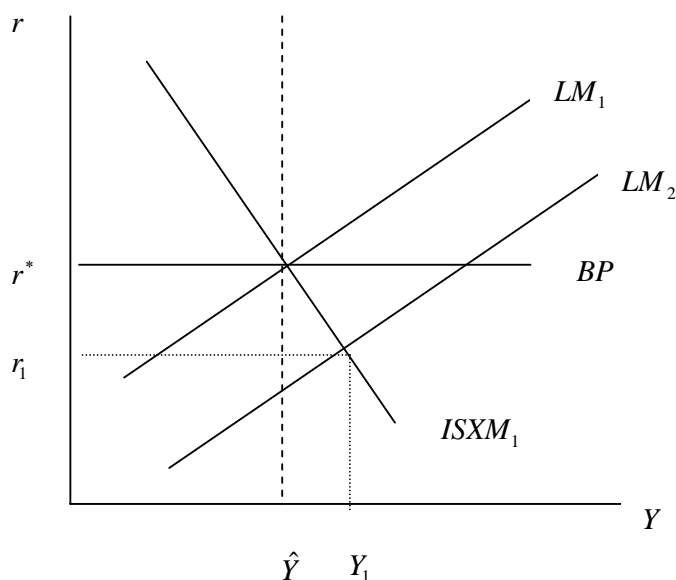


Chapter 14 Review Questions

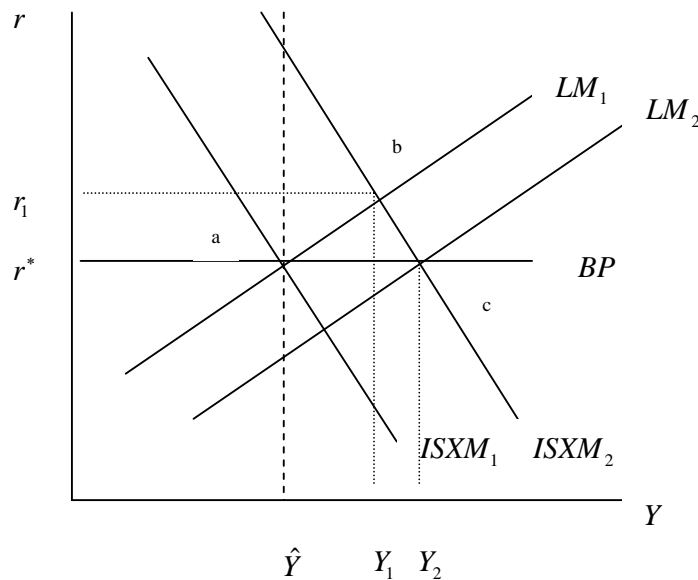
1. Using the Mundell-Fleming model explain why it is impossible to fix the exchange rate and exercise autonomy over monetary policy.

The Mundell-Fleming model is the standard IS-LM-BP model with perfect international financial markets. Therefore, the BP schedule is horizontal at the overseas' interest rate. Under a fixed exchange rate regime monetary policy is subservient to maintaining domestic and foreign interest rates at the same level; hence it cannot be used to achieve domestic policy goals.



An expansionary monetary policy shifts the LM curve downwards ($LM_1 \rightarrow LM_2$). This lowers the interest rate $r_1 < r^*$. In order to prevent the exchange rate from depreciating the domestic interest rate must immediately return to the overseas level. This requires an offsetting contractionary monetary policy ($LM_2 \rightarrow LM_1$).

Monetary policy must also respond to accommodate any shock to the IS curve. An expansionary IS shock shifts the IS curve rightwards ($IS_1 \rightarrow IS_2$) where $r_1 > r^*$. Monetary policy must expand ($LM_1 \rightarrow LM_2$) in order to maintain the fixed exchange rate. Therefore, in either situation monetary policy cannot operate independently of its role in fixing the exchange rate.



