

Global Financial Systems

Chapter 11

Currency Markets. Part a

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To accompany

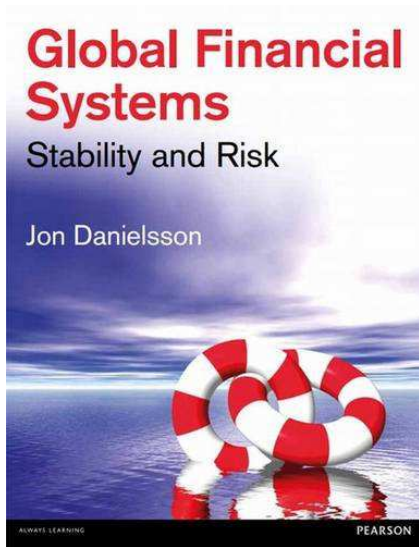
Global Financial Systems: Stability and Risk

<http://www.globalfinancialsystems.org/>

Published by Pearson 2013

Version 6.0, August 2019

Book and slides



- The tables and graphs are the same as in the book
- See the book for references to original data sources
- Updated versions of the slides can be downloaded from the book web page www.globalfinancialsystems.org

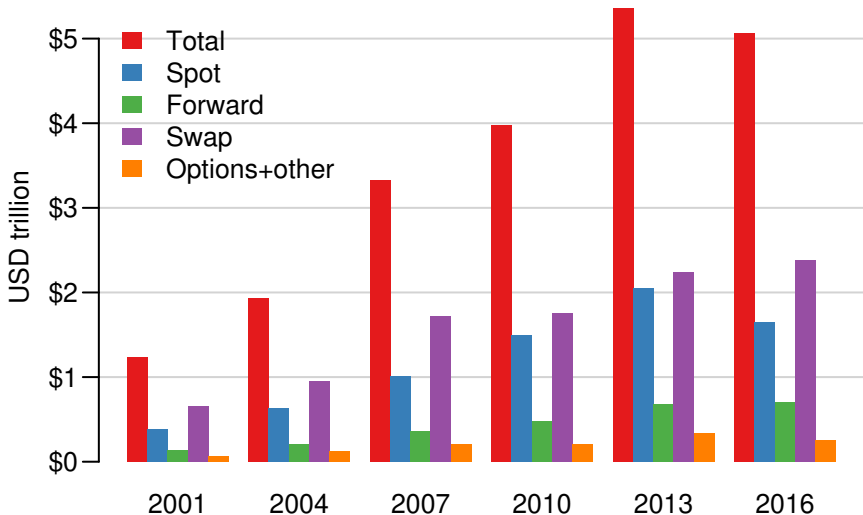
Introduction

Introduction

- There are around *180 currencies* in the world
- Using a wide variety of arrangements for determining the exchange rate (see next slide)
- Countries frequently change their regime
- And usually are unhappy with what they have chosen

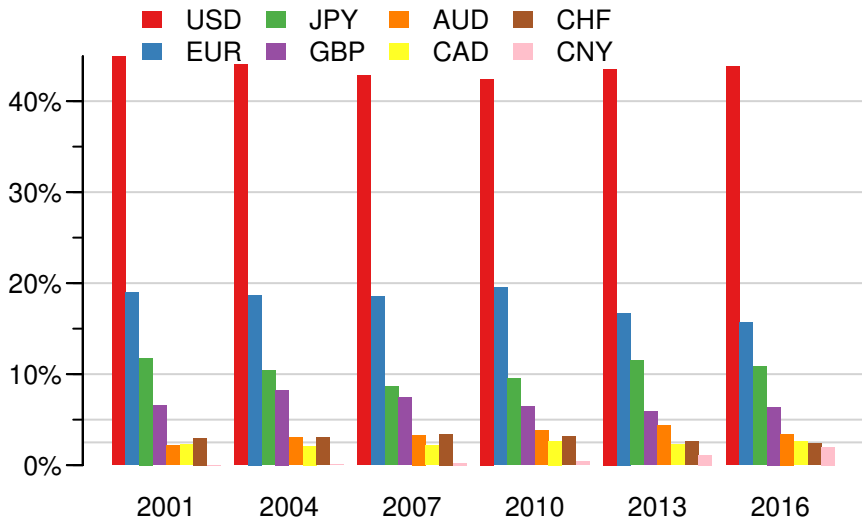
Daily volume by instrument in USD trillions

