

Lecture 15: The ERM Crisis of 1992

I. OVERVIEW

- In the last lecture, we examined the evolution of the international financial system after the collapse of the Bretton Woods agreement. We found that overall there was a greater tendency to move towards flexible exchange rates among the countries of the world. However, this was certainly not true within the European countries: from the late 1970's they were trying to limit intra-European exchange rate fluctuations.
- The European Union (EU), or the European Community (EC) as it was then known began with 6 member countries: France, Germany, Italy, the Netherlands, Belgium and Luxembourg and has since added 9 more members: Spain, Portugal, the U.K., Ireland, Greece, Austria, Denmark, Sweden and Finland.
- From 1979 until the early 1990's the EU member countries formed a joint system for coordination of monetary and exchange rate policies: the European Monetary System (EMS). Note that the EMS is the precursor to the more recent European Monetary Union (EMU), which we will study in more detail later.

II. THE EUROPEAN MONETARY SYSTEM: A BROAD DESCRIPTION

- The EMS consisted of two major components: the creation of an artificial unit of account named the European Currency Unit (ECU) and a fixed exchange rate system known as the ERM (Exchange Rate Mechanism).
- The ECU was only a unit of account and not a medium of exchange. That is to say that there were no ECU notes or coins issued and used to conduct transactions. It was merely an accounting unit, constructed as a fixed basket of European currencies.
- Only 11 of the 15 EU member countries belonged to the ERM.

Members of the European Union	Members of the ERM
1. Austria	1. Belgium
2. Belgium	2. Denmark
3. Denmark	3. France
4. Finland	4. Germany
5. France	5. Ireland
6. Germany	6. Italy
7. Greece	7. Luxembourg
8. Ireland	8. The Netherlands
9. Italy	9. Portugal
10. Luxembourg	10. Spain
11. The Netherlands	11. The United Kingdom
12. Portugal	
13. Spain	
14. Sweden	
15. The United Kingdom	

- There are 3 main goals that are usually attributed to the EMS.
 1. Enhancing the importance of Europe in the global economy: As our discussion of Bretton Woods and the events leading up to its collapse showed, European nations had lost confidence in the ability of the U.S. to take the monetary policy leadership. The EMS was a way for the EU nations to handle some of their monetary concerns amongst themselves rather than relying on a worldwide system.
 2. To create a unified Europe: The goal was to eliminate all barriers to the movements of trade and capital across the European countries. The Europeans believed that exchange rate uncertainty remained a huge obstacle to intra-European trade and a system of fixed exchange rates would facilitate the flow of goods and services across countries.
 3. To improve the functioning of the Common Agricultural Policy (CAP) an elaborate system of price supports for agricultural goods within the EU. Since 1979, the CAP specified prices for agricultural goods in terms of the ECU. Suppose the price of milk was set at 1 ECU per gallon. If the current exchange rates were 5 FF per ECU, and 2 DM per ECU then French dairy farmers would receive 5 FF per gallon of milk while German dairy farmers received 2 DM per gallon. By keeping the FF and the DM fixed against the ECU, exchange rate fluctuations wouldn't affect real incomes across ERM countries.
- The ERM was essentially a managed float exchange rate system where the currencies of participating countries were allowed to fluctuate within pre-specified bands. Of the countries that were members of the European Monetary System only those willing to commit to the exchange rate bands were said to belong to the Exchange Rate Mechanism.
- There were 8 original participants in the ERM: France, Germany, Italy, Belgium, Denmark, Ireland, Luxembourg and the Netherlands. Other countries, Spain (1989), Britain (1990) and Portugal (1992) joined at subsequent times.
- Central exchange rates for each currency against the ECU were established. Initially, the plan was to allow a fluctuation band of 2.25% for most currencies against this central rate. The Portuguese escudo and the Spanish peseta were allowed to fluctuate around a broader band 6% while the Italian Lira has the broader band until 1990 at which point it switched over to the narrower band.
- Member countries had to intervene to make sure that their currencies stayed within the prescribed band. So if the French Franc was reaching the top of the Franc/ECU band then the French Central Bank had to intervene and buy Francs in order to make sure that it did not move outside the band.
- Since the ECU is a fictitious accounting unit, the system effectively turned into a system where the bands were maintained with respect to the most stable currency of the group, the German Mark. Effectively we can think of the ERM as being a system where the exchange rates of all countries were allowed to fluctuate in a band around the mark.
- The mark became the unofficial reserve currency so when the French government was intervening to buy francs it would effectively be selling marks in exchange for francs. The ERM also had a built in lending mechanism to prevent crises from happening: the German Bundesbank is supposed to lend DM to France if France needed to shore up its currency.

