A Brief History of European Monetary Arrangements

EC329 – Economics of the European Union
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Overview

• So far, have covered three broad areas
  – EU history and institutional arrangements (lecture 1)
  – The microeconomics of European integration (lectures 2-4)
    • Effects of European integration on industrial restructuring and economic growth (lectures 2-3)
    • Labour market effects of European integration (lecture 4)
  – EU policies (lectures 5-6)
    • The Common Agricultural Policy
    • Trade Policy
    • Regional Policy
• Now turn to the ‘macroeconomics of EU integration’ (basically: monetary integration):
  – A brief history of monetary arrangements in Europe
  – The theory of optimum currency areas
  – EMU and the Stability and Growth Pact
Plan of Talk

• Monetary arrangements and institutions in Europe before 1973 (end of the Bretton-Woods era)
• Early attempts at stabilising exchange rates after 1973
• The European Monetary System (EMS)
  – Setup and functioning
  – Problems
  – From EMS to EMU
A Brief Monetary History of Europe
Before 1973
Before WWI

• Until the 19th century, money was almost exclusively metallic (mainly gold and silver)
• There were many more currencies than today but their value was basically determined by their metal content
• With the arrival of the modern nation-state
  – Money and countries started to be identified with each other
  – Paper money came to dominate but was fully backed by gold reserves (‘full gold convertibility’, gold was in effect the common currency of most of the world → an early monetary union)
  – Period 1880-1914 is called the ‘Classic Gold Standard’
• Gold Standard was suspended with start of the First World War
  – Shipping of gold became too dangerous
  – Gold backing abandoned to finance war efforts by printing paper money
The Interwar Period

• Countries attempted to revert back to the gold standard
• But no agreement on how to set conversion rates to gold (and thus exchange rates)
• Three case studies:
  – The British case: a refusal to devalue an overvalued currency breeds economic decline (loss of competitiveness, protracted deflation)
  – The French case: devaluation, under-valuation and beggar-thy-neighbour policies, until others retaliate and the currency becomes overvalued
  – The German case: hyperinflation (1922), new currency (1924), refusal to devaluate in the 1930s and finally introduction of currency controls and a system of managed trade
Lessons from the Interwar Period

• Exchange rate misalignments created huge problems (recession, beggar-thy-neighbour policies …)
• Rigid adherence to fixed parities brought economic crisis
• Lack of international cooperation led to ‘devaluation-races’ and the collapse of international trade (together with rising tariff barriers)
• Absence of ‘lead currency’ was part of the problem
The Post-War Years until 1973

• Bretton Woods conference in 1944. Established the post-war international monetary order:
  – U.S. dollar became lead currency: dollar tied to gold at a fixed rate, all other currencies tied to the dollar
  – Exchange rates were fixed but adjustable to avoid major misalignments
  – International Monetary Fund (IMF) was guardian of this system
    • Approve exchange rate realignments
    • Provide loans to countries to fight off speculative attacks and prevent frequent devaluations

• The end of Bretton Woods came in 1973
  – Mounting US budget deficit in the 1960s (Vietnam, social security)
  – Partly financed by printing money → inflation, pressure on US dollar
  – First devaluation in 1971, followed by wave of realignments
  – Gold convertibility of USD finally abandoned in 1973, move to flexible exchange rates
Europe after Bretton Woods
Early Stabilisation Attempts

- Memories of the inter-war troubles led to attempts to stabilise exchange rates in Europe without Bretton Woods.
- Policy makers agreed to try to limit bilateral fluctuations to a maximum of 4.5% around a fixed rate.
- But inflation rate differentials across member countries in the 1970s proved too big to prevent devaluations:
  - France, Italy and the UK had double-digit rates of inflation (UK over 20% in 1975-1980).
  - Germany, the Netherlands and Belgium had rates below 10%.
  - The Franc, Lira and Pound thus became relatively less valuable and their exchange rates deteriorated (figure).
Early Stabilisation Attempts

Dollar exchange rates. Source: IMF
The European Monetary System

• Failure of early stabilization attempts led the establishment of the European Monetary Union (EMS) in 1979
  – As before, grid of bilateral fixed exchange rates
  – But also possibility for regular realignments …
  – … and commitment for bilateral support (i.e. from both parties involved in a given exchange rate pair)
  – Initial members: Belgium, Denmark, France, W. Germany, Ireland, Italy, Netherlands

• But inflation differentials continued to put pressure on exchange rates (e.g. Italy – W. Germany >10% per year)
  – Alignments therefore frequent and predictable
  – Led to speculative attacks and turmoil on currency markets around predicted devaluation dates
  – In response, members tried to reduce inflation differentials; started emulating W. Germany (largest member, lowest inflation)
The European Monetary System

