

Economics of Monetary Union

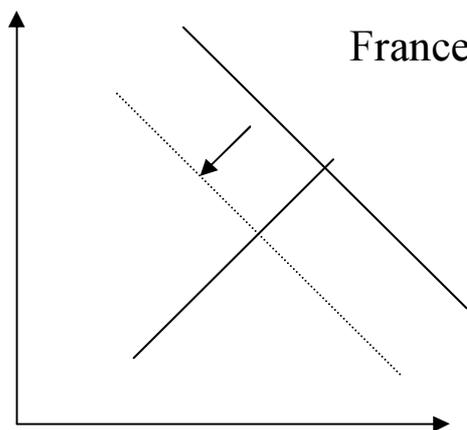
Paul De Grauwe (2000). “Economics of Monetary Union”

- What the economic costs and benefits of having one currency?
- Where should the Process of Monetary integration stop?
- How is the European Central Bank (ECB) designed to conduct a single monetary policy?
 - How does the ECB make a choice between the different targets a central bank should pursue?
 - What are the most appropriate instruments to achieve these targets?
 - Can the ECB deal with financial crises and how?
 - How should the ECB react to different business cycle developments in Euroland?
 - What are the relations between monetary and budgetary policies?

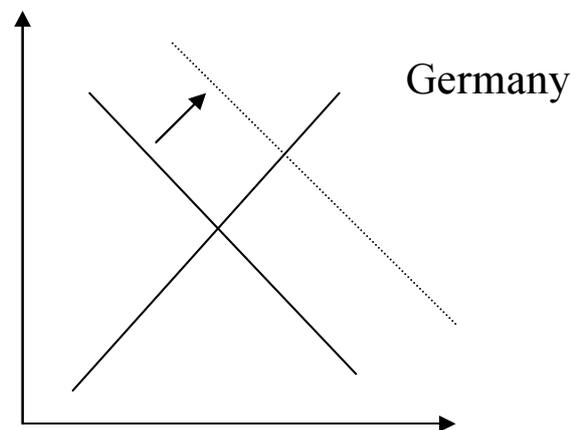
The Costs of a Common Currency

A nation joining a monetary union will not be able any more to change the price of its currency by devaluation or revaluation, or to determine the quantity of the national money in circulation.

- **Shift in Demand**



Production decreases
Unemployment grows
Prices falls



GDP growth
Lower rate of unemployment
Inflation

Economic adjustment

1. Price flexibility

- French goods would become less expensive and international demand will grow

2. Wage flexibility

- wage in France would become lower which would reduce production costs and make supply more competitive

3. Flexible unemployment and labour mobility

- Unemployed workers would move from France to Germany. This will stabilise employment, wages and prices

4. Devaluation of French currency

- made French goods more attractive in international market without changes in prices or wages or reallocation of labour (not available for Monetary Union)

5. Inter-budget subsidy

- German authorities could increase taxes and reduce aggregate demand in Germany
- and transfer tax revenue to France, which will increase aggregate demand in France

Regional redistribution is a common practice in many countries, including Germany. This measure is only suited to dealing with temporary shocks

Different preferences of countries about inflation and unemployment

Philips curve is a negative relation between inflation and employment

- Italy may prefer higher inflation and lower unemployment
- Purchasing power parity condition

$$\dot{e} = \dot{p}_I - \dot{p}_G$$

If PPP is satisfied the competitiveness is maintained

Italian authorities may have to accept less inflation and more unemployment

This may lead to shift in Italian Philips curve due to the decrease in expectations of inflation

Difference in labour market institutions

- The centralisation of labour Union
 - External shocks lead to different effects on domestic prices and wages
 - More centralised bargain leads to lower increase in wages as the reaction on positive shocks in demand. Centralised unions take care about externalities and price reaction on increasing wages.
 - If labour unions are very decentralised wage increasing demand will affect firm competitiveness and reduce employment. Therefore the union may exhibit a considerable degree of wage restraint.

