Optimum Currency Area

Lecture 12

23 December 2024

Overview

Introduction to Optimum Currency Areas

- Optimum Currency Area (OCA) theory evaluates whether countries should share a currency.
- It focuses on trade-offs between economic integration benefits and the costs of losing monetary independence.
- Central to the theory is managing asymmetric shocks, which affect member countries differently.
- OCA principles guided the formation of currency unions such as the Eurozone.

Benefits of a Currency Area

1. Eliminates exchange rate fluctuations, reducing trade and investment uncertainty.
2. Minimizes transaction costs, enhancing economic efficiency and integration.
3. Promotes price transparency, increasing competition and consumer benefits.
4. Strengthens monetary stability for countries with weaker central banks.

Costs of a Currency Area

1. Loss of independent monetary policy limits response to economic shocks.
2. Without exchange rate adjustments, crises become harder to address.
3. Economic divergences between stronger and weaker economies can widen.
4. Social and political tensions may emerge within the union.

Demand Shock

- In a fixed exchange rate regime, price level changes affect real exchange rates, demand, and GDP.
- IRP stands for Interest Rate Parity, the difference in interest rates between two countries is equal to the expected change in exchange rates between their currencies.
- IS represents the equilibrium in the goods market.
- MP represents monetary policy and its influence on interest rates.
- IRP links domestic and foreign interest rates, influencing exchange rates and international capital flows.

