

# Currency Crises: Causes and Effects

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## Anatomy of a Currency Crisis

- Currency Crisis: Occurs when a currency comes under extraordinary selling pressure.
- Almost always happen in fixed exchange rate regimes.
- Interesting questions
  - Are some currencies/economies more prone to crisis?
  - Do certain economies rebound from crisis better than others?
  - Why do “healthy” economies “catch cold” from their neighbors?
- From 1970-2002: 82 currency crises in ~25 countries.
- Stylized facts:
  - End of Bretton-Woods (1948) fixed exchange rate system;
  - End of U.S. (and most others) using the gold standard;
  - Reduced transaction costs increased trade volumes in ForEx markets;
  - Bad government policies “came home to roost.”

## **Anatomy of a Currency Crisis**

- **The stereotypical chain of events**
    - Home economy shows weakness of some sort;
    - Home government appears incapable of appropriate policies;
    - Foreign agents begin to abandon local currency;
      - Home currency faces pressure to depreciate
    - Home govt. attempts to stave off depreciation by buying excess supply of home currency using foreign reserves (dollars, euros or possibly gold);
    - Home government has limited reserves which everyone knows ;
    - As home government runs out of reserves, foreign agents have more motivation to abandon the home currency at prevailing exchange rate
    - Eventually home government abandons attempts to shore up home currency, devaluation occurs and market re-equilibrates or somehow agents gain renewed faith in the home currency
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## **Select Currency Crises**

- **European Monetary System: 1992-1993**
    - Germany, Ireland, Spain, Britain, Portugal, Finland, Norway
  - **Mexico: 1980-1982, 1994-1995**
    - Early crisis spreads to most of Latin America
    - Latter crisis is contained (what was different?)
  - **Thailand: 1997**
    - Spreads to South Korea, Indonesia, Malaysia, Philippines
  - **Russia: 1998**
    - Arguably a hang-over from Asian Crisis
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## What can cause a currency crisis?

- Anything that creates uncertainty about the future viability of a currency's value (at home or in ForEx market) – especially if exchange rate is fixed by government fiat.
  - Currency crises are often blamed on “currency speculators” especially by local politicians trying to deflect blame for other bad decisions.
  - There have been currency speculations in the past
    - George Soros (of moveon.org fame) earned \$2b in 1992 speculating **against** European currencies
  - Today, the cause is more often poor government policies and not speculators.
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## Sources of Currency Crises

- National government budget deficits financed by inflation?
    - If a country cannot raise money through taxation or from borrowing (perhaps because of informal economy or small economy)
    - It might be tempted to print money/expand money supply
    - Increased money supply puts upward pressure on inflation if money supply grows faster than demand/output
      - $MV = PY$  : Equation of exchange
        - M = money supply
        - V = velocity (how often money turns over)
        - P = price level
        - Y = GDP or output
      - As M goes up (holding V fixed), either Y or P has to go up
    - But, the crises in Europe (1992-1993) and Asia (1997) hit countries with small deficits and high GDP growth rates.
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## Other Sources of Currency Crises

- Weak financial system
    - Poorly managed banks are often bailed out by national government or central bank (sometimes using gold/dollars/euros).
    - The potential of a bailout creates a moral hazard problem which encourages banks to take unwarranted risks (think of U.S. S&Ls).
    - If foreign agents are anxious about the future value of the home currency, they are motivated to sell.
  - The International Monetary Fund (IMF) and World Bank often provide loans to central banks so that central banks can bail out smaller banks. Thus the IMF creates yet another moral hazard problem – but is there an alternative?
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## Other Sources of Currency Crises

- Deregulated financial markets
    - Many governments use the organized financial system to steer money towards what bureaucrats/politicians value the most rather than what the market values the most.
    - Over time, this can engender inefficiency, cronyism, corruption.
    - Deregulation often allows private agents to enjoy the benefits of private action but rarely puts into place the mechanisms required to hold agents accountable for failure
    - Deregulation only works if the freedom to succeed is accompanied by the freedom to fail.
      - Well established property rights, well operating legal system.
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## Other Sources of Currency Crises

- Weak economy
    - Falling GDP, increasing unemployment, increased emigration, falling stock market, reduced exports
    - Foreign agents might anticipate that government policies might change and reduce value of home currency
  - Political factors
    - Institutions that do not ensure peaceful transfer of power, avoid internal and external military confrontations, and ensure independent central banks increase uncertainty.
  - External factors
    - Contagion from neighboring countries that suffer currency crises
    - If interest rates on foreign-currency denominated assets increases and home government./central bank doesn't match, foreign agents might bail on the home currency.
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## Symptoms of a Pending Currency Crisis