Countries with different labour market institutions may find it costly to form a monetary union. With each supply shock, wages and prices in these countries may be affected differently, making it difficult to correct for these differences when exchange rate is irrevocably fixed.

Difference in Financial Systems

- Mortgage rate
 - fixed
 - floating

An increase of the interest rate by European Central Bank is transmitted very differently across the member states of the monetary union

- The development of capital market is very different
 - GB: Firms tend to directly to the capital market
 - if interest rate increase lowers stock and bond prices, so that the wealth of consumers is likely to decline
 - Germany: Firms attract financial resources mainly through the banking system
 - A sufficiently high increase in interest rate will induce banks to start credit rationing

Different fiscal systems and the seigniorage problem

- Different combination of debt and monetary financing of the government budget deficit

$$G - T + rB = dB + dM$$

G- non-interest expenditure

B - government debt

T- tax revenue

M- Monetary base

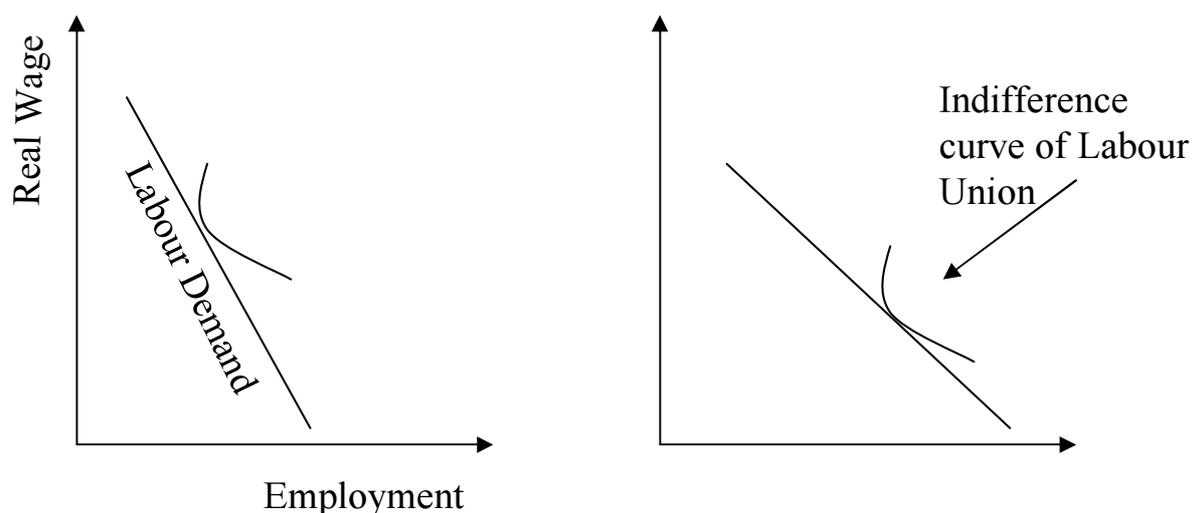
- Countries with less developed tax system will find it more advantageous to raise revenue by seigniorage
- those have to increase taxes after joining the monetary union, which will reduce welfare

How relevant are the differences between countries?

- The trade will become more intra-industrial
 - Different shocks in demand occur less frequently
 - Both Spain and Germany import cars from each other
 - Firms in same industry operates developing their core competence
 - The shocks will be more symmetric in a monetary union
- Increase in specialisation may lead to regional industrial concentration and asymmetric shocks
 - It is confirmed by comparison of industrial concentration in USA and Europe
 - Industry specific shock may become country specific
 - Industry may become concentrated in close geographical area rather than in one country
 - Empirical study concludes that a closer trade linkage between two countries is strongly and consistently associated with more tightly correlated economic activity between the two countries
- But the changes in fiscal policy may create a permanent shifts in national demand and supply curves.
 - Further integration and the co-ordination of fiscal policies may solve this problem

Institutional differences in Labour Market

Same monetary policy and co-ordination of fiscal policies may change trade unions.



