1. Background on currency crises
2. The EMS crisis, 1992
3. Argentina currency crisis, 2001
1. Background on currency crises

Mechanics of a classic currency crisis (in general)

- Take a country with external imbalance, nonsustainable CA deficit.

- Central bank continuously selling off its foreign assets to finance the CA deficit with capital inflow.

- At some point, central bank run out of foreign reserves → unable to maintain the fixed exchange rate.

- People know their currency will eventually have to devalue → profit opportunity: sell currency to central bank in exchange for foreign reserves. When currency is devalued, do the reverse.

- This mechanism is faster due to expectations being self-fulfilling and leads to a currency crisis or a speculative attack.
1. Background

1) Background on currency crises.

Fixed exchange rate regimes do not last indefinitely, but often only a few years. It is common for a regime to collapse under pressure from the private market, involving a significant fall in the value of a currency.

Mechanics of a classic currency crisis in words (in general case):

Suppose a country has an external imbalance, with a current account deficit that is not sustainable. The central bank is continuously selling off its foreign assets to finance the current account deficit with a capital account surplus (capital inflow). Eventually the central bank will run out of foreign reserves and will be unable to maintain the fixed exchange rate.

As a result, people know that eventually the currency will have to devalue. So private traders see a profit opportunity. They can sell the currency to the central bank in exchange for its foreign reserves. When the home currency eventually is devalued, they can sell the foreign currency back at the new exchange rate and end up with more of the home currency than initially.

Note that this activity in the private markets works to make the devaluation happen even faster! As the private traders sell the currency to the central bank in exchange for foreign reserves, this further depletes its reserves. So the country is forced to devalue the currency even sooner. In this sense, the expectations of the private traders are self-fulfilling.

This process by the private traders is called a "currency crisis" or a "speculative attack". And the private traders are called "speculators."

Show in graph:

When people come to expect the currency to depreciate in the future, the foreign returns curve shifts to the right, since foreign returns equals foreign interest rate plus expected future exchange rate appreciation.

To maintain the exchange rate at $E_{bar}$, the central bank must raise the domestic interest rate. This was necessary to make people willing to hold domestic assets despite the expected domestic currency depreciation.

This requires a contractionary monetary policy to defend the peg. This is why currency crises are often preceded by extremely high interest rates.

$E^e: FR \rightarrow FR'$

To maintain $E$ need to $i$ (contractionary monetary policy)

Currency crises are often preceded by high interest rates
2. How pegs work:

- Central bank intervenes in the FOREX market to peg the exchange rate: ready to buy and sell foreign exchange reserves at the fixed exchange rate $\bar{E}$. **If it has no reserves, it cannot do this and the exchange rate is free to float.**
- If peg is credible, \( \frac{\Delta E^e}{\bar{E}} = 0 \), and UIP implies \( i = i^* \).
- **Central bank balance sheet**
  - Assume, the central bank only holds: domestic government bonds \( B \) and foreign exchange reserves \( R \),
  
  \[
  M = B + \bar{E} \times R
  \]
  - Expanding the money supply \( \Delta M \) can be done with \( \Delta B > 0 \) and \( \Delta R > 0 \): central bank purchases both domestic and foreign assets and injects money
  - But, it can be that the central bank \( \Delta R > 0 \) in the event of a nominal appreciation, this \( \Delta M > 0 \). Then \( \Delta B < 0 \): central bank purchases foreign assets and sells domestic bonds, but in the same amount as to offset the initial \( \Delta M > 0 \). This is called **sterilization.**
3. How pegs break

How and why exchange rate crises occur.

- **Inconsistent fiscal policies:** a peg is bound to break if a central bank continually expands domestic credit to finance government spending by monetizing all or part of a budget deficit. At some date, domestic credit will exceed the level of the money supply necessary to maintain the peg, and all reserves will be gone.