Demand Shock

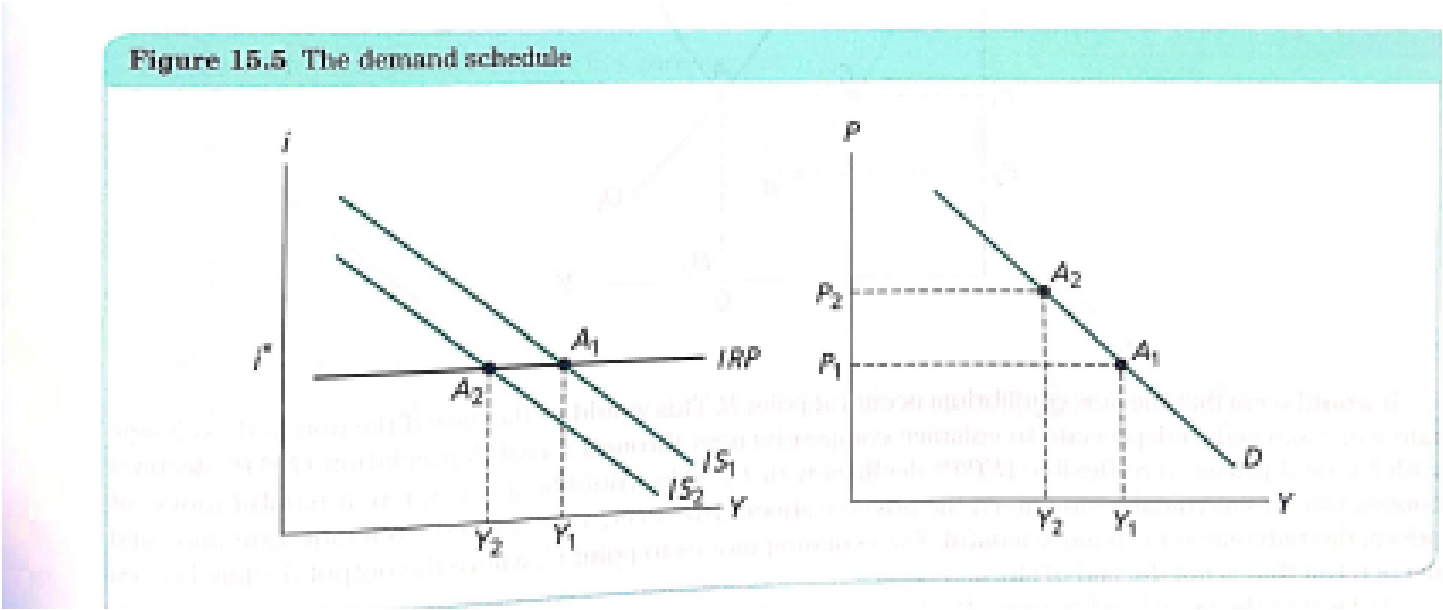

Figure: 15.5

Figure in left

1. The interest rate (i) is on the vertical axis, and GDP (Y) is on the horizontal axis.
2. A price level increase (from P_1 to P_2) shifts the IS curve leftward from IS_1 to IS_2.
3. The equilibrium moves from A_1 to A_2, reducing GDP from Y_1 to Y_2.

Demand Shock

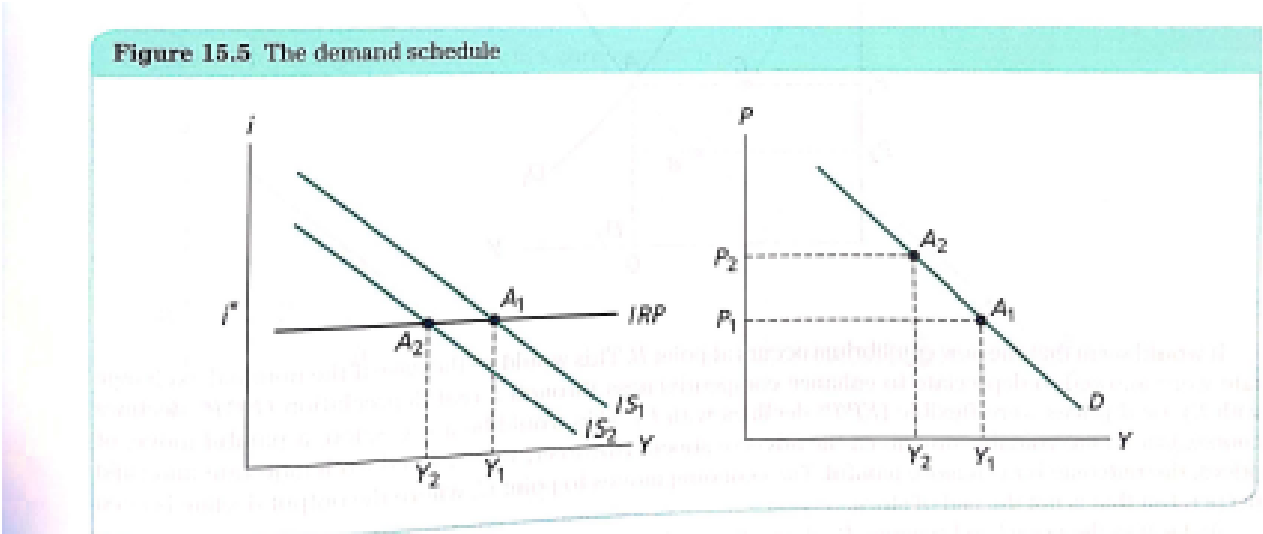

Figure: 15.5

Figure in Right

1. The vertical axis shows the price level (P), and the horizontal axis shows GDP (Y).
2. The downward-sloping demand curve (D) illustrates a negative relationship between P and Y.
3. A price increase (from P_1 to P_2) causes GDP to fall (from Y_1 to Y_2), represented by the shift from A_1 to A_2.

Demand Shock

- **Assumptions:**
  1. The price level is constant.
  2. GDP adjusts to meet demand at equilibrium.
- **Real World**
  These assumptions are unrealistic in real-world scenarios, especially under fixed exchange rates.
  1. An increase in the price level (from P_1 to P_2) reduces competitiveness.
  2. The IS curve shifts leftward (from IS_1 to IS_2), decreasing GDP (from Y_1 to Y_2).
- Demand shocks occur when aggregate demand unexpectedly declines.
- These shocks reduce GDP and employment levels.
- Adjustments in a currency union require price and wage reductions.
- Without exchange rate flexibility, the adjustment process can be slow and painful.

