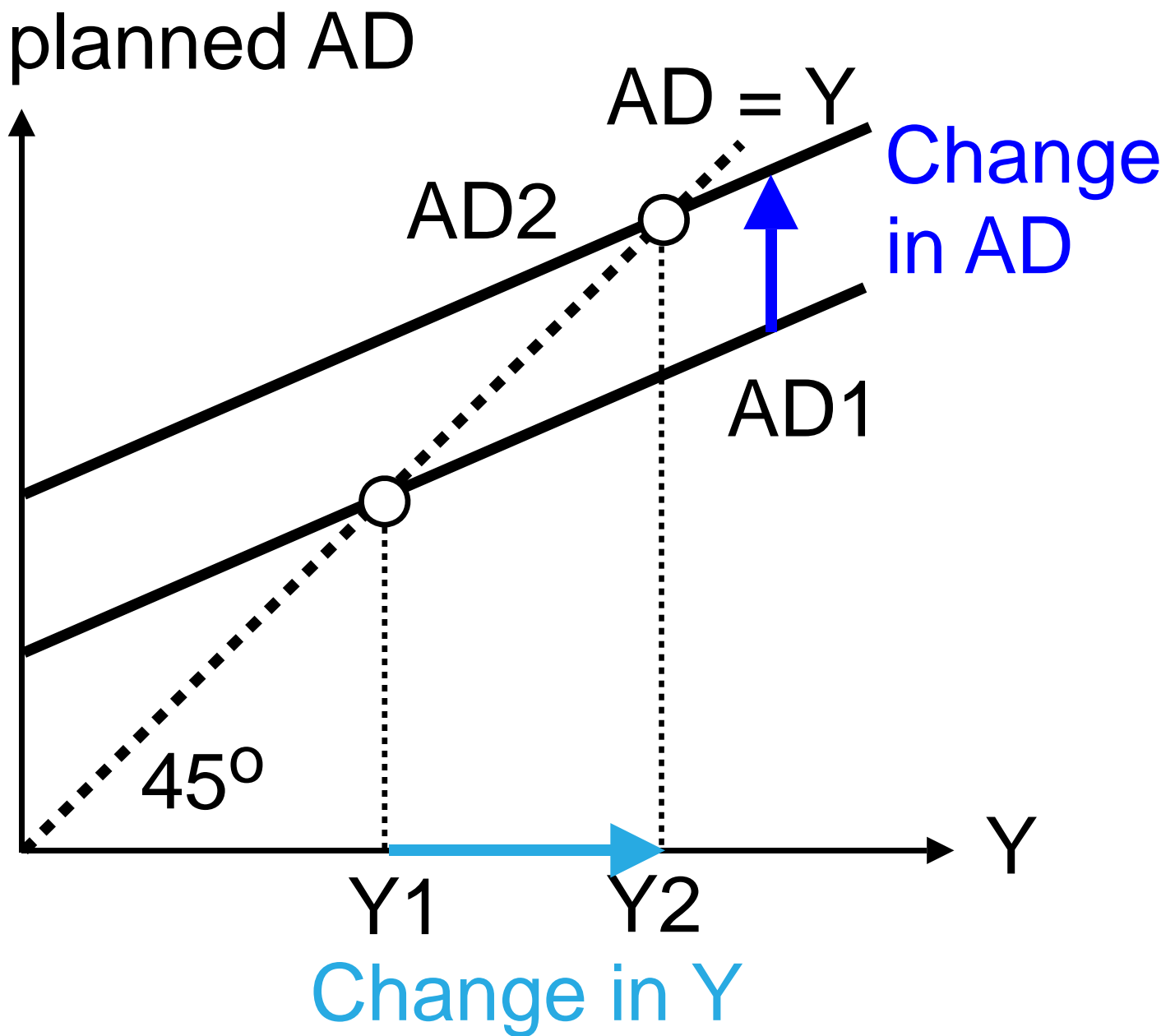
- Growth (+)
- Recession (-)
- Optimism (+)
- Pessimism (-)

## 12.5 Aggregate demand (Keynes)



- $AD = C + I + G$  ( $M - X = 0$ )
- $C = a + bY$
- $I$  and  $G$  are not dependent on  $Y$ .
- $Y^*$  = Equilibrium national income

## 12.6 Aggregate demand and multiplier

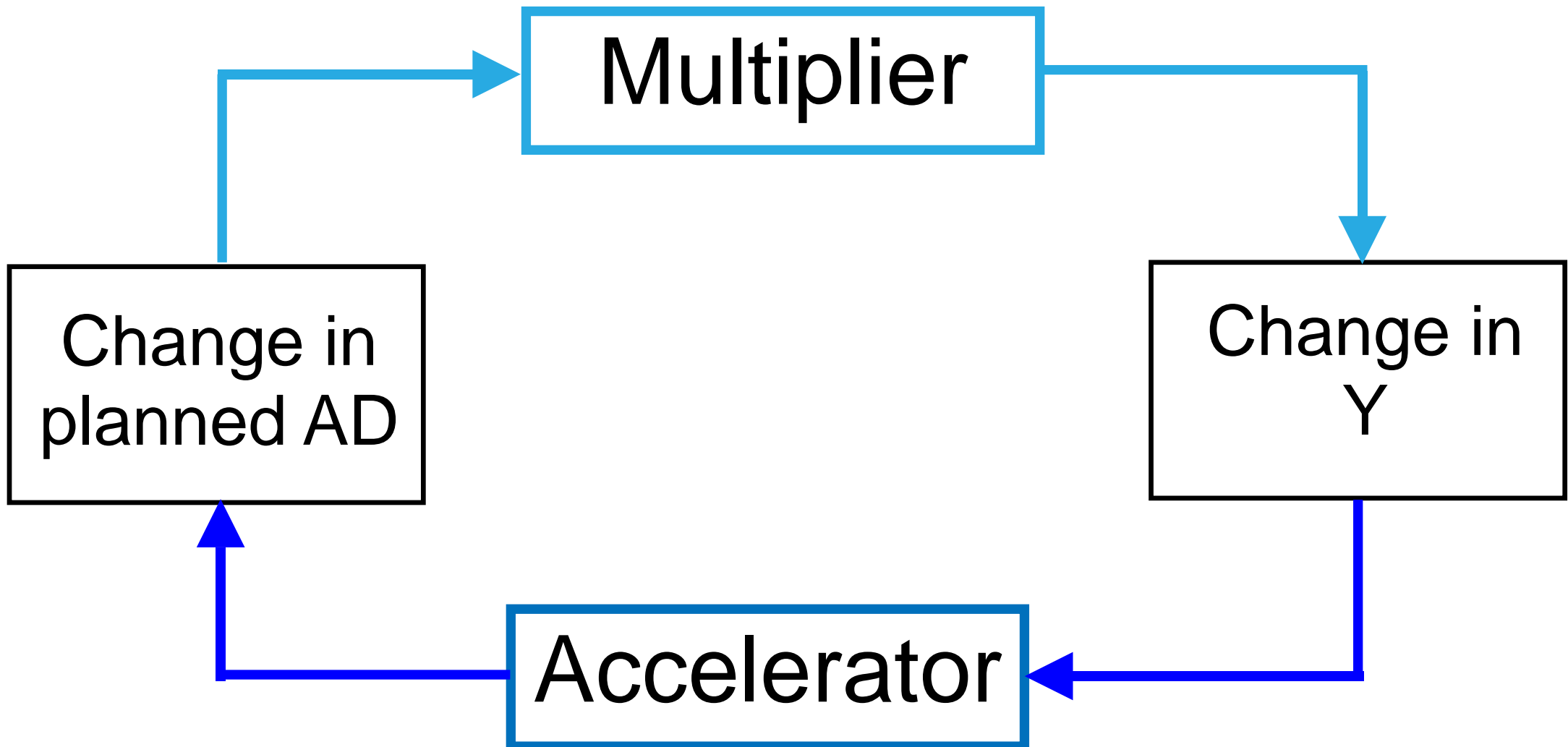


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$$\boxed{\text{Multiplier}} = \frac{\text{Change in Y}}{\text{Change in AD}}$$

