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Theory and Politics of European Integration

Lecture 7: Optimal Currency Area Theory, Fiscal Policy and the Growth and Stability Pact

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Last lecture

- **Labour market integration**
  - Institutions
  - Scale of migration and income differences
  - Composition of migrants, self-selection and out-selection
  - Labour market impact
    + Standard model with perfect labour markets
    + Equalisation of wage rates
    + Aggregate gains, but winners and losers
    + More complex models:
    + Capital stock adjustment
    + Wage rigidities and unemployment

This lecture

- **An Introduction to Open Economy Macroeconomics**
  - The short-term non-neutrality of money
  - The long-term neutrality of money
  - The IS-LM diagram
  - Exchange rate and fiscal policies and exchange rate regimes

- **Optimum Currency Area (OCA) Theory**
  - What are the trade-offs?
  - Asymmetric shocks and currency areas
  - Criteria for an optimal currency area

This lecture (cont.)

- **Fiscal Policy and the Stability Pact**
  - Fiscal policy in the monetary union
    - Borrowing instead of transfers
    - Automatic stabilizers and discretionary policy actions
  - Fiscal policy externalities
    - Spillovers and coordination
    - Excessive deficit and no-bailout clause
    - Collective discipline

Readings

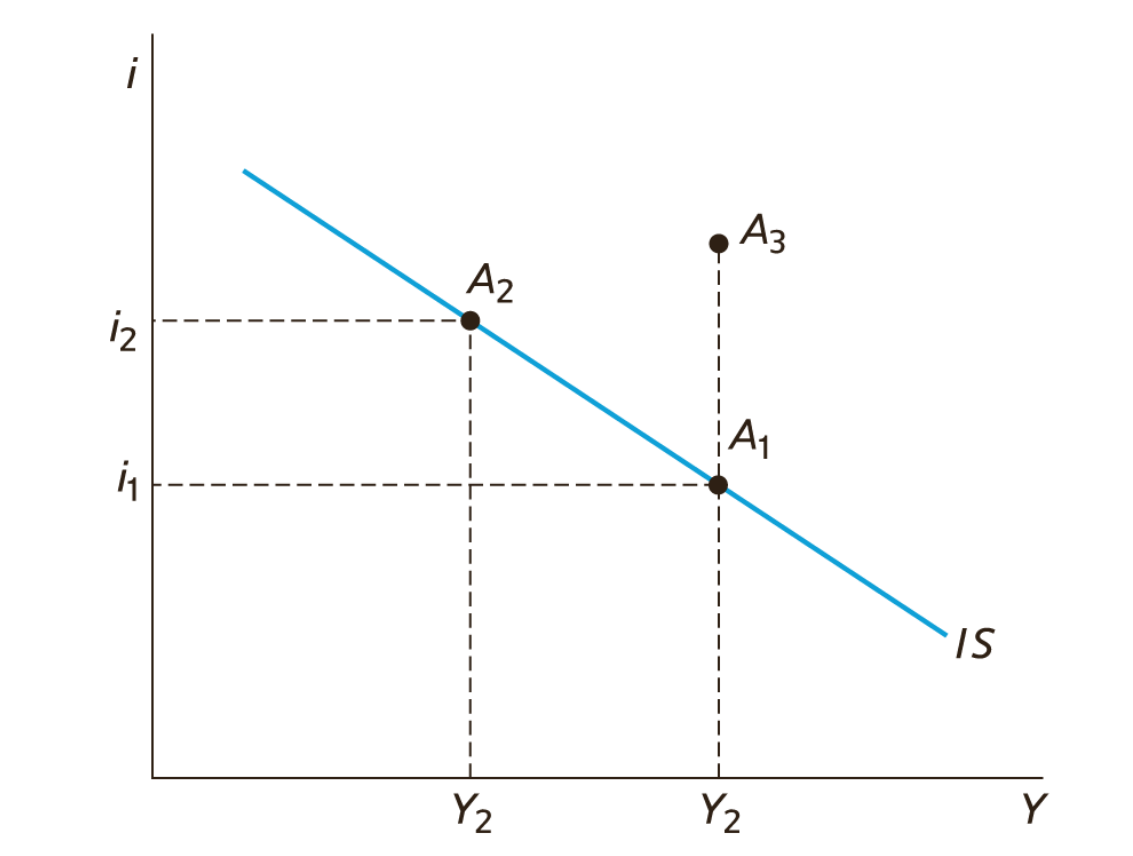
Baldwin & Wyplosz (2015): Ch. 13, 15 and 17

An Introduction to Open Economy Macroeconomics: Three basic principles

1. Short term: non-neutrality of money
2. Long term: neutrality of money and PPP
3. Interest parity condition

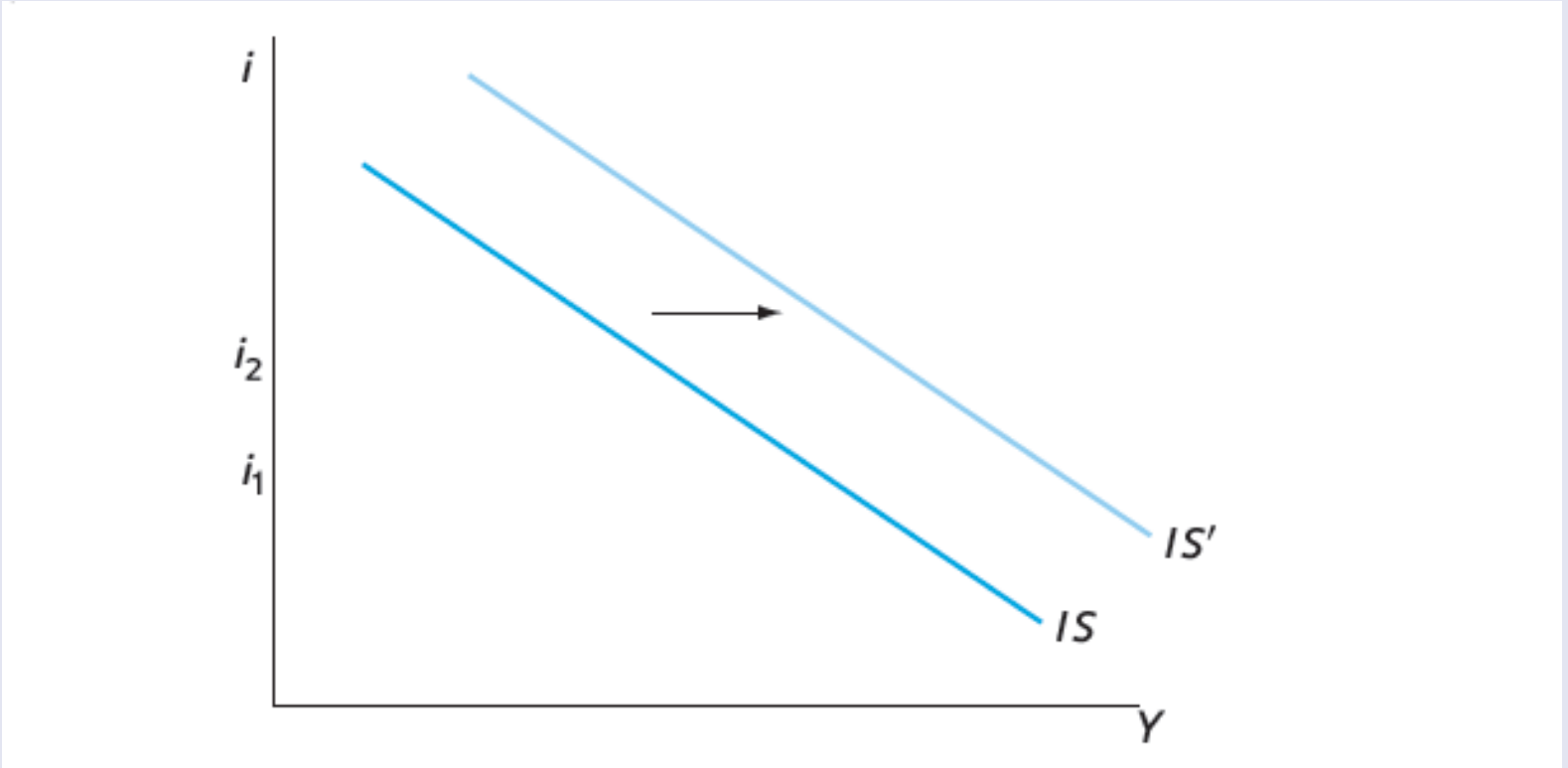
The closed economy: a refresher

- The goods market: $Y = C + I + G$
- The IS curve



The closed economy: a refresher

- The goods market and role of fiscal policy:
- expansionary fiscal policy shifts the IS curve:



The closed economy: a refresher

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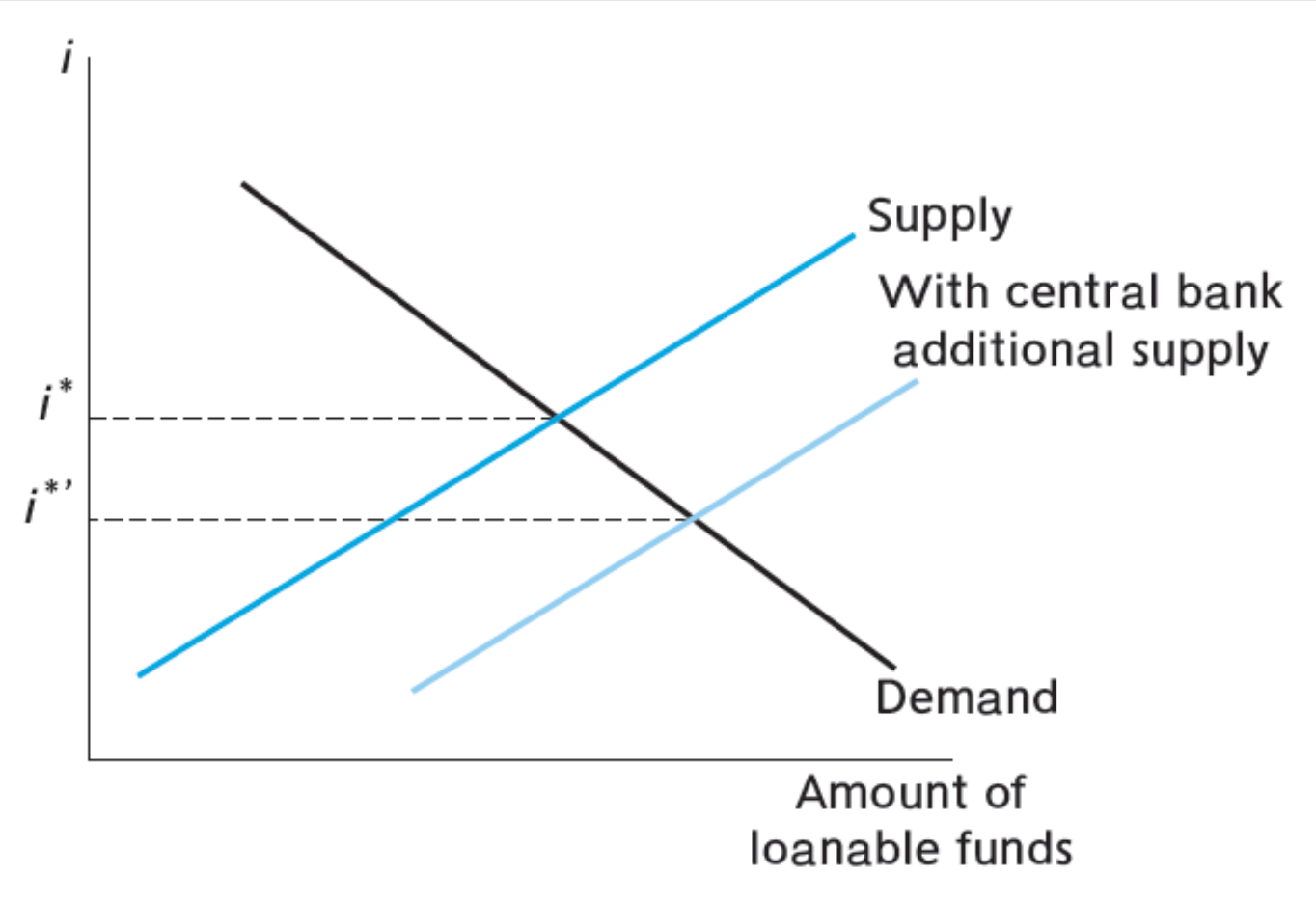
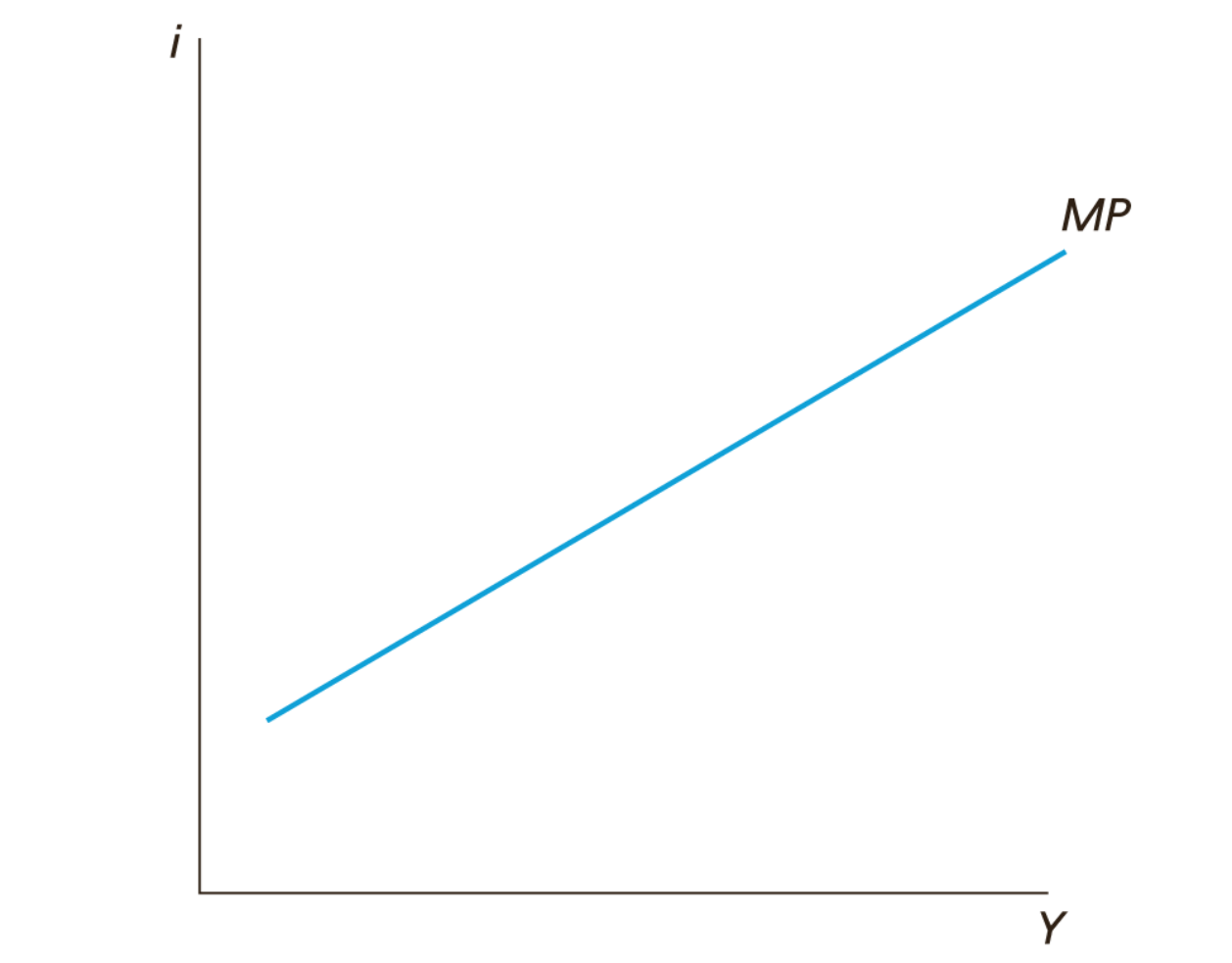
- The financial market equilibrium:



The closed economy: a refresher

- The financial market equilibrium and monetary policy



The closed economy: a refresher

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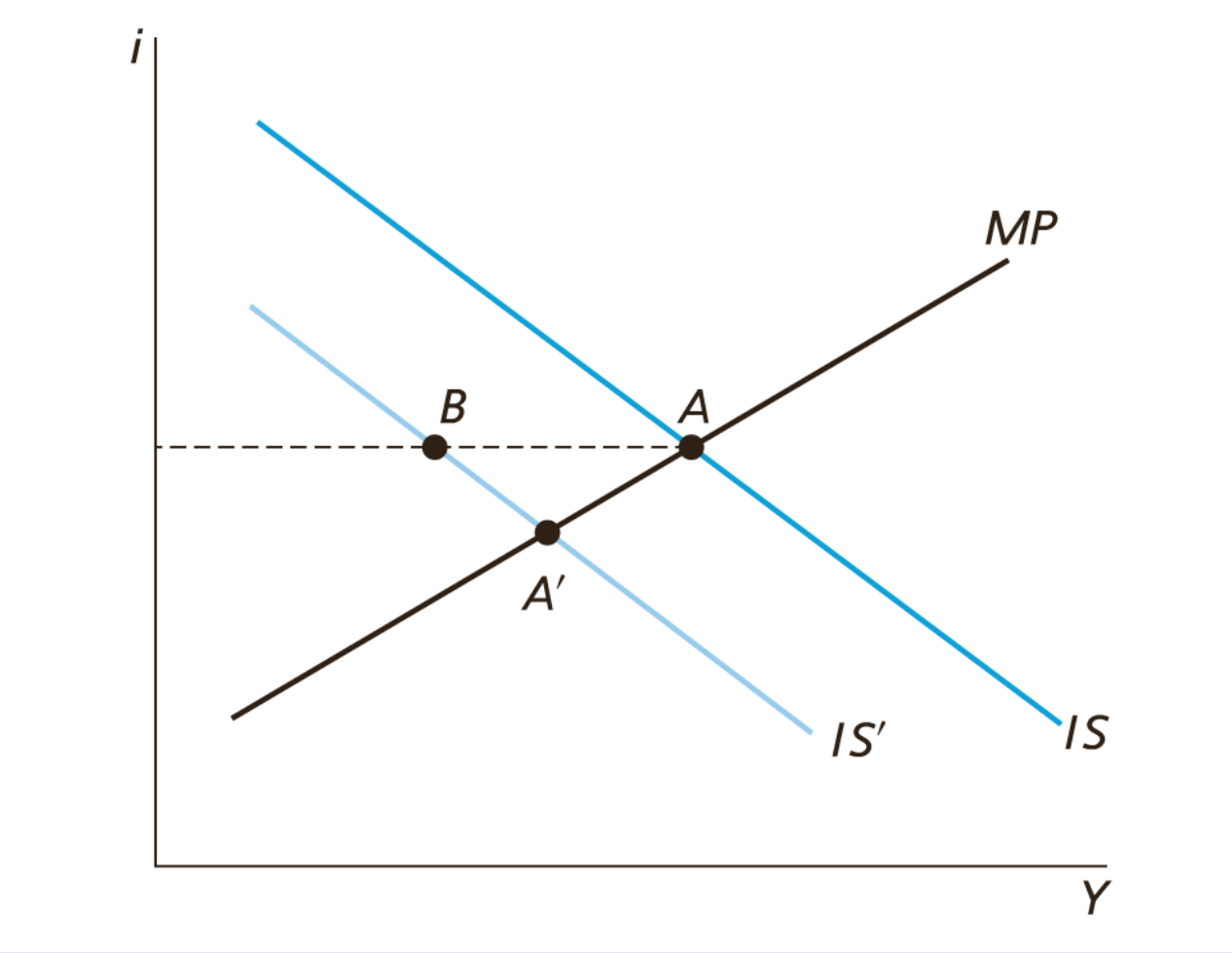
- The general equilibrium



The open economy: a refresher

- The goods market: $Y = C + I + G + X - Z$
- The IRP condition $i = i^* - \frac{E_{t+1} - E_t}{E_t}$
- IRP: A trader deciding on investing anywhere in the world:
  - compare interest rates;
  - consider exchange rate fluctuations: if foreign currency appreciates, an investment abroad will also lead to capital gain.