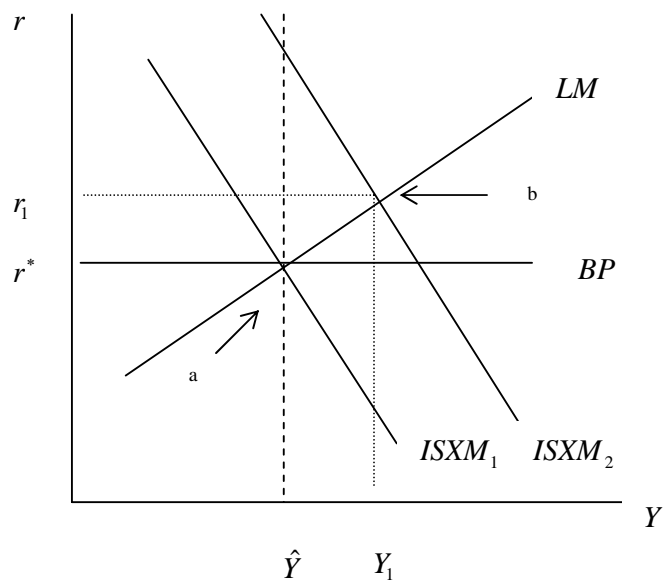
This outcome is partly a consequence of the assumptions behind the Mundell-Fleming model. Because there is perfect capital mobility only the smallest deviation of domestic to overseas' interest rates is required to generate large scale capital movements, thus altering the exchange rate. If there are constraints on capital movements, then more flexibility is opened up for monetary policy to influence domestic policy objective within the confines of a fixed exchange rate regime.

2. Briefly explain the advantages and disadvantages of fixed and floating exchange rate regimes

The main advantage of floating exchange rates is the ability to automatically deal with imbalances in the real side of the economy (i.e. the balance of payments and the output gap).

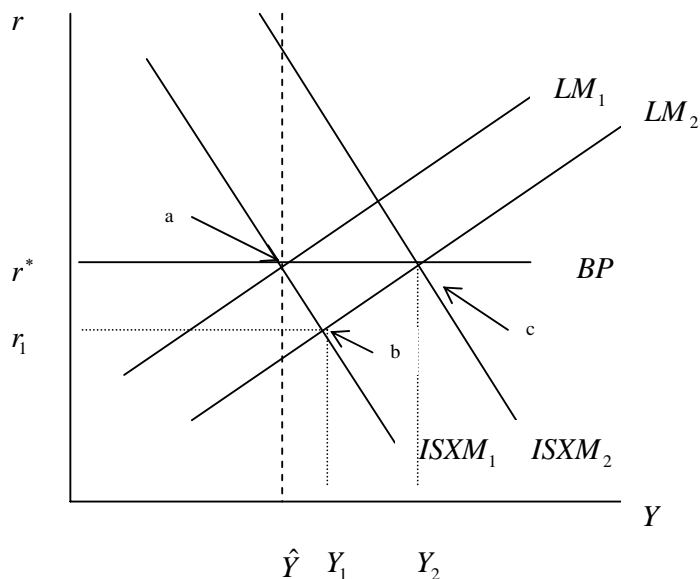
A positive shock to demand will shift the IS curve rightwards, placing upward pressure on interest rates. However, this will lead to an offsetting exchange rate appreciation which moves the economy back to its full employment level of output. Any fiscal shock crowds out an equal amount of net-trade. This is shown by a movement from *a* to *b*, and then back to *a*.

Under a fixed exchange rate regime this demand shock would need to be accommodated by an expansionary monetary policy which could generate inflation by pushing the economy beyond its full employment level. Therefore flexible exchange rate regimes prevent demand shocks from destabilising the economy, whereas the effects are propagated under a fixed regime.



The main advantage of a fixed exchange rate regime is in installing a monetary policy discipline that enhances inflation performance and credibility. Under the auspice of a fixed regime, policy-makers relinquish control over monetary policy so do not face the temptation to expand the economy and generate inflation.