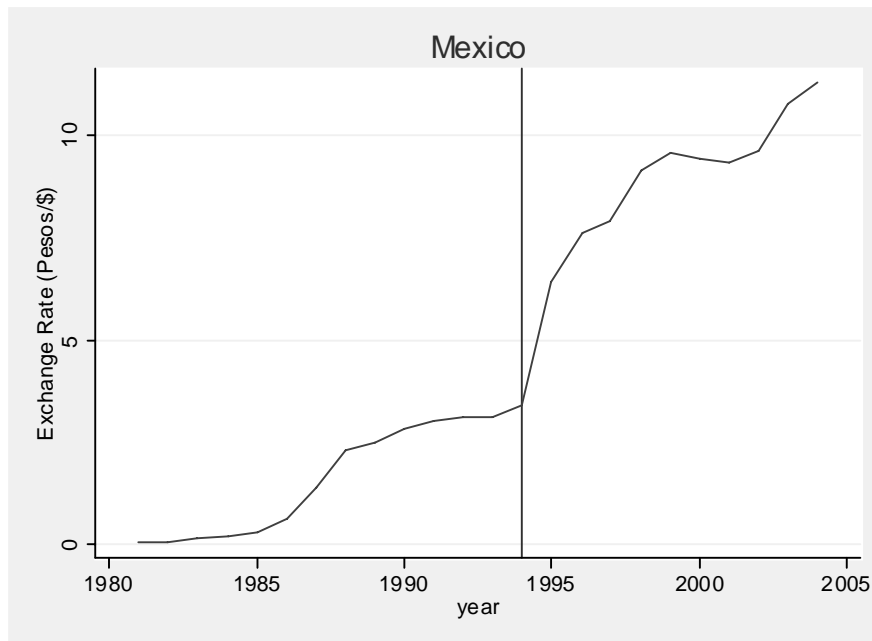
- **Negative current account balance becomes “too large”**
  - **Capital account seems “too small”**
  - **An “unusual” slowdown in economic activity**
  - **Inflation seems abnormally “high”**
  - **Monetary policy seems “too loose”**
  - **Credit seems to be “too easy”**
  - **Differences between official and unofficial exchange rates**
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## Impacts of Currency Crises

- Penn World Table data for 188 countries (1974-2004)
- Currency Crises

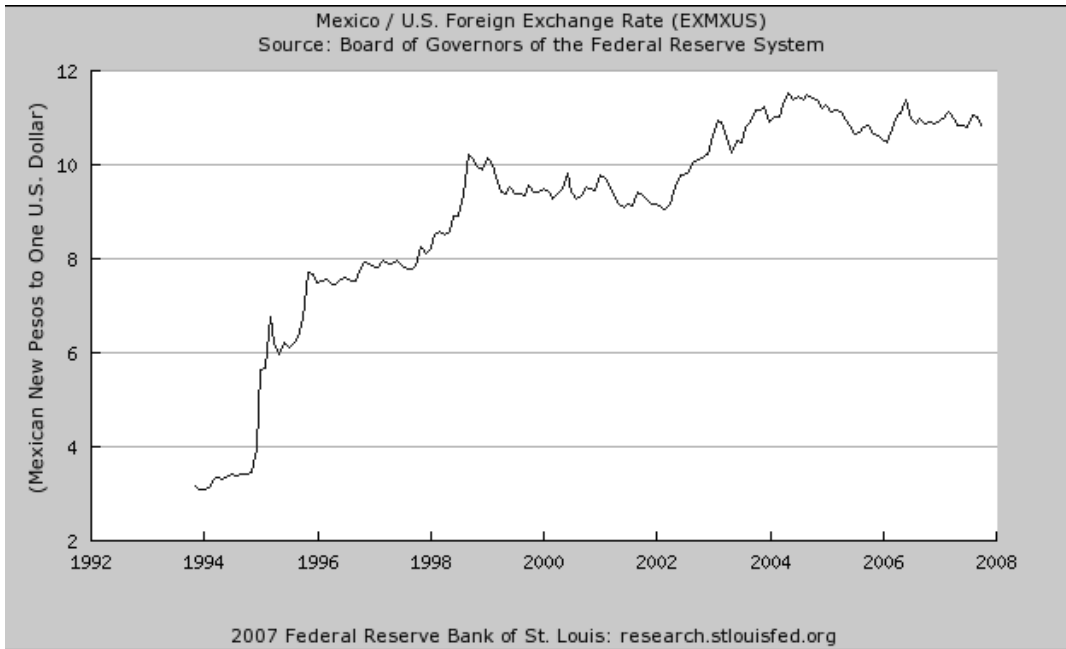
Argentina	Mexico
Brazil	Malaysia
Chile	Philippines
Colombia	Portugal
Spain	Russia
Finland	Sweden
United Kingdom	Thailand
Germany	Turkey
Indonesia	Uruguay
Ireland	Venezuela
Italy	Korea, Republic of