- Thus, financial markets are in equilibrium when:

$$\text{Domestic interest rate} = \underbrace{\text{Foreign interest rate} + \text{Expected exchange rate depreciation}}_{\text{Return of foreign assets}}$$

Putting all Markets together: The *AS-AD* Modell

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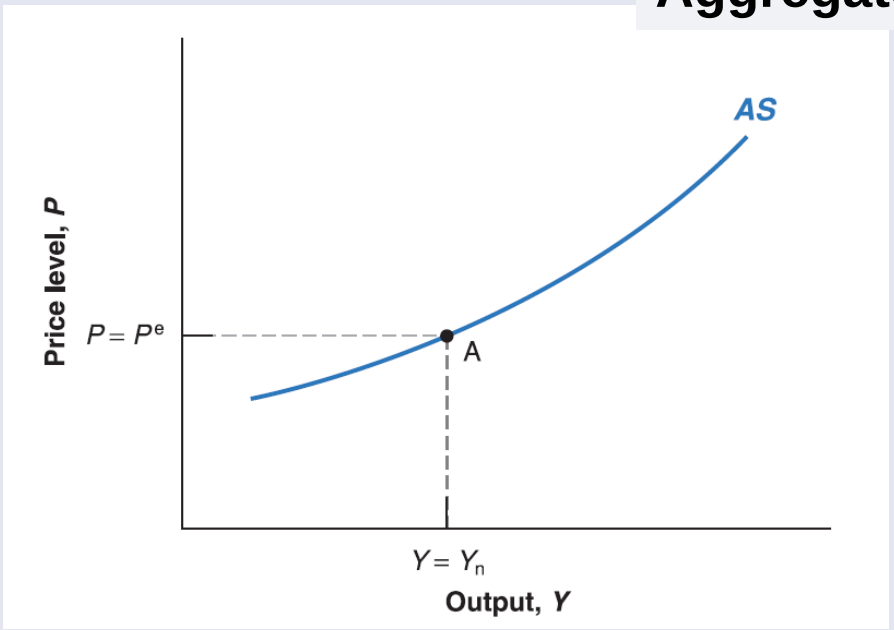
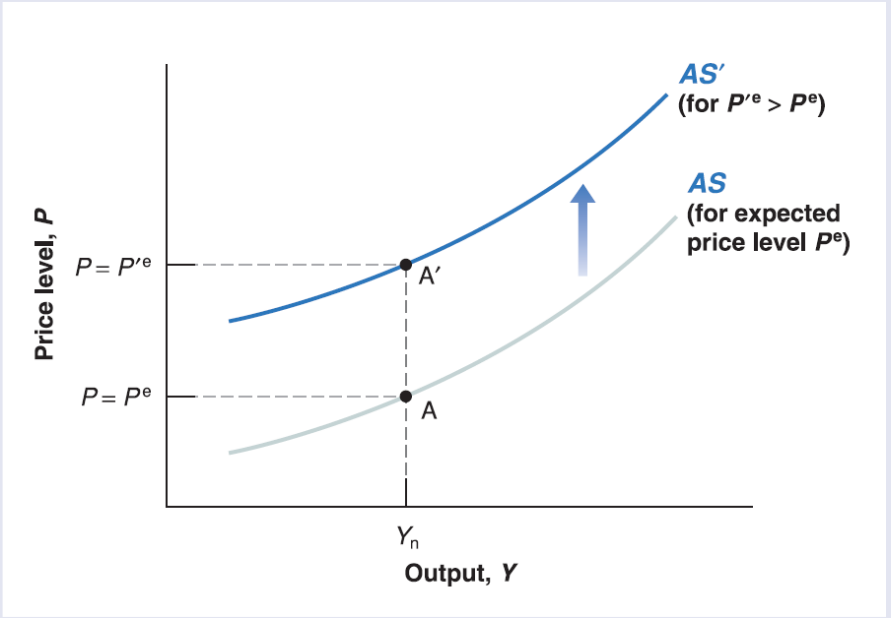
Aggregate Supply





Putting all Markets together: The *AS-AD* Modell

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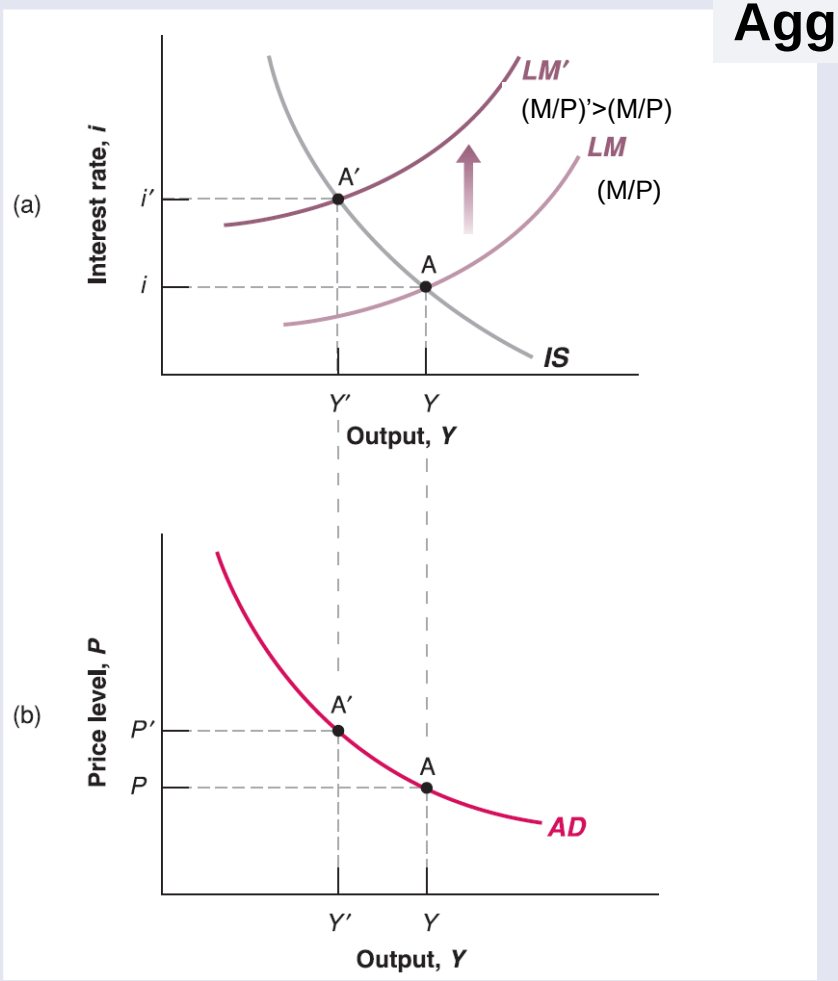
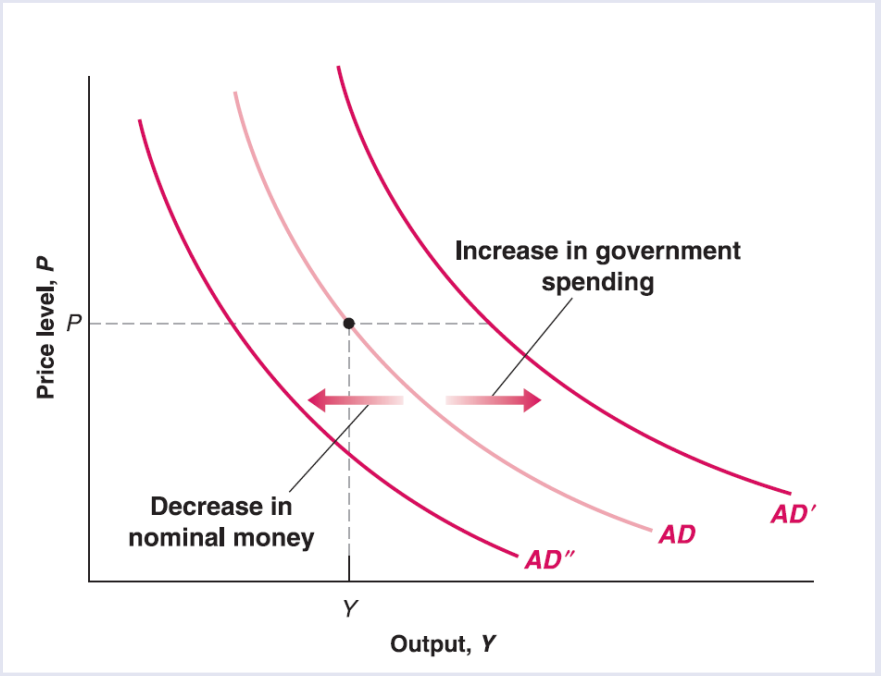
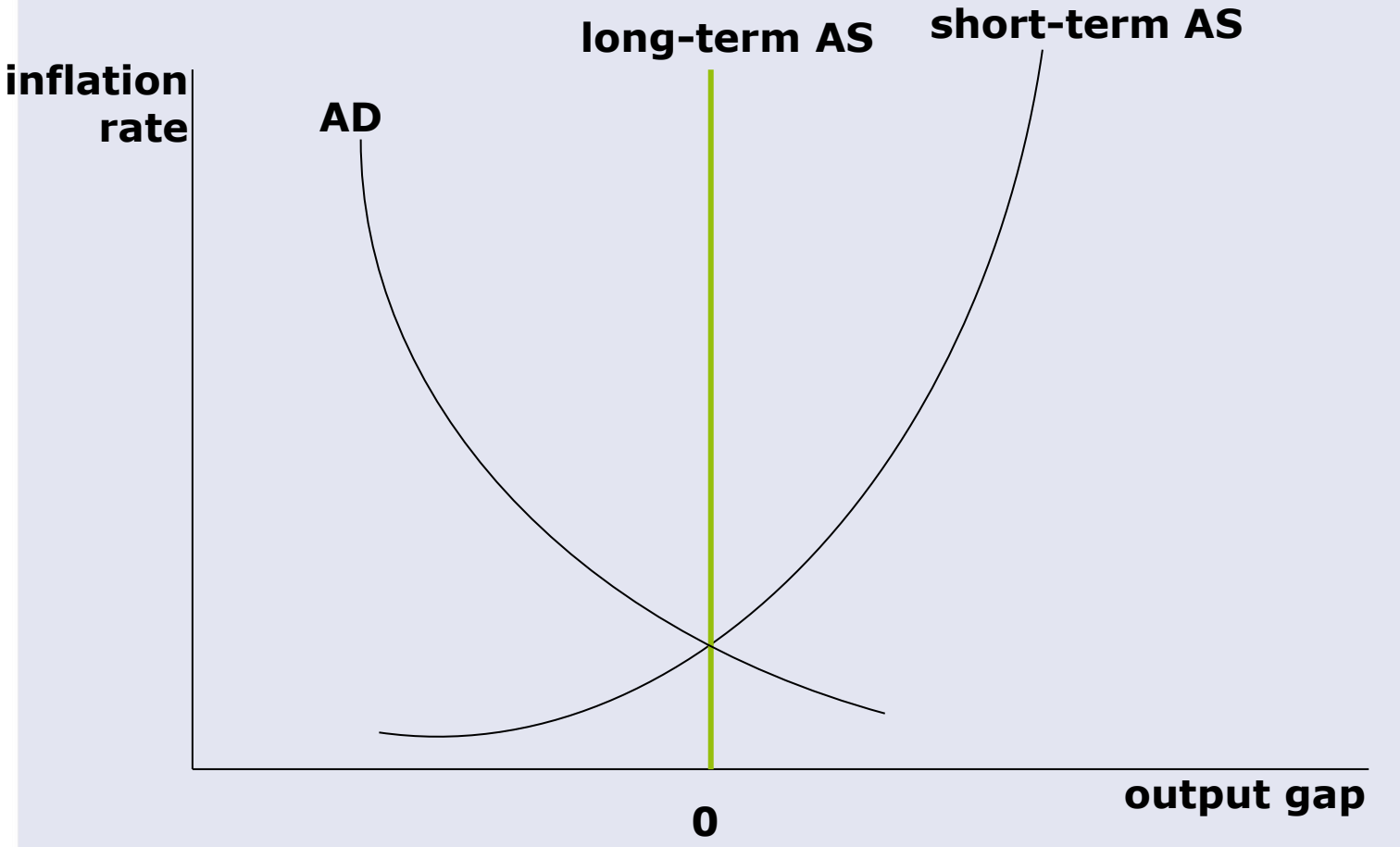
Aggregate Demand



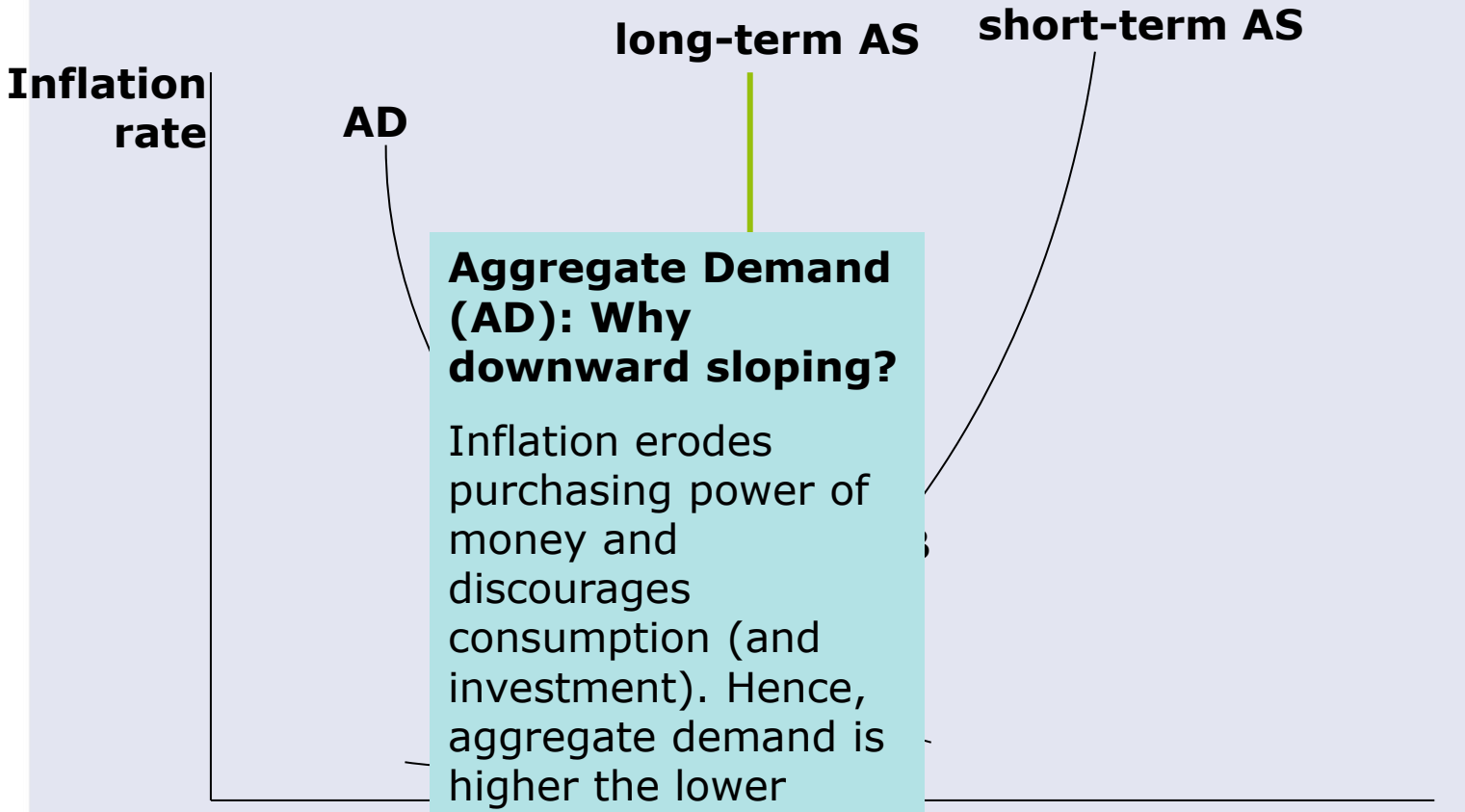


The long-term neutrality of money: theory



The AS-AD model output gap (Actual – Trend GDP)

The long-term neutrality of money: theory

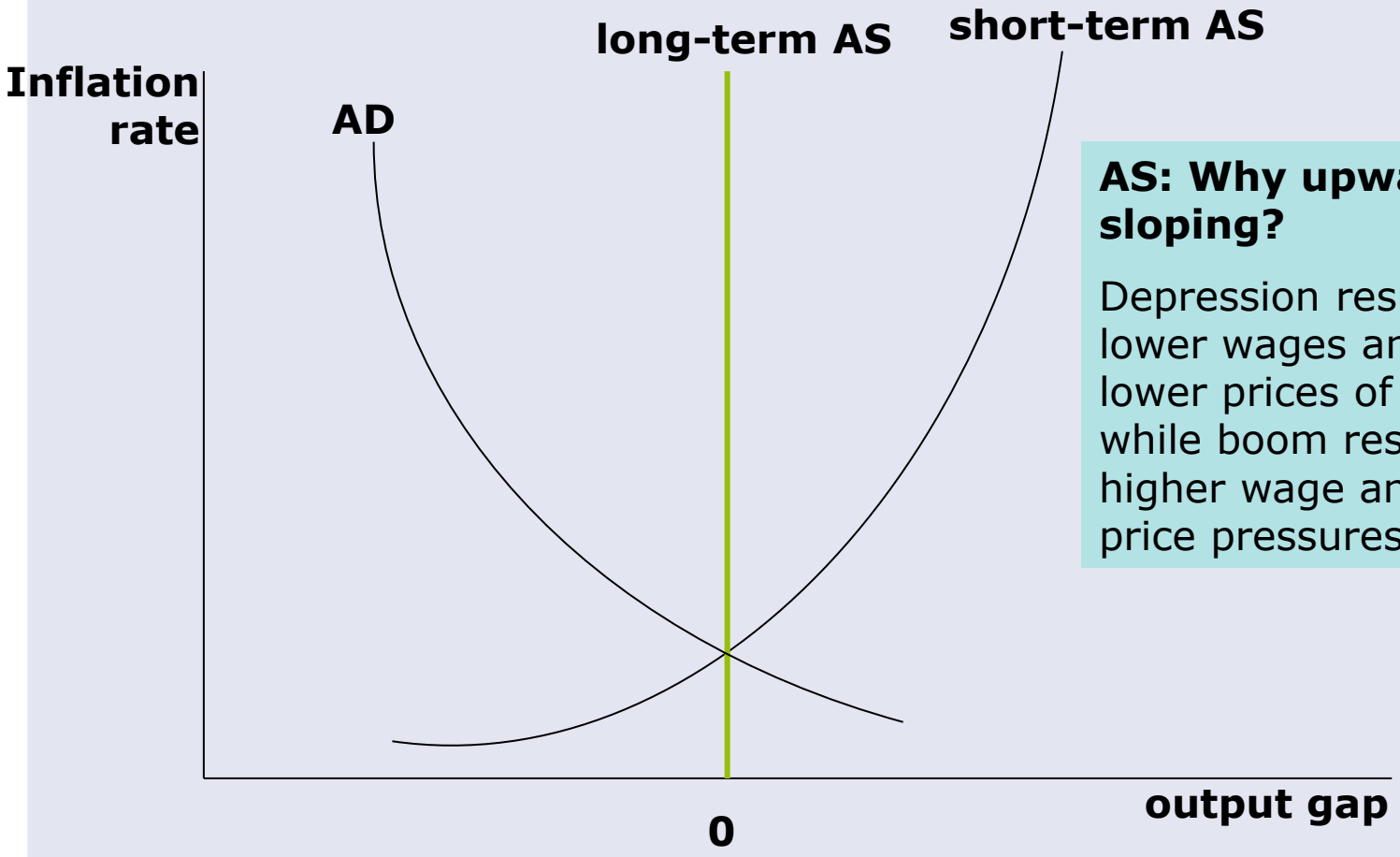


Aggregate Demand (AD): Why downward sloping?

Inflation erodes purchasing power of money and discourages consumption (and investment). Hence, aggregate demand is higher the lower inflation.

The AS-AD model output gap (Actual – Trend GDP)

The long-term neutrality of money: theory

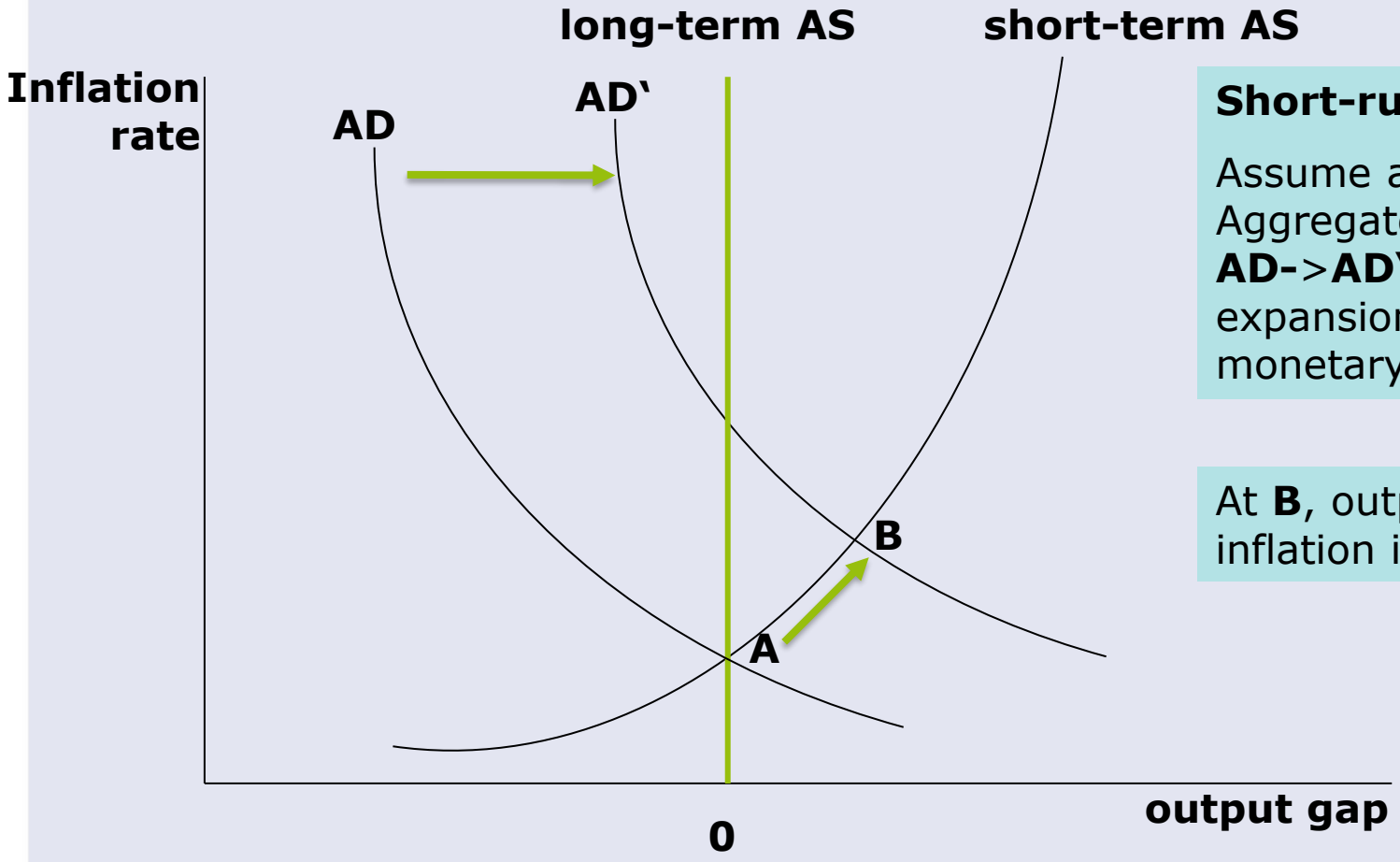


AS: Why upward sloping?