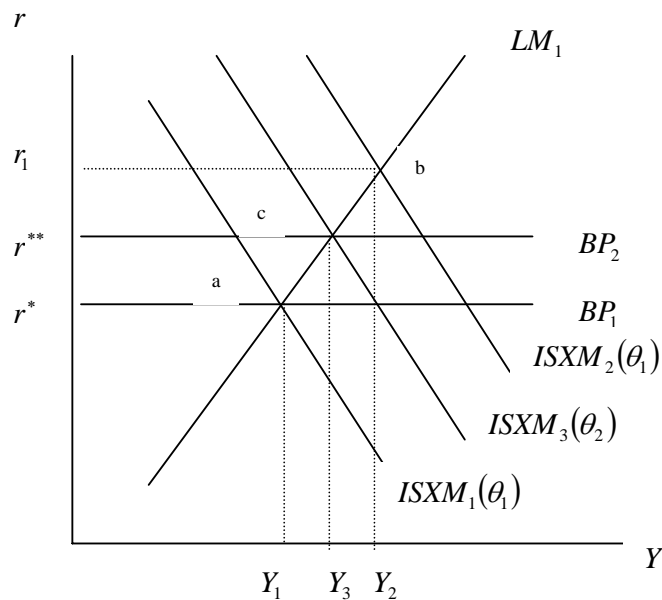
For example, a monetary expansion would lower the domestic interest rate putting pressure on the domestic currency to depreciate. Therefore, in a fixed exchange rate regime the monetary expansion must be immediately countered with a contraction (a to b to a). In a flexible regime the depreciation will improve competitiveness and shift the IS curve rightwards, expanding the economy past its full employment level (a to b to c).



3. Under conditions of perfect capital mobility what would be the effect in Europe of a substantial tax cut in the US? (Assume that the US is a large country.) How might the European Central Bank or the national governments of Europe respond? What impact would this have on the US?

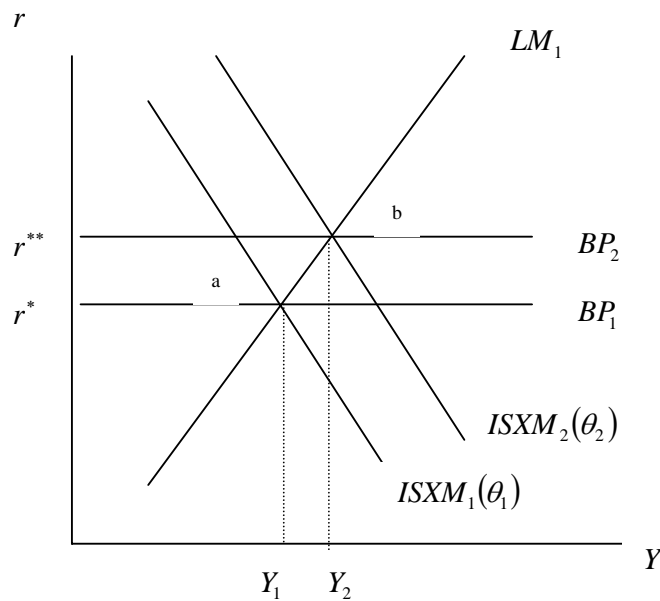
The US and Europe are two large economies; therefore the world interest rate may not be independent of the interest rate prevailing in these markets. Also, movements in the exchange rate of one country might have the opposite effect in the exchange rate of the other, as both the dollar and the euro are major world-wide currencies. Overall, what happens in one country may have an impact on the other.

In the US a large tax cut will shift the IS curve outwards as consumption rises, the economy will move from *a* to *b*. The US interest rate is driven upwards, but this also has implications for world wide interest rates which increase. Because US interest rates exceed the world interest rate the US dollar will appreciate, this will crowd out net exports and the economy will fall back to point *c*.