BIS tri-annual survey

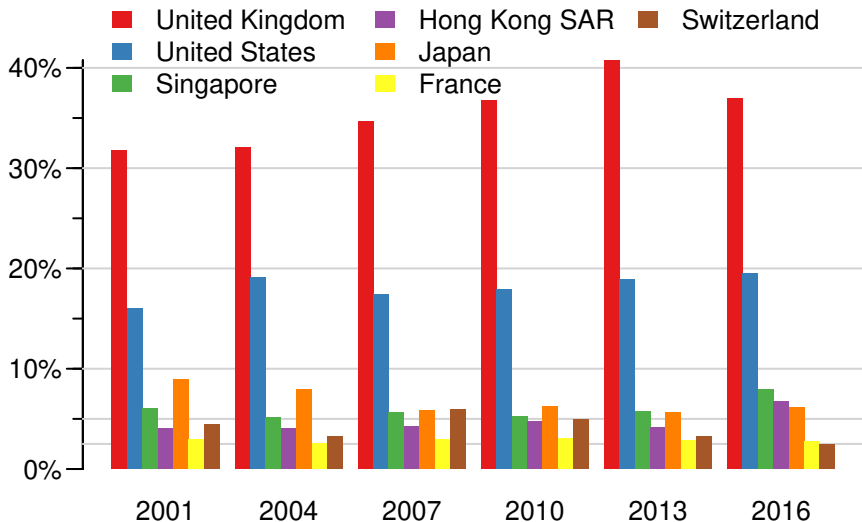


Relative trade volume by currency

BIS tri-annual survey



Where trade takes place

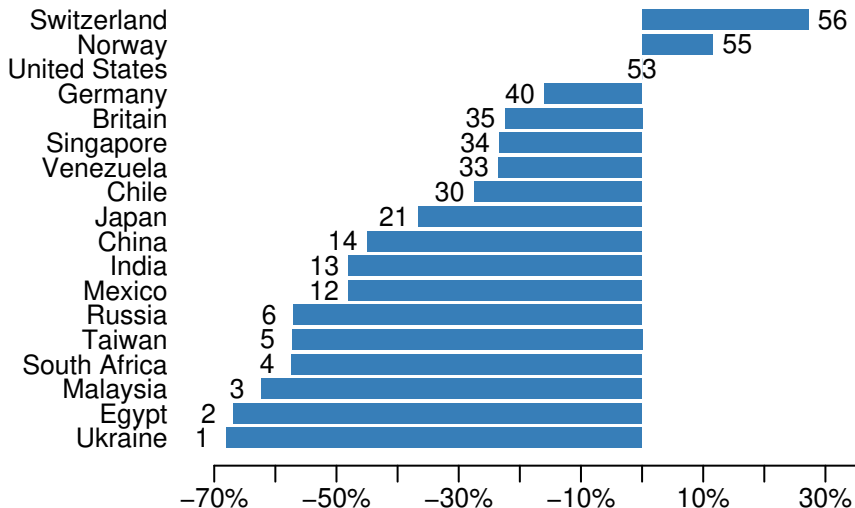


Purchasing-power parity (PPP)

- Long run FX should move towards a rate that makes the prices of an identical basket of goods and services the same
- Most likely with globally traded goods, like oil
- Least likely with services, like hair cuts
- Big Mac index
- Since it is an identical product with heavy service component

Big Mac index

relative to USD, amount and rank



FX Regimes

Currency regimes

Currency union Independent countries have same currency
(Eurozone, Panama)

Unilateral adoption/currency substitution adopt foreign
currency unilaterally (Ecuador)

Single/basket currency peg/fixed exchange rate
unilaterally fix a currency to that of another
country (Hong Kong)

Crawling peg a peg where a currency slowly and steadily
depreciated over time (Turkey)

Currency board a country pegs and keeps full reserves of
the other country's money (Argentina)

Target zones floats inside a upper and lower limit (ERM)

Managed float floats but is subject to intervention (most)

Free float government does not try to control currency
(nobody)