Depression results in lower wages and lower prices of firm, while boom results in higher wage and price pressures

The AS-AD model output gap (Actual – Trend GDP)

From short-run to long-run



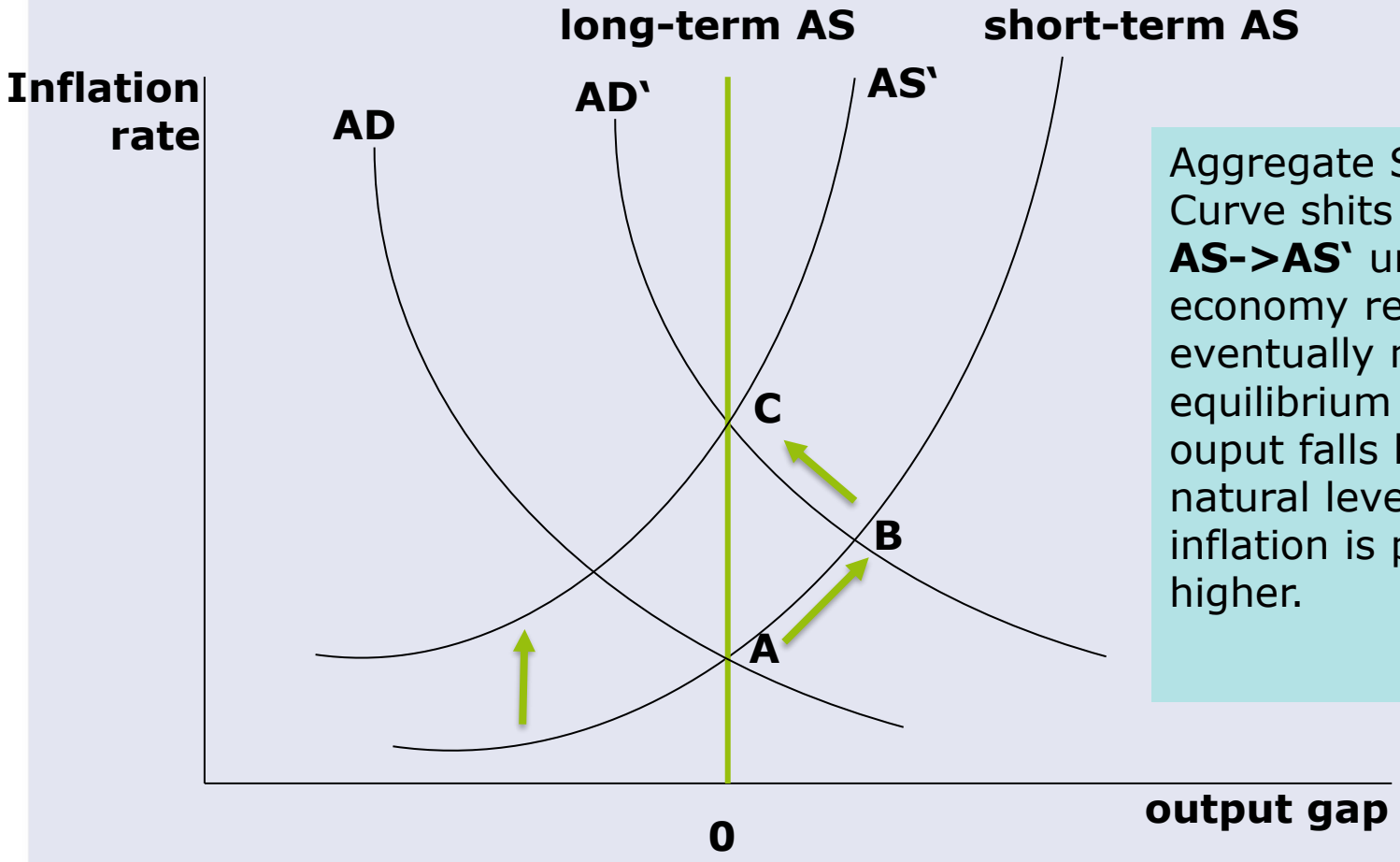
Short-run:

Assume a shift in Aggregate Demand **AD->AD`** due to expansionary monetary policy.

At **B**, output and inflation increase

The AS-AD model output gap (Actual – Potential GDP)

From short-run to long-run



Aggregate Supply Curve shits upward **AS->AS`** until economy reaches eventually new equilibrium **C**, where ouput falls back to its natural level but inflation is permantly higher.

The AS-AD model output gap (Actual – Potential GDP)

Monetary neutrality and purchasing power

- Monetary expansion leads to an increase in GDP in the short run, but has no impact on output in the long run.
- In the long run price level increases proportionately to money stock

→ **affecting the purchasing power**

- The real exchange rate: $\lambda = EP/P^*$
  - E = nominal exchange rate; P = domestic price; P* = foreign price
  - Purchasing Power Parity (PPP) asserts: $\Delta E = \Delta P^* - \Delta P$
  - So λ is constant

- Many caveats, though:
  - PPP seems to hold in the long run, but not in the short & medium run

Short-term non-neutrality of money

- From AD-AS: the short-run AS schedule
- So monetary policy matters in the short run
- Channels of monetary policy
  - The interest rate channel
  - The credit channel
  - The stock market channel
  - The exchange rate channel

Monetary policy in the IS-LM model

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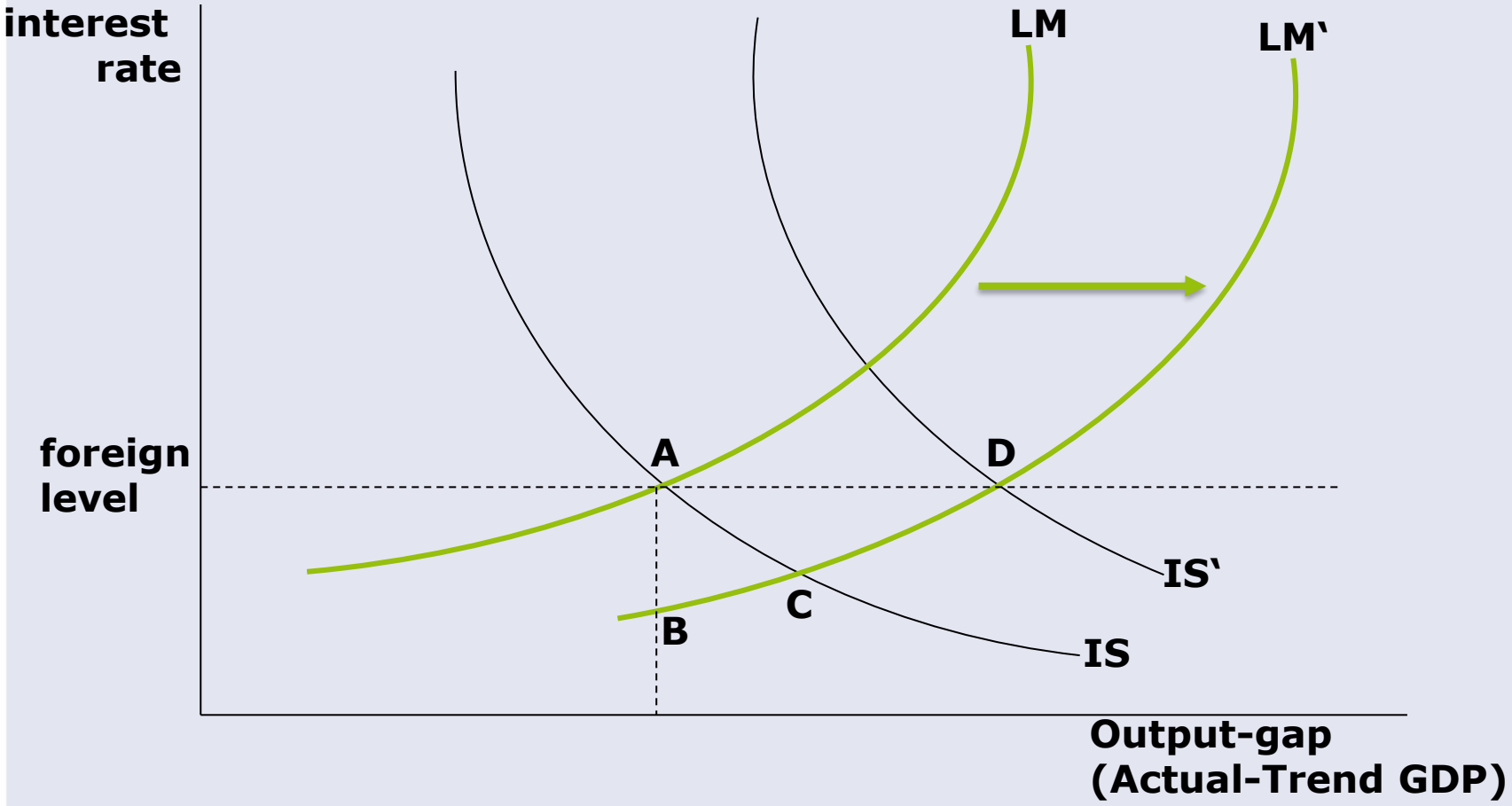

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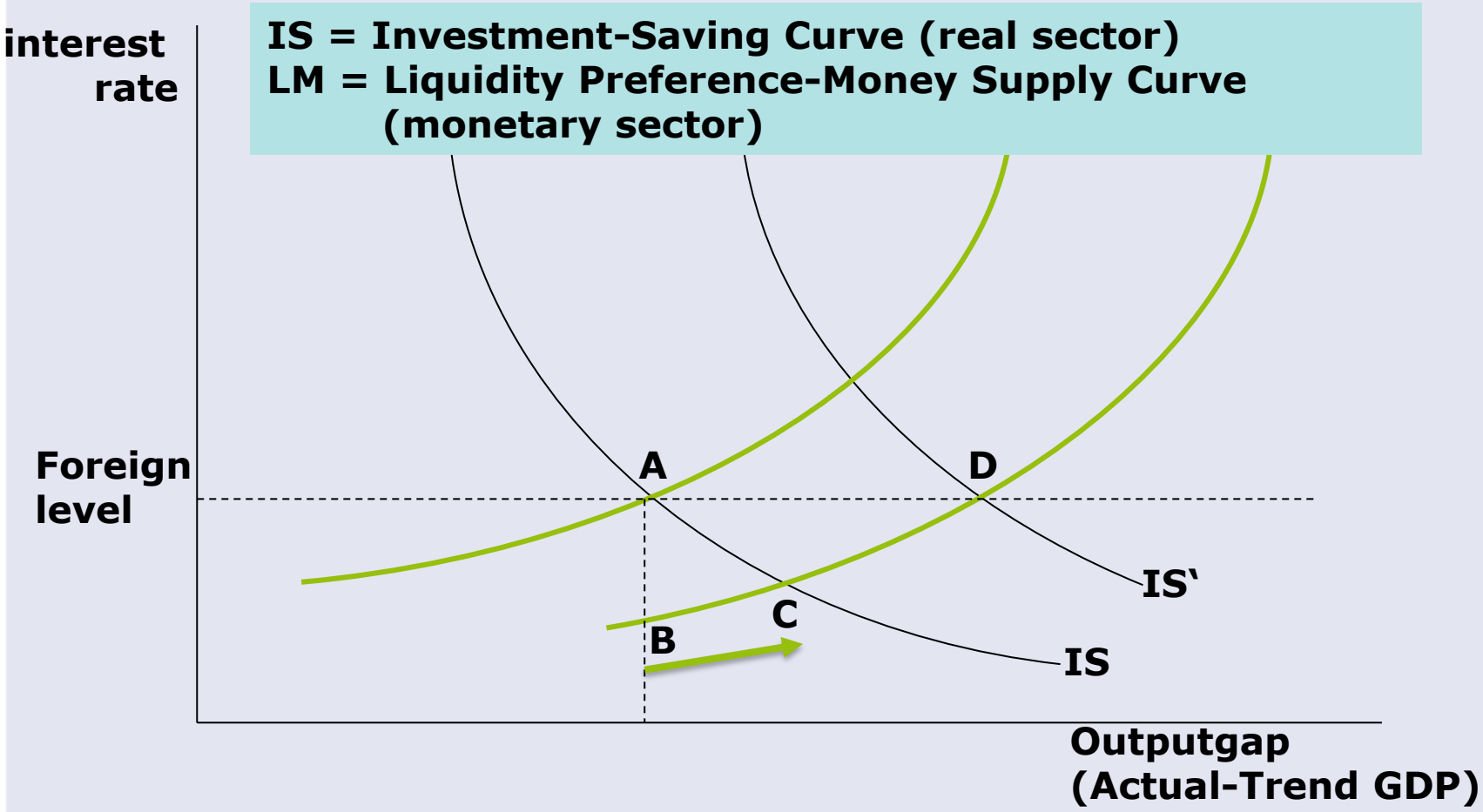

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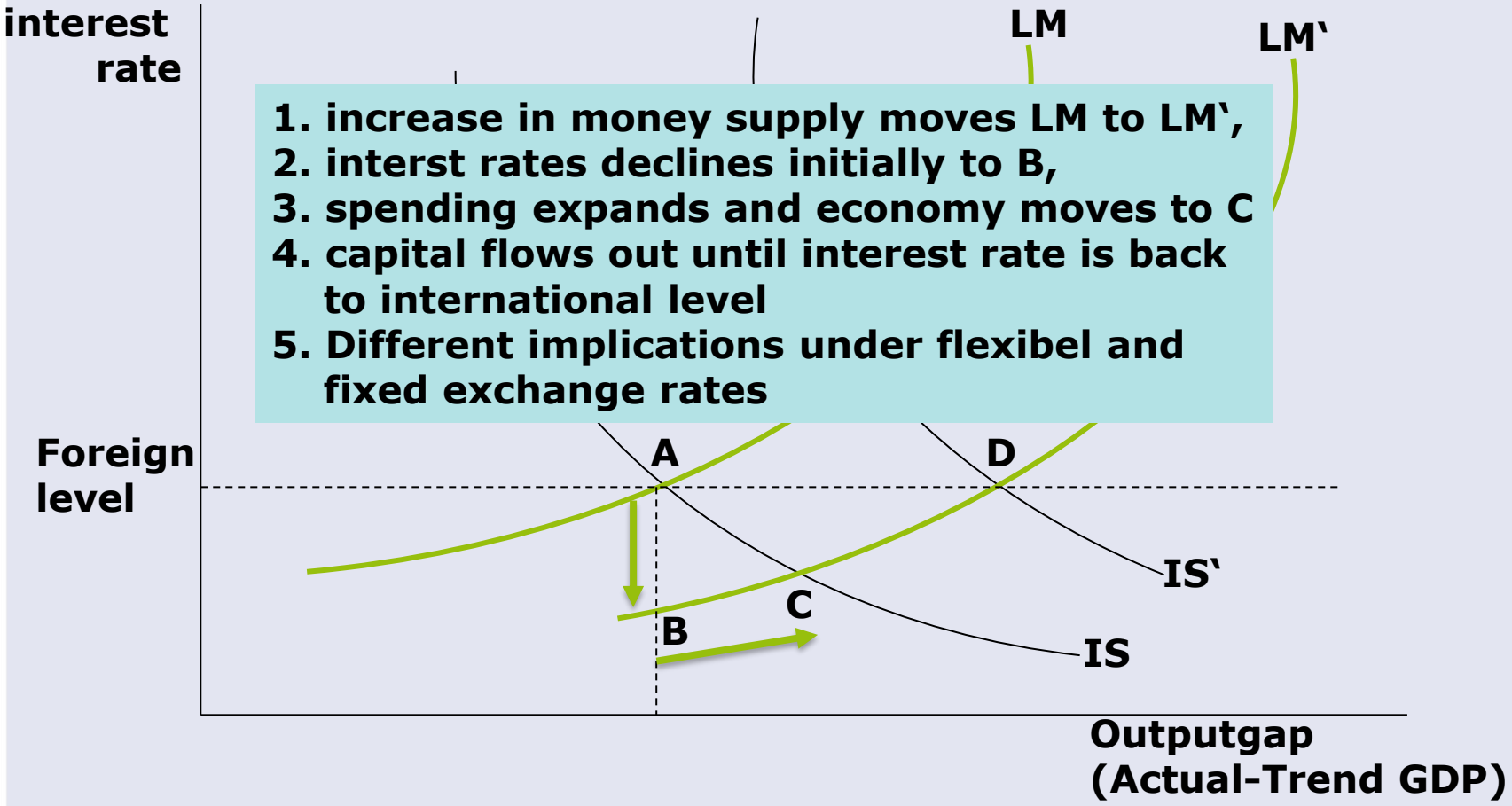

Monetary policy in the IS-LM model

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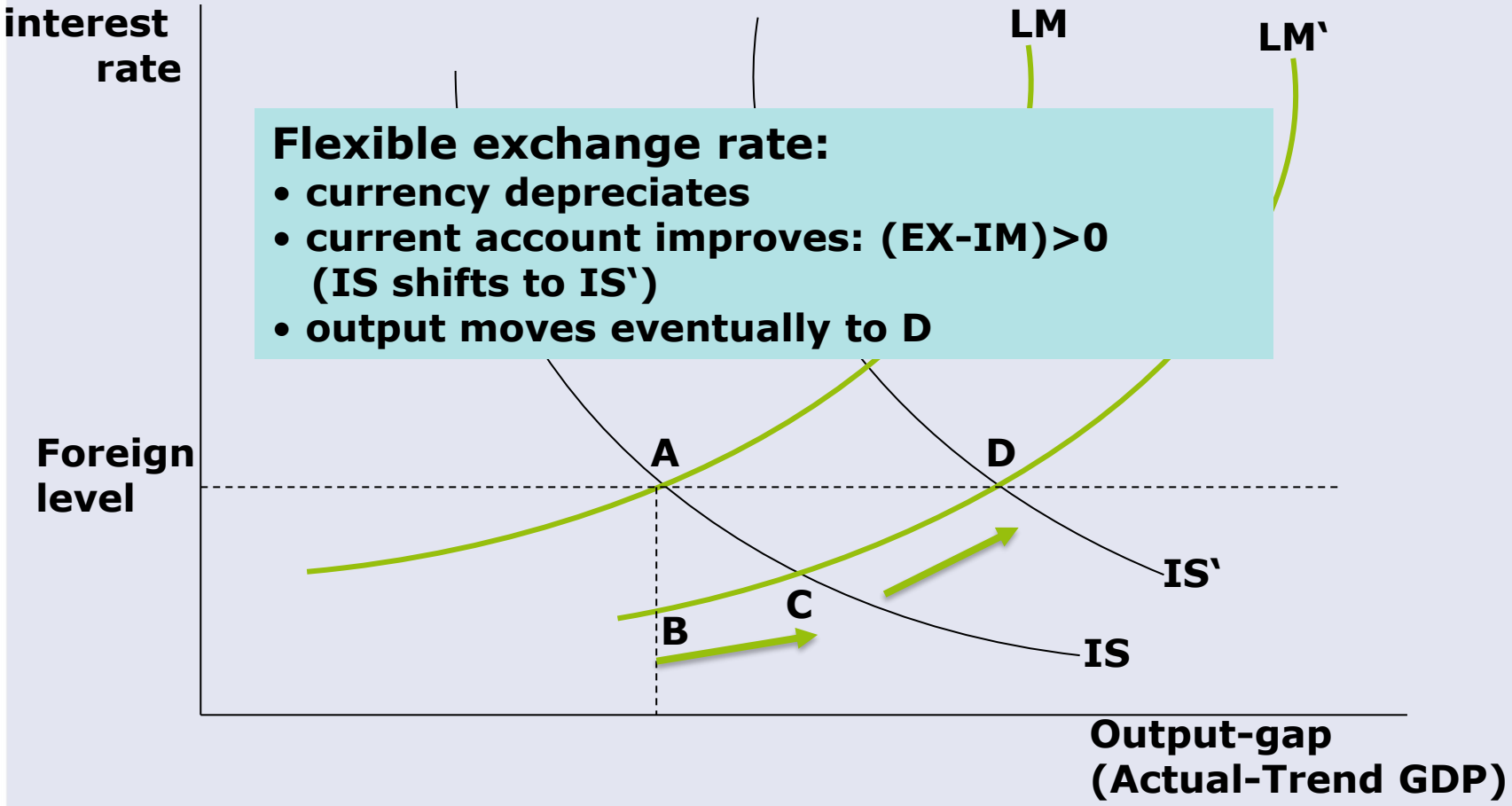