US

In Europe, because the world interest rate has risen above the domestic interest rate, the euro depreciates. As a result the IS curve shifts out due to the increased competitiveness of net exports. The economy therefore expands from *a* to *b*.



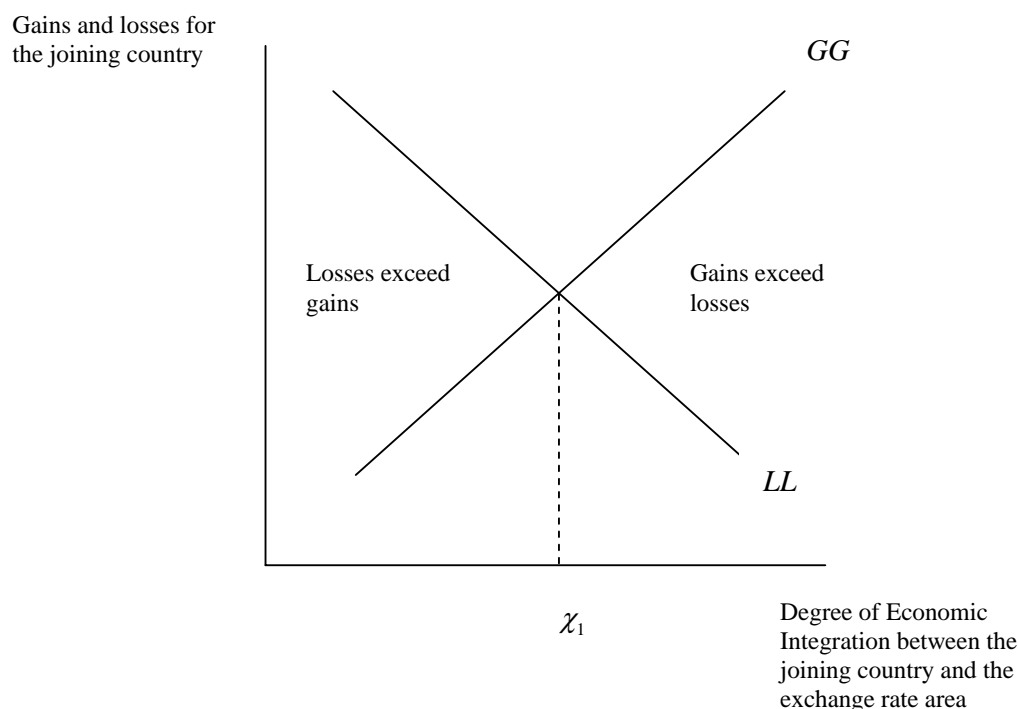
EU

The US fiscal expansion has therefore been passed through into the output of the EU. US output rises following the fiscal expansion, but the rise in interest rates appreciates the dollar which leads to a fall in net trade. The consequence of this is a depreciation in the euro, leading to an increase in net exports. Overall, world interest rates have risen to reflect the increase in world demand. This will crowd out investment in both country blocks.

4. What are the main characteristics of an optimal currency area (OCA)?

An optimal currency area is defined as an area where the monetary efficiency gains of joining a currency area outweigh the stabilisation costs of operating an exclusive monetary policy.

Monetary efficiency gains are high when there is strong trade integration between countries as the transaction costs of dealing with different currencies are removed. A further important benefit concerns the dynamic effects of a single currency. By making it easier for consumers to compare prices exchange rates can no longer segregate markets, hence increased competition should remove international price discrepancies. These gains are expected to rise as the degree of economic integration within the single currency area rises.



The main cost of adopting a single currency is the inability to formulate an independent monetary policy. A one-size-fits-all interest rate applies over the single currency area, and there is a common exchange rate vis-à-vis the rest of the world. Therefore the ability to react to asymmetric shocks is compromised.