Adverse Demand Shock

1. When the global demand for a country's exports declines due to changing tastes or cheaper alternatives, it creates a trade imbalance.
2. To restore balance, the country must increase competitiveness by reducing prices and wages.
3. Competitiveness must increase by lowering prices and wages.
4. In a currency union, depreciation is not an option, requiring an economic slowdown to restore balance.
5. If prices are sticky and the country is in a currency union, depreciation is not an option, and economic slowdown becomes necessary.
6. Figure 15.6 illustrates this: a leftward shift in the demand curve (from D_1 to D_2) leads to reduced GDP.

Adverse Demand Shock

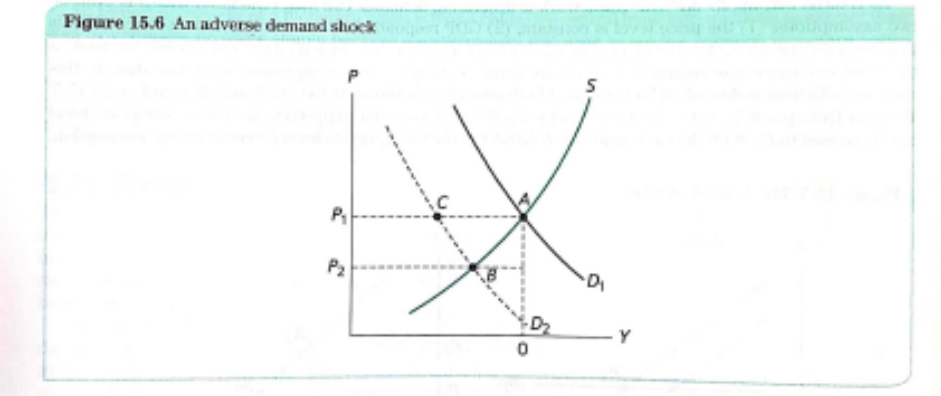

Figure: 15.6

- **Initial Equilibrium:**
  1. The economy starts at point A, where the demand curve D_1 intersects the supply curve S.
  2. At this equilibrium, the price level is P_1, and output is at its optimal level.
- **Adverse Demand Shock:**
  1. A demand shock shifts the demand curve leftward from D_1 to D_2, indicating reduced aggregate demand.
  2. At the initial price level P_1, the new equilibrium is temporarily at point C, with reduced output.

Adverse Demand Shock

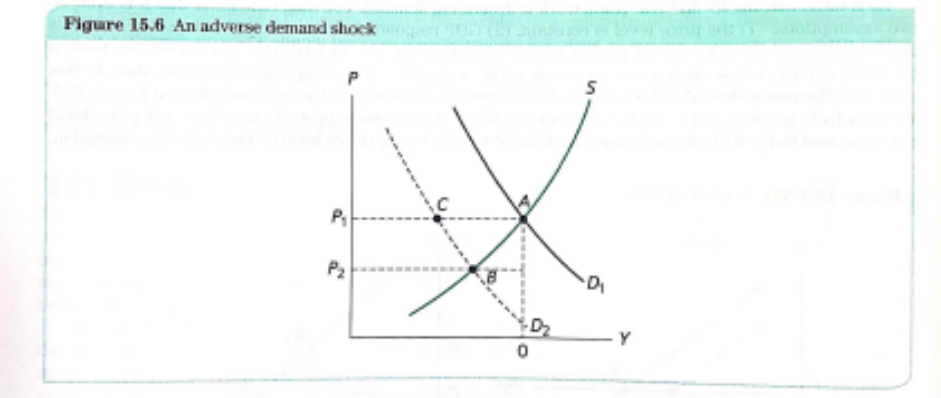

Figure: 15.6

- **Adjustment Process:**
  1. Over time, prices decrease to P_2, and the economy adjusts to the new equilibrium at point B.
  2. At point B, the price level and output align with the new demand curve D_2.
- **Implications:**
  - The adjustment illustrates the importance of price flexibility in restoring equilibrium after an adverse demand shock.
  - Fixed prices in the short run delay economic recovery.