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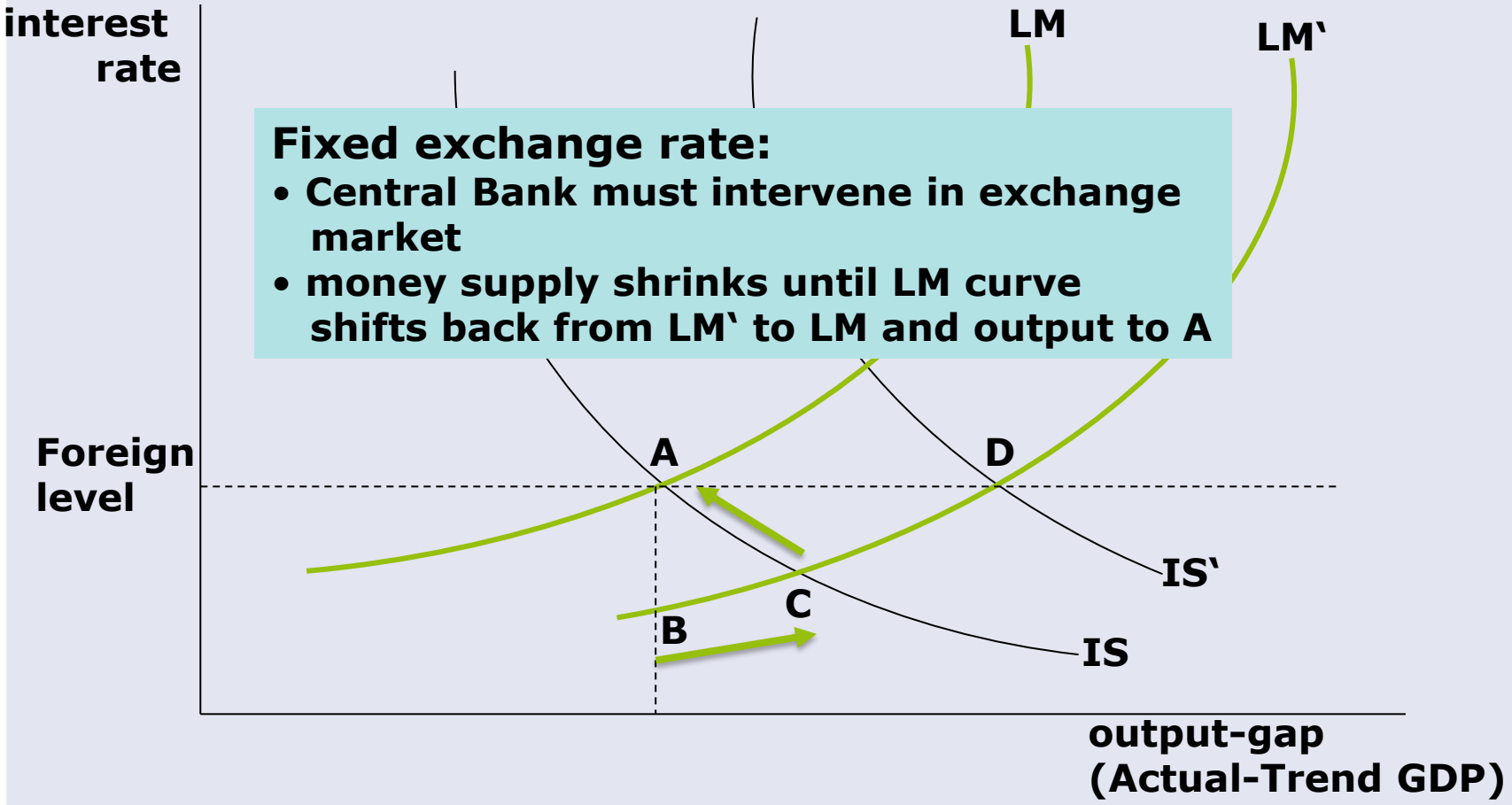

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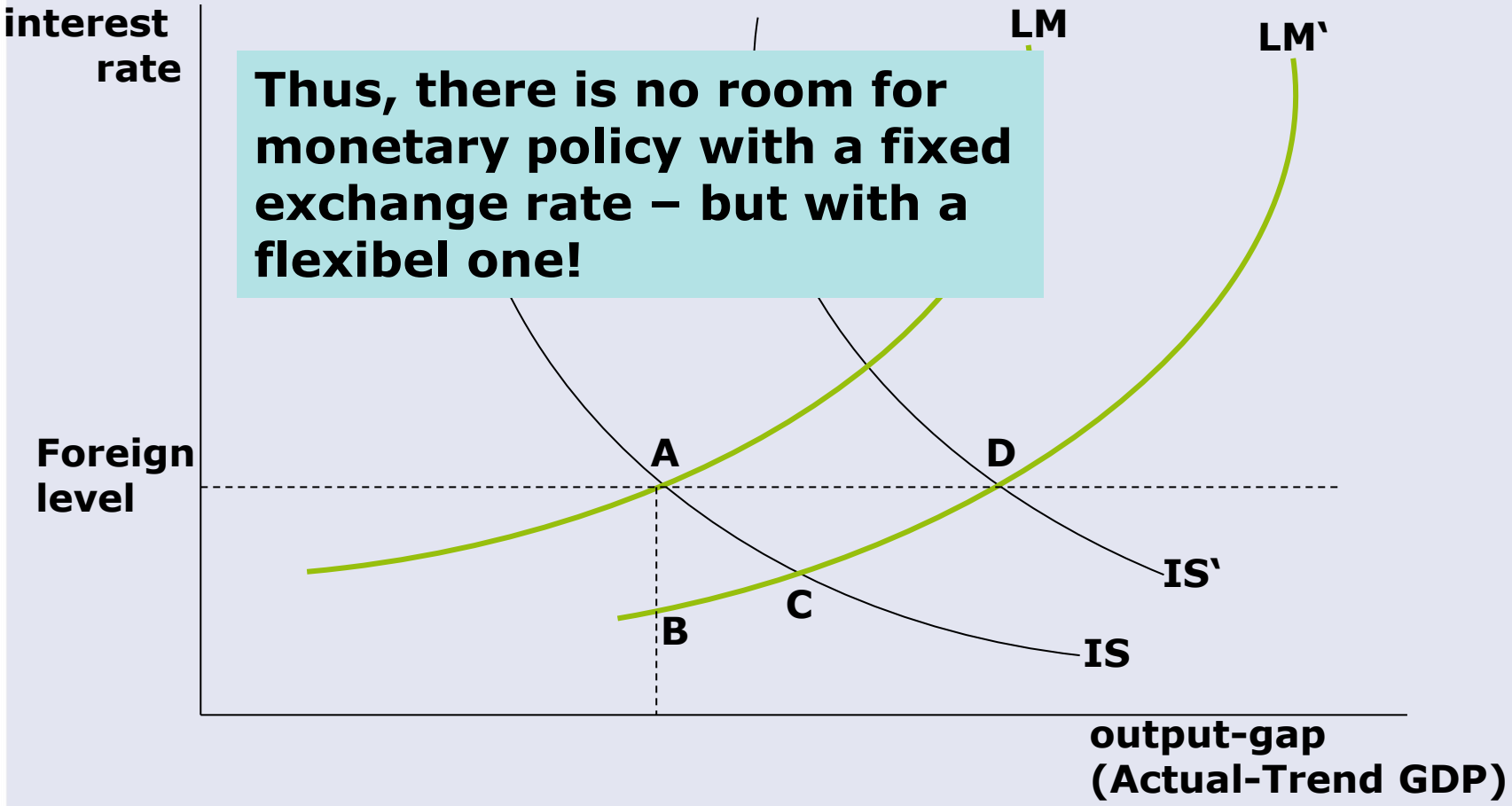

Fiscal policy in the IS-LM model

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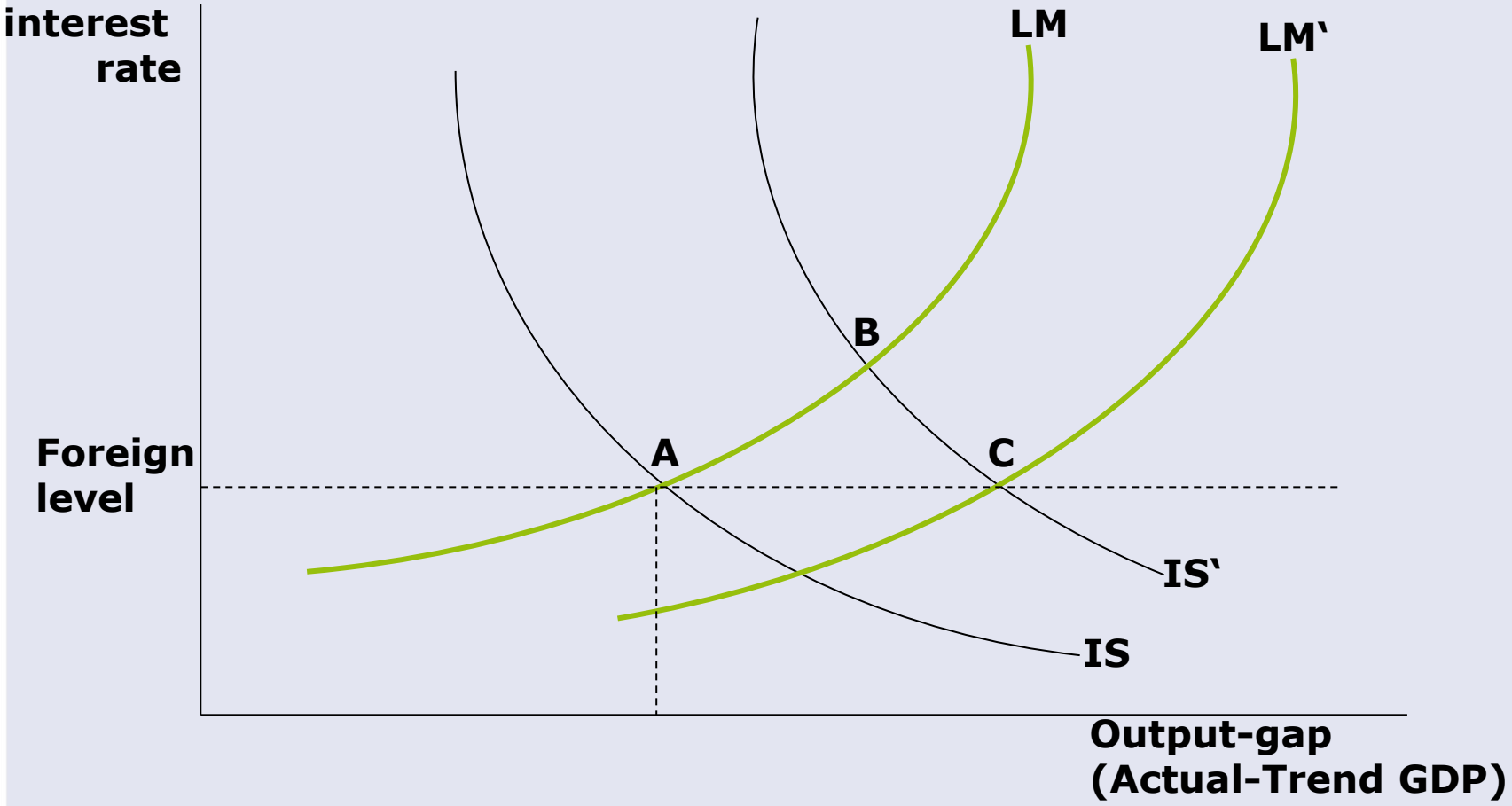

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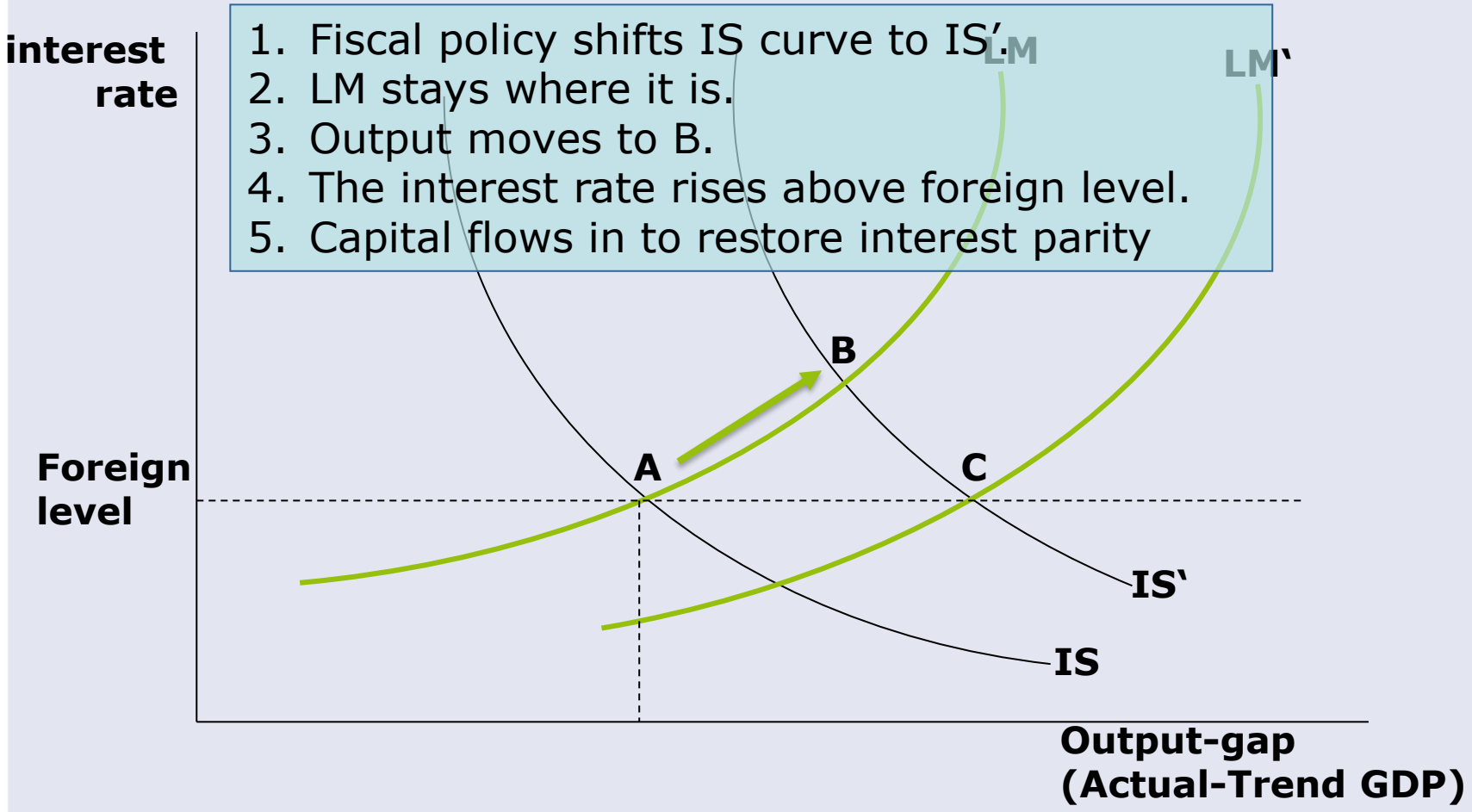
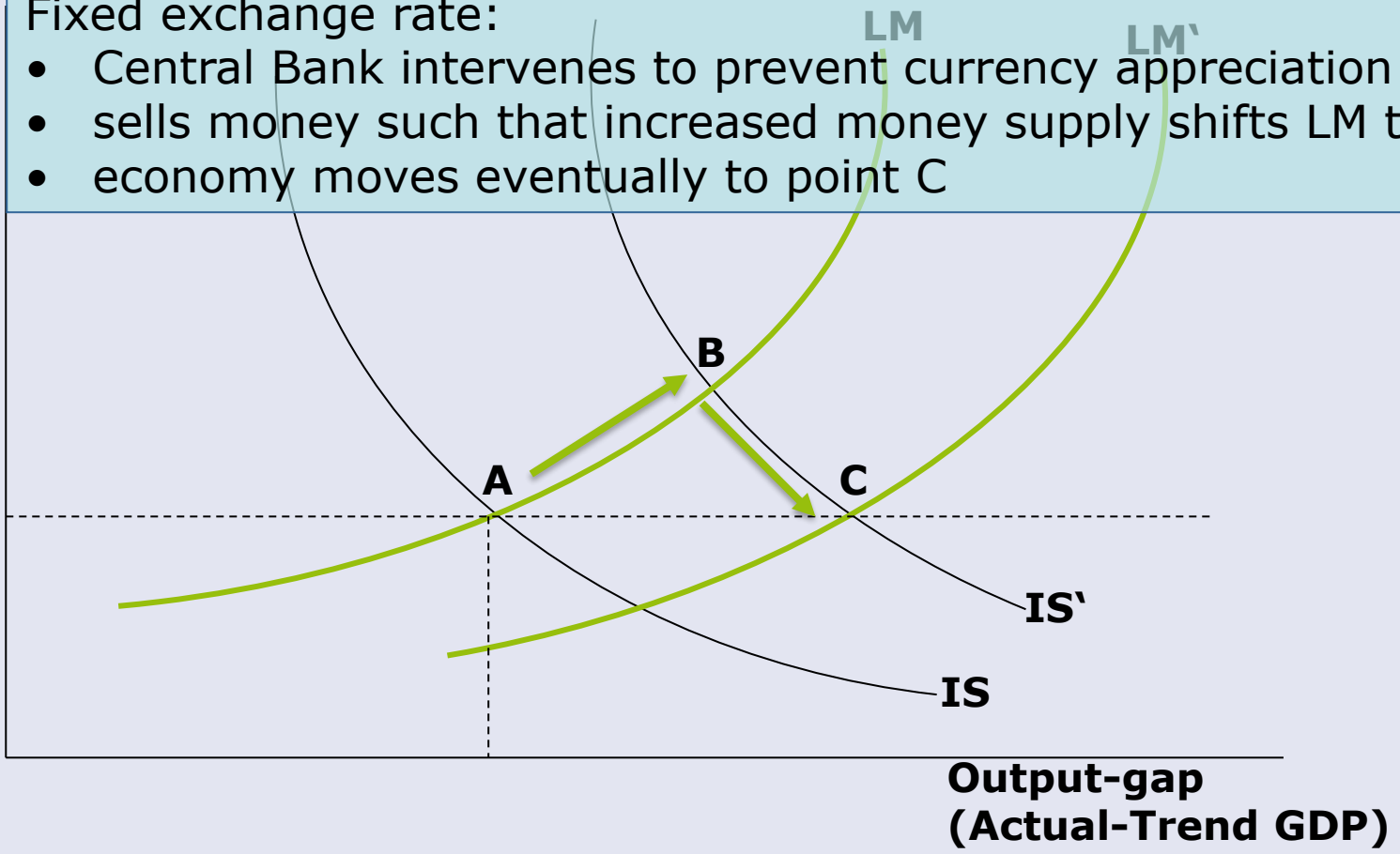


Fiscal policy in the IS-LM model

Fixed exchange rate:

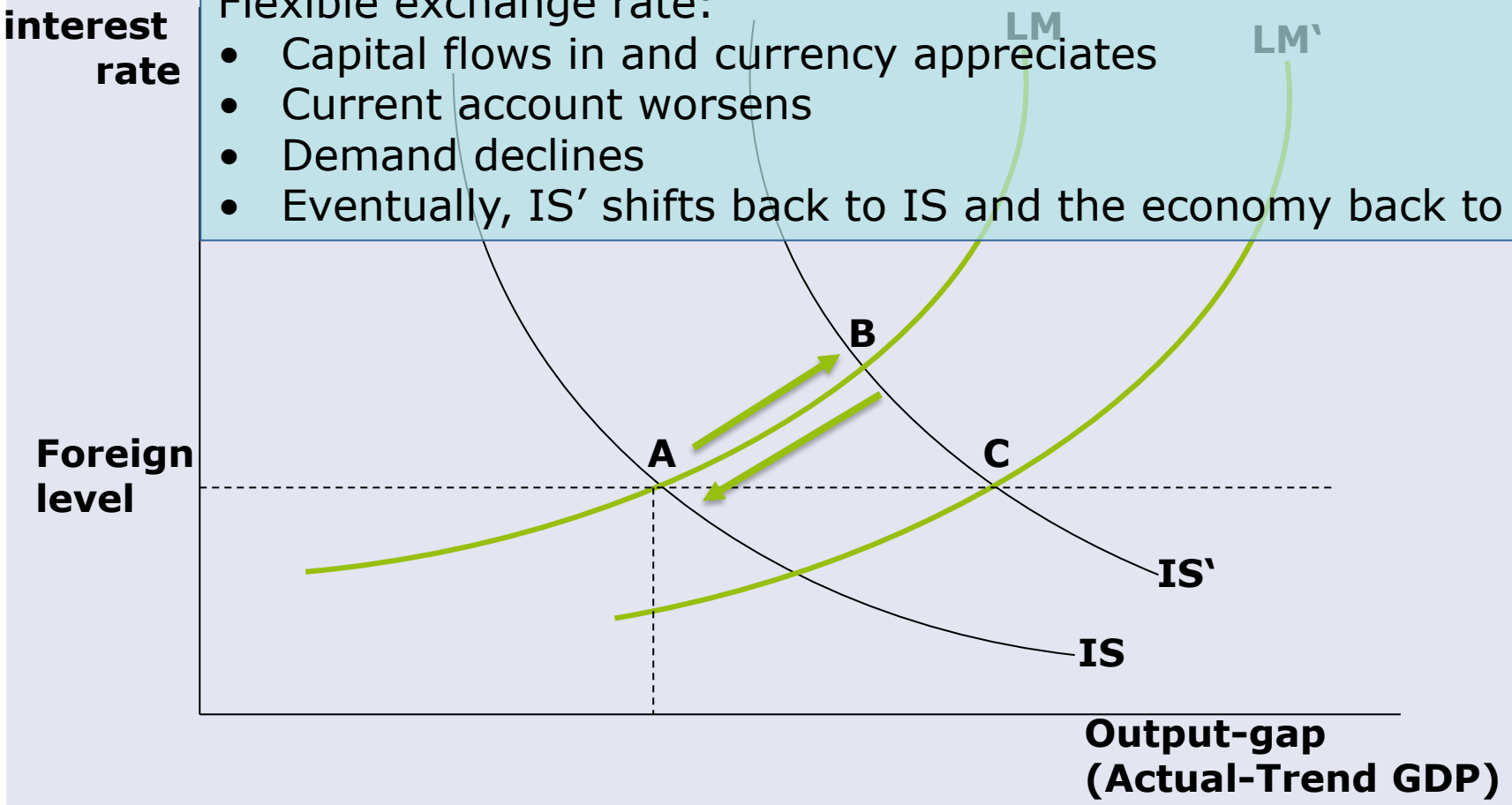
- Central Bank intervenes to prevent currency appreciation
- sells money such that increased money supply shifts LM to LM’
- economy moves eventually to point C