It is argued that stabilisation costs are lower when countries are strongly integrated as the likelihood of an asymmetric shock is reduced. This is because strong spill over effects lead to a rapid convergence in economic cycles. However, it is stated that convergence and flexibility considerations play an important role in establishing the size of these stabilisation costs. Therefore, an OCA should also be defined as an area which has strong convergence in economic cycles and structures so as to limit the possibility of an asymmetric shock. However, should one arise, a further requirement is that there is sufficient flexibility to deal with it. This may require more flexible labour and product markets so wages and prices can adjust quickly, or the possibility of using counter-cyclical fiscal policy.

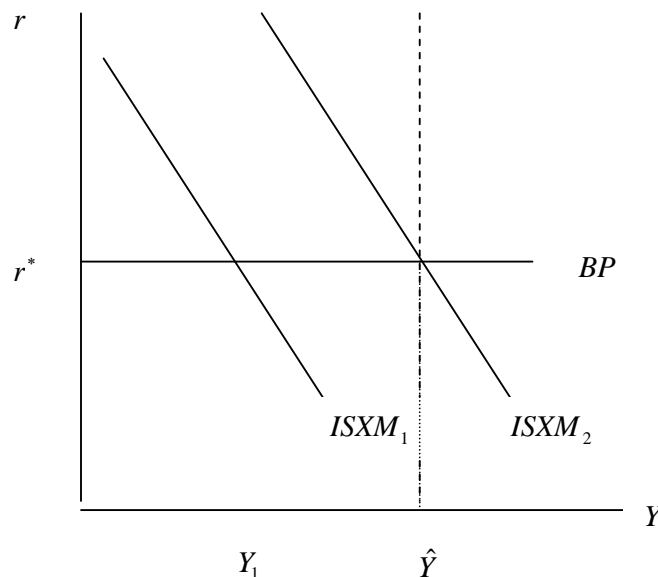
An optimal currency area is therefore a region where the degree of integration is to the right of χ_1 . This threshold degree is likely to be further to the right when there is lower convergence in economic cycles and structures and flexibility to deal with asymmetric shocks.

5. *Is convergence a necessary requirement before adopting a single currency?*

In support of the proposition, convergence isn't essential for the adoption of a single currency but it may be better (politically) to have convergence outside rather than within the monetary union.

Suppose the level of output in a new entrant is below its full employment level due to the weakness of domestic demand. Outside of the monetary union this nation would operate its own monetary policy. The weakness of domestic demand would put downward pressure on interest rates and depreciate the currency. This would be sufficient to return the economy towards its full employment level.

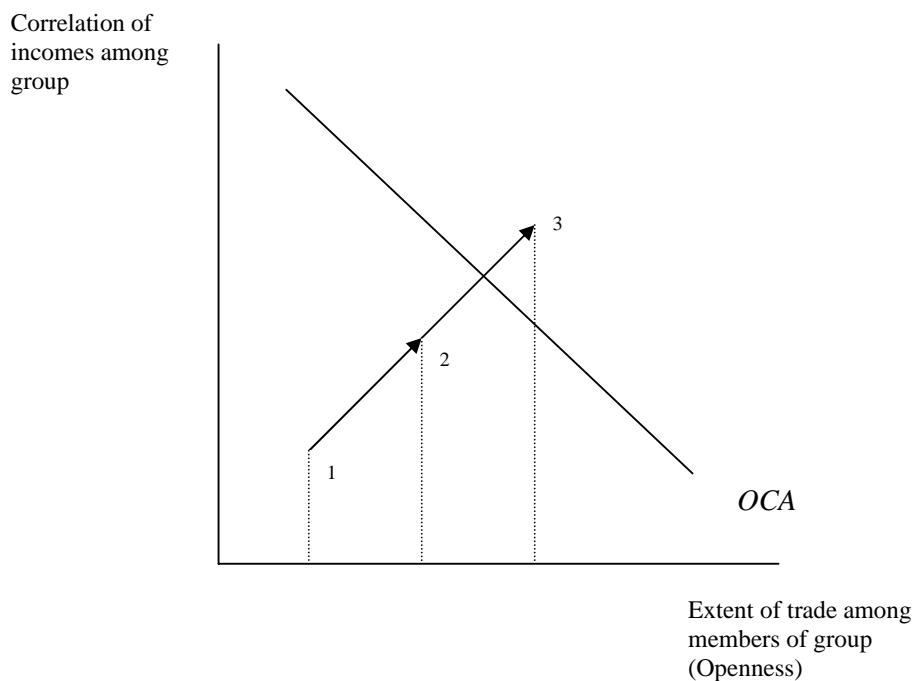
In a monetary union this avenue is closed off by the common monetary policy. However, there are still two routes to correcting the negative output gap. The first is an expansion in fiscal policy, either a cut in taxes or a rise in government spending. The second is to allow wages and prices to adjust so as to improve competitiveness and clear the excess demand in the labour and goods markets.