• Despite some initial successes, full convergence of inflation rates never achieved

• German Reunification triggered major crisis in 1992-93
  – Reunification followed by strong increase in inflation in Germany (1:1 conversion of East Germany’s money, wage increases)
  – Bundesbank tightened monetary policy in return, raising interest rates and thus putting upward pressure on the Deutschmark
  – Other EMS members wanted to prevent depreciation vis-à-vis the Deutschmark, also tightened monetary policy
  – But inappropriate for their economic climate, deepened ongoing recession
  – Markets loose confidence in bilateral commitments, speculative attacks start on Lira and Pound (UK had only joined in 1990)
  – Initial support by other central banks but abandoned in 1992 → UK and Italy left the EMS, remaining parities widened to +/-15%
From EMS to Monetary Union

- EMS thus substantially weakened but still alive
- In the meantime, Treaty of Maastricht had been signed and ratified (1991-1993) which foresaw establishment of a monetary union
- Why was the introduction of the Euro relatively easy?
  - End of capital controls in 1990s had severely limited power of central banks to fight speculative attacks. Full monetary union would end these problems.
  - All EMS members were following the Bundesbank, so had effectively already given up independent monetary policies
  - Germany only country which lost this independence but backed EMU on political grounds
From EMS to Monetary Union

• EMS became entry point to the Euro
  – Membership for two years required prior to joining the EMU
  – After 1999, EMS transformed into EMS-2 (parities with the Euro rather than bilateral ones)
  – Membership in EMS-2 remains precondition for joining EMU (e.g. Denmark, Estonia, Lithuania, Cyprus, Latvia, Malta are all members)

• January 1999: EMU starts
  – Exchange rates frozen at EMS parities
  – Monetary policy transferred to ECB
  – Founding members: Belgium, France, Italy, Netherlands, Portugal, Germany, Spain, Ireland, Luxembourg, Austria, Finland

• January 2002: Introduction of Euro coins
Learning Outcomes

• European monetary arrangements/institutions before 1973:
  – Pre-Bretton Woods
  – Bretton-Woods era

• Post-Bretton Woods arrangements:
  – Early stabilisation attempts
  – The European Monetary System (EMS): setup and functioning, problems

• From EMS to EMU
  – Why was introducing the Euro relatively unopposed?
  – The key dates
  – EMS-2
The Theory of Optimum Currency Areas

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Plan of Talk

• Optimum currency areas: Introduction
• The optimum currency area criteria
• Is Europe an optimum currency area?
• Will Europe become an optimum currency area?
• Summary and Learning Outcomes
Optimum Currency Areas:
Introduction
The Basic Question

• Usually, currency area borders coincide with national borders.
• But this does not necessarily have to be the case. So how to delineate currency areas? What economic criteria should be used?
• Answer these questions by looking at
  – Benefits of joining a currency area
  – Costs of joining a currency area (asymmetric shocks)
Benefits and Costs of Currency Unions

• The main benefits of currency unions are
  – Elimination of currency exchange costs (can be up to 10% of transaction values)
  – Elimination of risk on the evolution of exchange rates
  – Increased price transparency increases cross-border competition
  – Better monetary discipline and price stability?
  – First three benefits clearly increase with the size of the currency union

• The costs of monetary union are the loss of monetary and exchange rate instruments (two sides of the same coin)

• This matters in the presence of
  – price and wage stickiness
  – asymmetric shocks
Adjustment to Demand Shocks

- Start with a symmetric shock
- Shifts world demand curve for domestic goods inwards
- Adjustment via
  - Prices or wages
  - Exchange rates
Symmetric Shocks

- Same demand shock in two similar countries that share the same currency and, therefore, exchange rate.
Asymmetric Shocks

- Suppose A hit by a negative demand shock but not B
- Consequences (see figure):
  - Central bank depreciates: A okay but B faces excess demand
  - Central bank does nothing, B okay, A faces excess supply
  - Reaction in between these extremes or with floating exchange rates: might land at \( \lambda_2 \)
- In the long-run, will get back to equilibrium but …
  - If no full adjustment, A will experience a recession (excess supply, reduction in output and employment, falling wages and prices)
  - Similarly, B faces period of accelerated inflation
- Note: symmetric shocks can have asymmetric effects
  - Due to differences in production structure, labour markets etc. across countries
Asymmetric Shocks
The Optimum Currency Area Criteria
The Optimum Currency Area Theory

• The Theory of Optimum Currency Areas (OCAs) proposes criteria which tell us about the potential costs of sharing a currency.