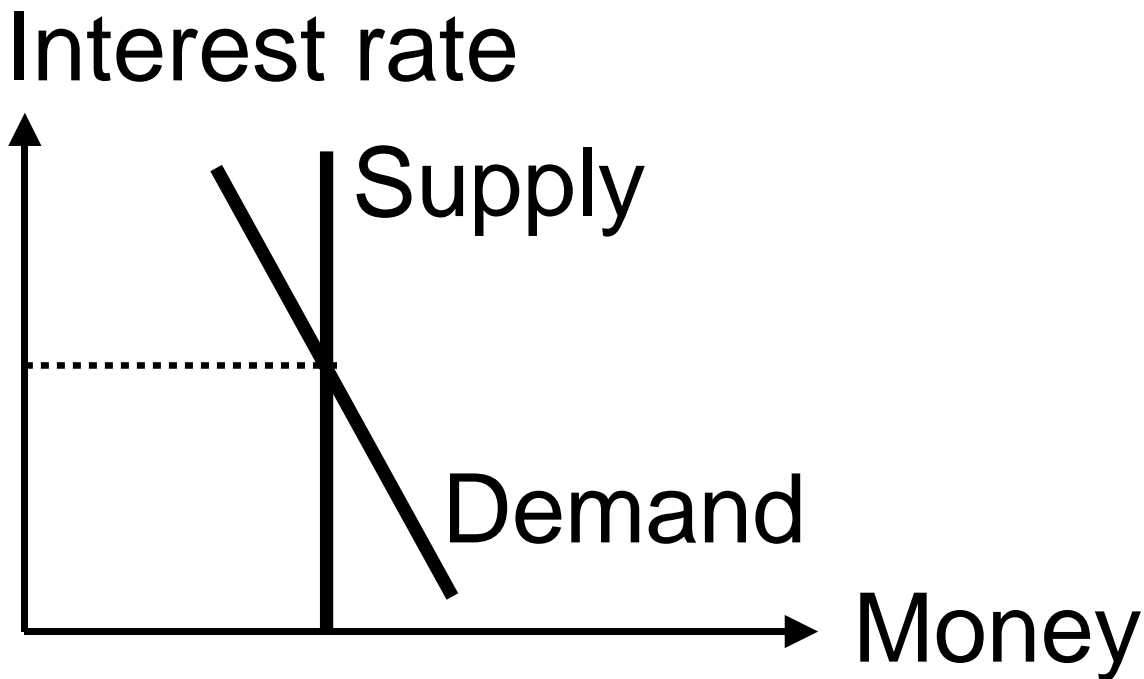
## 12.7 Multiplier and accelerator

Interaction



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## 13.1 Money market



### ● Motives for **demand**:

- Transactions
- Precaution
- Speculation

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

### ● Money **supply** is determined by the central bank.

## 13.2 Inflation 1 (nature)

The **two faces** of inflation

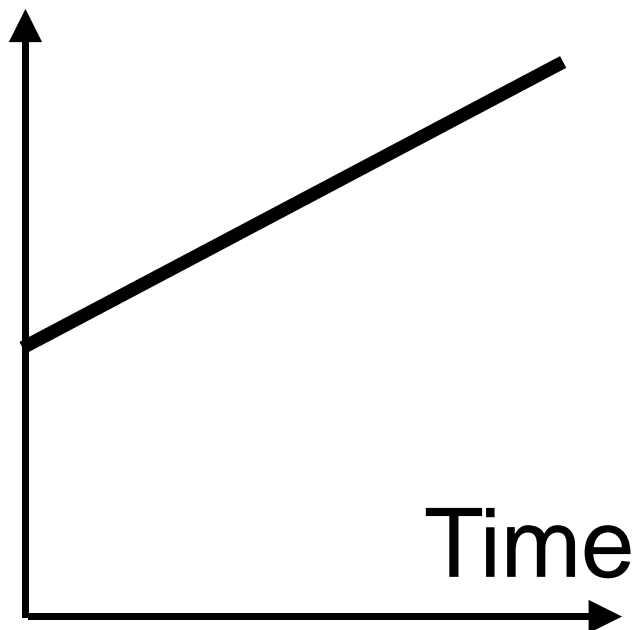
Price level ↑



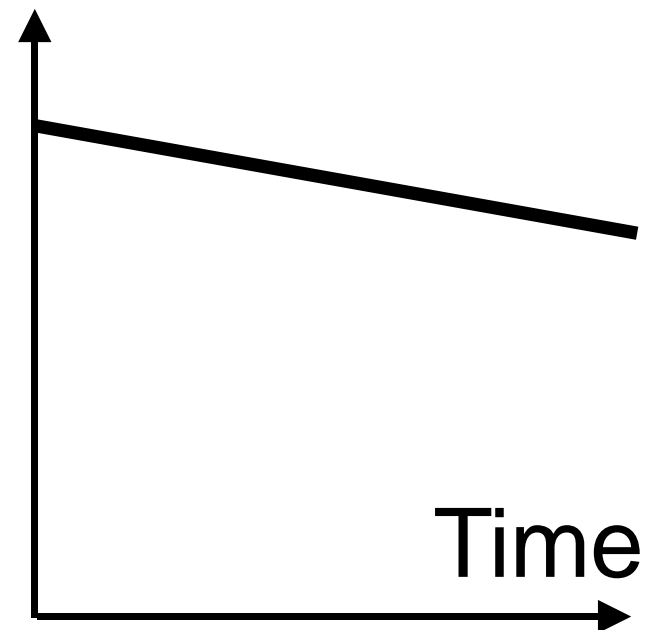
Value of money ↓



Price level



Value of money



**Measuring** inflation

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

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# 13.3 Inflation 2 (types)

## Types of inflation

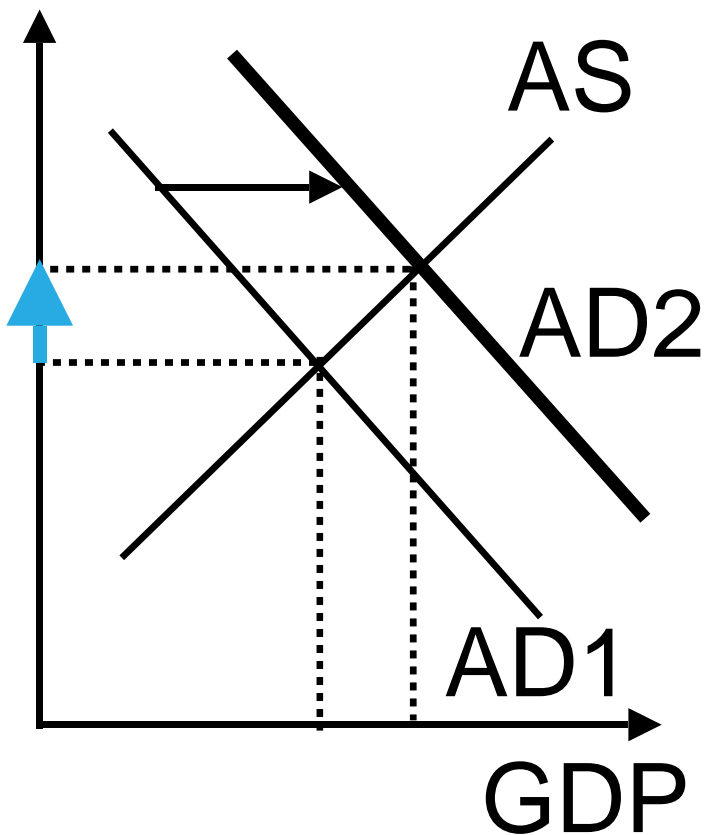
### Demand-pull

### Cost-push

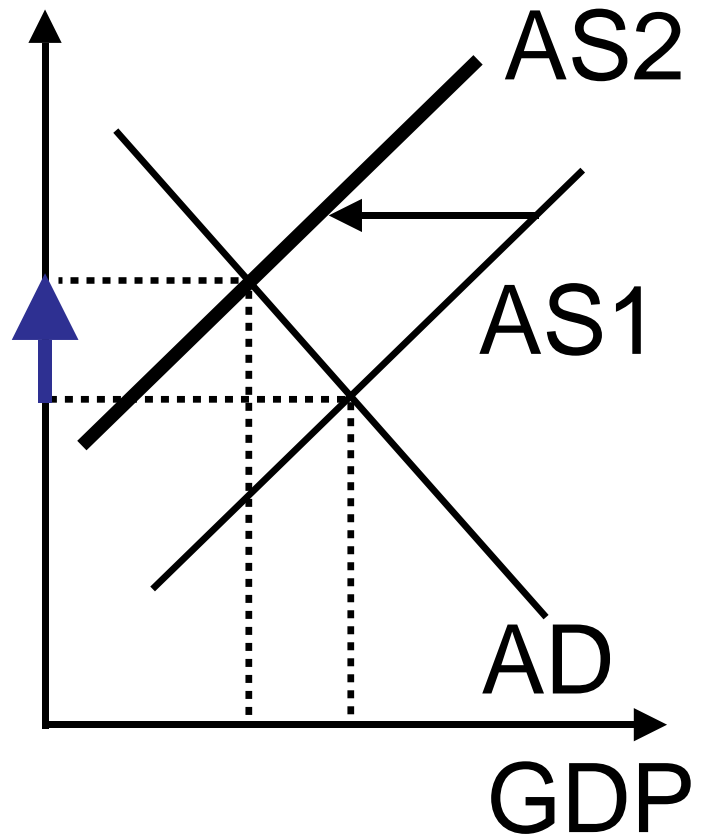
Example:  
Consumption ↑

Example:  
Wages ↑

Price level



Price level





## 13.4 Inflation 3 (impacts)

### ① **General** impacts

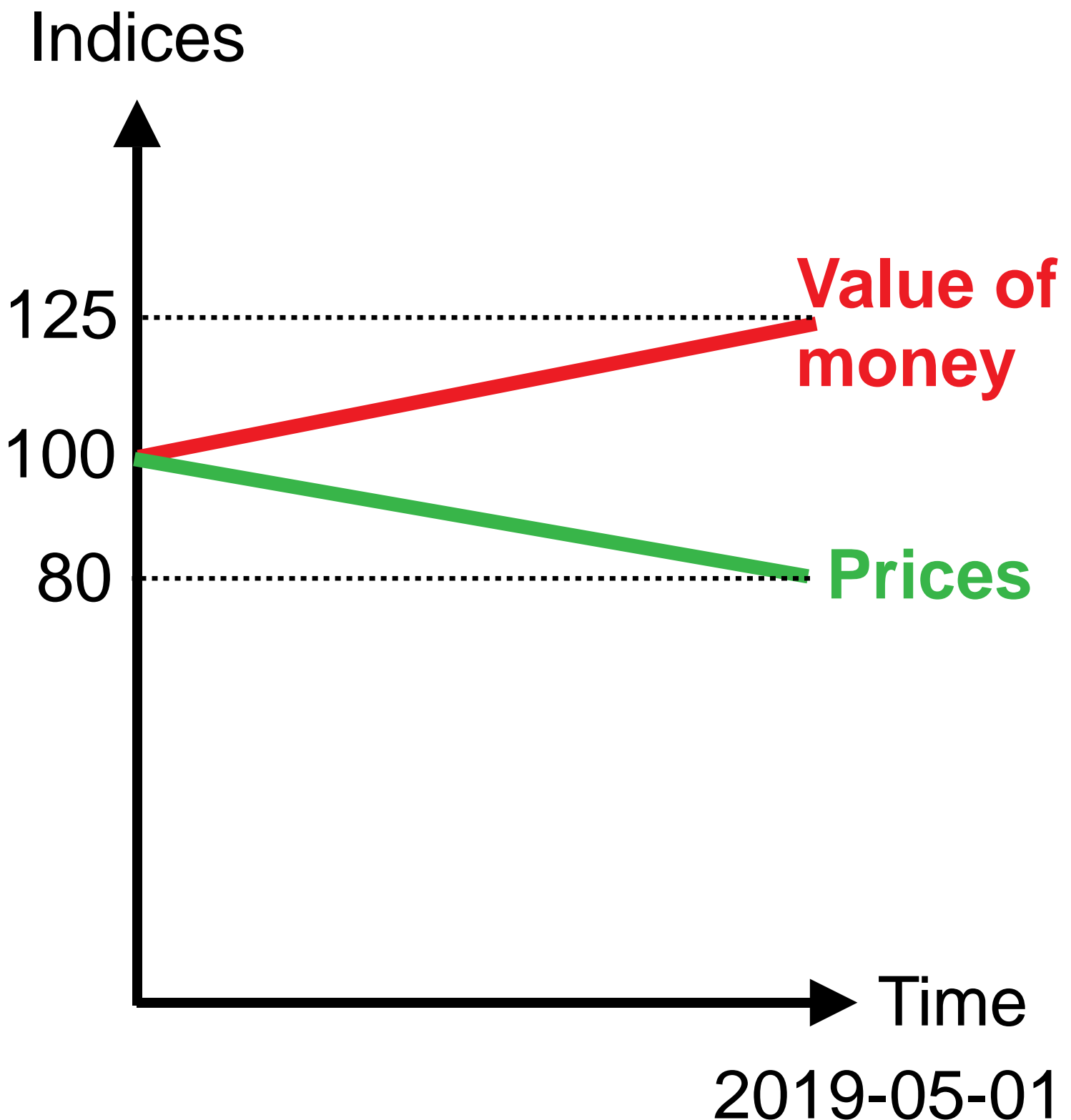
- Uncertainty
- Speculation

### 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

## 13.5 Deflation (characteristics)

In times of deflation the price level falls whereas at the same time the value of money rises.