If there are restrictions on fiscal policy- then the price adjustment mechanism is the only process to restore output to full employment levels. The presence of nominal rigidities could make this a long drawn out process. Therefore, there are two reasons why convergence may be better outside of the monetary union. The first is because there are a greater number of policy levers (interest rates and exchange rates) that policy-makers can use to address the output gap. Secondly, if there is a reliance on the price adjustment mechanism, then nominal rigidities could lead to the nation experiencing a prolonged period of output below the full employment level. In this scenario policy-makers may come under political pressure to leave the single currency.

The alternative view point is that convergence isn't necessary, and any condition requiring it puts the cart before the horse. The adoption of the single currency will strengthen trade linkages between nations and lead to increasing integration. More integrated economies are likely to face convergence in cycles due to demand spillovers that are transmitted through trade flows.

For example, countries where demand is strong are likely to be net importers, whereas nations experiencing low growth will be net exporters. Therefore, external demand can offset the weakness of domestic demand. The dynamics of a monetary union should therefore encourage convergence.



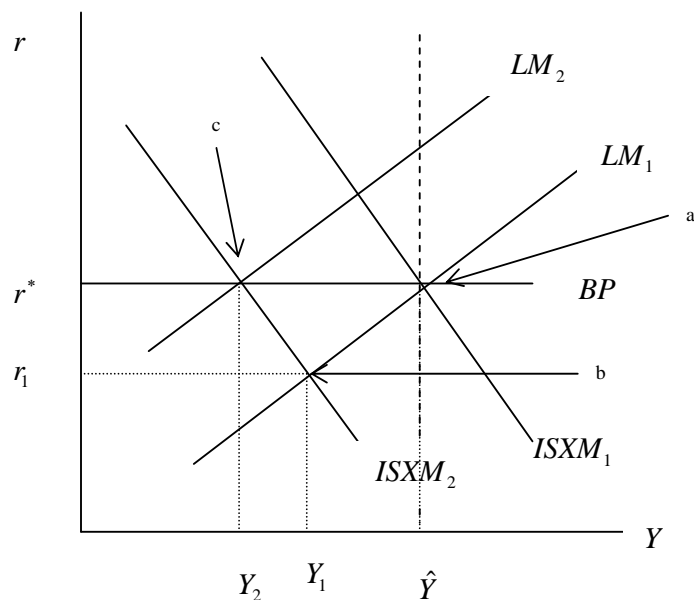
Convergence in the cycle though is just one element of the problem. Convergence in economic structures is another facet, and this is less easily corrected by greater trade integration. For example, countries with different external trade (trade with countries outside of the single currency area), different housing market structures, different dependency on energy (oil) imports etc are likely to suffer from more persistent divergence. In this respect business cycle convergence may be a necessary, but not sufficient condition for countries joining a single currency. Sufficient conditions may extend the issue of convergence to that of structures, and require adequate flexibility to deal with any asymmetric shocks.

More advanced problems

6. 'Fixed exchange rate regimes deliver price stability; floating exchange rate regimes maintain output stability.' Is this a fair statement? Explain your answer.