• In particular, these criteria ask:
  – What reduces the incidence of asymmetric shocks?
  – What makes it easier to cope with shocks when they occur?

• Six main criteria:
  – Three economic criteria (labour mobility, product diversification, openness)
  – Three ‘political’ criteria (fiscal transfers, homogenous preferences, solidarity vs. nationalism)
Labour Mobility (R. Mundell)

• Robert Mundell: OCAs are areas in which people move easily. Why?
  – Reconsider the asymmetric demand shock to country A (figure)
  – If labour moves from A to B, this will equilibrate excess demand and supply (shift in the supply curves)

• Potential problems
  – Barriers to movement (legal, cultural, linguistic …)
  – Differences in product mixes requires retraining of workers (takes time)
  – Increase in labour supply decreases labour productivity until new capital accumulates (also takes time)
Production Diversification (Kenen)

- Peter Kenen: Countries whose production and exports are widely diversified and of similar structure form an OCA.
- Focuses on what determines frequency and severity of asymmetric shocks. Idea:
  - If countries are very similar, asymmetric shocks will be rare.
  - Many shocks tend to be sector specific (e.g., a decline in world market prices for a certain good). If a country is well diversified, a shock has little aggregate consequences.
Openness (McKinnon)

• Ronald McKinnon: Countries which are very open to trade and trade heavily with each other form an optimum currency area

• Provides another determinant for how frequent and severe asymmetric shocks will be. Idea:
  – If two countries are very well integrated and trade mostly with each other, exchange rates do not matter very much for relative prices. Why?
    • Deep integration means strong competition b/w firms
    • Tough competition means prices will adjust as soon as the exchange rate changes (e.g. $E_A$ up implies $P_A$ down, so $E_A P_A$ remains unchanged)
  – In effect, integration has made prices (of traded goods) more flexible, so adjustment can happen via prices (figure)
Fiscal Transfers

• Transfer criterion: Countries that agree to compensate each other for adverse shocks form an OCA

• Idea:
  – Assume country A is hit by an asymmetric demand shock
  – If country B agrees to help A by fiscal transfers, extent of shock will be smaller (e.g. b/c of increased government spending)
  – How would this show up in our diagram? (figure)

• Such transfers are actually in operation in most countries
  – Implicitly through the welfare system
  – Explicitly in many federal countries (Switzerland, Germany …)
Homogeneous Preferences

- Homogeneity of preferences criterion: countries that share a wide consensus on the way to deal with shocks form an OCA
- Matters primarily for symmetric shocks. Idea:
  - Many possible reactions to a given symmetric shock
  - Consensus on best reaction is important for survival of CU
Solidarity vs. Nationalism

- Solidarity criterion: Countries that show a high degree of solidarity to each other form more stable currency unions.
- A common currency will always face occasional asymmetric shocks that result in temporary conflicts of interests.
  - These conflicts will often follow national lines.
  - A higher degree of solidity will lead to more tolerance towards the resulting costs (and a higher willingness to help out, e.g. via transfers).
Is Europe an Optimum Currency Area?
Is Europe an Optimal Currency Area?

• OCA criteria rarely yield a black-and-white answer
  – Mostly some criteria are fulfilled and some are not
  – Not always clear whether a given criterion is met
  – Also hard to quantify the importance of the criteria. So not clear how to weight and compare them.

• Thus, careful analyses can easily come to opposite outcomes

• In the following, consider whether and to what degree Europe fulfils the OCA criteria
Frequency of Asymmetric Shocks

- Source of problems with OCAs are asymmetric shocks
- So how frequent are they in Europe?
  - Assume past shocks can be used as guide to future shocks
  - Use exchange rate movements against Deutschmark as indicator
    - Countries use ER to offset shocks
    - Deutschmark was the most stable currency in Europe
    - But need to control for changes due to inflation differentials
      - See BW, p.360, footnote 7 for details of index calculation
      - Substantial variation across countries (figure)
- Another aspect of asymmetry are different responses to an identical shock
  - Look at monetary policy shocks (changes in the interest rate)
  - A one percentage point increase has very different effects (figure)
- Overall, asymmetric shocks are a concern in the Euro area
Frequency of Asymmetric Shocks

Based on standard deviation of exchange rates against Deutschmark.
Source: Bayoumi and Eichengreen (1997)
Asymmetric Response to Symmetric Shocks

Effect on GDP (percentage points)

Effect on prices (percentage points)

SOURCE: Angeloni et al. (2002).
Openness

- McKinnon criterion states that independent exchange rates are less valuable for open economies.