Asymmetric Shocks

1. Asymmetric shocks affect specific regions or countries differently within a currency union.
2. For example, one country may face a downturn while others remain stable.
3. Without exchange rate adjustments, affected regions must rely on wage and price flexibility.
4. Such shocks highlight the challenges of shared monetary policy.

Asymmetric Shocks in a Monetary Union

Assumptions:

1. So far we have thought of one country taken in isolation. What happens in a monetary union when different countries face different shocks?
2. Within a monetary union, there is no exchange rate.
3. If countries A and B are hit by the same adverse shock, both have to undergo a real depreciation vis-a-vis the rest of the world.
4. If they are similar enough, there is no need for their bilateral exchange rate to change. The union simply adjust its common exchange rate.
5. The situation is very different in the presence of asymmetric shock.

Asymmetric Shocks in a Monetary Union

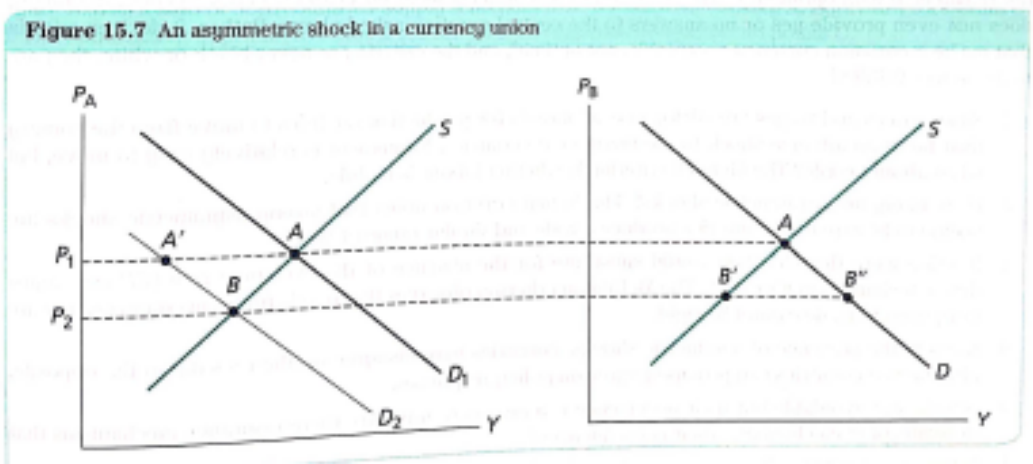

Figure: 15.7

- What if country A is hit by an adverse shock, but not country B? What happens?
- The vertical axis measures price level and horizontal axis shows output. Initially at point A, where demand D_1 intersects supply S at price level P_1, suggesting that both countries have a zero output gap.
- Prices are assumed to be sticky-otherwise the exchange rate regime does not matter.