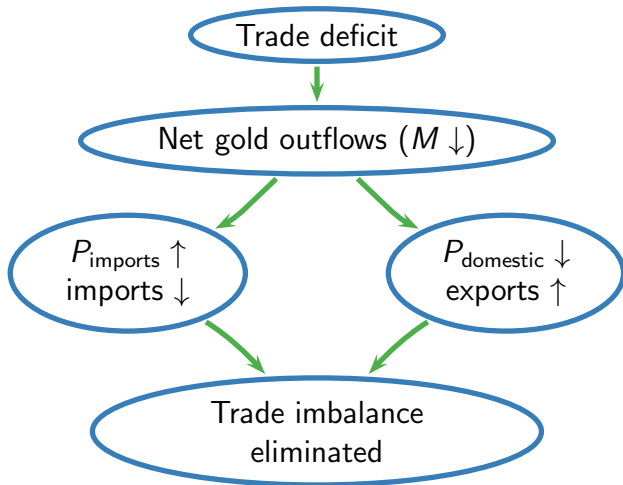
Gold standard

- The world's most successful FX regime
- In effect from 1870s to 1914 (and before and after)
- Benefited capital exporters and the wealthy classes
- Agricultural exporters and the poor lost
- Reason is deflation
- Speculation is stabilizing (next slides)
- Ultimately undermined by universal suffrage

Universal suffrage



Speculation is stabilizing under the gold standard



Example

- Start with a country in equilibrium and fixed FX
- If the country then embarks on an expansionary monetary policy, or simply loses control of inflation, the money supply is increasing
- In this case, speculators can borrow the country's currency and exchange for foreign money — *carry trade*
- Such a trade is likely to attract a large number of market participants
- In order for the government to maintain the exchange rate, it has two choices
 1. continue selling its foreign currency reserves until it runs out, at which time the regime will collapse
 2. impose capital controls

Impossible trinity

	Fixed Exchange Rates	International capital mobility	Independent monetary policy
Gold Standard	✓	✓	×
Bretton Woods	✓	×	✓
EU/US	×	✓	✓
China	✓	×	✓

Capital Controls

Capital controls

- Control the flow of foreign currency
 - taxes on transactions
 - outright prohibitions on buying/selling a foreign currency
- *Strict capital controls* were common in many countries
- Capital controls *(2.0)* of a different form now popular

Traditional capital controls

- The nations during gold standard allowed free capital mobility
- Capital controls introduced at the start of WWI and common until the end of Bretton Woods or later
- Increasingly seen as damaging
- Always quite leaky
- Encouraged corruption
- Most major countries had abolished capital controls by the mid-1970s

OECD study on capital controls

Country	Year	Country	Year	Country	Year
Australia	1978	Greece	1980	Portugal	1992
Austria	1980	Iceland	1993	Spain	1985
Belgium		Italy	1984	Sweden	1986
Canada		Japan	1979	Switzerland	1979
Denmark	1983	Luxembourg		Turkey	1985
Finland	1991	Netherlands		United Kingdom	1971
France	1986	New Zealand		United States	1974
Germany	1980	Norway	1989		

Hot money

- Large inflows of short-term foreign currency — which then can leave very quickly
- When the money comes in it makes the currency appreciate
- Creating the conditions for economic difficulties
- Which then make the hot money leave
- Collapsing the currency in the process
- Often related to *carry trades*

Capital controls 2.0

- Share the name “capital controls” but are fundamentally different from the traditional type. Can call them *Capital controls 2.0* — I am open to suggestions for a better name
- Impose restrictions on hot money inflows
 - e.g. Brazil, Chile, Colombia, Iceland, Korea
- Objective to prevent the adverse impacts of hot money flows and avoiding distortions caused by capital controls
- Targeted at a specific problem
- Surprisingly, IMF recently in favor
 - In the 1950s the IMF was intimately connected to the use of capital controls
 - But after that changed its view and advocated free capital flows

Bretton Woods — 1944–1972

- A system of pegged but *adjustable* exchange rates
 - dollar fixed at \$35 per ounce of gold
 - other currencies fixed to the dollar
- With capital controls as a substitute for an adjustment mechanism
- IMF surveillance, extend financing to countries at risk
- Par values could be changed to correct a “fundamental disequilibrium” *after* approval from IMF

Domestic priorities

- Governments were fully committed to domestic policies — *growth* and *full employment*
- *Philips curve*
- Britain adopted a “*Stop–Go*” policy
- France had to combine devaluation with fiscal discipline to overturn its deficit
- US had Vietnam, Great Society
- Germany and Japan vs. the weak countries