## Currency Crises and Exchange Rates



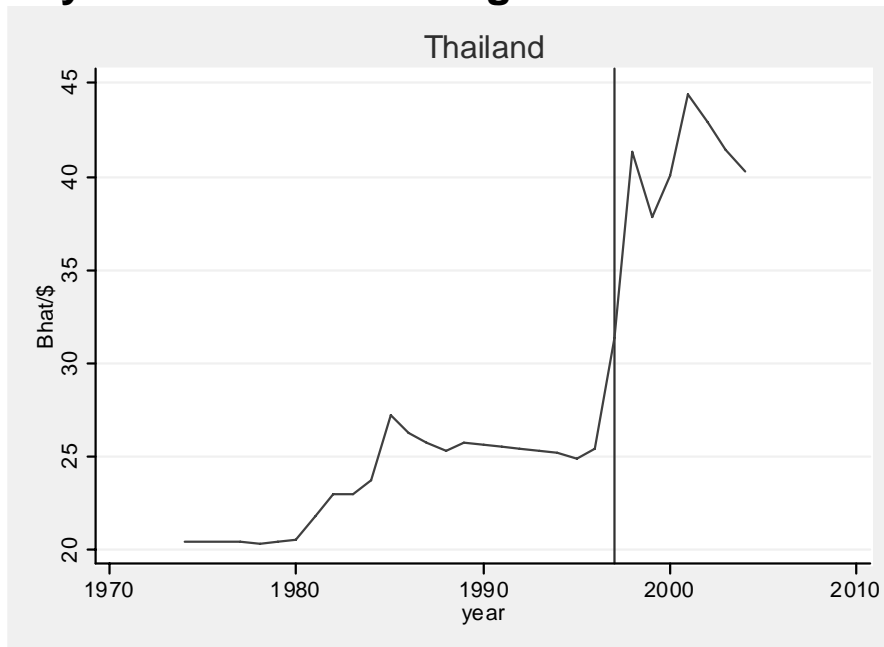
1994: Mexico devalues Peso by 15%

## Currency Crises and Exchange Rates



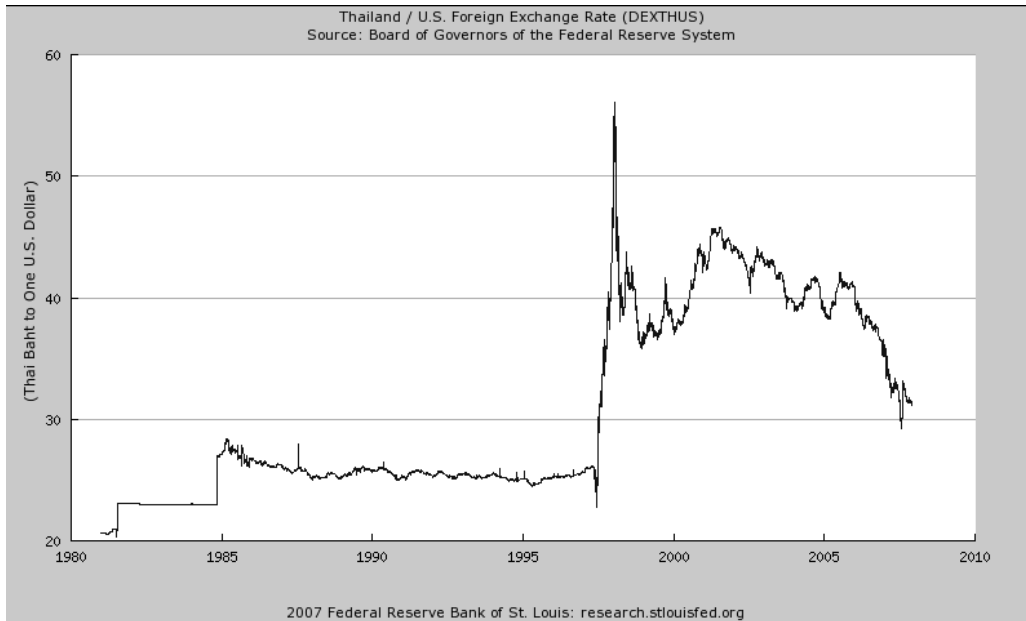
Monthly data shows considerably more volatility