Asymmetric Shocks in a Monetary Union

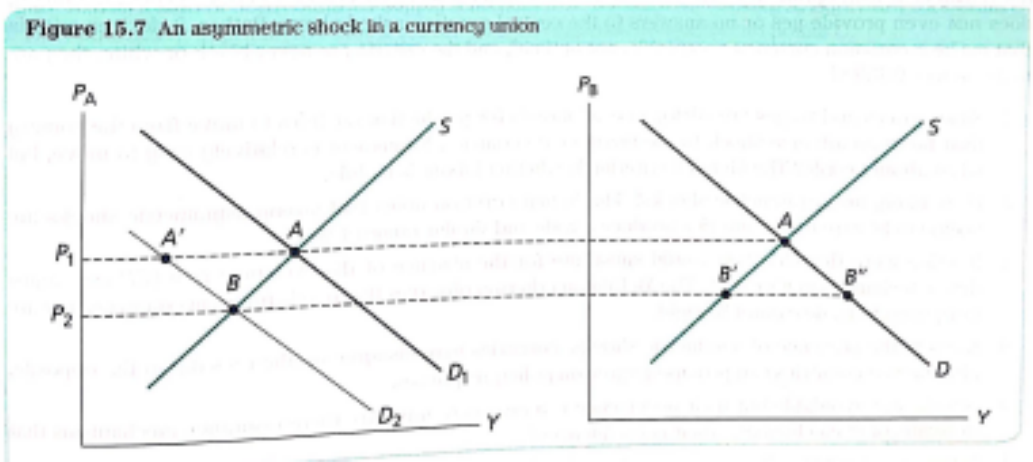

Figure: 15.7

- The reduction in foreign demand from outside the monetary union affects country A alone. item A demand shock shifts D_1 leftward to D_2, temporarily moving the economy to B with reduced output.
- With flexible prices, the price level would decline to P_2 and the economy land at point B.
- In the sticky prices, the price level stuck at P_1. If the the country A were not a part of monetary union, the same situation could be reached through depreciation, which would mimic the the flexible

Asymmetric Shocks in a Monetary Union

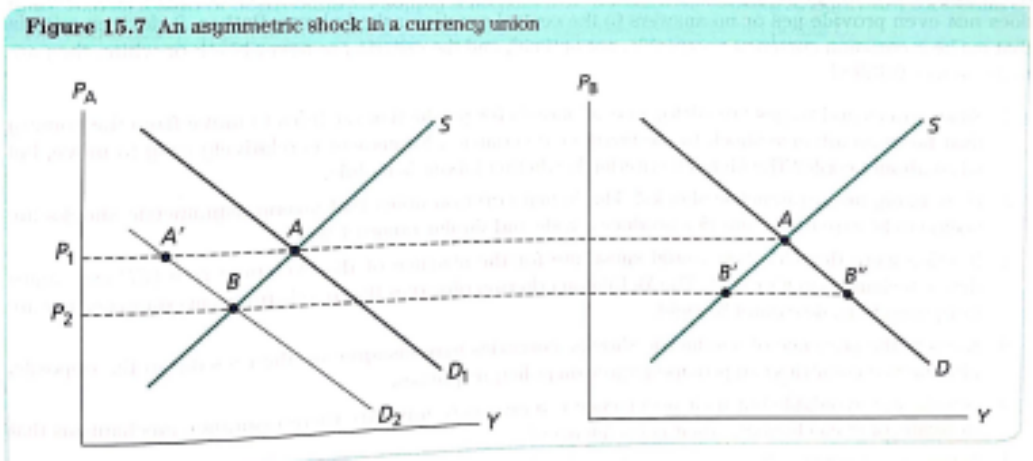

Figure: 15.7

- The common central must make a choice on their behalf. If it cares only about country A, it could cut the interest rate and let the common exchange rate depreciate to boost demand back to D_1.
- This would not suit country B, because the depreciation would shift its demand curve to the right and create excess demand.