III. THE DOMINANT ROLE OF GERMANY IN THE ERM

- Effectively, the role of Germany within the ERM is similar to that of the U.S. within Bretton Woods. Since there are only N-1 exchange rates among the N countries, Germany becomes free to set monetary policy for itself while the other countries have reduced control over monetary policy since they have to hold reserves and intervene when the exchange rate got too close to the edge of the band.
- One argument for why this system was chosen is the greater credibility of the German Bundesbank. Some European countries would actually benefit by ceding control of their monetary policy since their Central Banks were not very good at keeping inflation under control.
- For example, the Italian Central Bank would not do as good a job fighting inflation with an independent monetary policy as Italy could achieve by fixing their exchange rate to the DM and allowing the Bundesbank to dictate the monetary policy decisions.
- Why was the Bundesbank so good at fighting inflation? The answer goes back to the hyper-inflations that plagued Germany between the World Wars. When the new central bank was established following the war, it was given an explicit mandate to root out inflation as its primary goal.
- So countries in which the mandate of the central bank is not so anti-inflationary or poorly designed may then benefit by tying their fortunes to a central bank that is deeply committed to rooting out inflation. This will also help in stamping out inflationary expectations in these countries and enable people to make long-term decisions with considerably less uncertainty.

IV. PROS AND CONS OF THE ERM

Pros

1. Exchange Rate Stability - Theoretically, countries would have to minimize the size of exchange rate fluctuation to be within a relatively narrow band which would reduce uncertainty and facilitate trade.
2. Better inflation performance from the increased credibility of tying monetary policy to the Bundesbank.
3. A step along the way to full European Monetary Union, by reducing the fluctuations of the currency and improving the coordination of monetary policy decisions among the member countries.

Cons

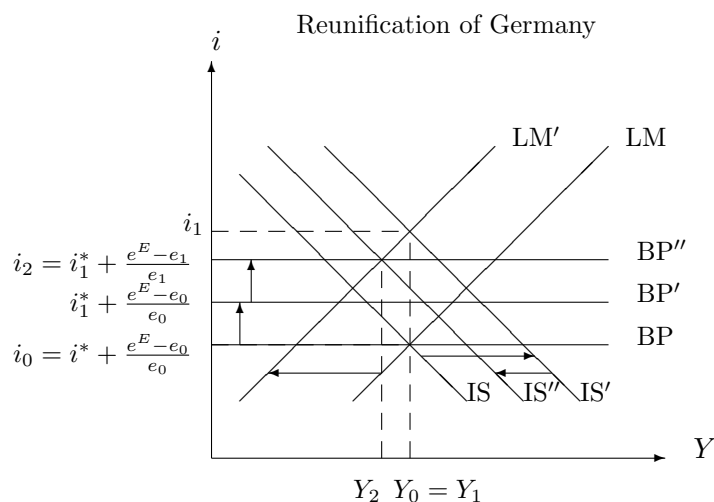
1. Asymmetric system.
 - The enhanced role of Germany works well for reducing inflation until one of two things occurs. a) The responsible central bank ceases to act responsibly (the U.S. under Bretton Woods) or b) The policy interests of Germany and the rest of Europe diverge dramatically. For example, if the German economy is growing too fast while the rest of Europe is suffering through a recession, decisions to cut back on German money supply will then put major pressure on the other currencies.

- In fact, the eventual demise of the ERM was related to a country specific shock that highlighted the problems of this type of system: the reunification of Germany. The fiscal and monetary policy decisions undertaken at the time by Germany led to a rise in German interest rates and pushed the currencies of the other member countries to the bottom of the fluctuations band.
2. Exchange rate uncertainty is enhanced rather than reduced by the ERM.
- For example, suppose the Lira is allowed to fluctuate in a band of 2.25%. Because the system was not a completely fixed exchange rate system, countries had some freedom to conduct monetary policy. Suppose that the Bank of Italy expanded the money supply and inflation in Italy started to rise.
 - This would lead to a fall in Italian interest rates and a depreciation of the lira against the mark and other currencies. However at some point, the lira would hit the band around which the Lira/Mark was allowed to fluctuate. At that point, the Italian Central Bank has to keep the exchange rate fixed: by buying Lira and selling Marks. This will cause the Italian Central Bank to run out of DM reserves and it would have to either devalue the currency or get more Marks from Germany.
 - If it chooses to devalue then a new central value for the currency is chosen and the exchange rate band is adjusted accordingly. So we end up substituting frequent, small movements for infrequent, large movements in the currency. When these “realignments” of the bands became likely, speculative activity heightened because there was money to be made by borrowing lira and exchanging them for Marks at the pre-alignment rate and paying back the lira borrowing after the realignment.
3. While EMS may have helped advance the political cooperation between EU countries, it may not have advanced the incentives for economic cooperation between countries.
- The events leading up to the eventual demise of the ERM may have convinced countries like the U.K about the inherent inequities of the asymmetric system and helped convince them of the virtue of having an independent monetary policy and a floating exchange rate.