Fixed exchange rate regimes are recognised as a policy for achieving price stability because they do not allow policy-makers the freedom to operate an expansive discretionary monetary policy. This is because monetary policy is simply directed to maintaining the fixed exchange rate.

Another important reason why fixed exchange rates are important for price stability is shown in the diagram below. If domestic inflation exceeds that overseas, the real exchange rate will appreciate, domestic competitiveness and net exports will fall, and the IS will shift inwards. Output will fall below its full employment level.



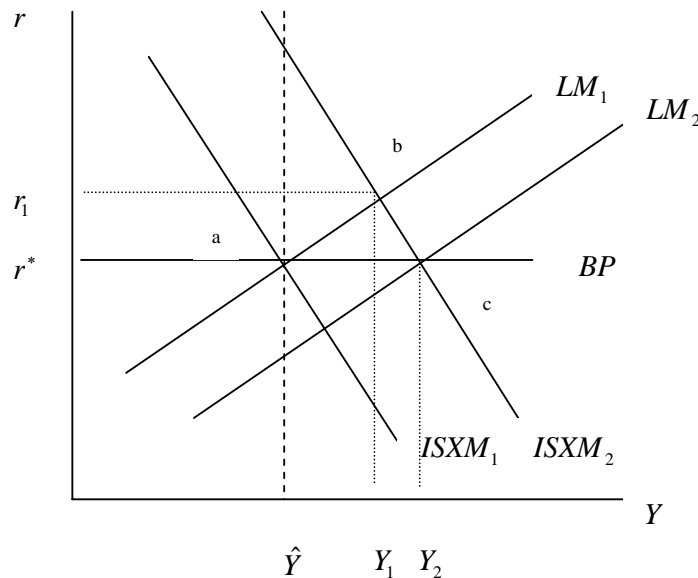
In a floating exchange rate regime, the fall in the domestic interest rate will depreciate the nominal exchange rate restoring competitiveness and returning the economy to its full employment level. Therefore, even if a positive inflation differential the exchange rate will continually restore competitiveness.

In a fixed exchange rate regime this mechanism is closed off. Instead, a monetary contraction would be required in order to maintain the fixed exchange rate which would depress domestic output further. The economy will only emerge from recession once it has achieved price level convergence with the lower inflation overseas country.

This forms a powerful disciplining device on agents in the domestic economy, and should anchor inflation expectations to that overseas. Any inflation in excess will lead to a loss of output and an increase in unemployment because competitiveness won't be rescued by a nominal exchange rate depreciation. Therefore, many nations operate

an anti-inflationary policy by fixing their domestic currency against a low inflation foreign country.

Conversely, floating exchange rates are identified as being more successful in maintaining output stability.



For example, a positive shock to domestic demand will shift the IS curve to the right, increasing output and interest rates. In a floating regime the exchange rate will appreciate, net trade will fall and the economy will return to its full employment level. However, in a fixed exchange rate regime monetary policy would be required to accommodate the shock- so far from just offsetting the demand shock it would actually amplify its impact on domestic output.

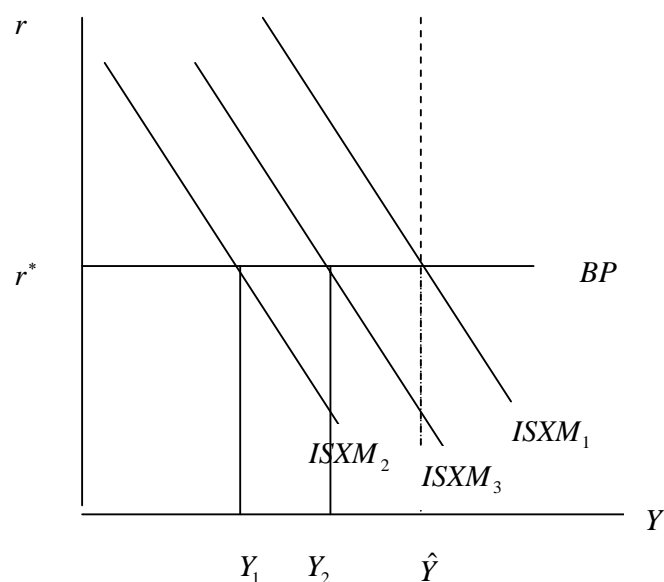
The conventional wisdom is that an economy subject to a preponderance of LM (nominal) shocks is best running a fixed exchange rate regime; whereas an economy that is subject to mainly IS (real) shocks might be better off with a floating regime.