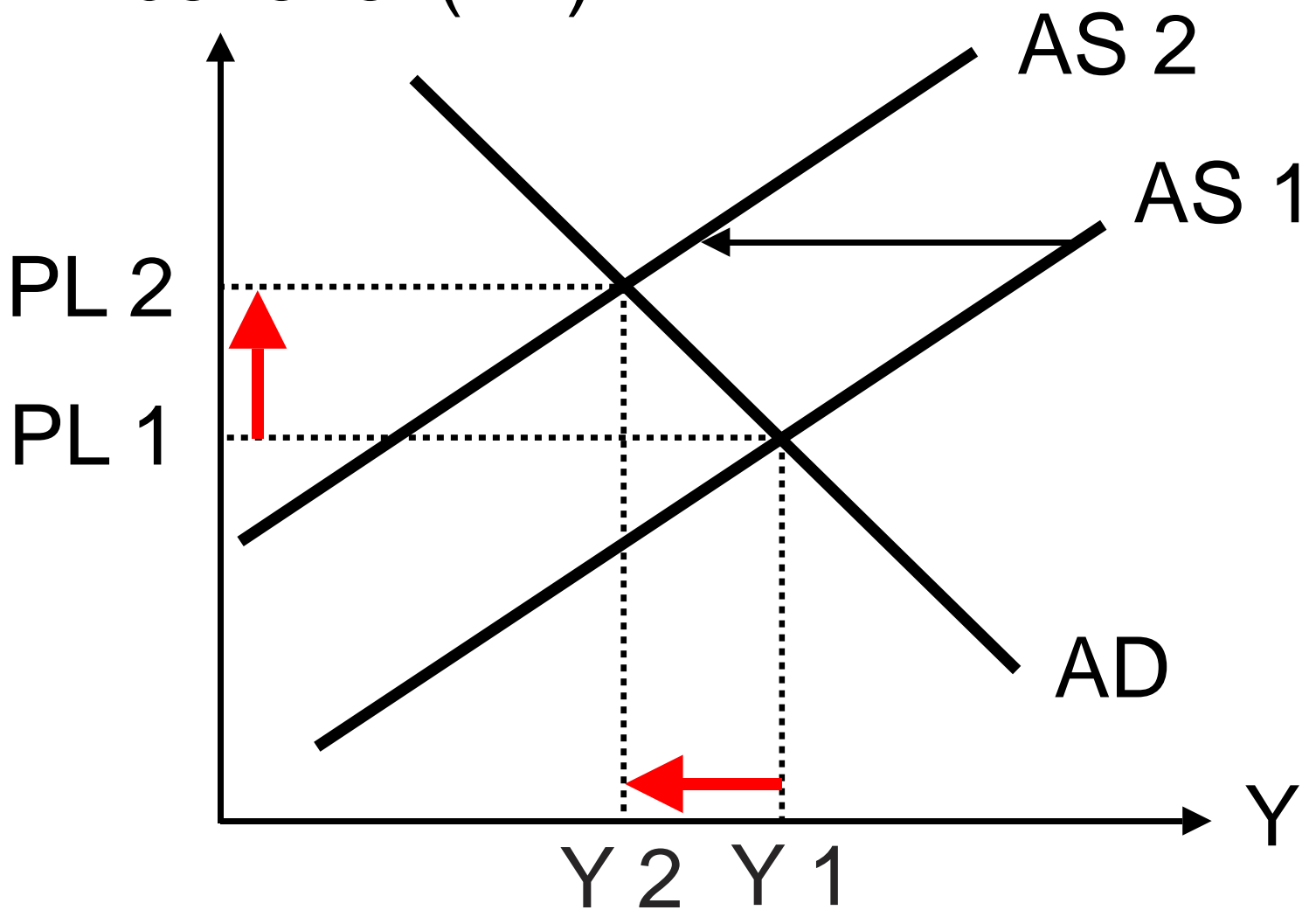


## 13.6 Stagflation

In times of stagflation inflation and recession occur at the same time.

Example of a supply shock (oil crisis):

Price level (PL)



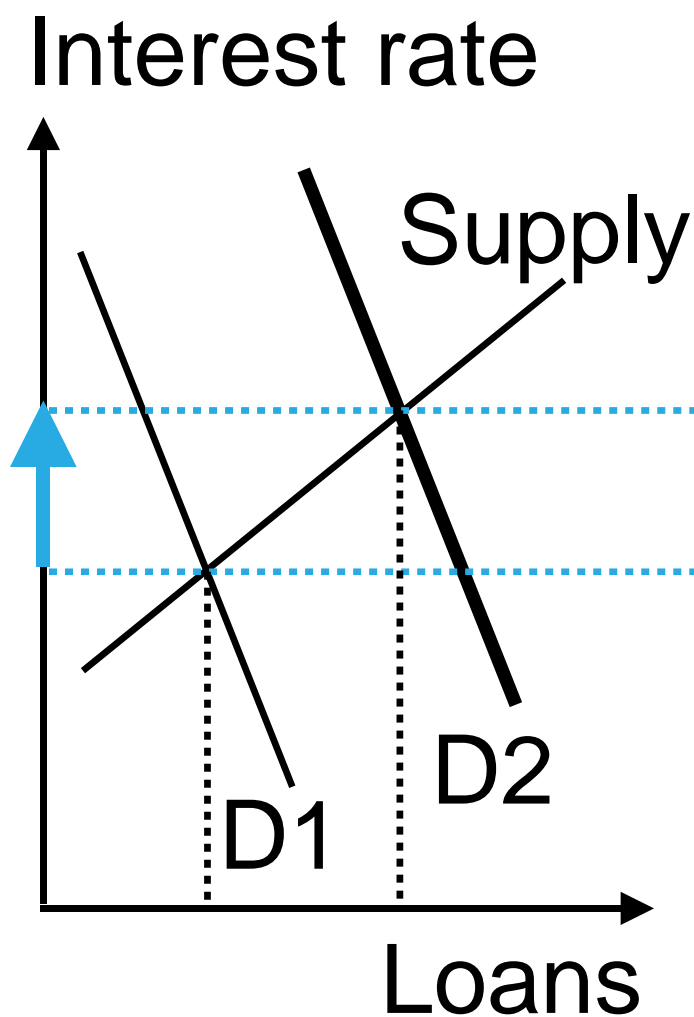
Y 1 = full employment

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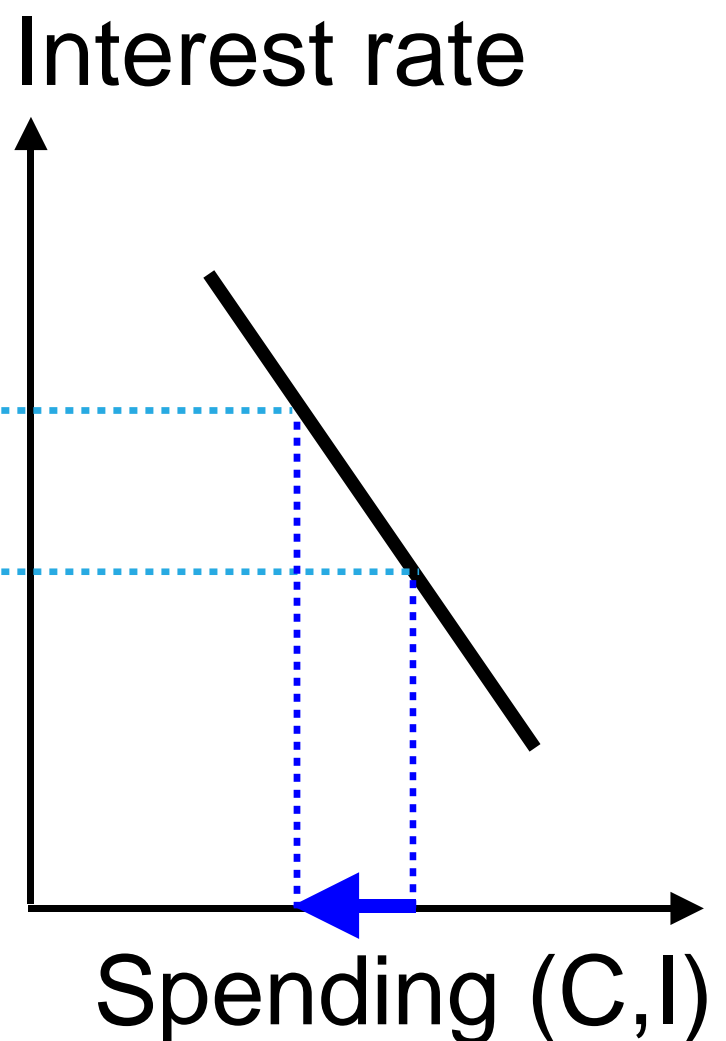
## 13.7 Crowding-out effect

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

Market for loans



Private spending



# 14.1 Objectives and policies

## Objectives

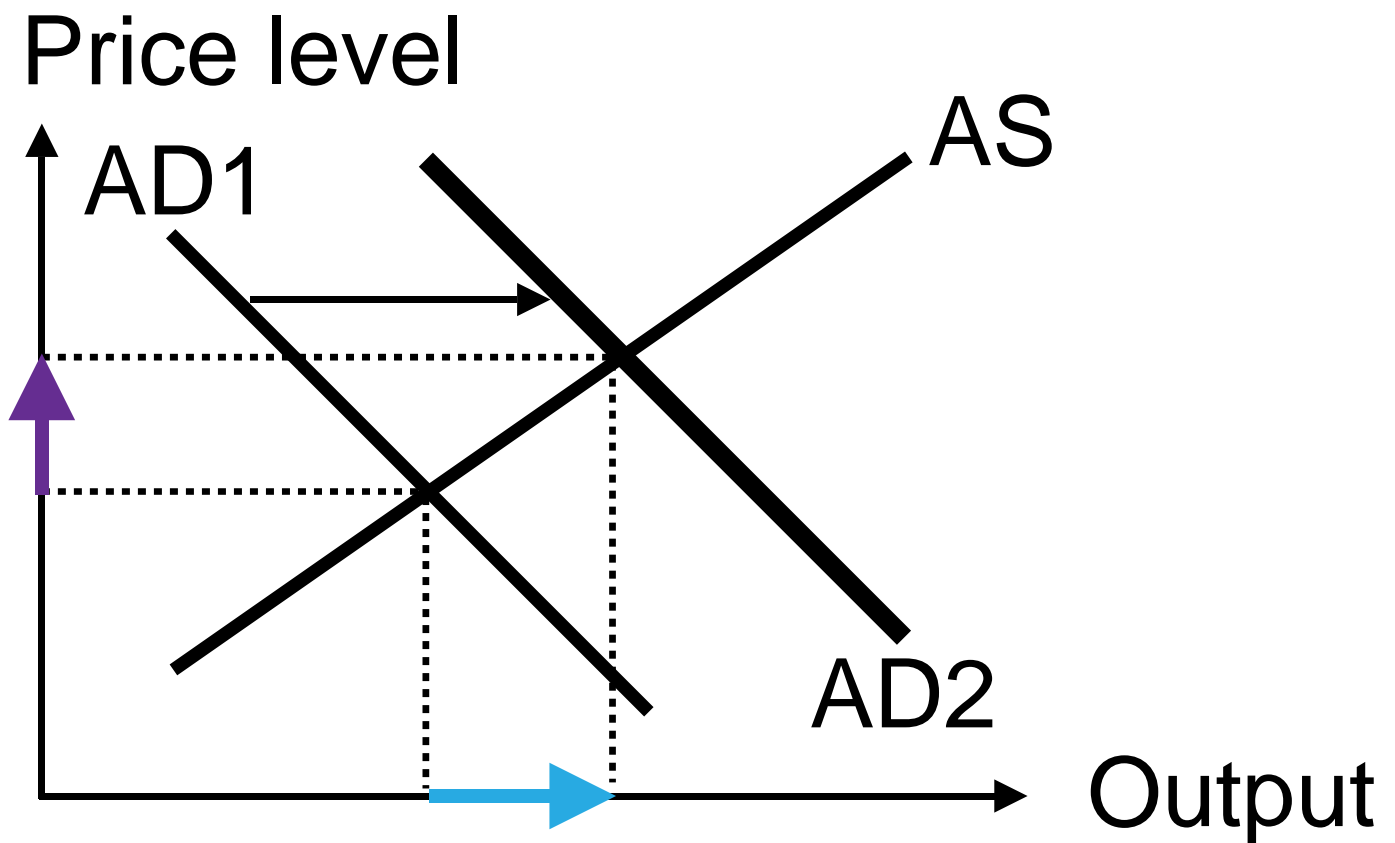
- Price stability
- Economic growth
- Full employment