V. GERMAN REUNIFICATION and ERM COLLAPSE

- The catalyst for the ERM crisis was the reunification of Germany in 1990, an event unprecedented in history for the amalgamation of a large, rich economy with a smaller economy with a much lower standard of living.
- In order to make this assimilation work, the West German government spent an enormous sum of money: almost half of all West German savings were transferred to the East and the government budget deficit rose from 5% to 13.2%.
- East German consumers largely spent the transfers on consumption; after all they had been deprived of most of the perks of capitalism for many years. Furthermore, the old East German Marks were converted to DM at a rate of roughly 1.8:1, far exceeding the value of the East German Mark. This meant that East German business owners could not sell their goods nor could they afford to pay their workers leading to a large scale economic shutdown in East Germany.

- Most of the demand for goods from the East Germans would therefore fall on West German made goods and the inflationary pressures started to build in the economy. In terms of our IS-LM analysis we would see substantial shifts out of the IS curve as G and C increased.
- Second, the growth of DM increased in 1990 as the central bank issued DM in exchange for East German Marks. By 1991, the Bundesbank was becoming very nervous about the prospects of high inflation in Germany and started pursuing contractionary monetary policy very seriously.
- The Bundesbank raised interest rates by almost 3% in the years 1991 and 1992. The combination of expansionary fiscal and contractionary monetary policy caused German interest rates to rise dramatically.
- We can show this using IS-LM analysis as follows: think of Germany as a large open economy with floating exchange rates vis--vis the rest of the world. There is a shift out of the IS to IS' and a shift in the LM curve to LM' raising interest rates to i_1 and raising world interest rates to i_1^* . My graph shows that output returns to the same level as it started out at as a result of these policies, a simplification.
- Since German interest rates are higher than in the rest of the world, there is an inflow of money into the German economy. This inflow causes the DM to appreciate and NX to fall. The IS curve moves back to IS'' and the BP shifts up to BP''. The process will continue until UIRP has been restored again..
- The critical feature is that interest rates rise both in Germany and in the Rest of the World, furthermore output in Germany falls.



Impact on Rest of Europe

- German and world interest rates rise following reunification. There is an outflow of money from Europe and ERM currencies like the lira and the peseta towards the bottom of their target zones.
- It also affected countries like Sweden and Finland that had stayed outside the EMS but chosen to fix their exchange rates to the DM perhaps in search of the anti-inflation credibility from the Bundesbank.

- We will use the U.K as an illustrative example of how the German economy was affecting its ERM partners. At the time, the U.K was in the worst recession since the end of WW II, with unemployment rates well in excess of 10%. In isolation, the U.K would have resorted to expansionary monetary policy to get out of the slump but they are handcuffed by the fixed exchange rate system.
- While this loss of autonomous policy was stifling the UK economy, things became much worse following the reunification process and the tightening of German monetary policy. Consider the following set of diagrams which models the U.K as a small open economy whose exchange rate is fixed to Germany.
- There are three impacts of the events in Germany on the United Kingdom. First, the fall in output in Germany results in fewer imports being purchased from elsewhere in the ERM (NX falls). Second the appreciation of the mark vis-a-vis non ERM currencies, implicitly makes the pound appreciate against those currencies as well - NX falls even more. The combined effect is to move IS in to IS'. Finally, the higher interest rates in Germany and the Rest of the World - the BP curve shifts up to BP'.
- Since the rate of return in Germany and the rest of the world is higher, there is a monetary outflow from the U.K. Under a fixed exchange rate system, an outflow of money leads to a monetary contraction as the central bank exchanges foreign currency for domestic currency. The monetary contraction shifts the LM curve back to LM' and output in the U.K economy falls to Y₂ as the slump deepens in the U.K. This will continue until external balance has been restored. [See U.K Figure 1]
- The important thing to note is that the slump is worse under fixed exchange rates than it would have been under flexible exchange rates. Under a flexible exchange rate system, the outflow of money will lead to an exchange rate depreciation. This will push the IS curve out and move the BP curve in. Thus output in the U.K. economy will be higher under a flexible exchange rate system than under fixed exchange rates. [See U.K. Figure 2]