Fiscal policy in the IS-LM model

Flexible exchange rate:

- Capital flows in and currency appreciates
- Current account worsens
- Demand declines
- Eventually, IS' shifts back to IS and the economy back to A



Fiscal policy in the IS-LM model

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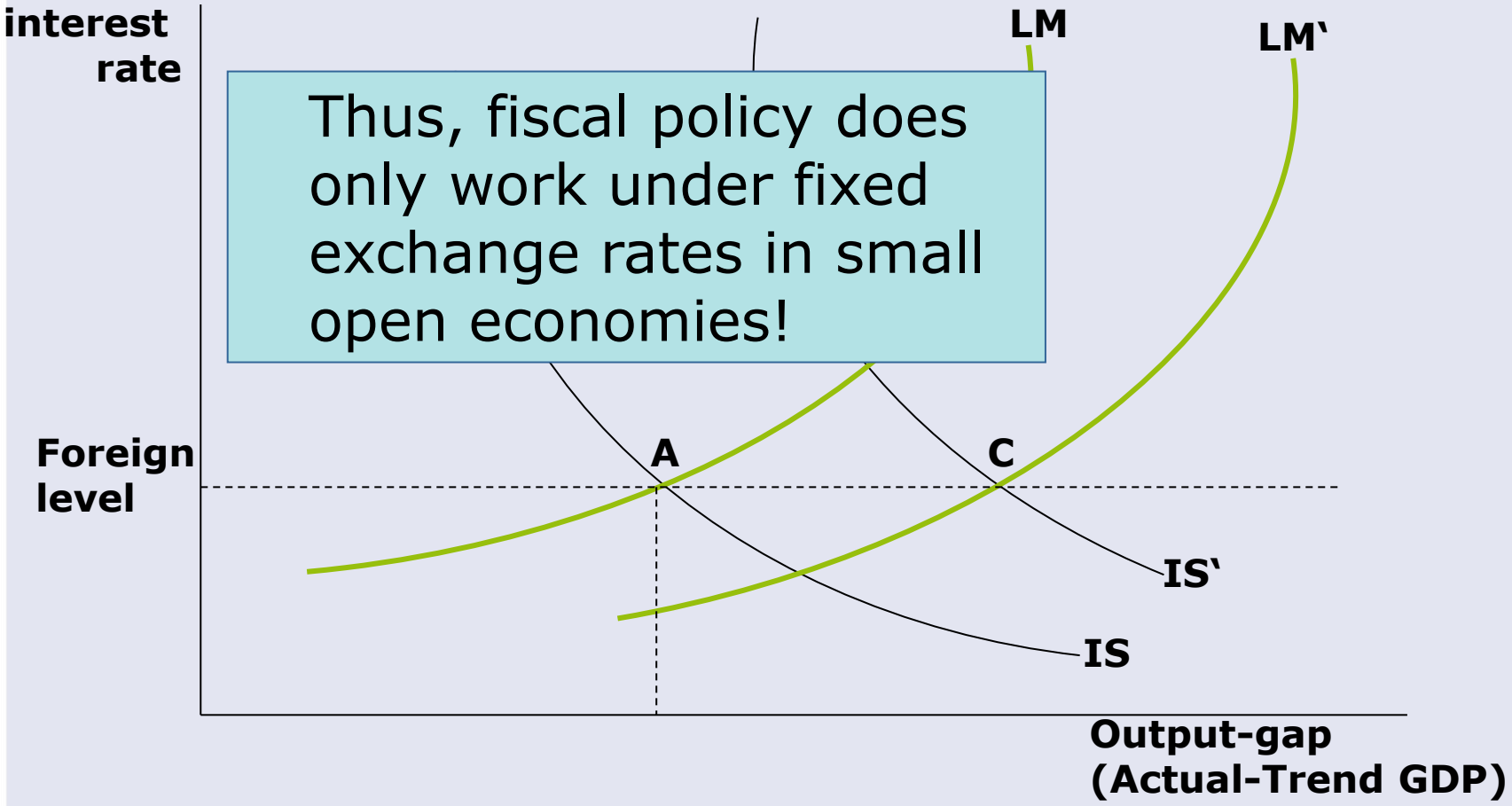


Exchange rate regimes and policy effectiveness

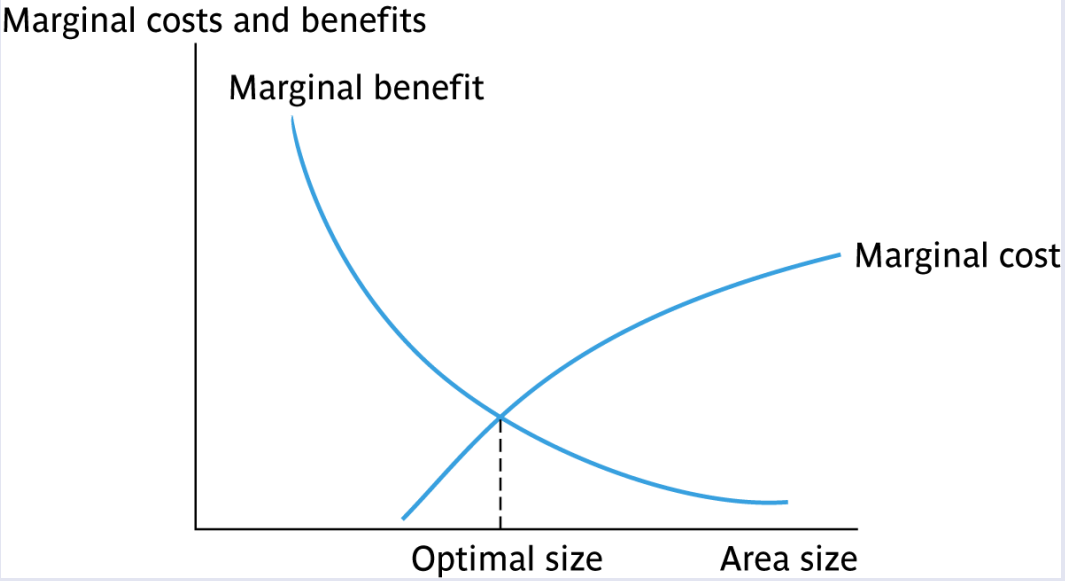
	Monetary policy	Fiscal policy
Fixed exchange rate	Ineffective	Effective
Flexible exchange rate	Effective	Ineffective

When does the regime matter?

- In the short run, changes in E are mirrored in changes in $\lambda = EP/P^*$: P and P* are sticky
- In the long run, λ is independent of E: P adjusts
- If P is fully flexible, the long run comes about immediately and the nominal exchange rate does not affect the real economy
- Put differently, the choice of an exchange rate regime has mostly short run effects because prices and wages are sticky

The question, the problem and the short answer

- Should currency area borders coincide with national borders?
  - money makes transactions immensely easier: the more people accept a currency, the more useful it is;
  - as a currency area grows larger, it becomes more diverse, which means more costly.
- The solution has to involve trading off these costs and benefits:



Benefits of a currency area

- Elimination of transaction costs and comparability of prices:
  if you started with one EU currency and exchanged it successively in all the currencies of the EU (before the Euro) and than exchanged it back into the initial currency, you would get less than 50% of the initial amount!

- Elimination of exchange rate risk (for transactions and FDI) = less uncertainty.

- Price transparency and intensified competition (also affects wage setting)

- Intensified trade

- More independent central bank and better quality of monetary policy.

Costs of a currency area

- Diversity in a currency area is costly because a common currency makes it impossible to react to each and every local particularity.

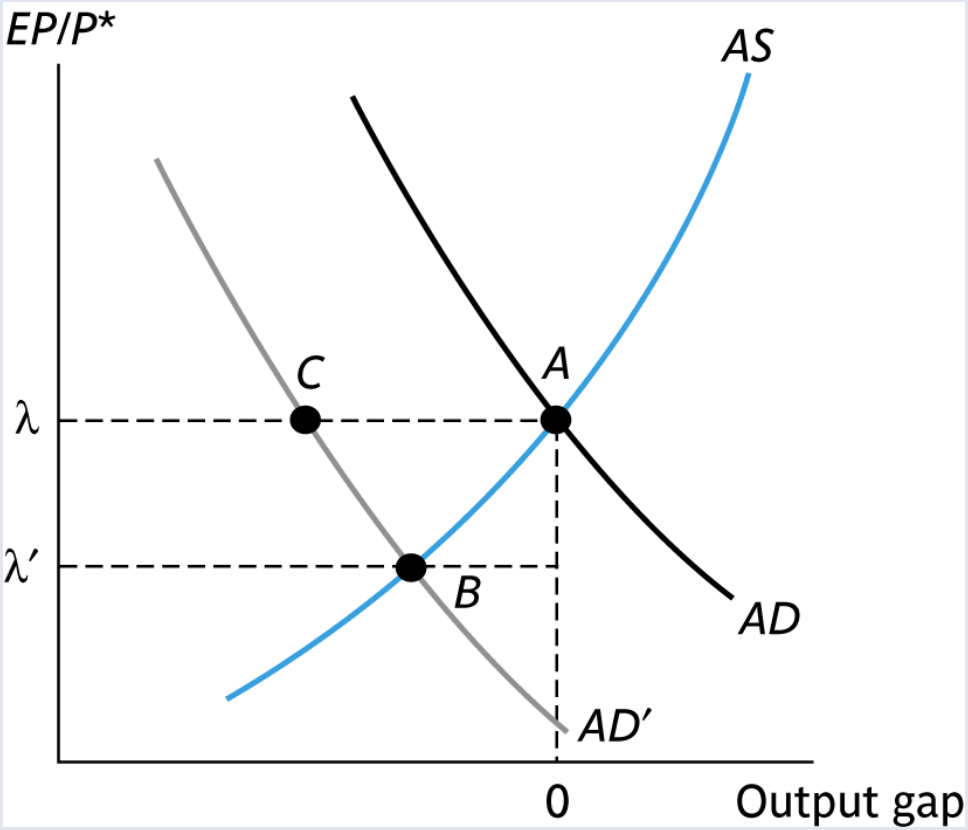
- The theory of optimum currency areas (OCA) aims at identifying these costs more precisely.

- We proceed in three steps:

  1. define and examine the effects of asymmetric shocks;
  2. study the problems of asymmetric shocks in a currency area;
  3. examine how the effects of asymmetric shocks can be mitigated when national exchange rates are no longer available.

Shocks and the exchange rate

- Consider an adverse demand shock:
- the real exchange rate depreciates;
- with exchange rate and price rigidities, fall in output is much bigger.



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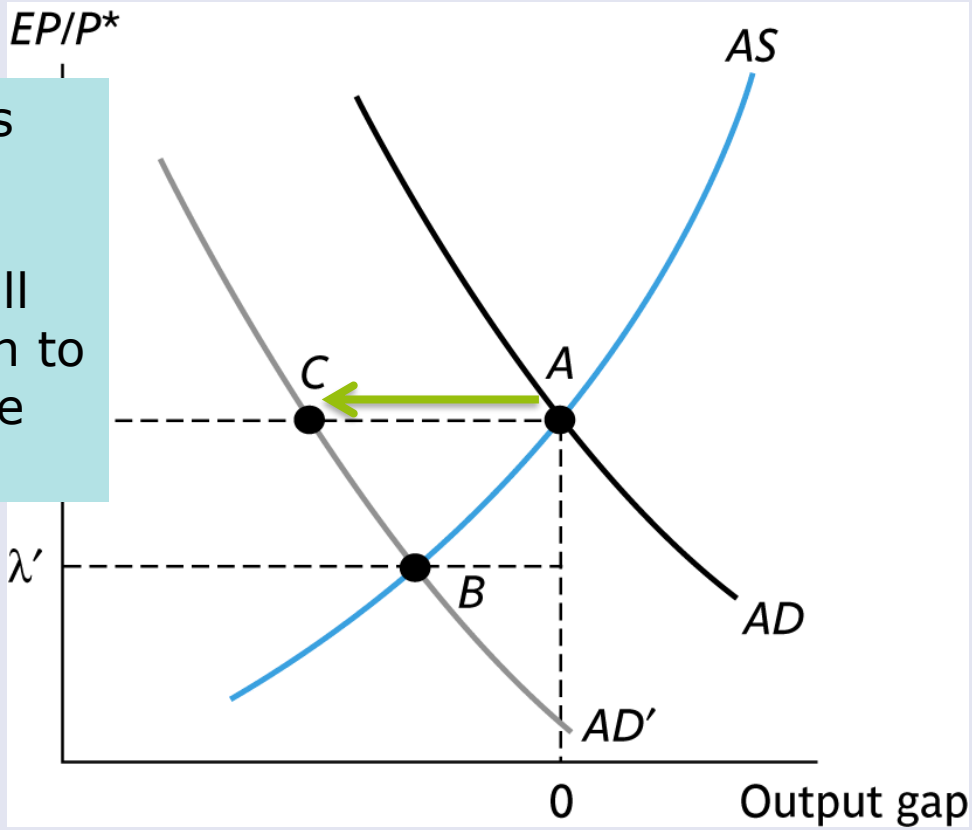
If domestic prices and wages are sticky, adverse demand shock will reduce production to C if exchange rate does not adjust



Shocks and the exchange rate

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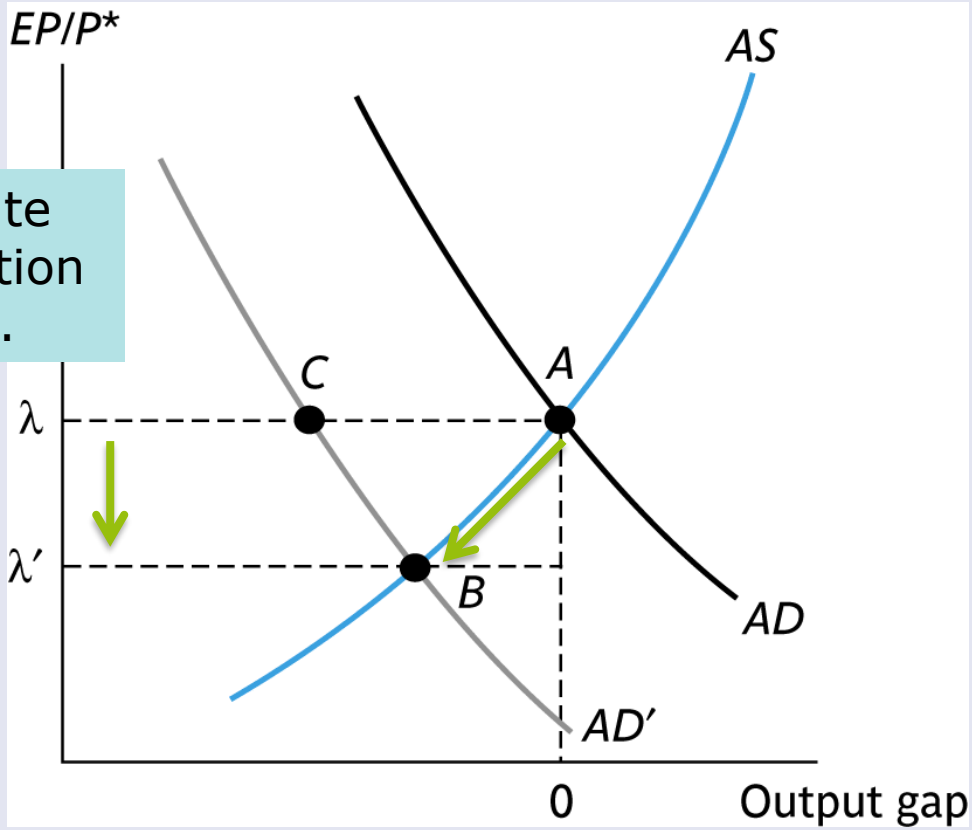
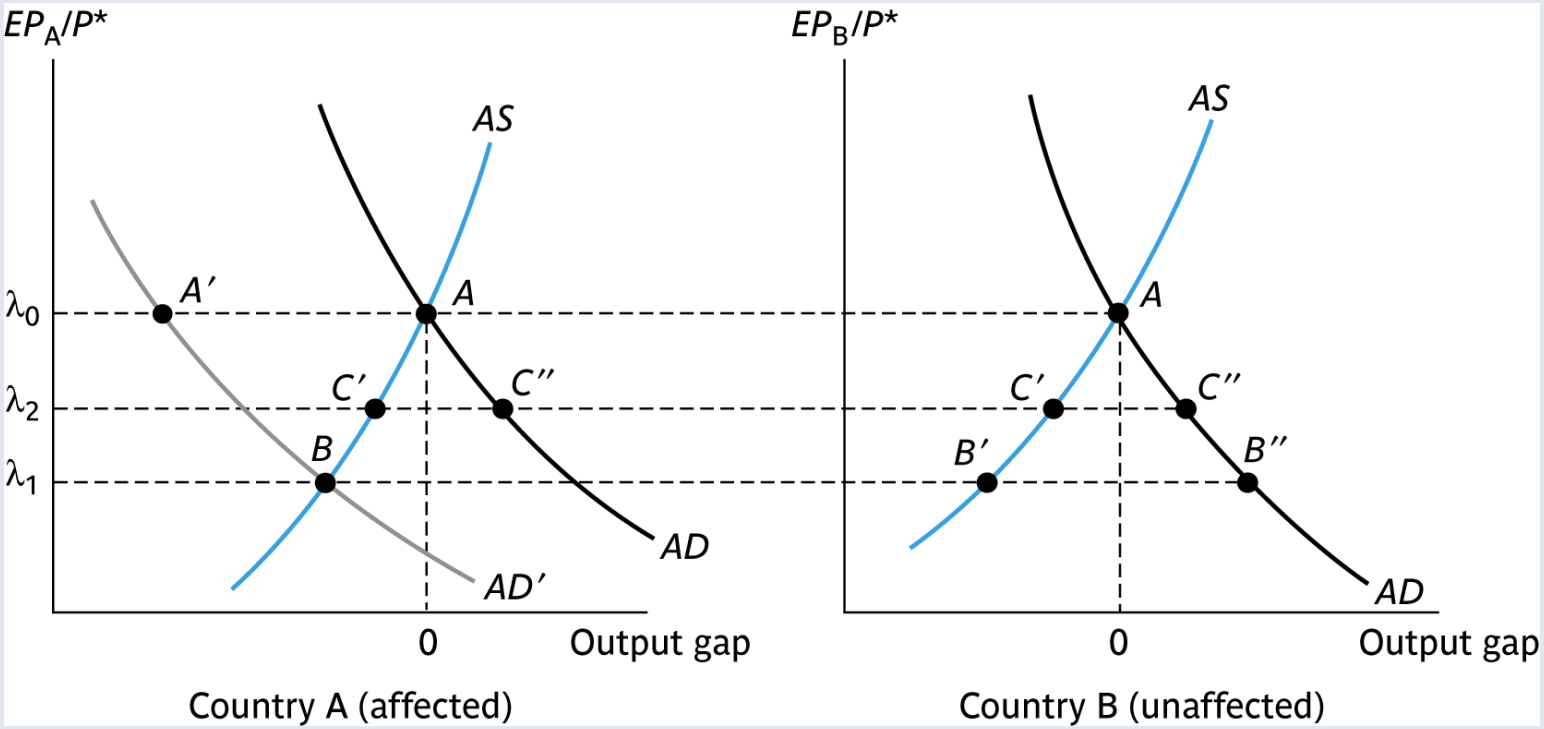
If exchange rate adjusts, production declines to B.