## Policies to target objectives

- Fiscal policy
- Monetary policy

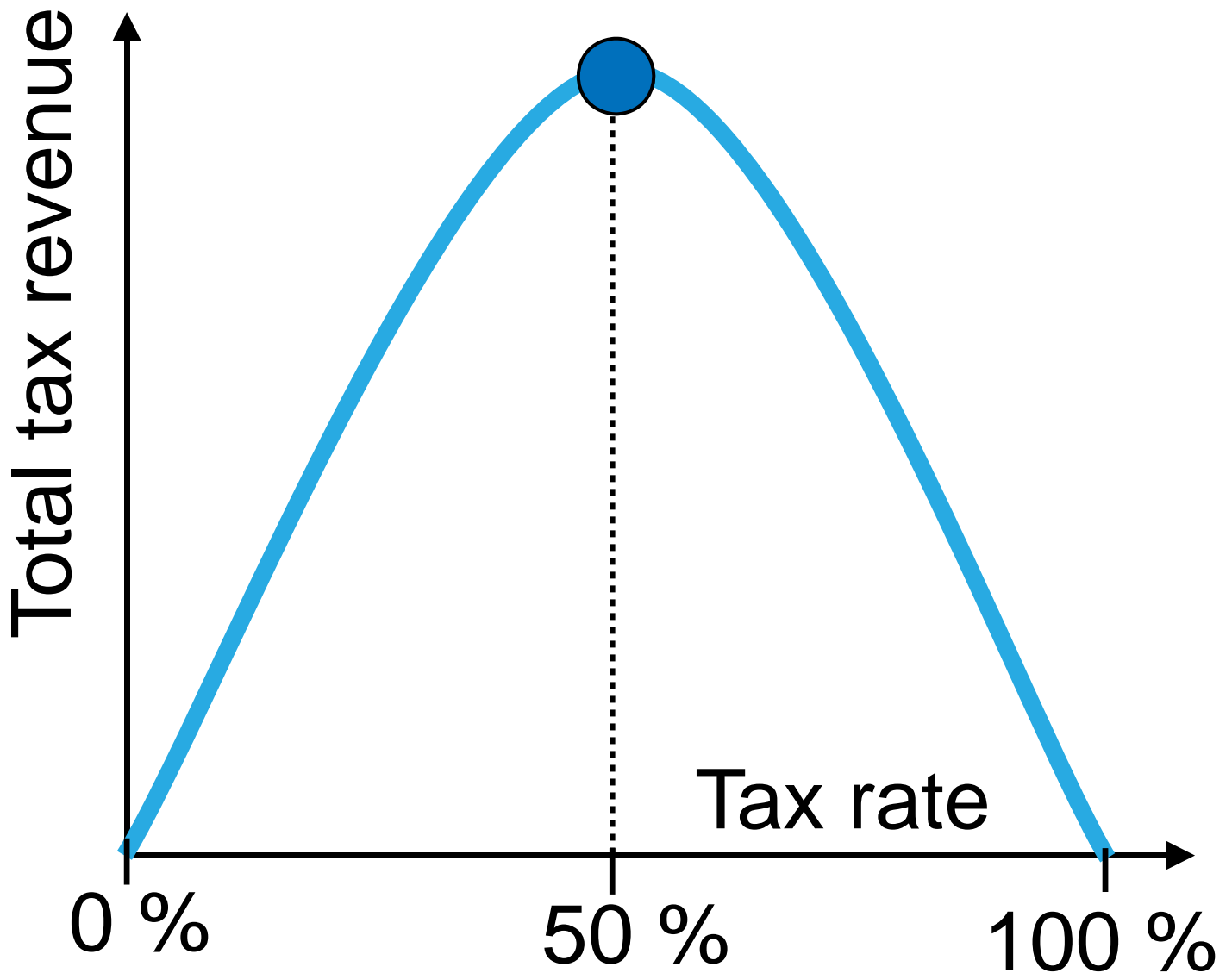
## 14.2 Fiscal policy

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



- 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.

## 14.3 Laffer curve



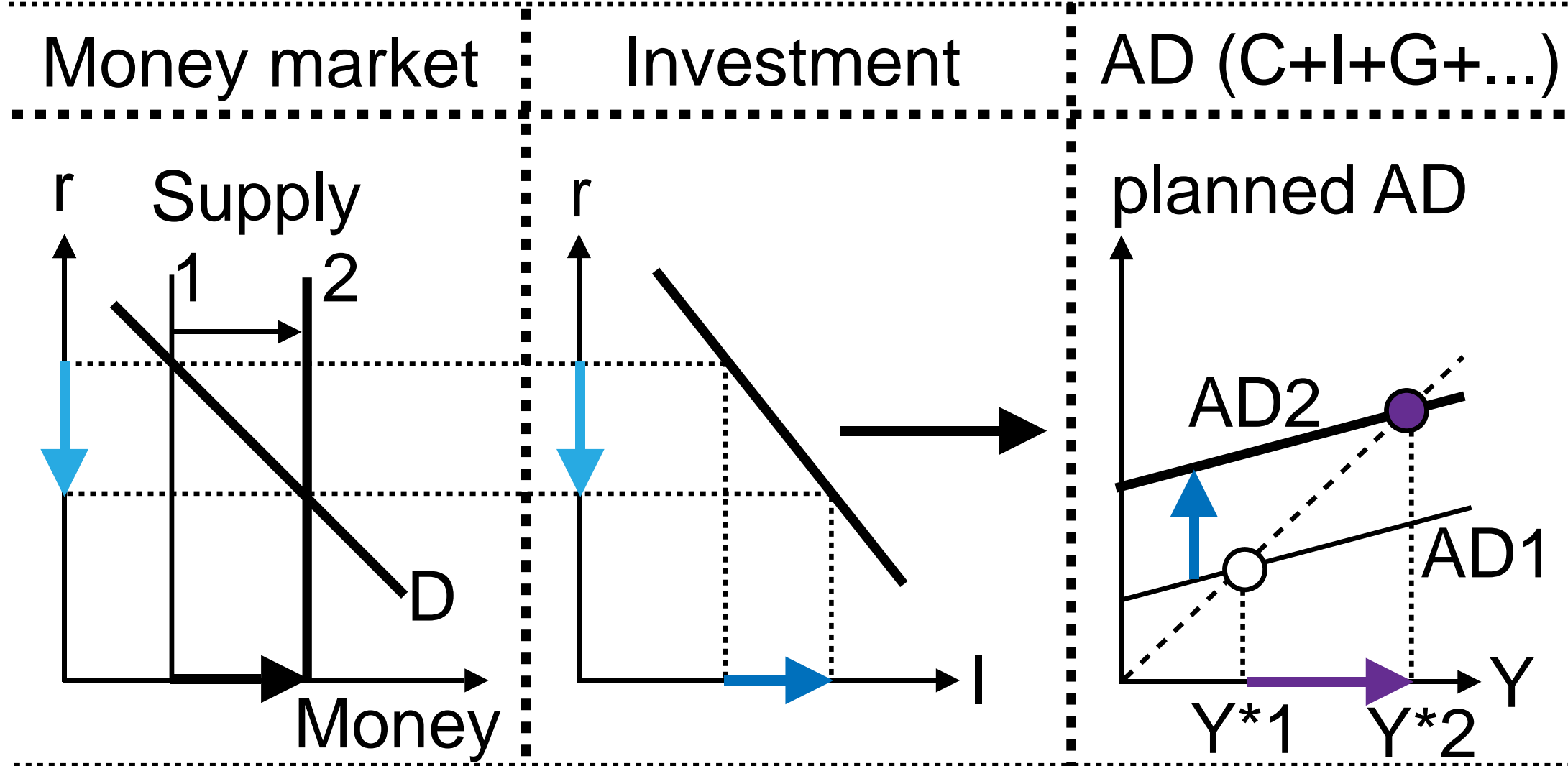
● = peak, at the tax rate of 50 %

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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.

## 14.4 Monetary policy

Expansionary policy in a recession (Keynesian view)



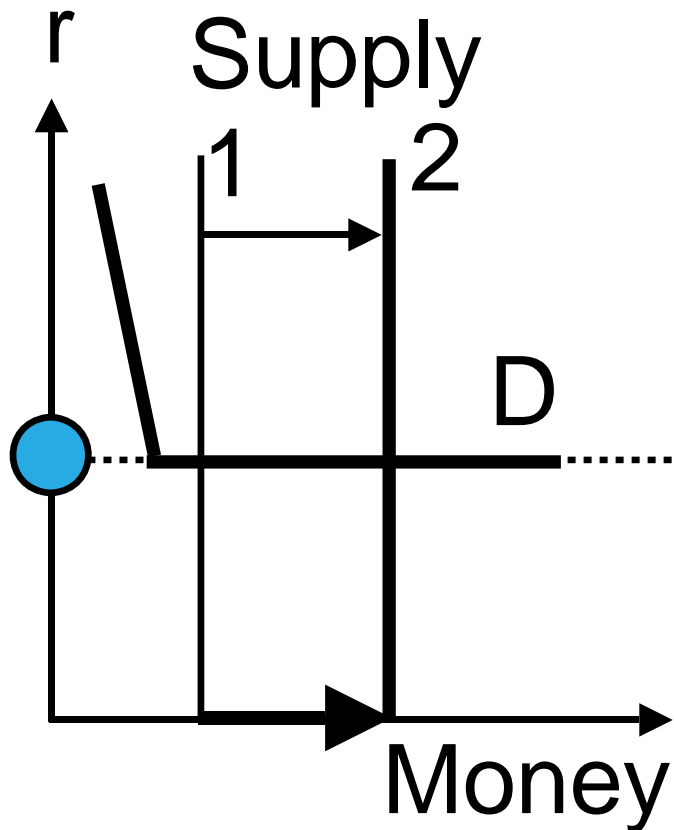
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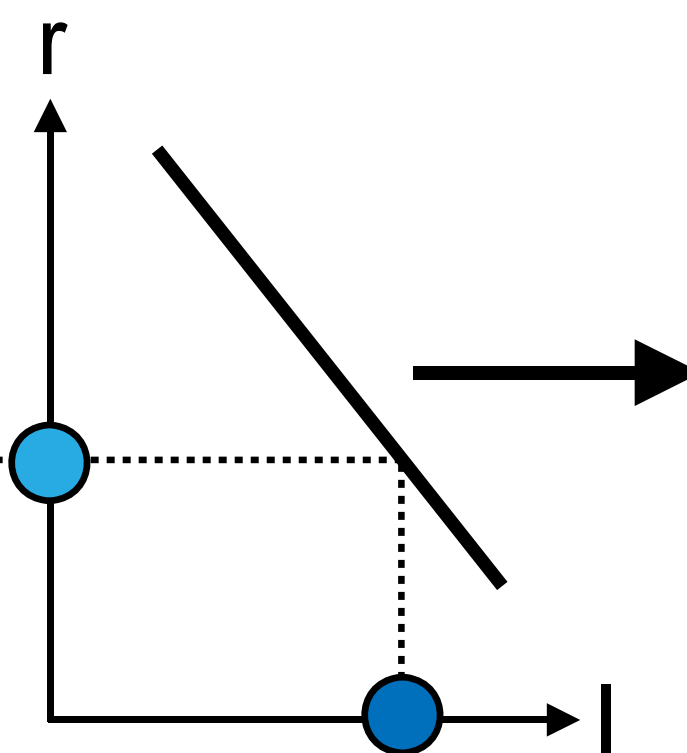
# 14.5 Liquidity trap