Figure 1: Fixed Exchange Rates

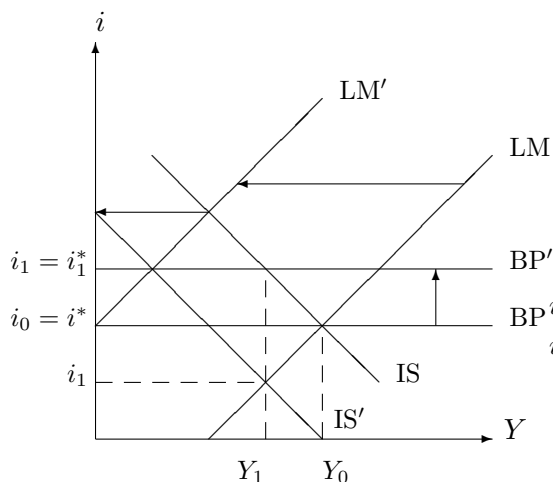
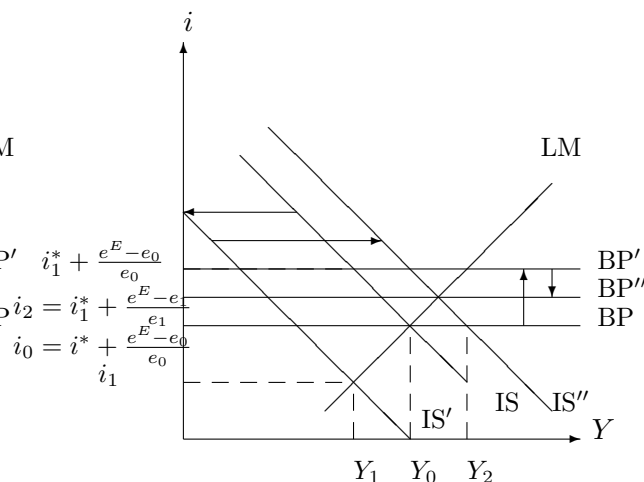


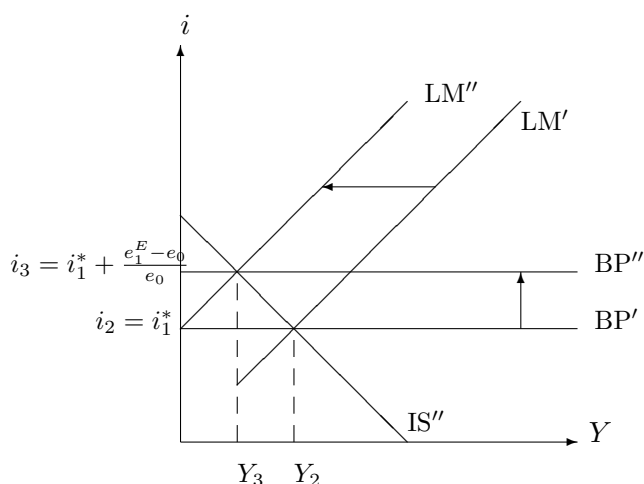
Figure 2: Flexible Rates



- The above analysis indicates that the temptation to leave the ERM was high for the U.K. The same held true for many other struggling European economies like Italy, Spain and Portugal as well as for countries like Sweden and Finland to break off their fixed exchange rate system.

- At this point, speculators figured that many European nations would be forced to leave the ERM and devalue their currencies, and attacked the Finnish markka, the Swedish krona, the British pound and the Italian lira by borrowing large sums of these currencies and selling them for German marks.
- Essentially, these speculators were betting that the pound would lose value and started selling pounds in exchange for other foreign currencies, thus causing reserves at the Bank of England to dry up and putting further devaluation pressure on the pound.
- In terms of UIRP, we can translate this as showing that instead of $i = i^*$ now we have external balance at $i = i^* + \frac{e^E - e_1}{e_1}$ where e_1 is the new devalued exchange rate. (Before $\frac{e^E - e_0}{e_0} = 0$). This means that the BP line has shifted up, so there is an outflow of money from the U.K.

UK (when ERM looks untenable)



- The British Central Bank, for example, lost a lot of reserves trying to defend the pound (i.e. by selling D-Marks and buying pounds) and withdrew from the EMS, Paul Krugman writes that George Soros made a billion dollars betting against the pound.
- These attacks continued well into 1993 and several countries including the U.K left the EMS and countries like France saw their currencies come under such heavy attack that the exchange bands were widened so much that they were effectively floating currencies.