Shocks and the exchange rate

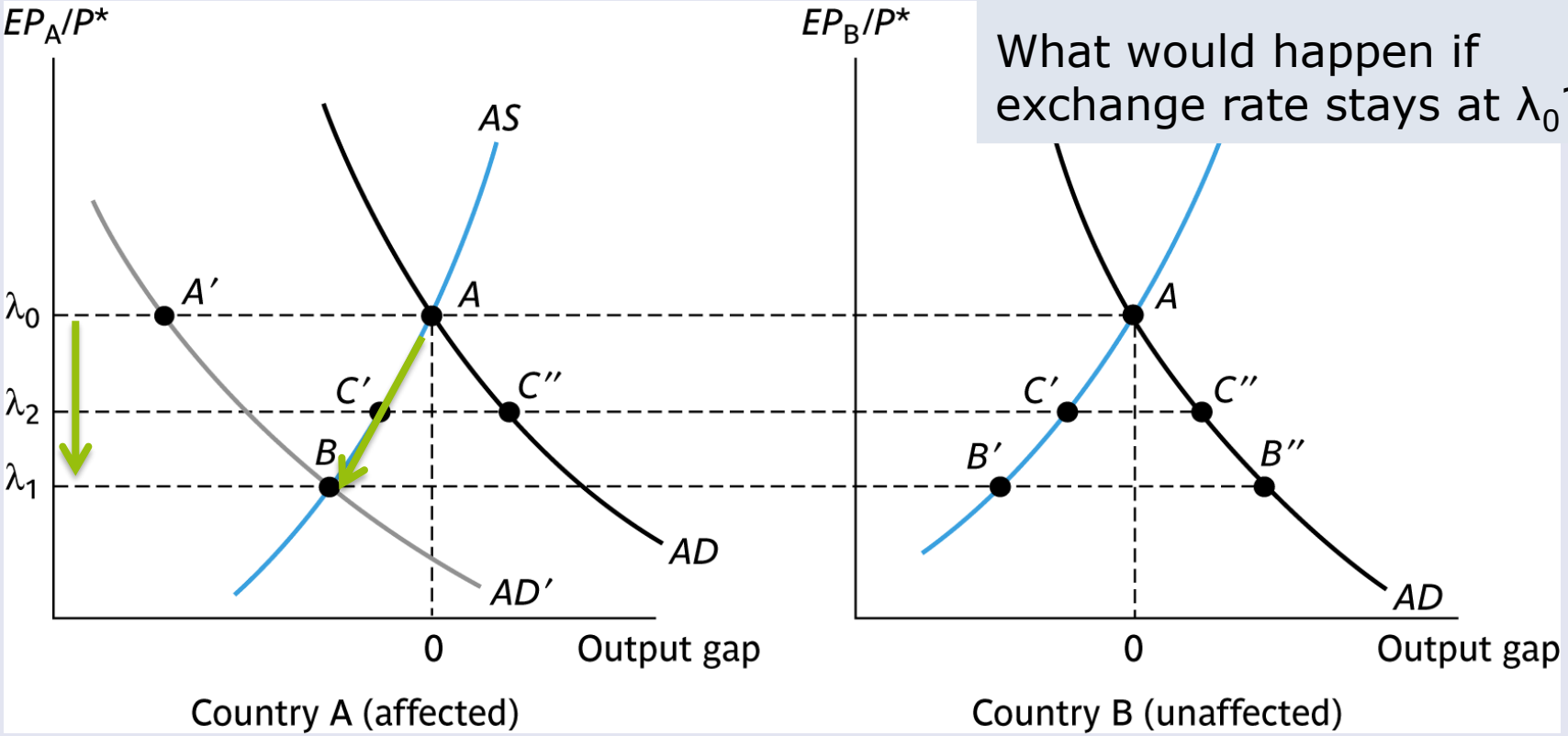
- Consider currency area with 2 countries (A, B) and A is hit by a shock:
- the real exchange rate depreciates to λ_2 ('correct' on average) = common exchange rate cannot insulate both countries;
- in the long-run, prices will adjust (P_A↓ & P_B↑).



Shocks and the exchange rate

No currency union case:
Real exchange rate declines in country A to λ_1, production declines to B, country B remains unaffected.

What would happen if exchange rate stays at λ_0?



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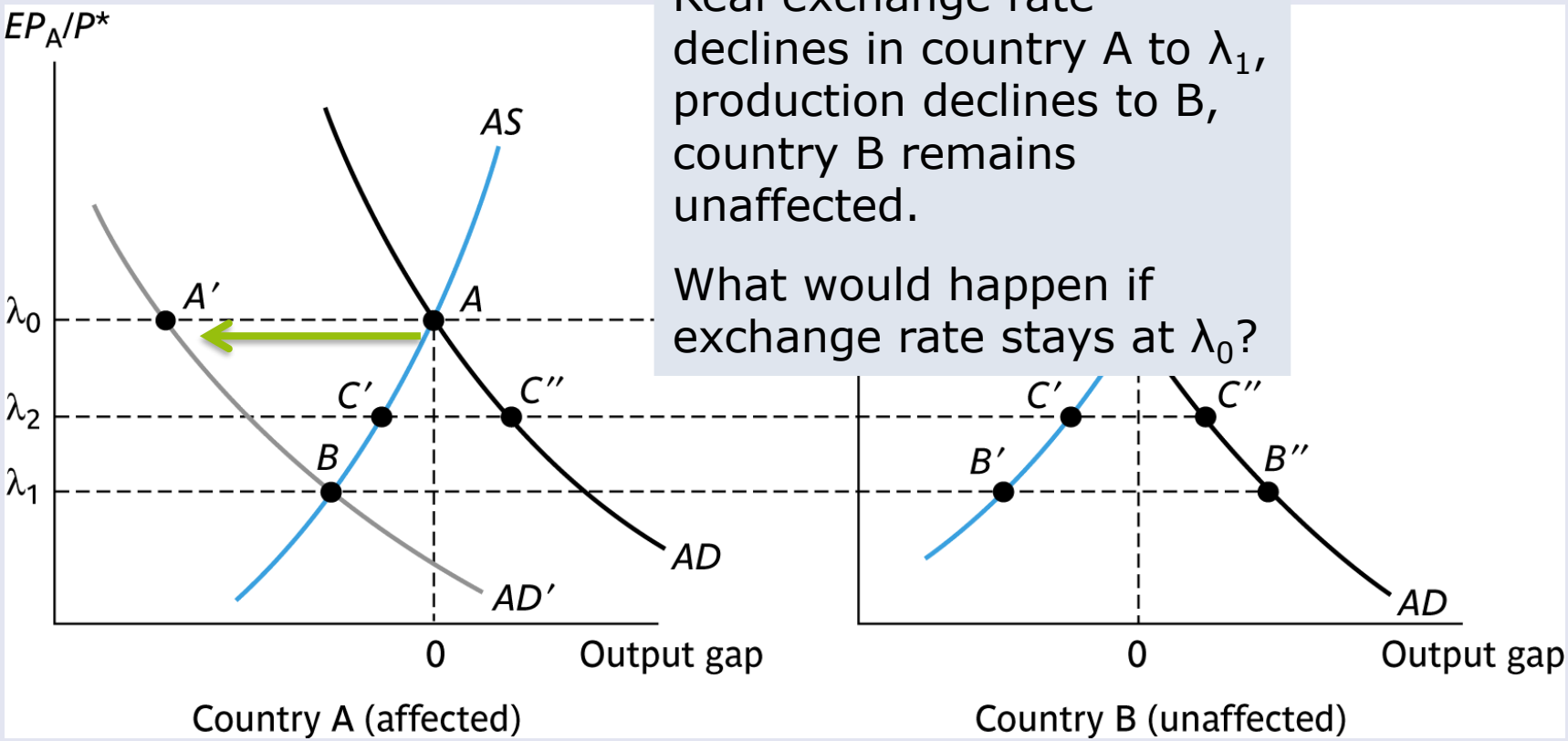
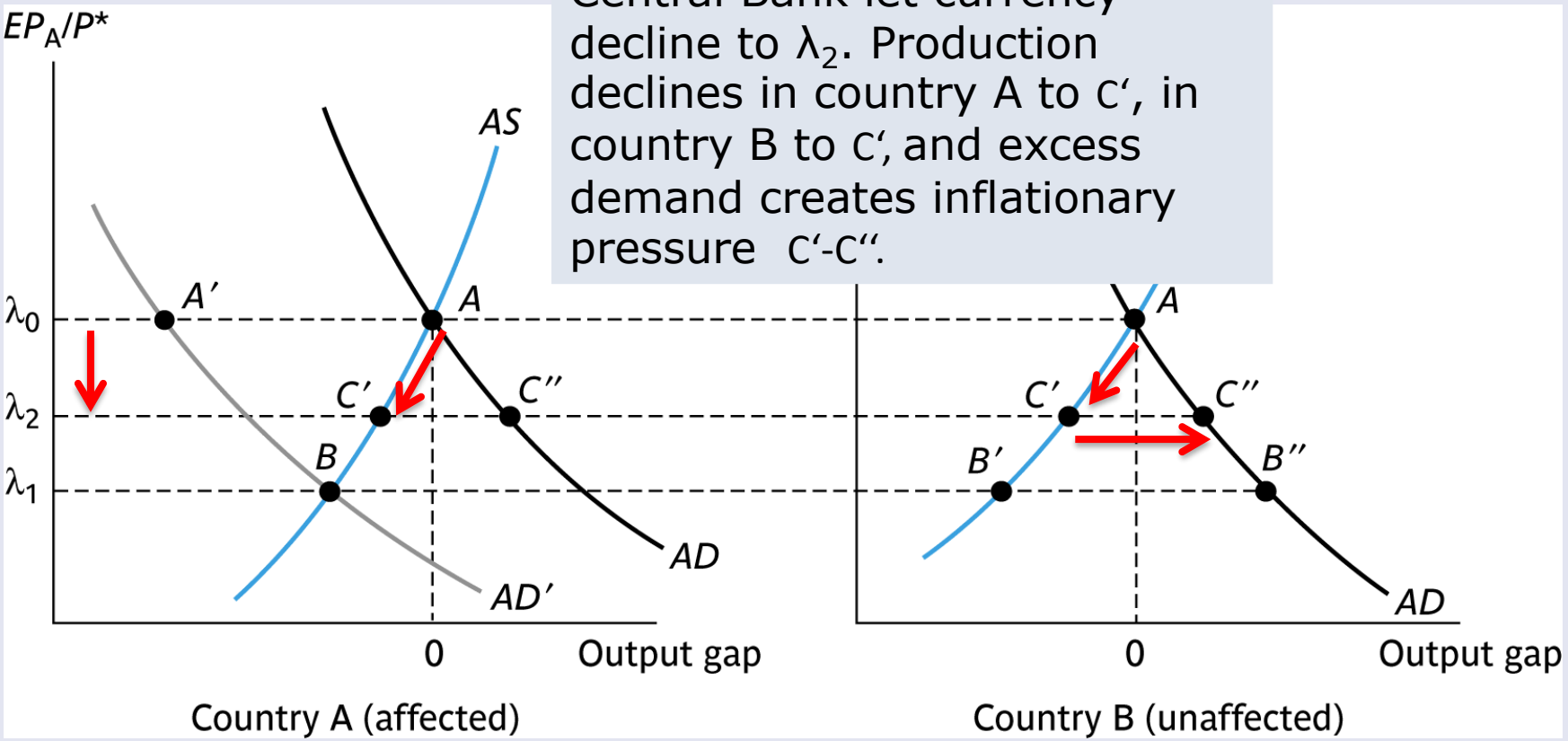


Shocks and the exchange rate

Currency union case:
Central Bank let currency decline to λ_2. Production declines in country A to C‘, in country B to C‘, and excess demand creates inflationary pressure C‘-C‘‘.



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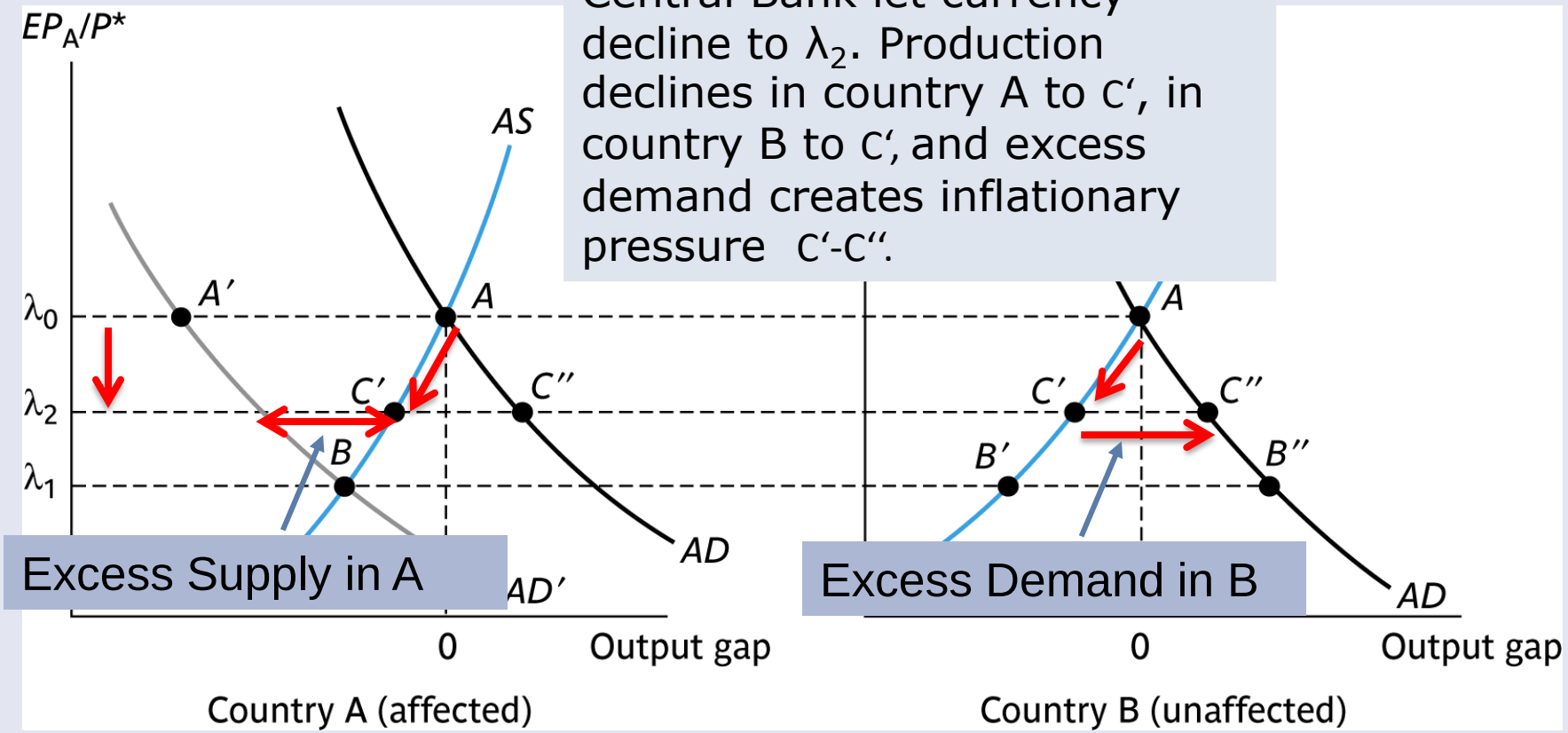
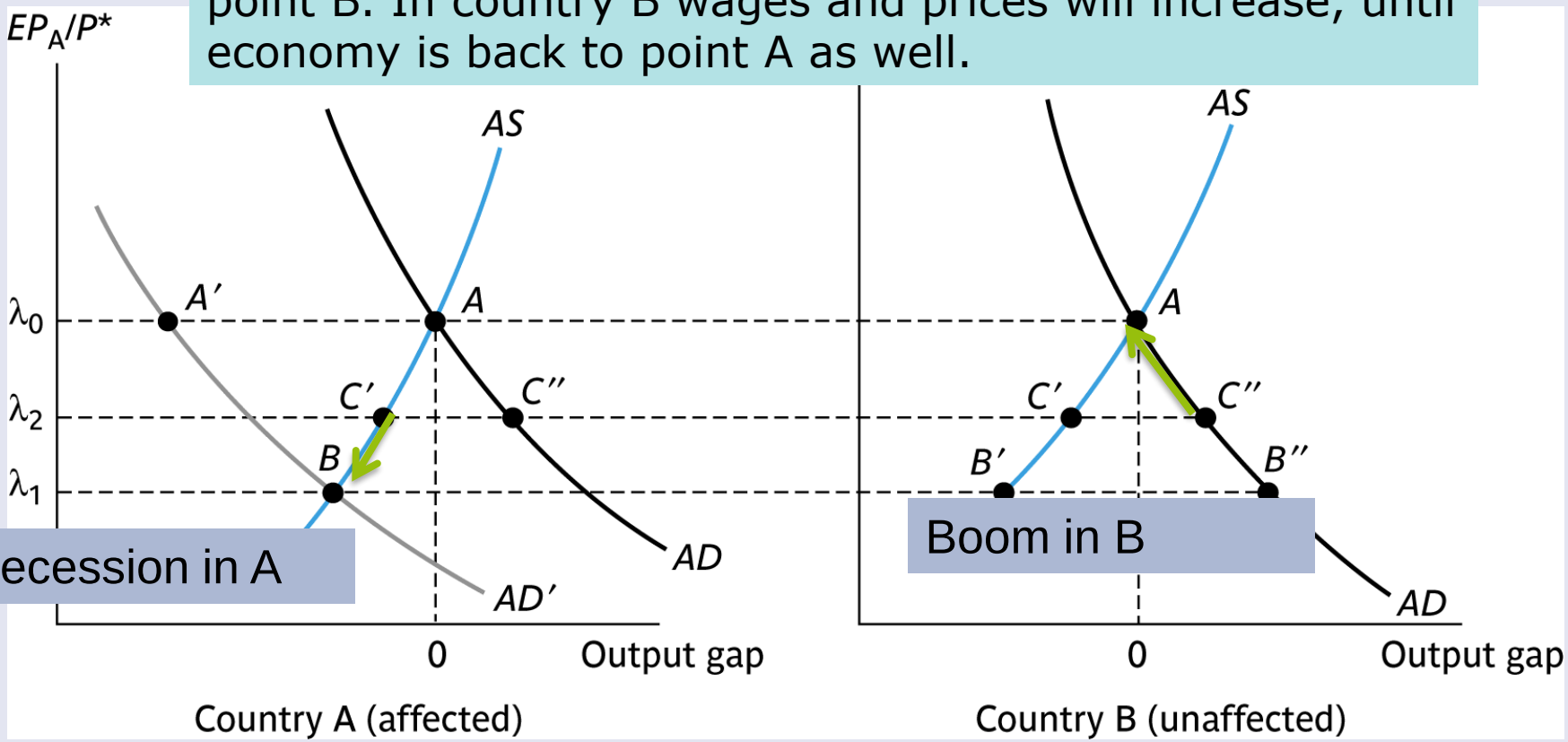


Shocks and the exchange rate

Disequilbria don‘t last forever. In country A wages and prices decline, such that production moves to equilibrium point B. In country B wages and prices will increase, until economy is back to point A as well.



Recession in A

Boom in B

Implications of asymmetric shocks

- Thus, both countries are hurt when they share the same currency
- Also the case when a symmetric shock creates asymmetric effects
- This is an unavoidable cost of a currency area

The optimum currency area criteria

- The optimum currency area (OCA) theory derive practical criteria to understand which countries should share the same currency.

- Three classic (economic) criteria:
  - Mundell: labour mobility
  - Kenen: diversification
  - McKinnon: openness

- Three political criteria:
  - fiscal transfers;
  - homogeneous preferences;
  - solidarity vs. nationalism.

Criterion 1 (Mundell): labour mobility

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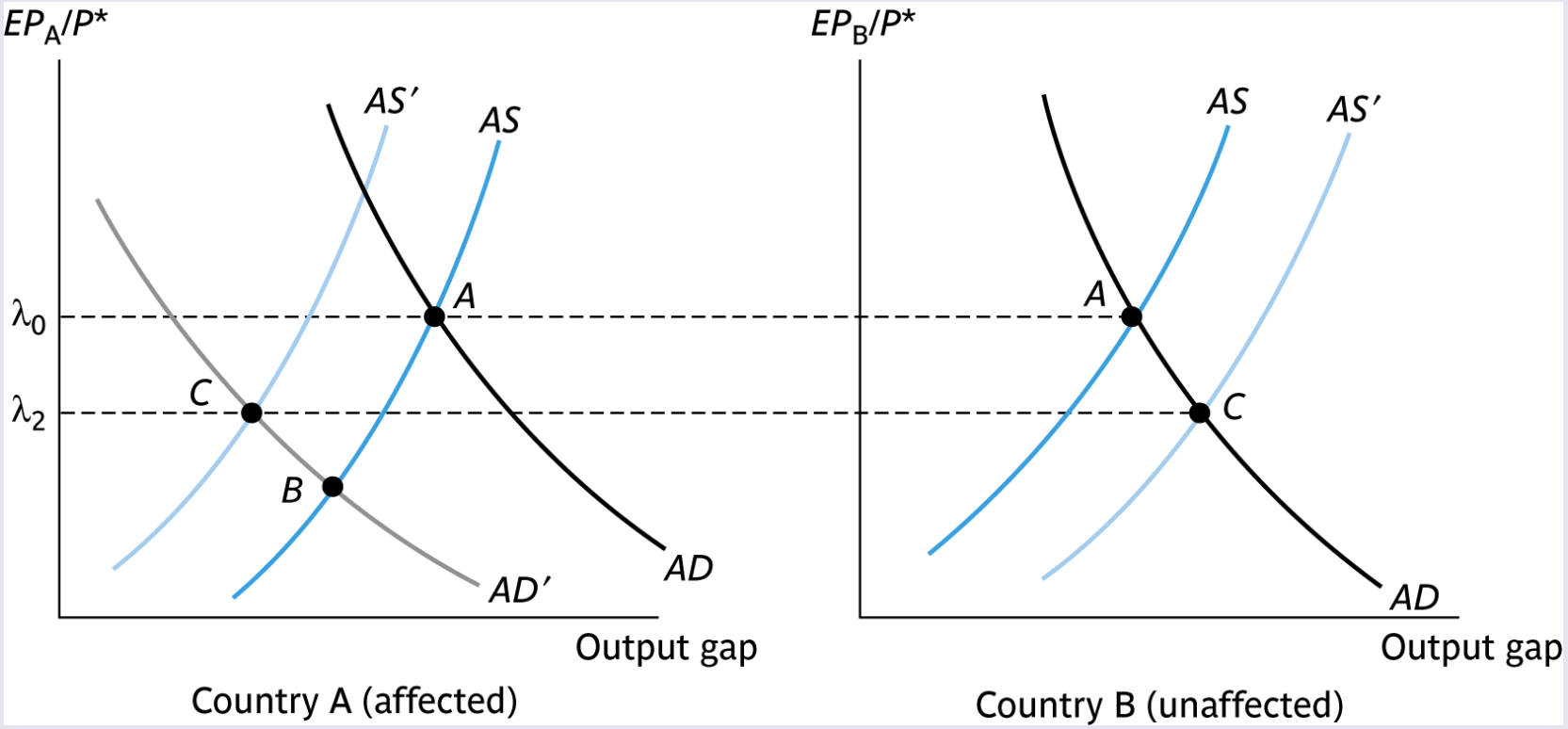
- ***Optimum currency areas are those within which people move easily:***
- unemployment in A and inflationary pressures in B could be solved by moving production factors from A to B.