very low  $r$   $\longrightarrow$  monetary policy **ineffective**

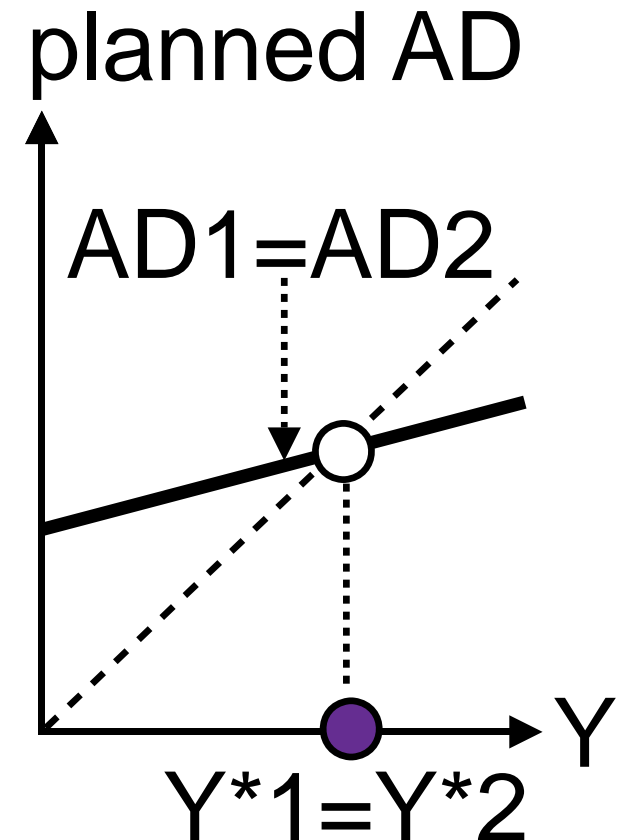
Money market



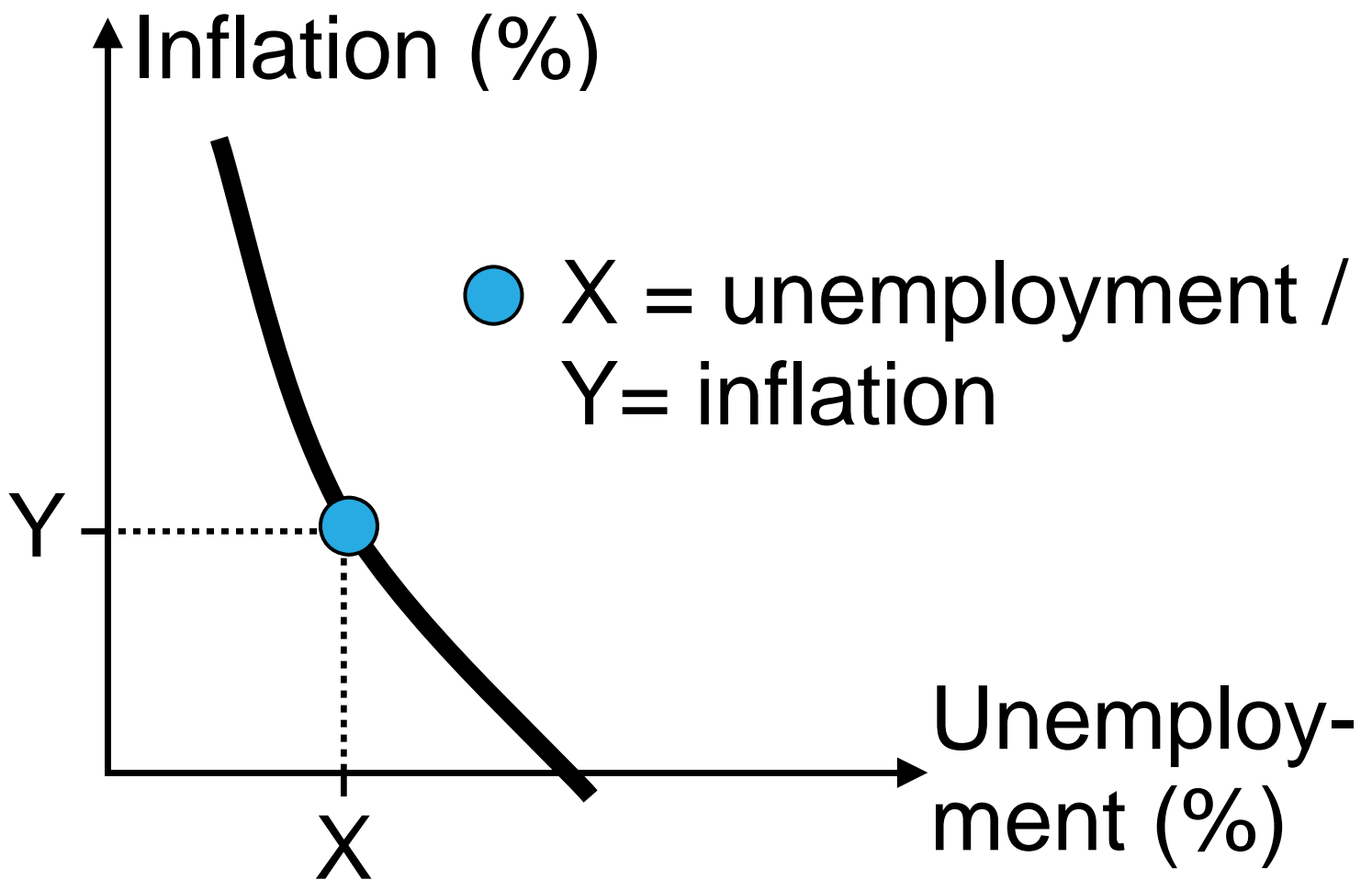
Investment



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



## 14.6 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 from time to time.

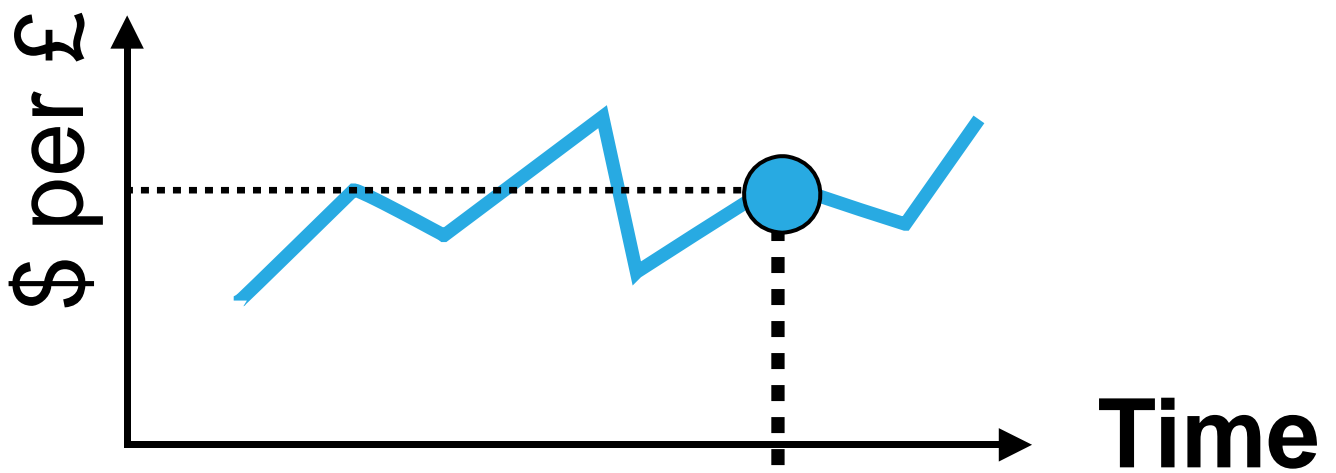
## 14.7 Quantity theory of money

- $M * V = P * Q$ 
  - 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).

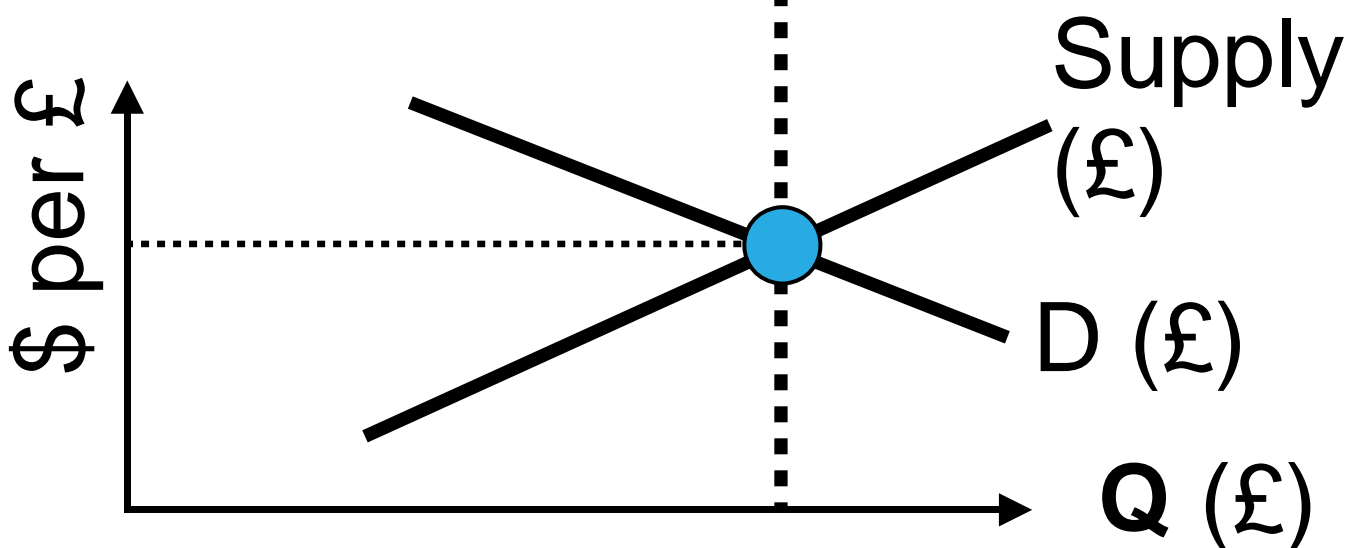
## 15.1 Exchange rates 1 (flexible)

→ The rates are formed by market forces.