Government policy may change labour demand:

Monetary: may stimulate employment by monetary expansion

Fiscal: Create new jobs in public sectors

- Inside the Monetary Union Labour demand curves should be more similar
- Similar policy environment may make closer the organisation structures and the preferences of labour unions

Different legal systems and financial markets

- Some of the differences are explained by different monetary policies
 - Higher inflation make investor more reluctant to buy long term bonds
 - the long-term bonds are rarely exist in high-inflation country.
 - The Government debt has a very short term structure and very vulnerable to the changes in interest rate
 - Banks have to invest in more risky projects and face adverse selection problem
- Those differences will be eliminated in Monetary Union.
- Other differences, e.g. in legal system, can only be brought about by further political integration

Moral Hazard in Banking Sector

Rate charged on loans, r

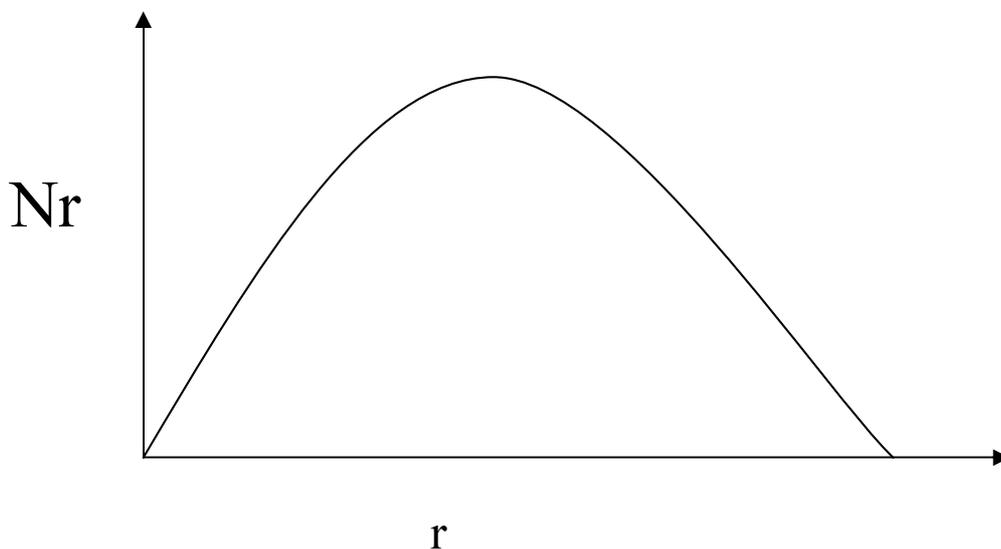
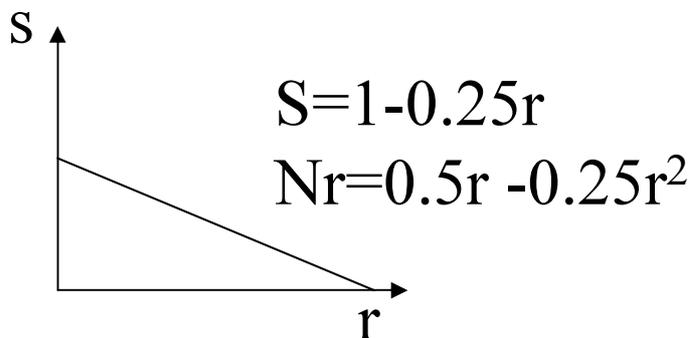
Lenders net return, Nr