7. What is more relevant for the sustainability of EMU; symmetric shocks, or asymmetric responses to symmetric shocks?

Blanchard and Wolfers (*The role of shocks and institutions in the rise of European unemployment: the aggregate evidence*, published in the *Economic Journal* in 2000) analysed a range of OECD countries to see if different unemployment performances could be accounted for by the incidence of different shocks on different economies. Their findings were that nations were mainly subject to the same shocks, but that

differences in labour market institutions generated different propagations into unemployment.

For example, suppose two countries in a monetary union are subject to the same negative demand shock. However, one country has less regulated and more competitive labour markets than the other. Following the negative demand shock, moderation in domestic wages and prices generates competitiveness and real balance effects that offsets part of the shock. Hence- the same shock can have a disparate impact on output and unemployment.



For nations in a single currency asymmetric responses to shocks creates a dilemma, as different nations will require a different corrective policy- but a 'one-size-fits-all' monetary policy is operated.

This highlights the importance of achieving convergence in the structures of economies (in terms of labour market institutions) as well as in business cycles, and also the importance of having some flexibility to deal with asymmetric shocks.

8. Why might fixing the exchange be more credible than fixing the inflation rate?

Inflation or monetary targeting is often deemed to lack credibility because announcements are time inconsistent. Because the short-term Phillips curve posits a trade-off between inflation and unemployment, once the private sector has set their inflation expectations the monetary authority may face an incentive to unleash a monetary surprise. The private sector is usually aware of such a possibility, and is therefore more hesitant about believing low inflation announcements. As a result, discretionary monetary policy leads to an inflation bias in the economy.

A fixed exchange rate regime helps in two ways. If monetary policy is committed to maintaining a fixed exchange rate it can no longer be used discretionally to boost the economy, hence monetary policy-makers have de facto tied themselves to the mast. Second, it anchors inflation expectations to the lowest inflation country in the regime. Any inflation in excess of this will lead to unemployment or falling output/sales as the exchange rate will not offset the competitiveness elements.

However- there is no real reason why an exchange rate target need be any more credible than an inflation target. If domestic policy concerns demanded, it would be just as easy to abandon the fixed peg and resort to a discretionary monetary policy as it would be to unleash an inflation surprise in an inflation targeting regime. Perhaps- because an exchange rate peg is a more transparent target, it becomes easier for policy-makers to stake their reputation on maintaining it.

9. Are single currencies sustainable?

In the next chapter it will be demonstrated that fixed exchange rate regimes are prone to collapse because inevitably a shock will hit a region that requires monetary policy to deal with domestic concerns rather than maintaining a fixed exchange rate. If push comes to shove- national governments are unlikely to take tough action (increase interest rates) to maintain fixed exchange rate if unemployment is high and the economy in recession.

For this reason, single currency areas are regarded as being more sustainable because they cannot be so easily abandoned if the going gets tough. However- it is not impossible to reinstate a currency if there became a compelling need to operate a distinct monetary policy to deal with domestic problems. In fact, a paper by Bordo and Jonung (*The future of EMU: what does the history of monetary unions tell us?* 1999, NBER working paper 7365) argues that almost all monetary unions throughout history have collapse when a shock has required the re-imposition of domestic monetary policy.