Asymmetric Shocks in a Monetary Union

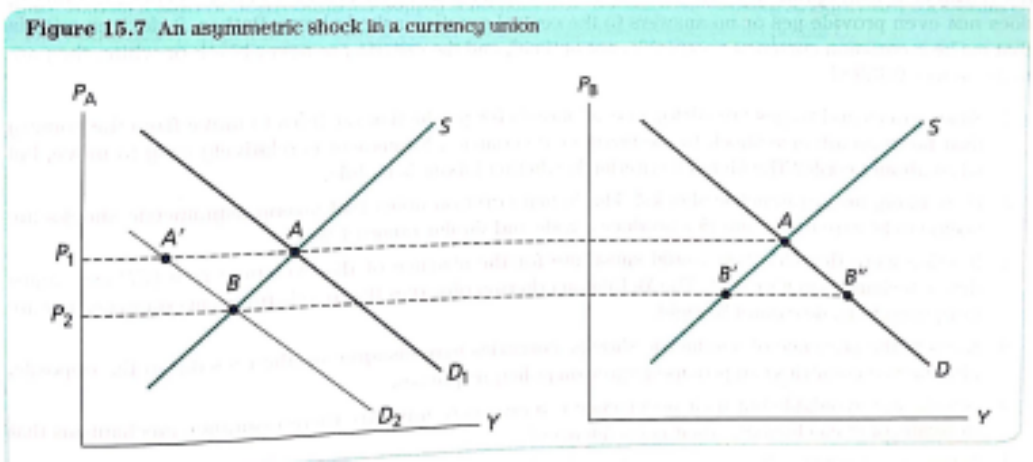

Figure: 15.7

- If the central bank instead favors country B, it will keep the common exchange rate unchanged as this country would rather stay at point A.
- At price P_1, supply is represented by point A but demand is represented by point A'.
- This means excess supply in country A: the distance between A and A' represents the inventories of unsold goods that firms accumulate.
- In presence of asymmetric shock, what suits one country hurts the other.

Asymmetric Shocks in a Monetary Union

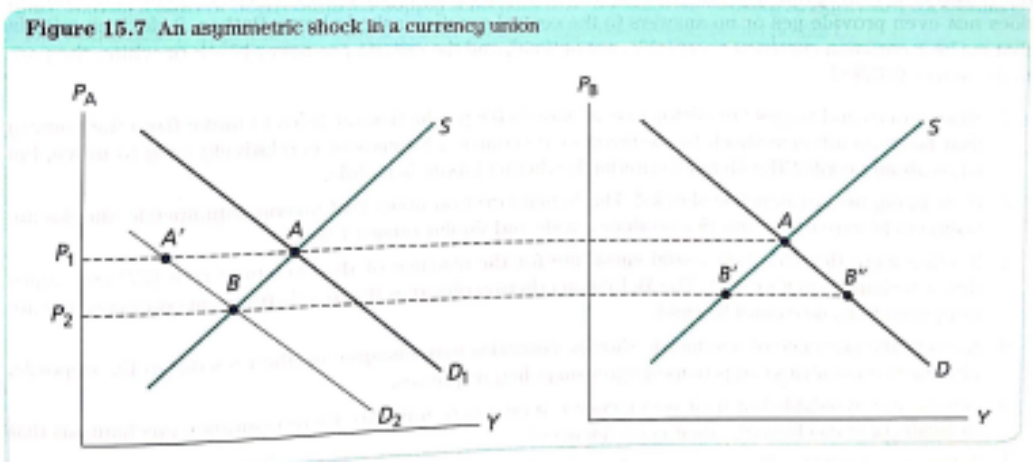

Figure: 15.7

- When country A loses market shares abroad, its current balances worsens.
- Unless some financing is provided from abroad, money leaves the country, which tends to further reduce domestic demand (demand curve shifts to the left of D_2, which worsens asymmetry.
- As money moves to the country B, demand rises there (the demand curve shifts to the right). The results is an expansion and inflationary pressure.

Asymmetric Shocks in a Monetary Union

1. With sticky prices, the nominal exchange rate is the only way of adjusting a country's competitiveness to changing conditions. Within a monetary union, the common exchange rate cannot protect simultaneously all member countries.
2. Over time, prices become flexible and will do what they are expected to do. In this case, prices will fall in country A until point B is reached while country B remains at point A.
3. The cost is temporary, but a few years of misery now and then can be politically challenging.

Criteria for Optimum Currency Areas

1. Labour mobility to absorb shocks.
2. Diversified production to reduce asymmetric shocks.
3. Economic openness and trade integration.
4. Risk-sharing mechanisms, such as fiscal transfers.
5. Homogeneous economic preferences among members.
6. Solidarity to ensure political and social cohesion.