## Currency Crises and Exchange Rates



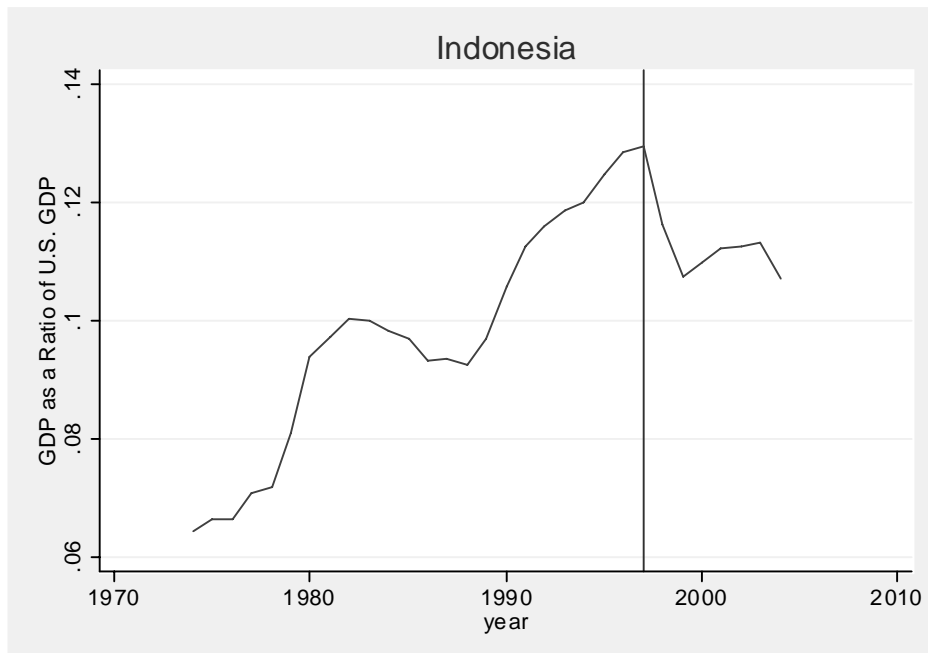
1997: Baht depreciates by 60% after pegged ER abandoned in July

## Currency Crises and Exchange Rates



1997: Daily exchange rates show much more volatility but currency regains strength after the crisis

## Currency Crises and GDP (relative to U.S.)



1997: Indonesian GDP falls from 13% to 11% of U.S. economy

## Currency Crises and Key Variables of Interest

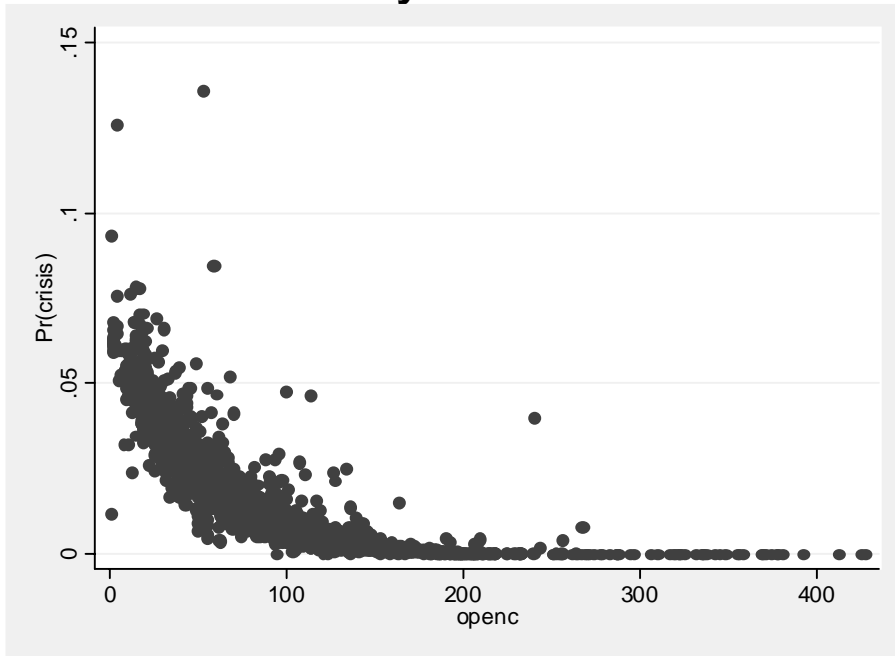
Using data from 1973-2004 describing 188 countries and 88 country-years identified as a currency crisis:

Variable	Year of Crisis	Year after crisis
GDP Growth	Falls 1.6 pct. points	Falls 1.4 pct. Points
Exchange Rate (per \$US)	4% depreciation	15% depreciation
Investment as % of GDP	Falls 2.4 pct. Points	Falls 1.6 pct. Points
Prices (relative to U.S.)	Increase 9 pct. points	Fall 5 pct.points

## Predictors of a Currency Crisis

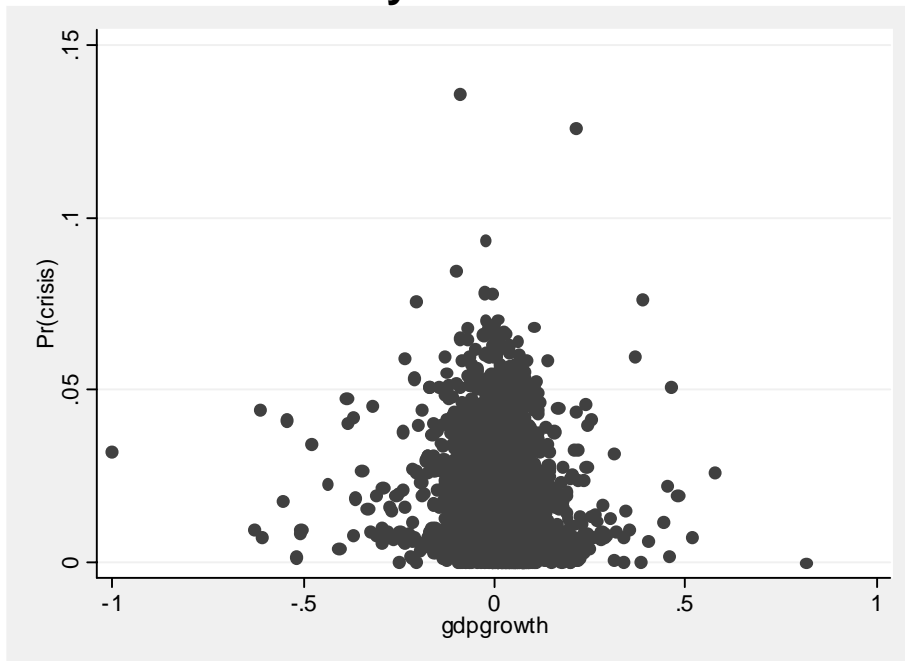
- 10% increase in exchange rate => ~10% increase in odds of a crisis in following year
- 10% increase in trade openness => ~1.5% decrease in odds of a crisis in following year
- 1 point increase in GDP growth => ~3% decrease in odds of a crisis in following year

### Predictors of a Currency Crisis



Predicted probability of a crisis vs. trade openness: markets adjust in real-time and reduce the odds of a currency crisis.

### Predictors of a Currency Crisis



Predicted probability of a crisis vs. GDP Growth

## What to do about a currency crisis

- Alter exchange rate regime
    - Allow exchange rate to float to new equilibrium
    - Potentially least painful but might not address underlying problems
  - Appeal to IMF or other countries for loans
    - Loans of foreign currency might allow country to maintain a currency's value in the short run
    - IMF has historically been one source of loans but has problems
      - Countries often have little collateral
      - Hard to put an entire country in receivership for nonpayment
      - If IMF puts conditions on the loan it is difficult to monitor effort and compliance
    - The U.S. and Europe have advanced loans in the past (e.g., U.S. to Mexico in 1995) to send a signal of confidence concerning a distressed currency.
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## What to do about a currency crisis

- Capital Controls
    - Government imposes barriers on the ability to exchange home currency for foreign currency; to sell liquid assets such as private equities, public debt; to sell less liquid assets such as real estate.
    - Capital controls are tempting (imposed by Indonesia in 1997), but keeping markets from readjusting often leads to more damage/pain in the end.
  - Taxation
    - If international financial transactions are taxed (at least on exit), this might reduce the temptation for individual investors to sell on the slightest amount of news.
    - It is not clear if this would actually work, but many economists seem to be suggesting that individuals need to be taxed for their own good and the good of other countries
    - It is somewhat counter-intuitive, but it might work...
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## Conclusions

- Currency crises are not new although they seem to be more prevalent after the Bretton-Woods fixed exchange rate system.
  - Currency crises seem to hit economies that:
    - Have fixed or pegged exchange rates;
    - Are politically instable;
    - Have weak banking regulations;
    - Have poor economic performance;
    - Are nearby other poorly performing economies;
  - Open economies tend to recover from currency crises faster than others.
  - Will we see fewer crises in the future as economic freedom and reforms become more prevalent and policies become harmonized?
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