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



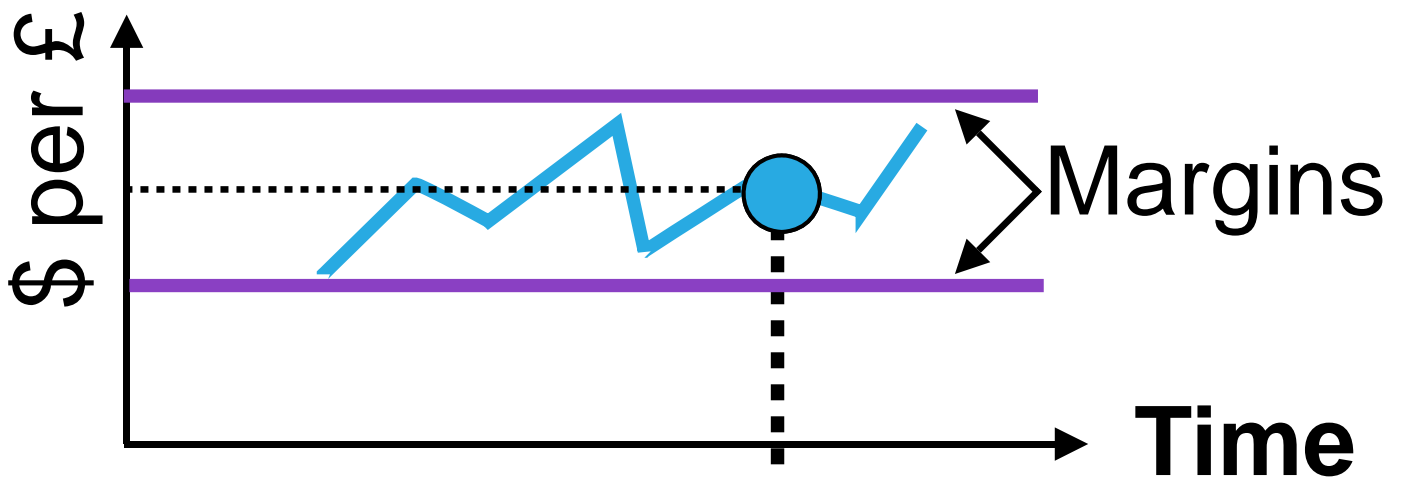
and at a **moment**:



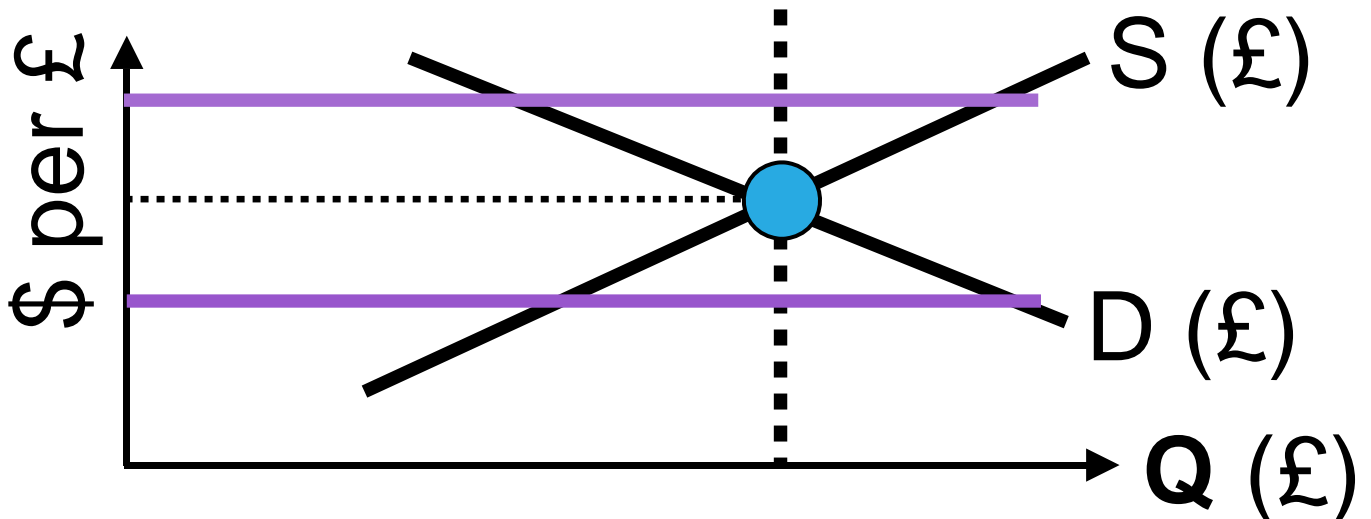
## 15.2 Exchange rates 2 (fixed)

→ The rates are formed by market forces **within** narrow **margins**.

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



and at a **moment**:



## 15.3 Current account

The current account records a country's foreign exchange receipts and expenditures and is part of the balance of payments.

### Current account

Trade in goods

Trade in services

Primary income \*

Secondary income \*\*

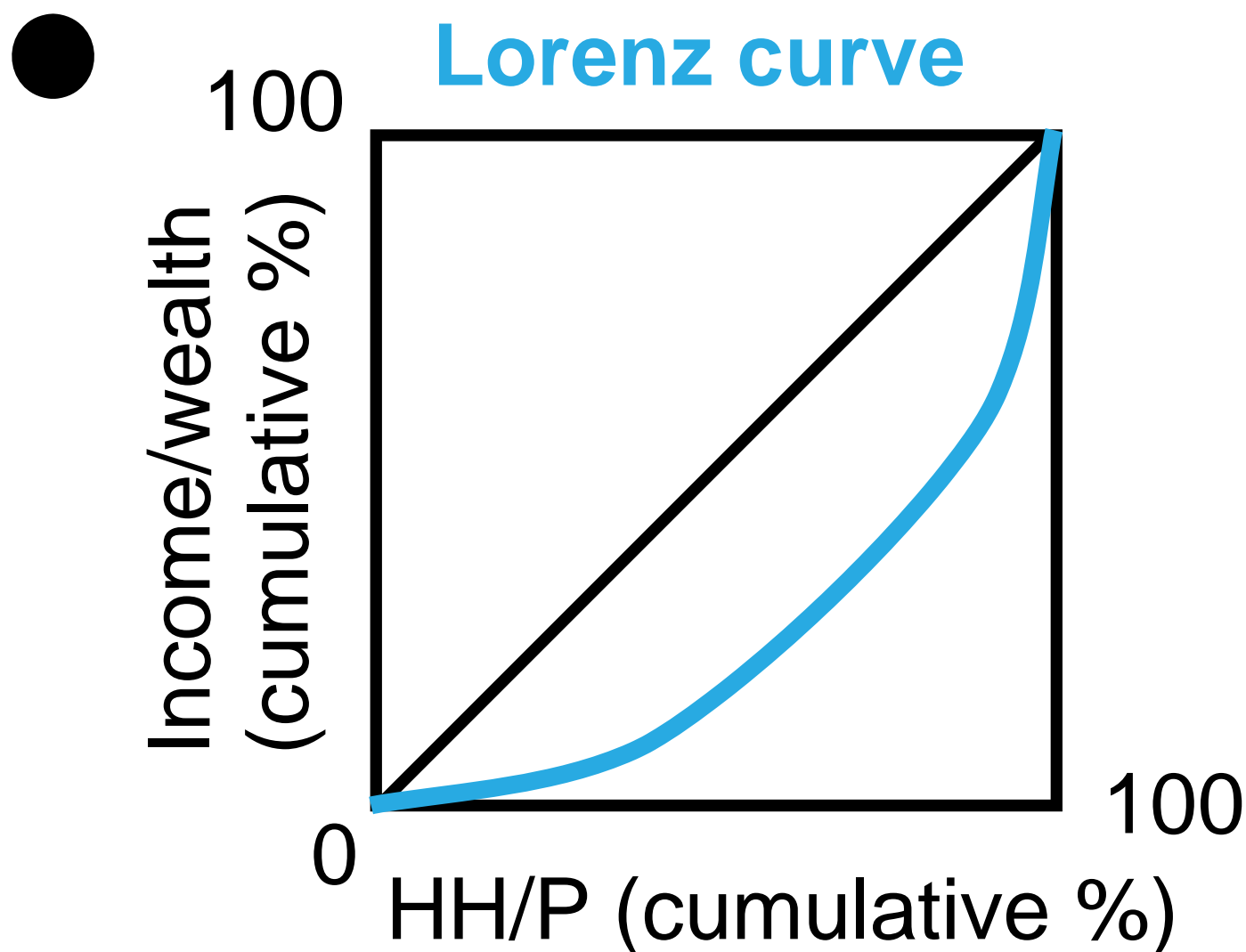
\* Income from labour and financial capital

\*\* Payments (without anything in return)  
(e.g. remittances by foreign workers)

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## 16.1 Lorenz curve 1 (nature, form)

