Fixed vs Flexible Exchange Rate Regimes

- Review fixed exchange rates and costs vs benefits to devaluations.
- Exchange rate crises.
- Flexible exchange rate regimes:
  - Exchange rate volatility.
Fixed exchange rate regime:

- In the medium run, the real exchange rate is determined by the relative price of foreign to domestic goods, regardless of regime.
- With flexible exchange rates, the nominal exchange rate adjusts to bring the real exchange rate into line.
- With fixed exchange rates, the domestic price level adjusts to bring the real exchange rate into line.
AD with fixed E

• Aggregate demand:
  \[ Y = C(Y-T) + I(Y,r) + G + NX(Y,Y^*,e) \]
  where:
  \[ r = i - \pi^e \quad \text{and} \quad e = EP^*/P. \]

• Fixed exchange rate:
  \[ E = E, \quad i = i^* \]

• So that:
  \[ Y = C(Y-T) + I(Y, i^* - \pi^e) + G + NX(Y,Y^*,EP^*/P) \]
AD-AS

• With fixed exchange rates, AD curve implies a negative relationship between output and the price level:

$$Y = Y(E \frac{P^*}{P}, G, T) + + -$$

As $P$ falls, real exchange rate depreciates and net-exports rise. This increase output.

• AS is unchanged by open economy considerations:

$$P = P^e (1+ m) F(1-Y/L, z)$$
Adjustment

- Suppose Y=Y_n and we have a fiscal expansion: AD shifts out.
- Short-run:
  - Output increases
  - Price level increases.
  - Exchange rate appreciates and net exports fall.
- Adjustment:
  - Output above the natural rate (Y>Y_n) we have P> P^e
  - P^e rises and AS curve shifts up.
  - Price level continues to rise, real exchange rate appreciates further and net exports continue to fall.
- Medium run:
  - Output unchanged.
  - Price level has risen and exchange rate has fallen (appreciated).
  - Real and nominal interest rates remain unchanged.
- Result: budget deficit leads to trade deficit rather than domestic crowding out.
A word of caution:

- Govt can’t run a budget deficit forever.
- A country can’t run a trade deficit forever.
- Plausible scenario:
  - Increase in govt. spending through budget deficits today is offset by higher taxes in the future.
  - Increased trade deficit today is offset by trade surpluses in the future.
Recessions and Devaluations:

- If output below natural rate, a country has an incentive to abandon the peg and devalue the currency.
- Expectations of devaluation make things worse in short-run.
- If country expected to devalue then the only way to maintain the peg is to raise short-term nominal interest rates.
- Output contracts even further making the devaluation more likely.
Currency misalignments and devaluations

• Suppose a country fixes its exchange rate.
• If inflation rates between countries differ then the real exchange rate may drift and the nominal exchange rate may be overvalued.
• Given enough time, prices and inflation rates should adjust. In the meantime, net exports are low however.
• An alternative is to devalue the currency.
Post WWI Britain and the Gold Standard

- 1870-1910 Britain on gold standard – equivalent to fixed exchange rate.
- Britain abandons gold standard during war to pay for war debts through money creation.
- Post war:
  - prices have risen in Britain relative to other countries.
  - Govt. insists on returning to gold standard at pre-war parity.
  - This is a large real appreciation.
- Keynes’s prediction: adverse economic effects owing to overvalued exchange rate
  - “money wages in Britain are too high at current exchange rate”
- Result: Britain grew slower than rest of Europe during 1920’s.
Exchange rate crises:

- Suppose expectations of a devaluation rise.
- Two possibilities
  - Raise interest rates enough that investors are willing to hold currency despite expected devaluation -- this may cause severe damage to the economy.
  - Raise interest rates some but not all the way: in this case, holders of domestic currency still try sell the currency and central bank is forced to buy own currency by selling foreign reserves.
- Self-fulfilling crises:
  - In either case, speculators may test govt. resolve and attack the currency.
  - Even those not inclined to speculate may sell.
  - If foreign reserves are low, peg can’t be maintained and currency is devalued anyway.
- Result:
  - Expectations of a devaluation may precipitate the devaluation
  - This is the FX equivalent to a bank-run.
EMS crisis:

• Pre-crisis:
  – European countries fixed exchange rates (with bands) in 1979.
  – Realignments in first few years but only two from 87-92.
  – German reunification put pressure on exchange rates and precipitates a crisis.

• Sept 1992 crisis:
  – Speculators sell currencies in anticipation of devaluation.
  – Scandinavia pushes overnight rates up to 500% on annual basis to defend currency.
  – Britain loses large amount of foreign reserves before abandoning.

• Results:
  – Italy and Britain abandon EMU with exchange rates depreciations on the order of 15%.
  – Other countries (France) maintain peg but suffer high interest rates and large losses in reserves.
Flexible exchange rates

• Exchange rate today determined by expected path of domestic and foreign nominal interest rates and expected future exchange rate.
• Small variations in interest rates today can lead to large fluctuations in exchange rates.
• Changes in expected future trade balances can also have a large effect on current exchange rates.
• Bottom line: under a flexible exchange rate system, exchange rates can be highly volatile and hard to predict.
Benefits to flexible rates:

- Monetary policy can be used to stabilize the economy.
- Given nominal price rigidities, flexible exchange rates help economy adjust more quickly.
- The cost is high volatility of exchange rate
  - Note: import-export quantities not as volatile as prices however.
- In most situations, benefits outweigh costs and flexible rates are more desirable than fixed rates.