- **Limited commitment:** policymakers are not commitment to the peg under all circumstances. Defending the peg is a contingent commitment. If things get “bad enough” the government will let the exchange rate float, but then forex market participants will adjust their expectations accordingly: problem.
The EMS: exchange rate bands

- after Bretton Woods, attempts to fix exchange rates across European countries.

- 1979, European Monetary System (EMS): fix exchange rates to each other, floating freely against the dollar.

- Bilateral exchange rates allowed to fluctuate within bands (±2.25%)

- Central banks agree to lend/borrow to prevent any deviation from the band. Capital controls, relaxed in 1987.

- Subject to speculative attacks and currency crises.
The case of the EMS crisis: 1992

▶ **Germany:**

★ November 1989: German reunification.
★ Increase in government spending to incorporate East Germany to the economic system of West Germany: IS shifts to the right.
★ Due to fear of inflation, Bundesbank reduced money supply: LM shifts to the left.
★ As a result: rise of German interest rates.

▶ **UK:**

★ Member of EMS fixed exchange rate regime.
★ FX market (foreign Germany) shifted right.
★ To keep fixed exchange rate, UK needed to raise interest rates, reducing money supply, inducing a recession.
★ Markets doubted about the British economy, so speculate that the pound would devalue or exist the EMS.

▶ **Conclusion:** even if a country is not in danger of running out of reserves, it still might be forced to abandon a fixed exchange rate by the cost in terms of high interest rates and recession.

▶ Other countries affected: Italy, Sweden, France, Spain.
4. The European Monetary System crisis

APPLICATION

Britain 1992

3. Increase in foreign interest rate shifts out home IS curve
4. To maintain peg, home LM shifts to LM3. Other LM curves imply floating.

1. Germany increases government spending and contracts money supply. IS shifts out, LM shifts in, output unchanged.
2. In home FX market, FR increases. To maintain the peg at Ebar, DR must increase too.

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5. Argentina currency crisis, 2001

**Background:** excessive government spending financed by printing money → high inflation over the last 50 years.

**The convertibility plan** (1991):
- Motivation: a way to end the cycle of inflation.
- **Currency board** with U.S. dollar: 1 Argentine peso could be freely converted into 1 U.S. dollar, fixed by law and could be changed only by congress.
- No capital controls
- Money supply growth **limited** by supply of dollars.
- Should impose discipline to reduce inflation.
- It worked! inflation dropped to 5% by 1995. Good economic performance during the 1990s.
Late 1990s-2000:
- Recession for 4 years, part of reason: Brazil devaluation of real in 1999.
- Large government debt. Reasons: recession and excessive spending by regional governments.

2001: crisis begins.


Now: peso floats, 3.2 Argentine pesos per U.S. dollar (as of Aug. 30, 2007).

Until 1997: some east Asian countries experienced remarkable development success stories.

Some explanations:
- Export orientation.
- High private saving rates.
- High education levels.
- Industrial policy and government-industry cooperation.

As a result: large capital inflows during the 1990s.

However, these economies showed some weaknesses:
- slow productivity growth
- poor banking regulations could lead to moral hazard problems
- undeveloped bankruptcy law.
The crisis

- It all began in Thailand: reduction of foreign investors confidence in 1996, due to over-investment in real estate.
  - Fall in stock markets: capital outflow, reserves fell.
  - In early 1997, speculation against the currency further lowered reserves.
  - July 1997: strong speculative attack against the Thai baht → abandon fixed exchange rate.

- Contagion: the crisis *spread to several other countries in the area.*

- Most countries turned to the IMF for loans in return for:
  - raising interest rates (monetary contraction)
  - fiscal contractions
  - structural reforms

- Some consequences:
  - sharp fall in output
  - may banks and firms had debt in terms of foreign currencies → went bankrupt.
Lessons

Who is to blame?
- capitalism
- international financial system leads to speculators
- IMF

Lessons:
- choose the right exchange rate regime
- banking crises can interact with currency crises
- proper sequence of reforms
- importance of speculator expectations and contagion