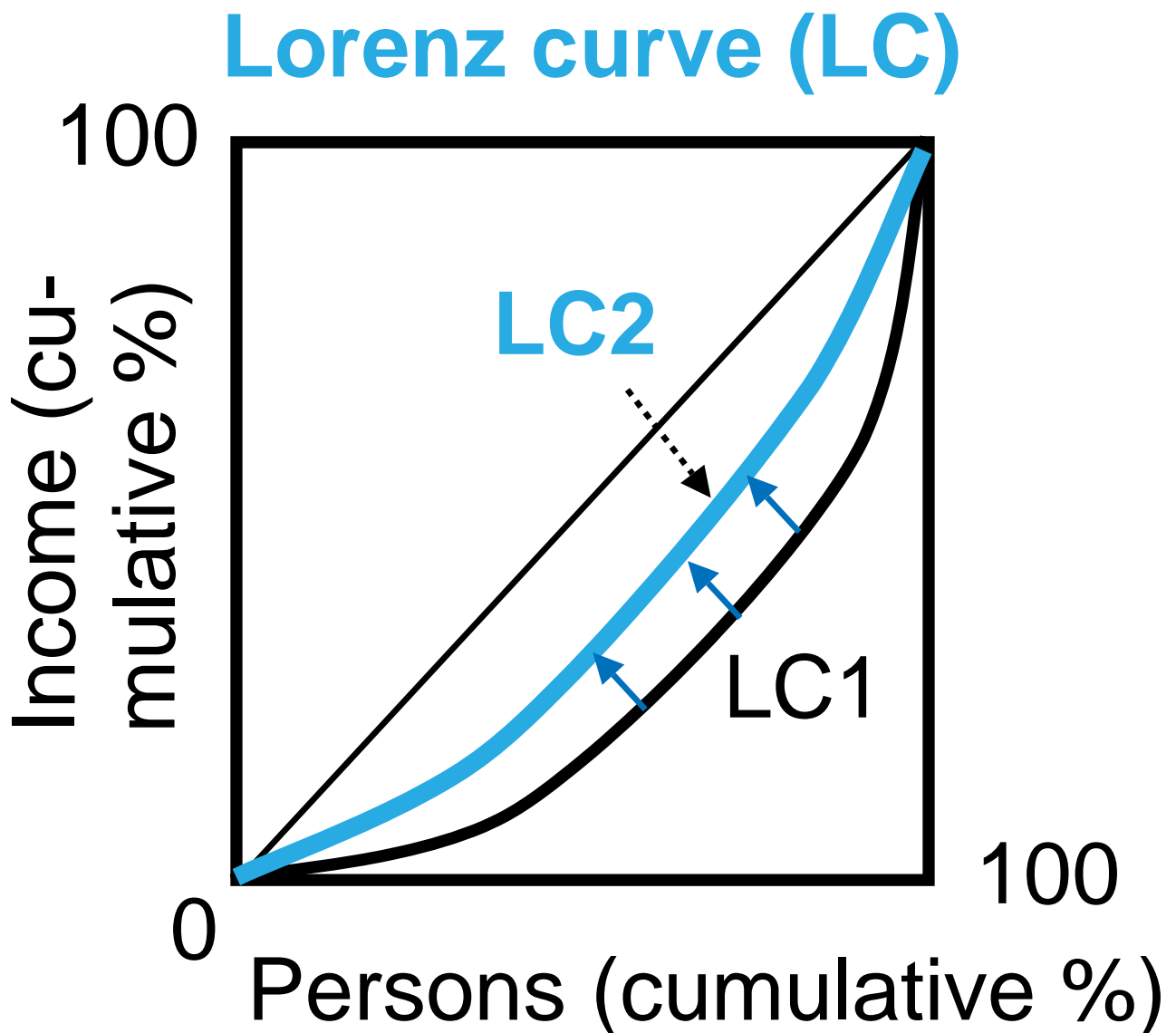
- A Lorenz curve displays the income distribution or wealth distribution among households (HH) or persons (P).



Diagonal of  $45^\circ$  = totally equal distribution

## 16.2 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).





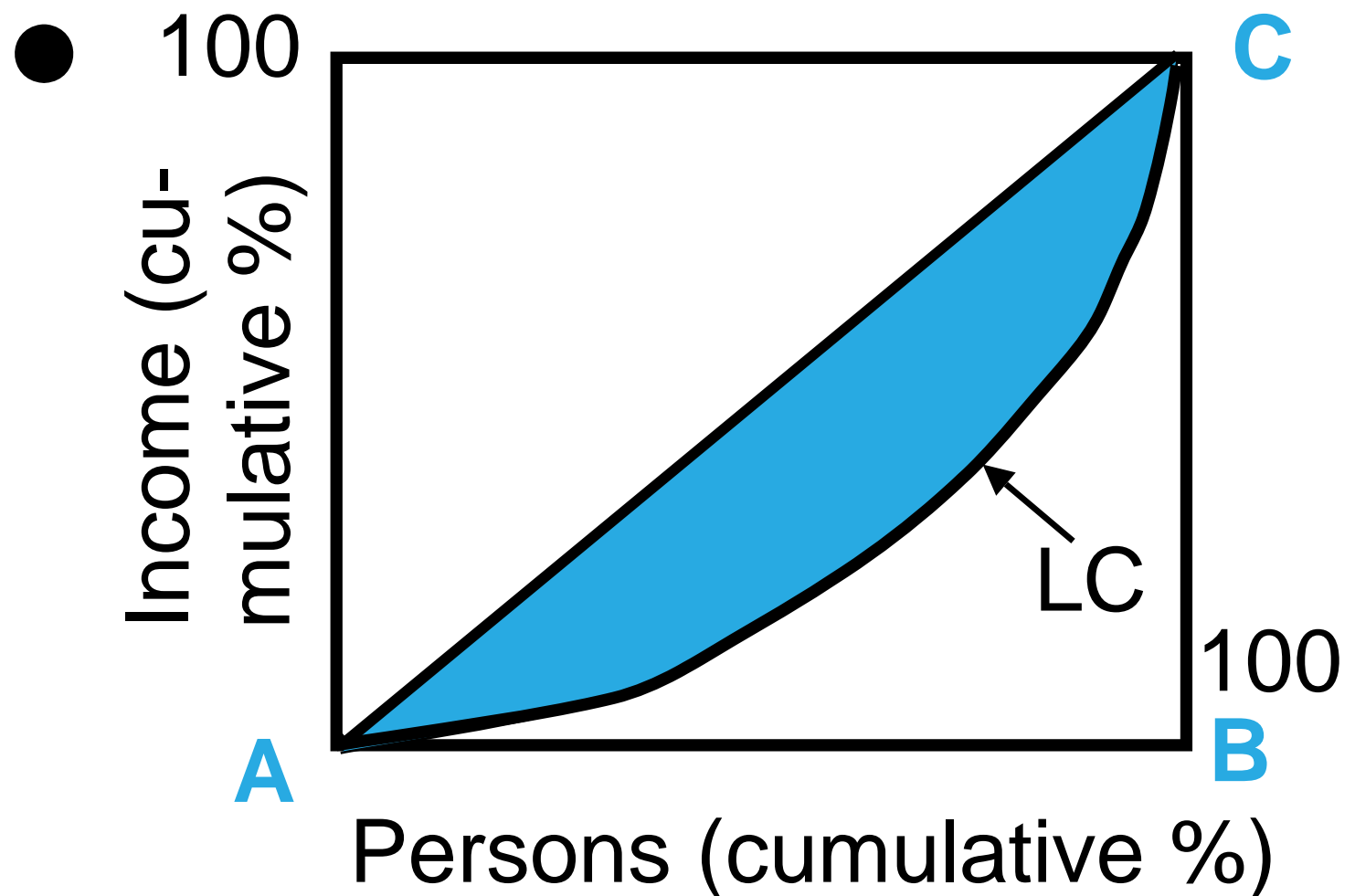
## 16.3 Gini coefficient

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

- Gini coefficient =

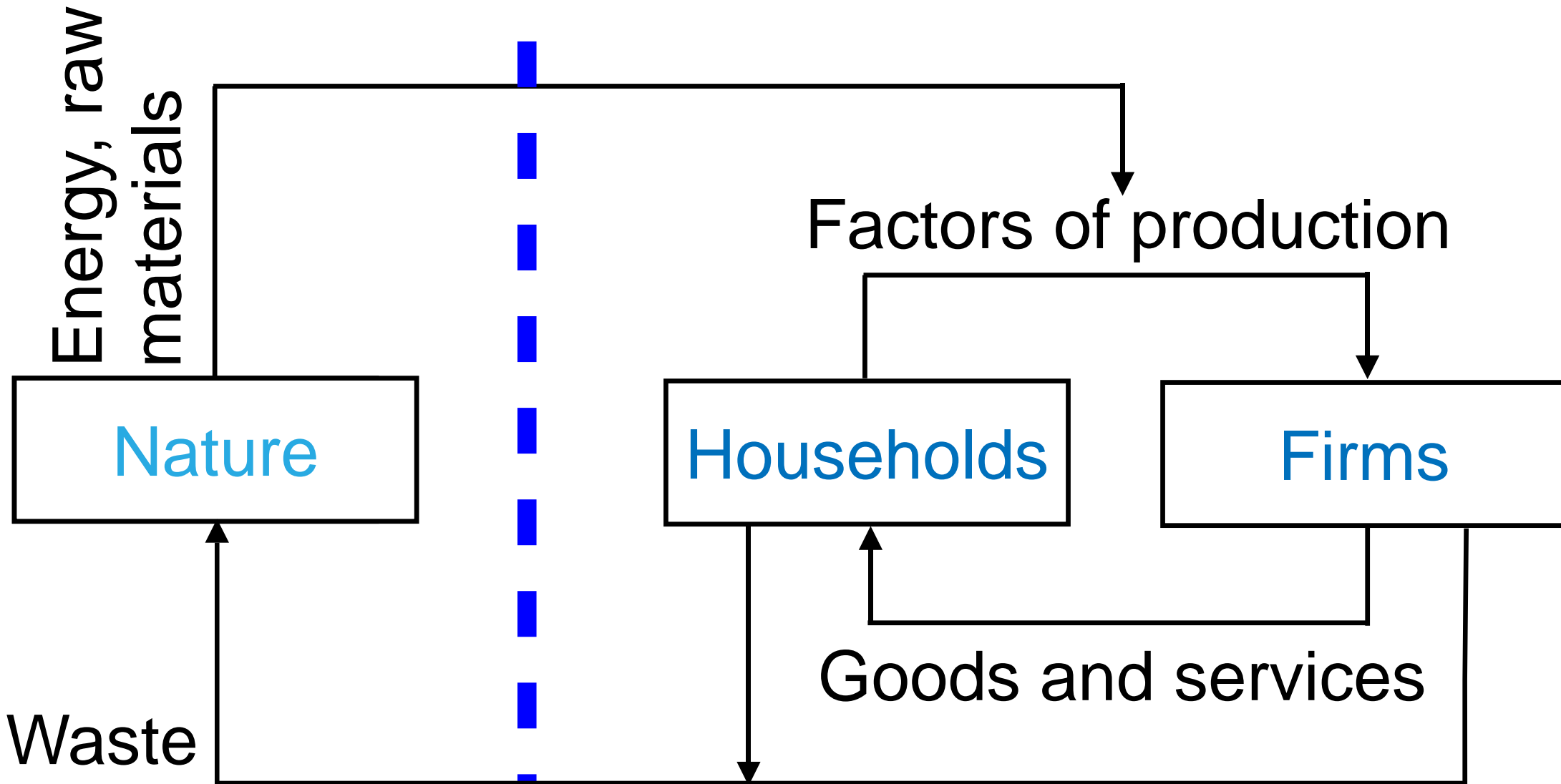
$$\frac{\text{Area between diagonal and LC}}{\text{Area ABC}}$$