Criterion 1 (Munde

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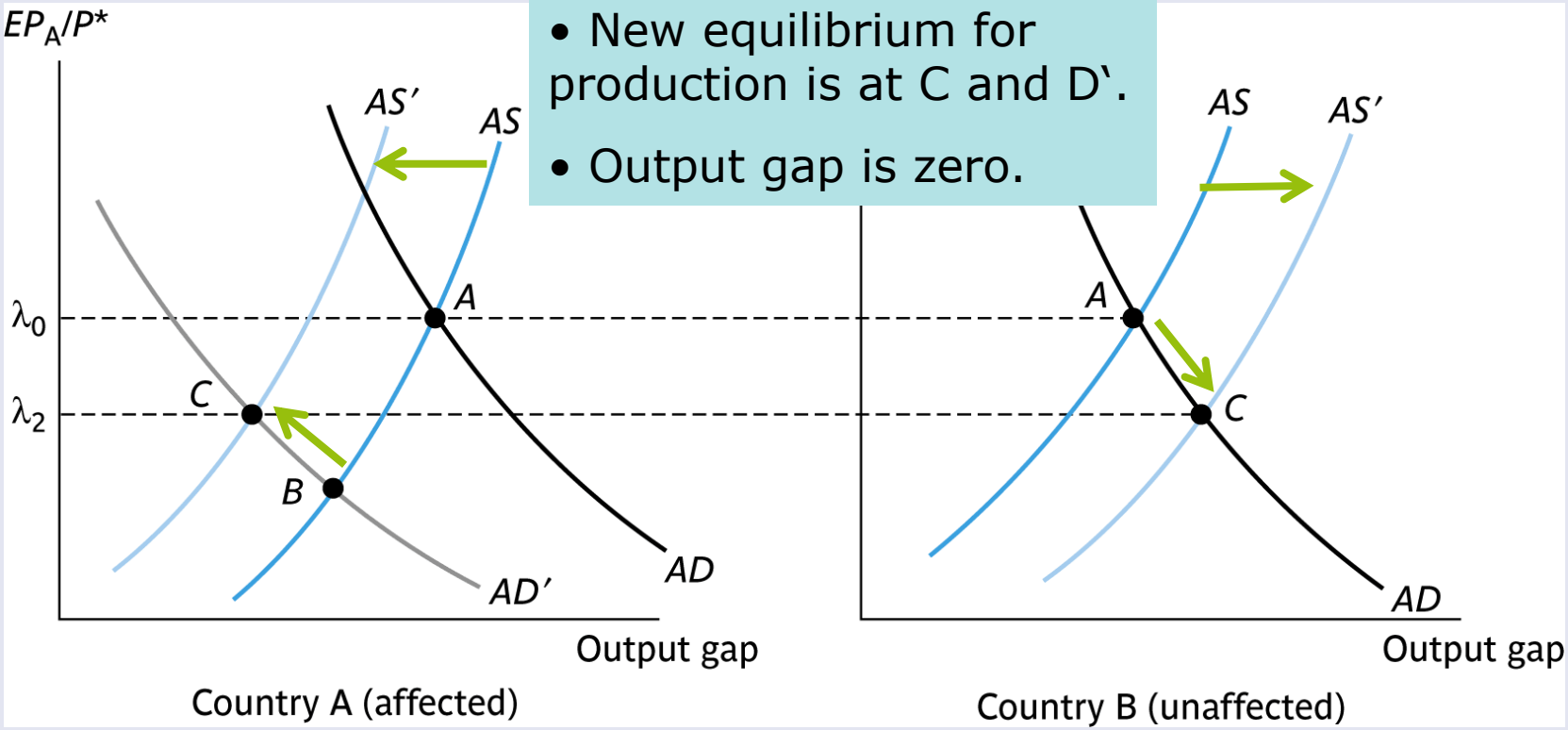
Labour mobility shifts supply curve leftwards in Country A to AS‘ and rightswards in Country B to AS‘.

- New equilibrium for production is at C and D‘.
- Output gap is zero.



Criterion 1 (Mundell): labour mobility

- Caveats:
  - labour mobility is easier within national borders (culture, language, legislation, welfare, etc.) than across countries;
  - in presence of country specialization, skills also matter;
  - capital mobility: difference between financial and physical capital.

Criterion 2 (Kenen): production diversification

- ***Countries whose production and exports are widely diversified and of similar structure form an optimum currency area:***

– indeed, in that case, there are few asymmetric shocks and each of them is likely to be of small concern.

- Caveat:

– a very broad statement.
– How much diversification is enough?
– When are production structures sufficiently similar?
– Example: Greece focusing on tourism and agribusiness vs Germany focusing on high-tech industry

Criterion 3 (McKinnon): openness

- ***Countries that are very open to trade and trade heavily with each other form an optimum currency area:***

- traded good prices are set worldwide;
- if all goods are traded, domestic good prices must be flexible and the exchange rate does not matter for competitiveness.

- Caveat:

- exchange rate can affect profits for exporters (but nowadays most goods have little national specificity).
- Imported components and goods become more expensive.

Criterion 4: fiscal transfers

- ***Countries that agree to compensate each other for adverse shocks form an optimum currency area:***

- transfers can act as an insurance that mitigates the costs of an asymmetric shocks;
- transfers exist within national borders;

- Caveat:

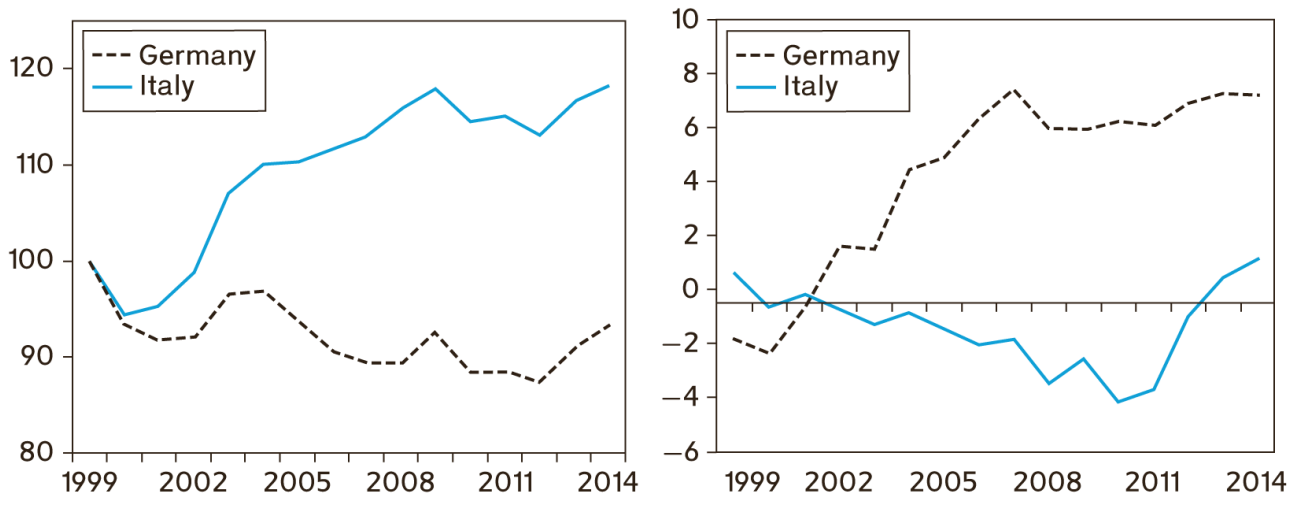
- the debt crisis has brought forward the issue of transfers (i.e., moral hazard).

Criterion 5: homogeneous preferences

- ***Currency union member countries must share a wide consensus on the way to deal with shocks.***

Germany and Italy: a difficult relationship: real exchange rate (Index 1999 = 100 left) and current account (right, as % of GDP)

Figure 15.8 External competitiveness of Germany and Italy, 1999–2014



Note: The real exchange compares unit labour costs (EW/W^*, where W is the country's unit labour cost and W^* is the average of unit labour costs in 35 industrial countries).

Source: AMECO, European Commission

Criterion 6: solidarity vs. nationalizm

- ***When the common monetary policy gives rise to conflicts of national interests, the countries that form a currency area need to accept the costs in the name of a common destiny:***

– it is unavoidable that there will be times when there will be disagreements and that these disagreements may follow national lines: people must accept that they will be living together and extend their sense of solidarity to the whole union.

Are the six criteria endogenous?

- The six criteria presented above refer to country characteristics, but these characteristics may change over time.

- A puzzling question is whether they can change because of membership of a currency area.

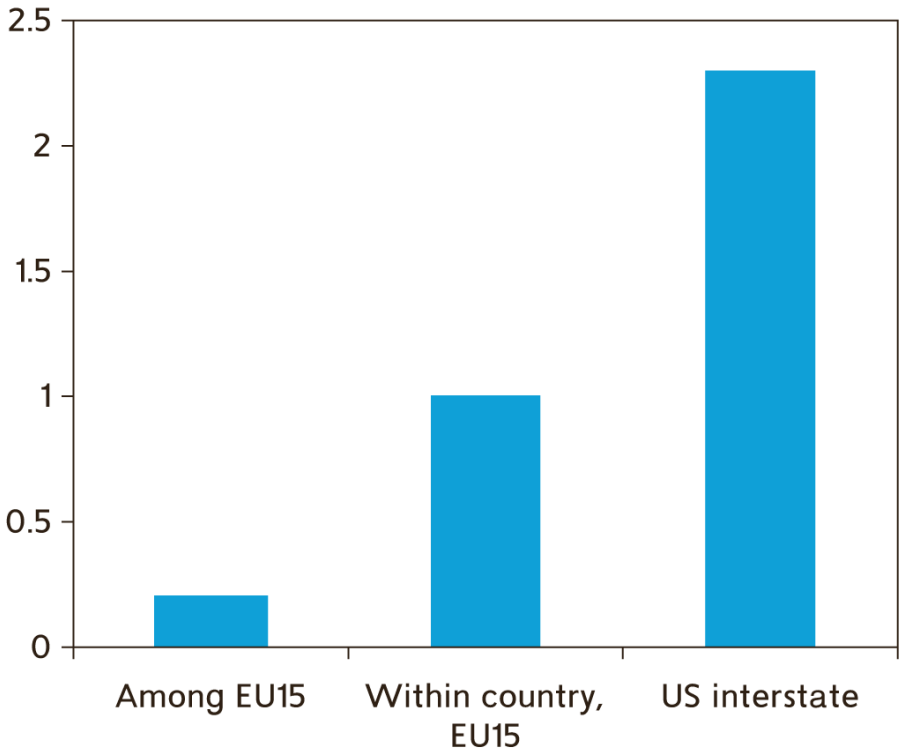
- Put differently, can an area that is not an optimum currency area become one as a consequence of being one?

- This possibility is called the endogeneity of the OCA criteria.

Is Europe an optimum currency area?

- Labour mobility: Europeans move little!

Figure 15.9 Labour mobility in Europe and the USA, 2008



Note: Mobility is measured as the proportion of the population that has moved from another country in Europe, from another state in the USA. The EU15 refers to the 15 members of the Eurozone in 2008.

Source: European Commission, *Geographic Mobility in the European Union*, Directorate for Employment, Social Affairs and Equal Opportunities, April 2008

Inside the OCA index: Labour mobility

- The labour mobility criterion cannot be black-and-white

- The migration response to economic incentives must consider many costs:
  - Moving costs
  - Risk of becoming unemployed
  - Longer run career opportunities
  - Family prospects
  - Eligibility to welfare
  - Taxation
  - Cultural/linguistic differences
  - National attachment

Is Europe an optimum currency area?

- Diversification and trade dissimilarity = trade dissimilarity index:

Figure 15.11 Trade dissimilarity index

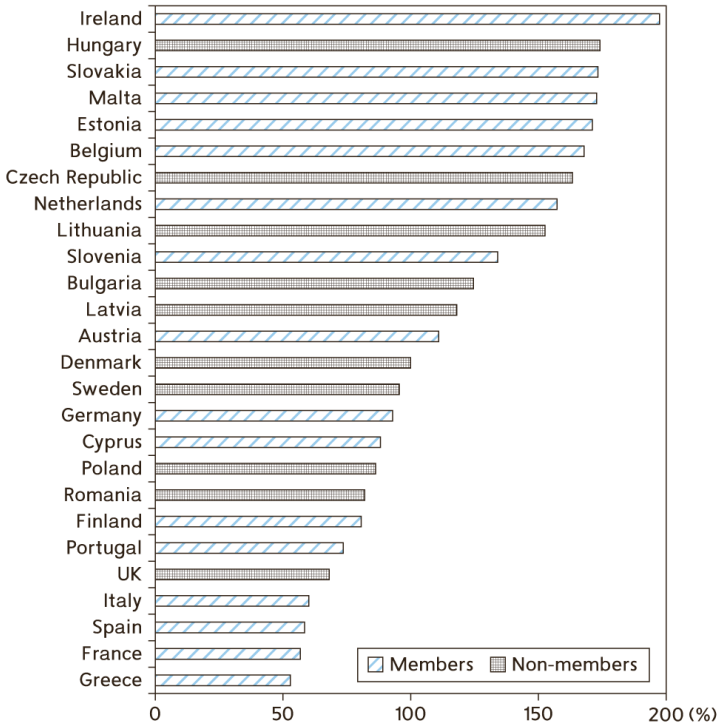
Note: The index measures the difference between individual countries' trade structures and those of its partners.

Source: Horváth (2007)

Is Europe an optimum currency area?

- Openness = openness to trade:
- Most countries are very open. McKinnon criterion is broadly satisfied

Figure 15.12 Openness to trade, 2011



Note: The index is the ratio of the sum of exports and imports to GDP.

Source: AMECO, European Commission

Is Europe an optimum currency area?

- **Fiscal transfers:**

- up until the debt crisis, there was no transfer system in the EU;
- EU budget is small (slightly above 1% of GDP) and almost entirely spent on operating expenses, CAP, and Structural Funds;
- crisis led to the creation of the European Financial Stability Fund (EFSF), which recognizes that monetary union needs transfers.

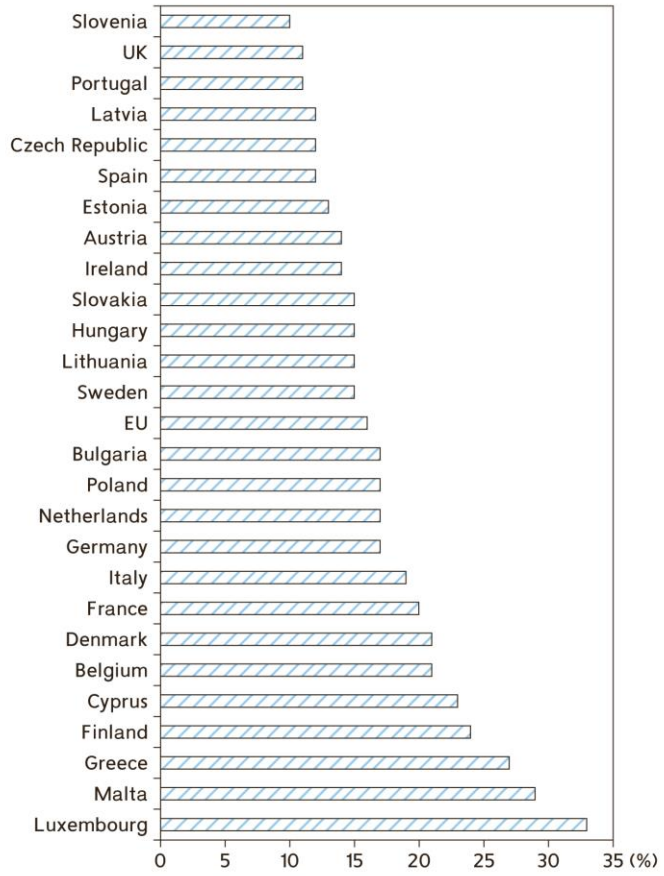
- **Homogeneous preferences:**

- based on past inflation rates, it does not seem that country share similar views on monetary policy;
- similar story when looking at public debts.

Is Europe an optimum currency area?

- Solidarity vs. nationalism = feeling European? (2006)

Figure 15.13 Feeling European?



Note: Percentage of people who respond 'often' when asked: 'Do you ever think of yourself as not only (nationality), but also European? Does this happen often, sometimes or never?'

Source: Eurobarometer (http://ec.europa.eu/public_opinion/cf/index.cfm)

Is Europe an optimum currency area?

- So, is Europe an optimum currency area? Mixed performance:

Table 15.1 OCA scorecard

Criterion	Satisfied?
Labour mobility	No
Trade openness	Yes
Product diversification	Yes
Fiscal transfers	No
Homogeneity of preferences	Partly
Commonality of destiny	?

→ The single currency project has been and remains controversial.

→ The partial fulfillment of the OCA criteria implies that, given that the decision to go ahead has been taken, there will be costs.

Is Europe becoming an optimum currency area?

- The fact that the single currency exists can change the situation:
  - effects on trade: Baldwin et al. (2008) conclude that, so far, the euro has probably increased trade by some 5%;
  - effects on labour markets: few expect labour mobility to increase dramatically in the near future but the single market may encourage reforms to make European labour markets more flexible;
  - fiscal transfers: much the same applies to fiscal transfers.

- BUT monetary union is not only about economics!

- Political considerations have been paramount in launching the euro: political leaders agreed on the monetary union without thinking in terms of the OCA theory. Their intention was to move one step further in the direction of an ‘ever-closer union’.

In the end

- Monetary union is not only about economics
- The OCA criteria do not send a clear signal
  - The EU is not a perfect OCA
  - A monetary union may function, at cost
- The OCA criteria tell us only partly where the costs will arise:
  - Labour markets and unemployment
  - Political tensions in presence of deep asymmetric shocks
  - Fiscal shocks and imbalances like real estate bubble remain largely unadressed

Fiscal policy in the monetary union

University of Bamberg

- In a monetary union, fiscal policy:
  - the only remaining macroeconomic instrument at national level;
  - government borrows in slowdown and pays back on behalf of citizens;
  - government acts as substitute to inter-country transfers in case of asymmetric shock.

- Problems of fiscal policy:
  - effectiveness of fiscal policy depends on private expectations;
  - slow implementation.

Fiscal policy in the monetary union

Crucial distinction:

- automatic stabilizers: fiscal policy is spontaneously countercyclical:
  - tax receipts decline when the economy slows down;
  - welfare spending rises when the economy slows down;
  - no decision, so no lag: nicely countercyclical
  - rule of thumb: deficit worsens by 0.5% of GDP when GDP growth declines by 1%.