- How to measure openness? Two approaches:
  - Trade as a percentage of GDP
    - Ratio of exports to GDP or ratio of imports to GDP
    - Here: take average of the two
    - Figures indicate most European countries are relatively open (table)
  - How do domestic prices respond to exchange rate movements?
    - If one-to-one pass-through, exchange rate useless for competitiveness (price change offsets exchange rate change)
    - Generally, open countries also have high pass-through (figure)

- Openness criterion fulfilled in Europe.
## Openness: Trade/GDP

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Table shows average of (imports/GDP) and (exports/GDP). Source: European Economics, Spring 2005
Openness: Exchange Rate Pass-Through

Diversification & Similarity

• Kenen criterion: OCA countries should be well diversified and have similar production/trade patterns
• Diversification generally high in Europe (exceptions include Norway, maybe Luxembourg)
• Similarity: look at trade similarity
  – How dissimilar is trade in agriculture, minerals and manufacturing to that of Germany (Europe’s largest economy)?
  – Shows most countries are fairly similar but there are exceptions (figure)
• Overall, Kenen criterion largely fulfilled
Trade Dissimilarity

Source: Bayoumi and Eichengreen (1997)
Labour Mobility

• Labour mobility hard to measure
  – Need a measure for when it would be ‘rational’ to move
  – But this depends on a host of factors (e.g. moving costs, risk of becoming unemployed, longer run career opportunities, family prospects, eligibility to welfare, cultural/linguistic differences …)

• Feasible approach is to compare the EU to existing, well-functioning currency areas (e.g. USA, Canada)
  – Cross-country labour mobility in the EU is low, even worse for intra-EU mobility (figure)
  – Even within-country (cross-regional) mobility is low in the EU (figure); and only 5% of people move for professional reasons
  – Immigration from outside the EU also lower than e.g. in USA

• In summary, EU doesn’t fulfil the labour mobility criterion
Cross-Country Labour Mobility

Foreign-born population as percentage of total population, 1998. Source: DICE, CESifo.
Within-Country Labour Mobility

Internal migration across regions as a percentage of total population, 1995.
Source: OECD.
The Political Criteria

• Fiscal transfers criterion: clearly not fulfilled
  – No direct transfers to offset asymmetric shocks
  – EU budget relatively small (1% of GDP) and spending not at all linked to occurrence of shocks

• Homogeneity of preferences: partly
  – Differences in past inflation rate and budget deficits suggest very different preferences for monetary and fiscal policy
  – But EU and in particular EMU has set up institutions that embody clear preferences (price stability, fiscal prudence)

• Solidarity vs. nationalism: ???
  – Very hard to know
  – Opinion polls suggest most EU citizens (around 60%) would favour a closer political union
  – But large variation across countries (from 35% in UK to 75% in Slovenia)
Will Europe Become an Optimum Currency Area?
Will Europe Become an OCA?

- As seen, Europe fulfils OCA criteria only partly
- But what about the future? Does the simple existence of monetary union make Europe increasingly an optimum currency area?
- Look at four of the six criteria
  - Trade integration (McKinnon criterion)
  - Diversification and similarity (Kenen criterion)
  - Labour mobility (Mundell criterion)
  - Fiscal transfers
Will Europe Become an OCA?

- Do currency unions increase trade? Probably yes → McKinnon criterion improved
  - Exporters and importers save on currency exchange costs
  - Elimination of risk on the evolution of exchange rates
  - Increased price transparency increases cross-border competition and trade

- If currency unions deepen trade integration, this is likely to lead to more, not less, specialisation (see lecture 6) → Kenen criterion worsens
Will Europe Become an OCA?

- Costs of labour market inflexibility increase with CU
  - Reforms to increase labour mobility across countries? Unlikely
  - Reforms to reduce wage rigidity? Maybe
  - Recent reforms seems to point towards more flexibility (but not clear this is linked to the Euro)
  - Effect on Mundell criterion unclear

- Fiscal transfers
  - At present no political support for increased transfers
  - But recurrent proposals to change this → fiscal transfer criterion might be better fulfilled but again uncertain

- Overall, not clear whether EMU will improve fulfilment of OCA criteria
Learning Outcomes

• Costs and benefits of currency unions
  – What are the main costs and benefits?
  – What is the role of asymmetric shocks?

• What are the optimum currency area criteria?

• To what extent are they fulfilled in Europe?

• Europe’s future as an optimum currency area
  – Why could simple EMU membership improve OCA criteria?
  – What is the evidence for Europe?