Labour Mobility (Mundell Criterion)

- Labour mobility mitigates the impact of asymmetric shocks.
- Workers must move to regions with job opportunities.
- In Europe, mobility is limited by language, cultural differences, and institutional barriers.
- Compared to the United States, intra-European labour movement remains low.

Summary of Benefits and Costs

1. Currency unions enhance trade, investment, and monetary stability.
2. However, they impose costs, such as the loss of monetary policy autonomy.
3. Optimum Currency Area theory provides a framework to assess these trade-offs.
4. Europe meets some OCA criteria but falls short on others, posing challenges for the Eurozone's stability.

Production Diversification (Kenen Criterion)

1. Countries with diversified production are less likely to face severe asymmetric shocks.
2. Specialization in a narrow range of goods increases vulnerability to external demand shocks.
3. For example, economies relying on tourism or agriculture may suffer disproportionately from global changes.
4. Diversification reduces risks and makes economies more resilient in a currency union.

Openness (McKinnon Criterion)

- Highly open economies benefit more from fixed exchange rates or currency unions.
- Trade between members reduces the importance of exchange rate adjustments.
- Price flexibility within integrated markets can substitute for exchange rate changes.
- Countries with significant trade ties form stronger candidates for currency unions.

Insurance through Transfers

1. Fiscal transfers act as insurance against asymmetric shocks within a currency union.
2. Member states contribute to and benefit from a shared fund during crises.
3. Transfers provide temporary relief, allowing economies to stabilize.
4. Risks of "moral hazard" arise if transfers encourage poor economic policies.

Homogeneous Preferences

- Shared economic preferences are critical for effective decision-making in a currency union.
- Countries must align on monetary policy goals, such as inflation control or employment focus.
- Diverging national preferences can lead to conflicts and inefficiencies.
- A high degree of economic and political consensus is necessary for long-term success.

Solidarity vs. Nationalism

1. Currency unions require a sense of shared destiny among member states.
2. Solidarity involves accepting costs to support struggling members during crises.
3. Nationalist tendencies can undermine cooperation and long-term stability.
4. Political commitment to integration is essential for overcoming asymmetric shocks.

Is Europe an Optimum Currency Area?

- Europe meets some OCA criteria, such as strong trade ties and integration.
- However, it falls short in labour mobility and fiscal transfer mechanisms.
- Asymmetric shocks remain a significant challenge for the Eurozone.
- The degree of economic diversity among member states complicates stability.

Challenges for Europe

1. Labour mobility across EU countries is limited by language and cultural barriers.
2. Fiscal policies remain primarily national, limiting risk-sharing mechanisms.
3. Divergent economic structures create imbalances within the currency union.
4. Political tensions undermine collective solutions to crises.

Eurozone Crisis Overview

- The Eurozone crisis exposed vulnerabilities in the currency union.
- High public debts, banking crises, and economic divergences fueled instability.
- Lack of fiscal integration delayed effective responses to the crisis.
- The crisis highlighted the need for stronger economic governance.

Policy Recommendations

1. Enhance fiscal transfers to manage asymmetric shocks more effectively.
2. Increase labour mobility through education and mutual recognition of qualifications.
3. Promote greater economic convergence through structural reforms.
4. Strengthen political cohesion to address shared challenges.

Long-Term Outlook for the Eurozone

- The Eurozone has potential for greater integration and resilience.
- Reforms in governance, fiscal policy, and labour markets are essential.
- Economic convergence will reduce asymmetries and strengthen stability.
- Political commitment to solidarity is crucial for long-term success.

Conclusion

- Optimum Currency Area theory provides a framework to assess the trade-offs of currency unions.
- While Europe has achieved significant integration, challenges remain in labour mobility, fiscal policies, and economic convergence.
- Continued reforms and political commitment are essential for the Eurozone's future success.