Table 17.1 Sensitivity of government budget balances to a 1 per cent decline in economic growth

Country	%	Country	%	Country	%	Country	%
Germany	0.5	Austria	−0.5	Greece	−0.6	Portugal	−0.4
France	−0.5	Belgium	−0.5	Ireland	−0.4	Spain	−0.5
Italy	−0.4	Denmark	−0.7	Netherlands	−0.6	Sweden	−0.5
UK	−0.6	Finland	−0.5				

Source: Economic Outlook, OECD, 1997

Fiscal policy in the monetary union

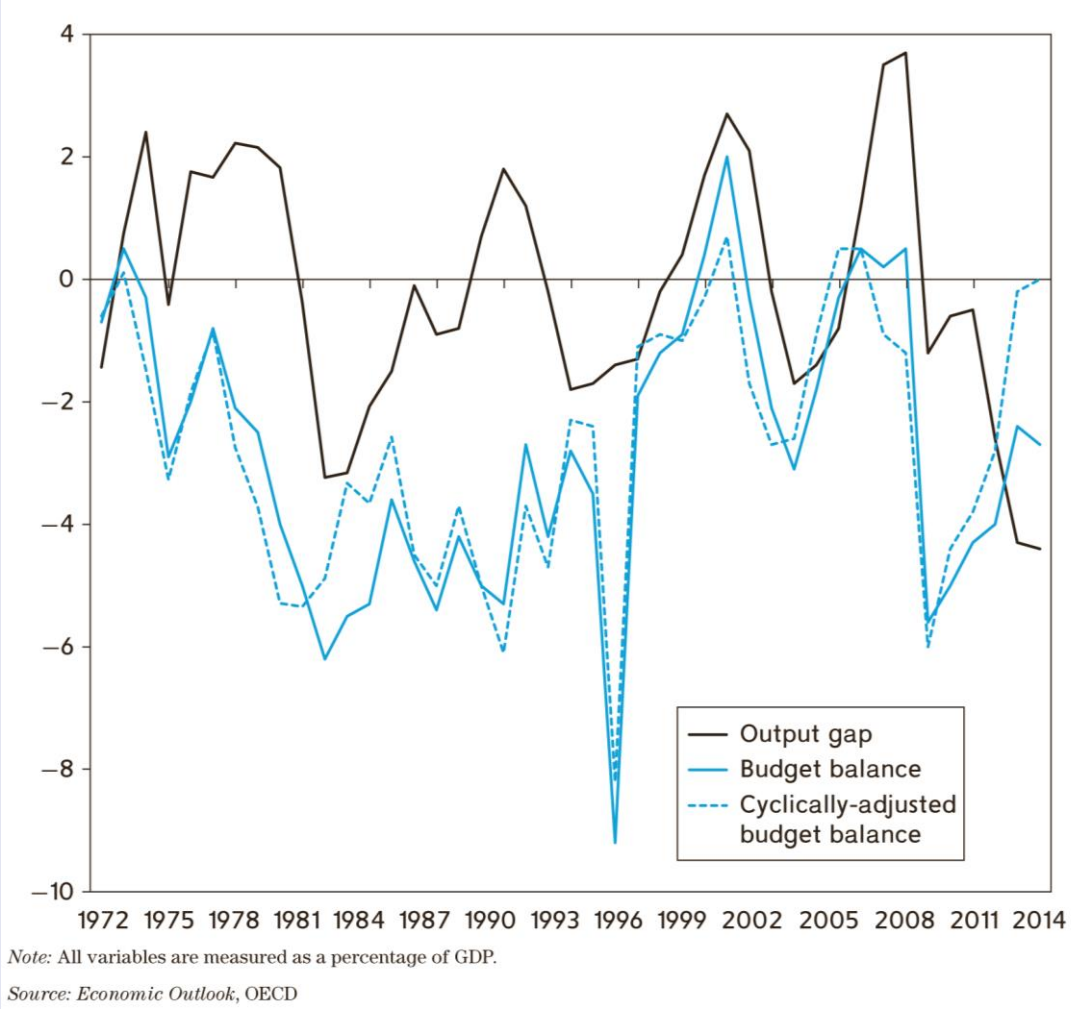
- discretionary fiscal policy: a voluntary decision to change tax rates or spending.

- Because of automatic stabilizers, budget figures do not reveal what governments do with fiscal policy. Cyclically adjusted budget shows what the balance would be if the output gap is zero in a given year.

- Difference between actual and cyclically adjusted budget = footprint of automatic stabilizers.

Fiscal policy in the monetary union

Actual and cyclically adjusted budgets in the Netherlands, 1972–2014:



Note: All variables are measured as a percentage of GDP.

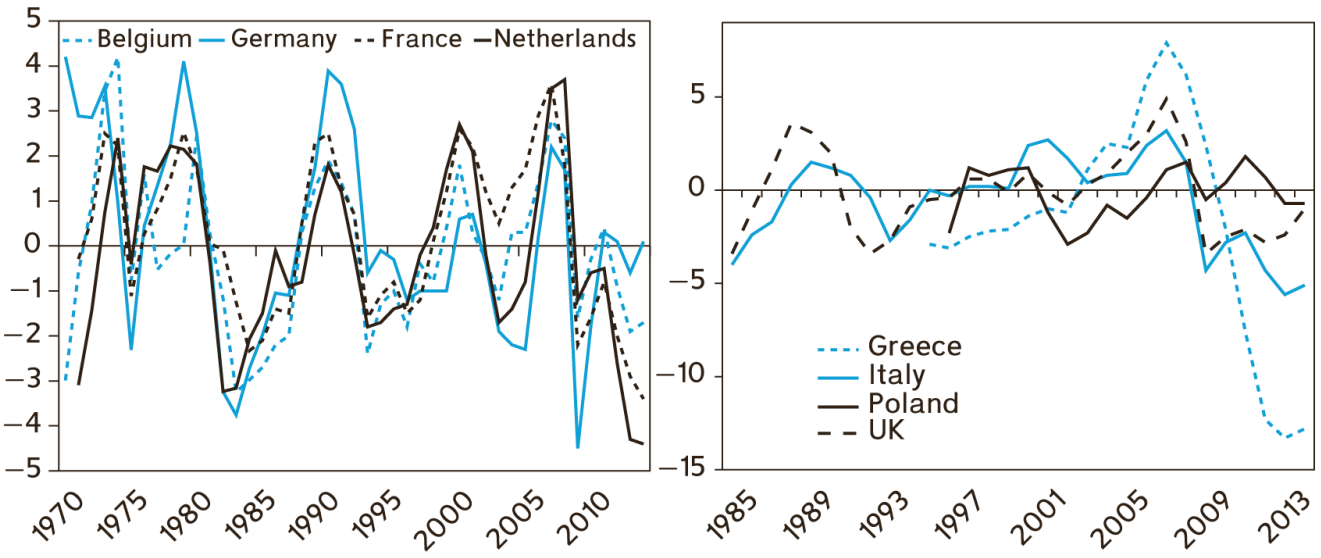
Source: Economic Outlook, OECD

Fiscal policy externalities

Should fiscal policy be subjected to some form of coordination? Yes, if national fiscal policies are a source of externalities:

- cyclical income spillovers via trade, strengthened by monetary union through increased trade.

Income spillovers, 1970–2014:



Note: The figure displays output gaps (percentage of potential GDP).

Source: Economic Outlook, OECD

Fiscal policy externalities

- borrowing cost spillovers, as one country's deficit would induce higher interest rate for everyone:
  - weak argument since euro area integrated in world financial markets;
  - still, capital inflows can appreciate common currency and affect competitiveness.

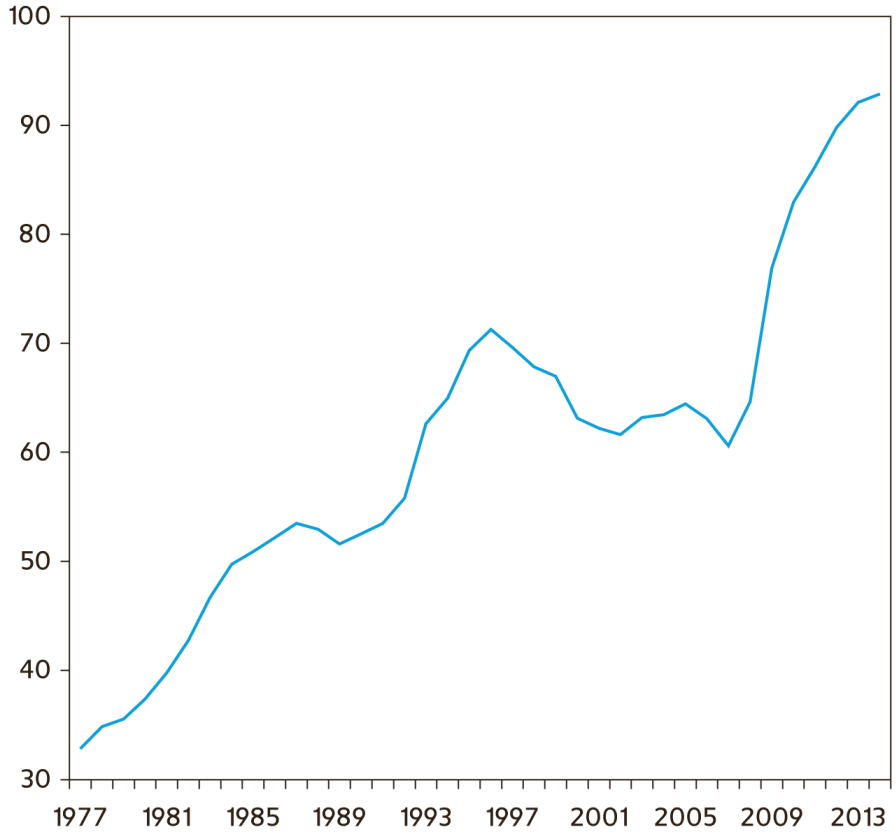
- excessive deficits, which may lead to default:
  - capital outflows and a weak euro;
  - pressure on other governments and Eurosystem to help out.

  → 'no-bailout' clause in Maastricht Treaty.

Fiscal policy externalities

University of Bamberg

Figure 17.3 The Eurozone's public debt (% of GDP), 1977–2014



Source: AMECO, European Commission

Fiscal policy externalities

- deficit bias and collective discipline: build-up of debt reflects failure of democratic control over governments.

Table 17.2 Public debt within Europe (% of GDP), 2014

Austria 80.3	Belgium 101.7	Bulgaria 23.1	Croatia 69.0	Cyprus 122.2	Czech Rep. 44.4
Denmark 43.5	Estonia 9.8	Finland 59.9	France 95.6	Germany 76.0	Greece 177.2
Hungary 80.3	Ireland 121.0	Italy 135.2	Latvia 39.5	Lithuania 41.8	Luxembourg 23.4
Malta 72.5	Netherlands 73.8	Poland 49.2	Portugal 126.7	Romania 39.9	Slovakia 56.3
Slovenia 80.4	Spain 100.2	Sweden 41.6	United Kingdom 91.8	EU 89.5	Eurozone 96.0

Source: AMECO, European Commission

Principles

- At which level of government (regional, national, supranational) should policies be conducted? The theory of fiscal federalism deals with this question.

- Two arguments for sharing responsibilities:
  - externalities;
  - increasing returns to scale.

- Two arguments for retaining sovereignty:
  - heterogeneity of preferences;
  - information asymmetries.

- Theory of fiscal federalism does not provide a general answer: case-by-case approach and often we face trade-offs with no compelling answer.

Principles

- Four arguments for and against centralization at the EU level are unlikely to lead to clear-cut conclusions.

- Where should the burden of proof lie? The EU has taken the view that the burden of proof lies with those who argue in favour of sharing sovereign tasks:

  → principle of subsidiarity

- In other words: unless there is a strong case of increasing returns to scale or of externality, the presumption is that decisions remain at the national level.

Principles

- What does it all mean for fiscal policy in the Eurozone?

- In true federal states, there is a powerful federal level of government. In the Eurozone, instead, the Commission budget is far too small to play any macroeconomic role.

- The case for policy coordination is convincing. A step has been taken in 2011: ‘European semester’. In January of each year, the Commission presents its Annual Growth Survey, including forecasts and evaluation of member countries’ economic situation. This triggers discussions among governments and in the European Parliament. Following recommendations by the Council, every government submits to the Commission their Stability and Convergence Programs. The Commission then assesses the national programs and submits its conclusions and recommendations in time for the June Council.

The Stability and Growth Pact (SGP)

- Adopted in 1997, the SGP was meant to avoid excessive deficits, with fines for countries not respecting it. SGP was reformulated in 2005 to avoid its rigidity. It applies to all EU countries.

- Another reengineering took place due to the financial crisis
  - Six Pack
  - Treaty on Stability, Coordination and Governance (TSCG), also known “Fiscal Compact”

- The SGP consists of four elements:
  1. definition of what constitutes an ‘excessive deficit’;
  2. preventive arm, designed to encourage governments to avoid excessive deficits; only the Eurozone countries are subject to the corrective arm.
  3. corrective arm, which prescribes how governments should react to a breach of the deficit limit;
  4. sanctions.

The Stability and Growth Pact (SGP)

1. ‘excessive deficit’; deficits are excessive when above 3% of GDP; countries in the monetary union commit themselves to a medium-term budgetary stance ‘close to balance or in surplus’; ‘exceptional circumstances’ when provisions are automatically suspended;
2. preventive arm: in the form of peer pressure. Finance Ministers engage in a collective discussion of one another’s fiscal policy;
3. corrective arm: ‘early warning’ and recommendations when deficit is believed to breach the limit; excessive deficit procedure for excessive deficit: recommendations, to be followed by corrective measures, and ultimately sanctions;
4. sanctions: if a country fails to take corrective action and bring its deficit below 3%, it is sanctioned. The fine starts at 0.2% of GDP and rises by 0.1% for each 1% of excess deficit.

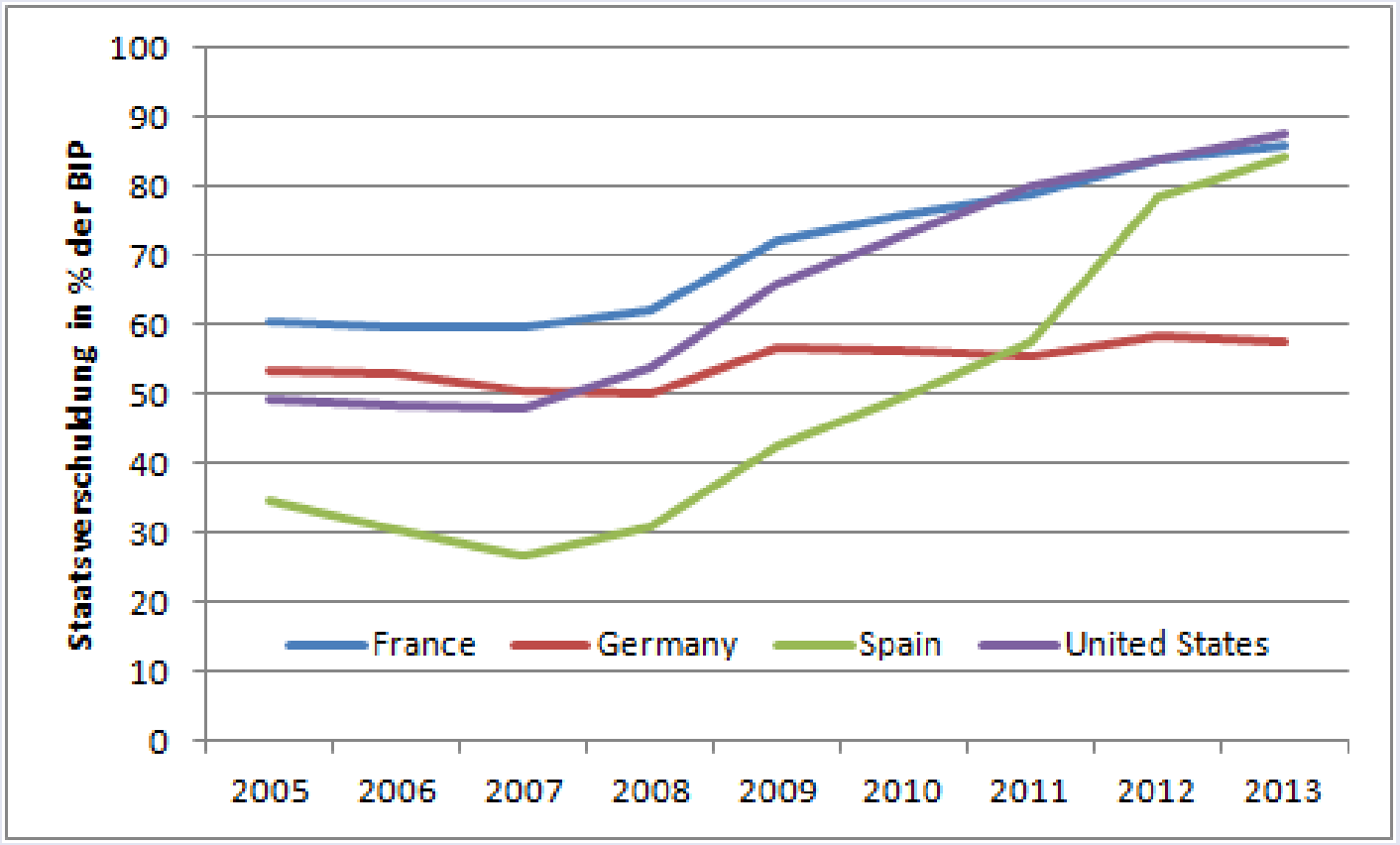
→ SGP does not remove fiscal policy sovereignty: governments are in full control. Also, its intent is clearly pre-emptive.

Should instrument be subject to some form of collective control?

- Yes, if national fiscal policies are a source of several externalities
- (Positive) income externalities via trade
  - Important and strengthened by monetary union
  - A case for some coordination
- Borrowing cost externalities
  - One common interest rate
  - But EURO area integrated in world financial markets
- Sovereign debt default risk put other EMU members or ECB under bail-out pressure

What is the problem with the deficit bias?

- The track record is not really good (2005 – 2013):



- Quelle: OECD STAT Database; own calculations.

What is the problem with the deficit bias?

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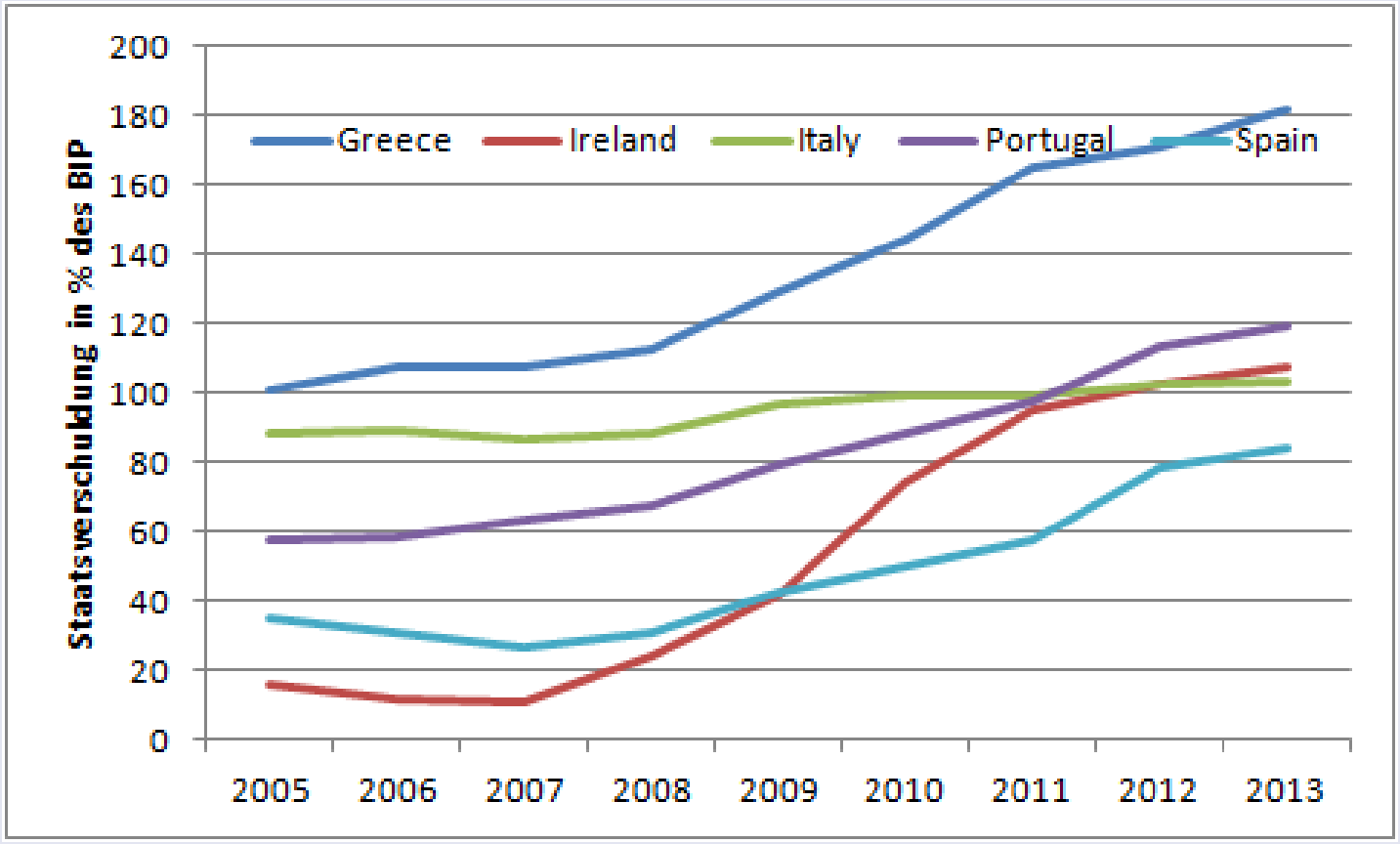

Quelle: OECD STAT Database; own calculations.

The answer to default risk: the no-bailout clause

- The no-bailout clause:

  Overdraft facilities or any other type of credit facility with the ECB or with the central banks of the Member States (hereinafter referred to as 'national central banks') in favour of Community institutions or bodies, central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of Member States shall be prohibited, as shall the purchase directly from them by the ECB or national central banks of debt instruments. (Art. 101)

The answer to default risk: the no-bailout clause

- The no-bailout clause: Question of credibility
- Ex post the world looks different: See the Draghi-statement of the ECB on debt default
- Thus, fears remain
  - Informal pressure
  - Impact on EURO
- Prevention is better, especially given a tradition of indiscipline

Further controversies

- Discipline imposed from outside
  - A further erosion of sovereignty?
- Arbitrary limits
  - Why 3%?
  - What about the debt celing of 60%?
- Asymmetry
- The Pact binds in bad years only
- A budget forever close to balance or in surplus would drive debt/GDP ratio to 0

FINAL LECTURE

University of Bamberg

- **Final lecture: February 8!, 11:00 hours**