Share of successful projects, s

$$Nr = (1+r)s - (1-s) - 1$$

s depends on r , $s = s(r)$

- if r is high only risky projects will be run



Nominal and real depreciation

- Whether nominal exchange rate change can permanently alter the real exchange rate?
 - shift in supply
 - Devaluation raises the price of imported goods
 - Worker may ask for compensation, which would raise wages
 - Increase in prices and decrease in output
 - Real exchange rate will increase and domestic goods will loss competitiveness
 - Devaluation destroys creditability in Domestic currency.
 - Reduces saving rate
 - increases interest rate
 - increases inflationary expectations

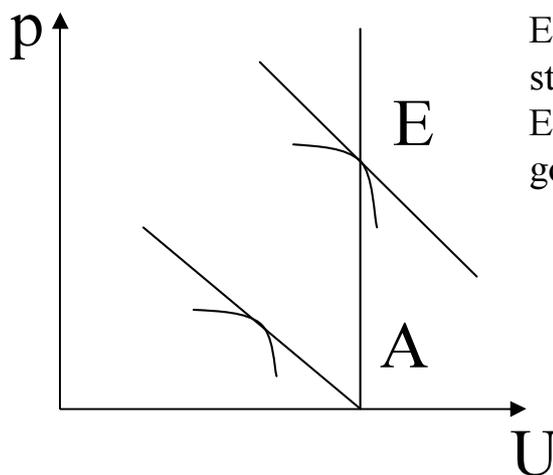
Devaluation, Time consistency and Credibility