LC = Lorenz curve



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

# 17.1 Economy and environment

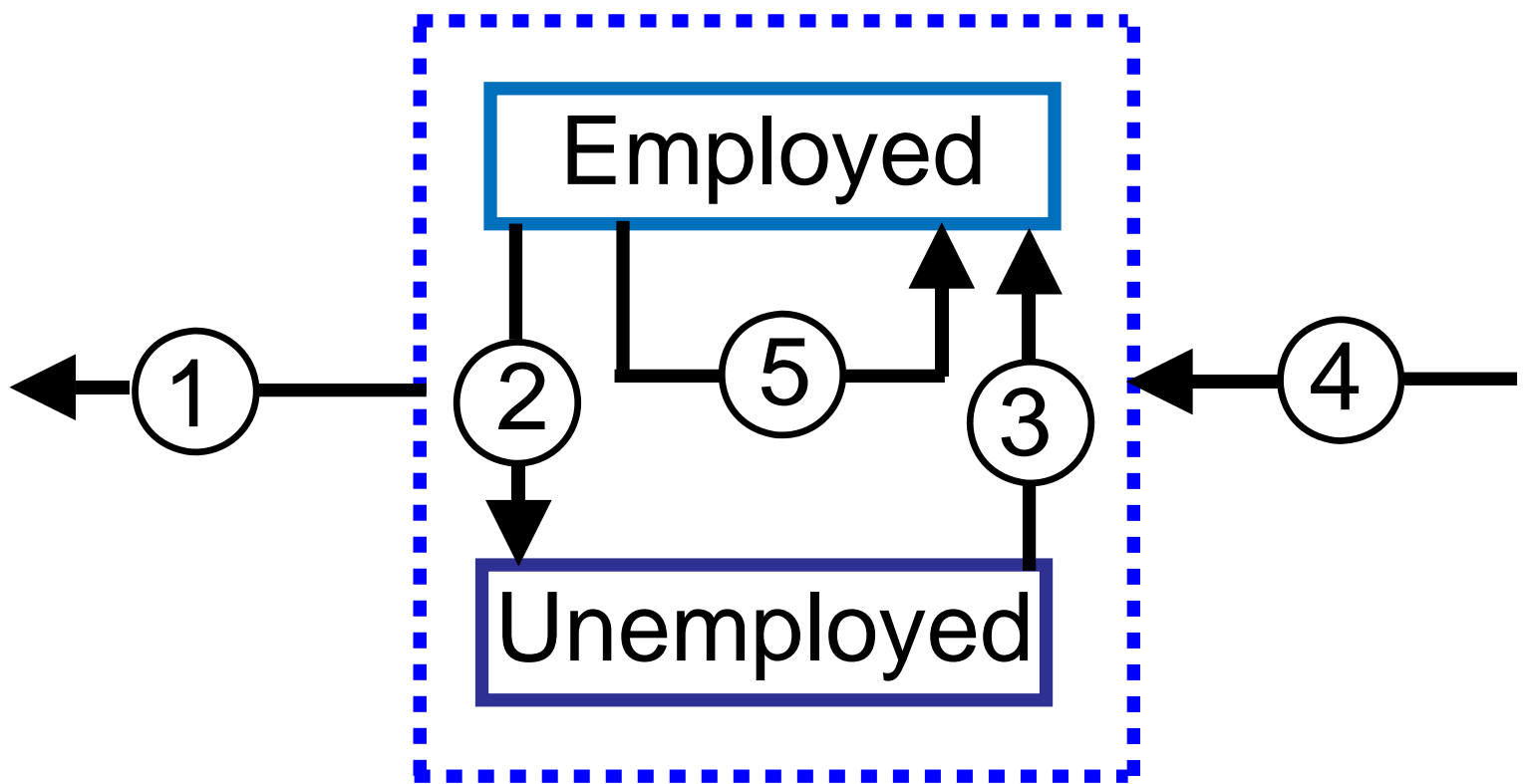


See also: Graham Dawson, *Macroeconomics*, Harlow 2006, 553

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## 17.2 Labour force

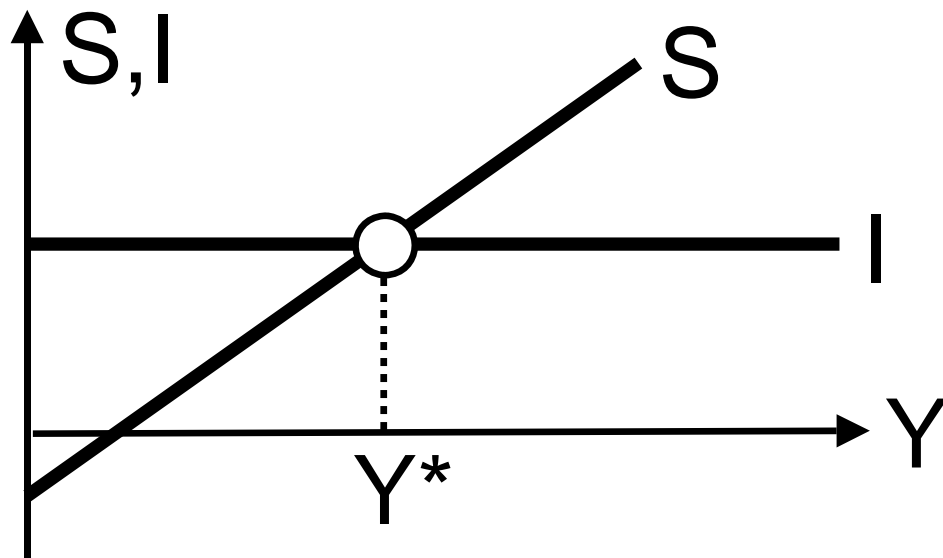
The **labour force** consists of **em-  
ployed** and **unemployed** persons.



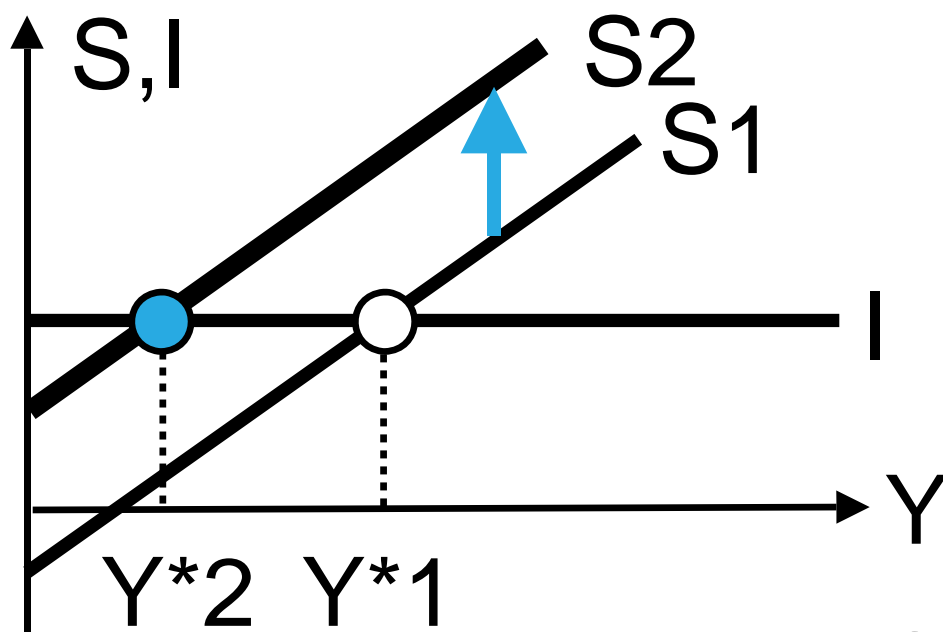
- ① leaving labour force
- ② getting unemployed
- ③ getting employed again
- ④ entering labour force
- ⑤ changing the job

## 17.3 Paradox of thrift

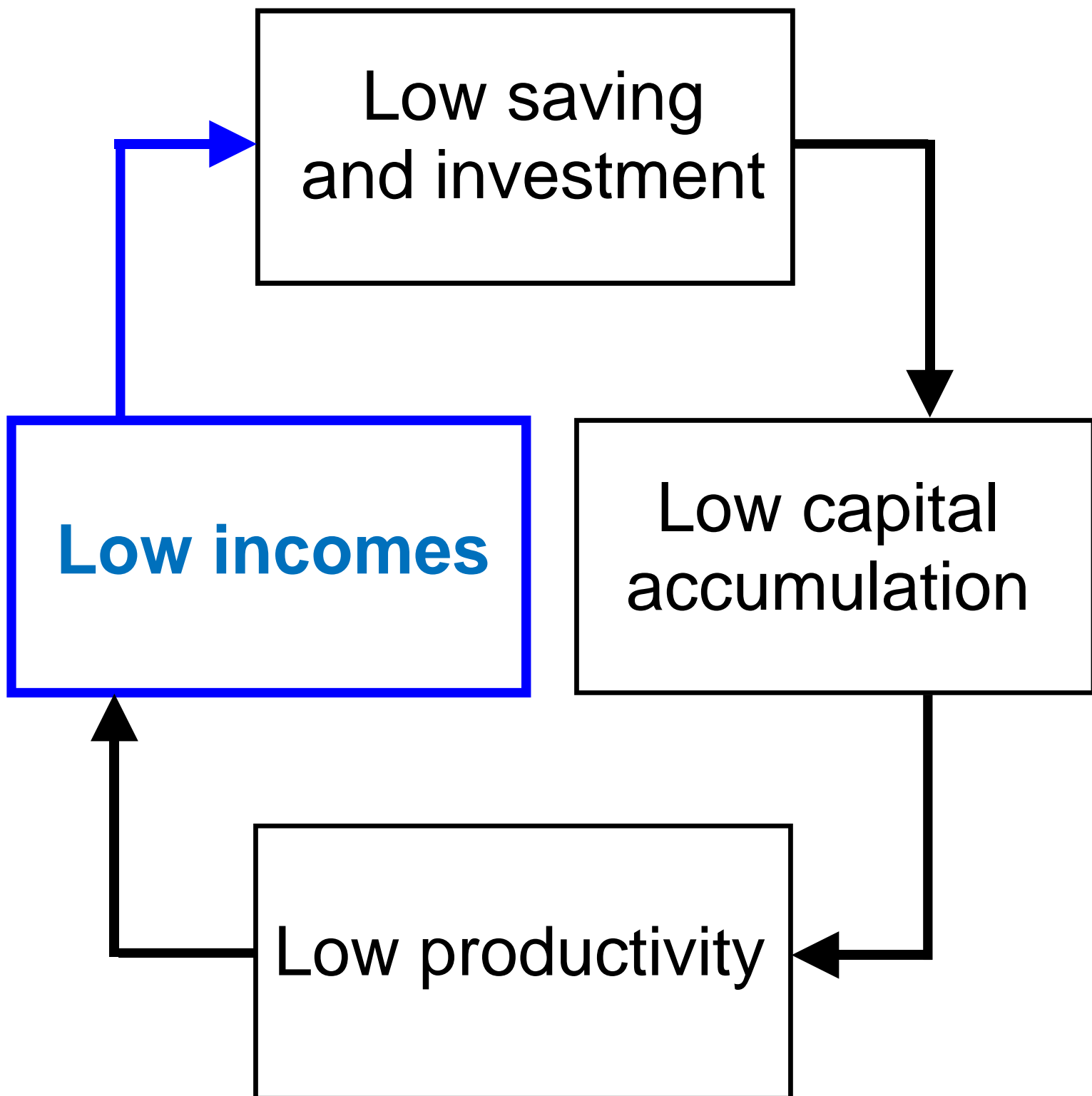
- Equilibrium  $Y^*$ :  $S = I$



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



## 17.4 Poverty (vicious circle)



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

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## 17.5 Wealth (virtuous circle)