Philips curve

$$U = U_N - \alpha(\dot{p} - \dot{p}_e)$$

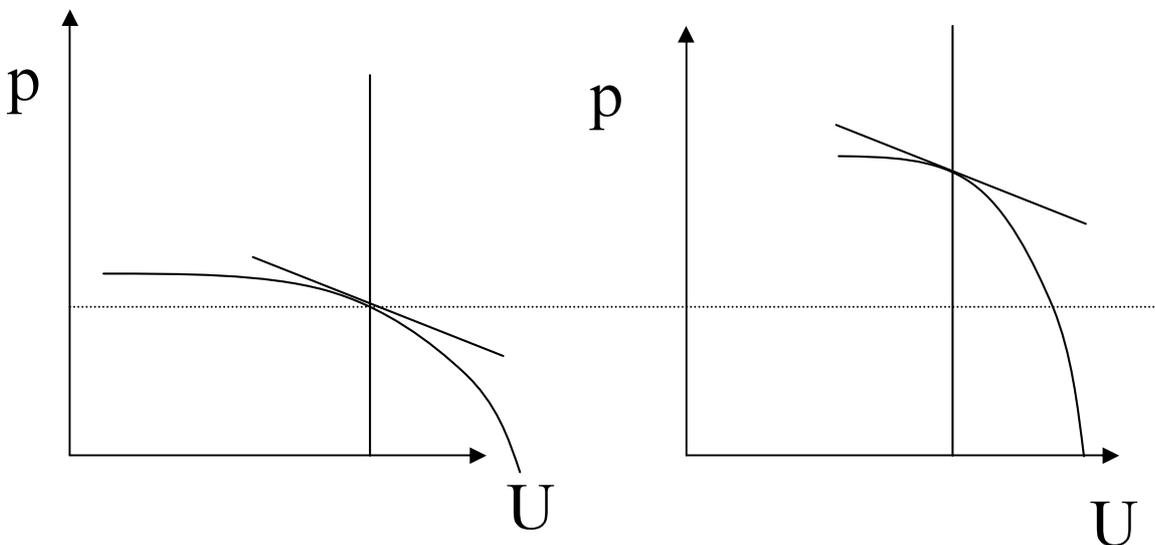
\dot{p} - inflation

U - unemployment

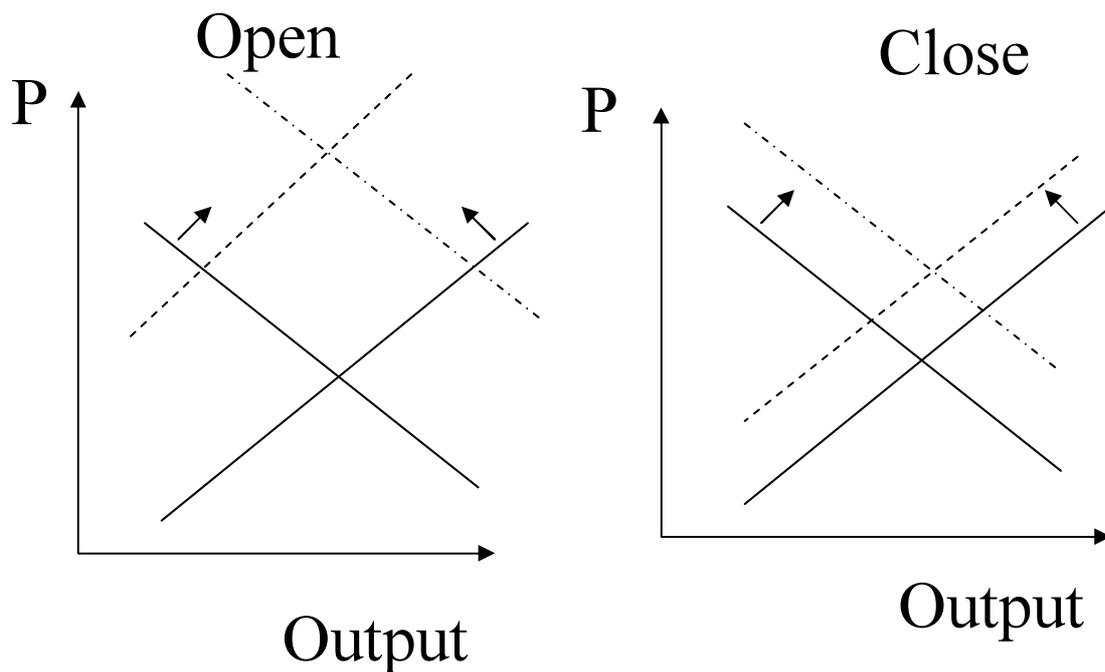


E - is the only equilibrium in static game
 Equilibrium inflation depends on government preference
 the flatter the indifference curve the lower inflation

Two countries



The cost of devaluation and the openness of country



- Shift in demand (up) from other countries, for them it became cheaper. Import substitution would also take place.
- Shift in supply (down) because input may be imported and would become more expensive.

Conclusion: Inflation would be higher in more open country.

The benefit of Common Currency

- Less uncertainty in prices
 - People are risk averse
 - Interest rates are higher, investment are lower...
 - Moral hazard: very risky investment
 - Adverse selection: only very risky project are financed
- Direct gain from the elimination of transaction cost
 - Currency Exchange commission is about 0.5% of GDP
 - 5% of banks' revenue
- Reduction of price discrimination
 - Price discrimination can take place only if there is some transaction costs for resale
- Size of Monetary Union and Currency strength
 - USD is used for many foreign transactions
- Forcing Cooperation

Exchange rate policy

- How CBR supports ER
 - By buying and selling currency on currency exchange
 - If shock is temporary the government reduces uncertainty
 - If it is permanent, CBR will just spend up its foreign resources (currency , assets, gold)
- Currency peg
 - For whole domestic currency, CBR has coverage.
 - This policy sustainable
 - But may lead to deflation and GDP fall

Stabilization

- Inflation
 - High inflation in a member country may reduce creditability to the Union policy
- Fiscal policy
 - Deficit (3% of GDP)
 - debt (60% of GDP)
 - Should be financing, no seigniorage are available
 - The only possibility to rise interest rate
- Interest rate
 - Interest parity condition should be satisfied, interest rates have to be equal (adjusted for risks and transaction costs)

Problems

- Debt default expectations
- Regional transfers
- Adjustments: prices for non-tradable goods (Housing)
- Coordination of Fiscal policies