International cooperation

- Lack of effective adjustment mechanism
- Capital controls difficult to enforce — corruption
 - Easy to under- or over-invoice trade
- Parity changes were rare (*but disastrous*)
 - Intentions might be leaked to the market, inducing capital outflows
 - Frequent small adjustments might be destabilizing
- System survived because of international cooperation
 - Gold pool
 - Lines of credit

The collapse

Balassa–Samuelson Effect

- Lack of monetary discipline in the US
 - Vietnam war
 - Spending on welfare
- Not sufficient for the US to simply match the inflation rates of other countries
- Fast growing countries (e.g. Germany and Japan) can afford to run higher inflation
- Limits to the extent of support from foreign governments

Liquidity

- The dollar becomes the anchor, countries accumulate dollars enabling the US to run payments deficits
- Triffin dilemma:
 - Bretton Woods system *dynamically unstable*
 - if foreign dollar balances exceed US gold reserves
 - and all countries try to convert dollars into gold, similar effect as a bank run
- Creation of *special drawing rights* (SDR) which act as another reserve asset

The SDR has popped up in public discussions recently. Why?

Impossible trinity — Trilemma

it is impossible for a country to simultaneously have all the following policies in place

- Fixed exchange rate
- Free capital movements
- Independent monetary policy

ERM System

- Part of the European Monetary System, precursor of the euro
- A target zone exchange rate regime
- The European Currency Unit (*ECU*), an artificial unit of account, was created
- Exchange rates for each currency against the ECU were established
- The system allowed a *fluctuation band* of $\pm 2.25\%$ around this central rate
- Member countries had to *intervene* to ensure their currencies stayed within *the band*

Dominant role of Germany

- Effectively, the bands were maintained against the *most stable currency*, the Deutschmark (*DM*), which became the unofficial *reserve currency*
- The Bundesbank was *supposed* to lend DM to countries whose currencies came under depreciatory pressure
- Therefore, Germany was the only country with *discretion* over its own monetary policy

Reunification of Germany

- Amalgamation of a large rich economy with a smaller poorer economy
- Germany embarked on a massive *fiscal expansion* to transfer resources to the east
- East German marks were converted to DM at a rate of *1.8:1*
- The government deficit rose from 5% to 13.2%
- Bundesbank concerned about high inflation pursued a *contractionary* monetary policy, by raising interest rates

Adverse impacts

- High interest rates and *appreciation* of DM hurt other countries
- *UK* was in a recession, with unemployment levels over 10%
- Same was true of *Italy, Spain, Sweden*
- Those countries *couldn't* use expansionary monetary policy or a weaker currency to stimulate their economy
- Speculators figured the system was not *sustainable*

Speculative attacks

- September 16, 1992 is nicknamed “**Black Wednesday**”
- In the morning, **BoE** raised rates from 10% to 12%, a few hours later, to 15% but could not stop the massive selling of pounds
- Eventual loss for the UK of £3.3 billion
- Sterling left the ERM that evening, followed by the Italian lira
- Eventually, on August 3, 1993, the size of the bands were widened from $\pm 2.25\%$ to $\pm 15\%$
- Basically a free float

So

- Market sentiment gradually turned and was casting doubt whether governments would stay firmly committed to the ERM
- Governments were *weighting* the costs involved in staying in the ERM (loss of monetary independence) against the benefits (monetary union)
- Investors started to believe that the costs for some governments in the ERM had become too high and they were no longer committed to the peg
- Countries with the *weakest fundamentals* were the first to be attacked and the first to abandon the ERM

Parallels with today

1. Devalue

- The countries that devalued/left were in a short term recession
- Devaluation helped them to recover — long term benefits
- Is that needed today?

2. Be stable

- Currency crises and devaluations and inflation costly
- Stability valuable
- Hence common currency
- Should Italy leave the Euro? We discuss later

Fixed or Floating

In favor of fixed

“Wrong-rate” argument

- The market is inefficient
- It does not make use of available information
- Prone to destabilizing speculation
- Attaches too high a probability on a devaluation or appreciation, not usually justified by economic fundamentals
- Speculators may deliberately manipulate the rate to profit from the resulting volatility

After all

- High-frequency FX volatility is very high
- Whilst economic fundamentals move slowly
- So intervention is useful to get the “correct” rate
- Benefits society though low transaction costs and risk
- Encouraging trade and investment

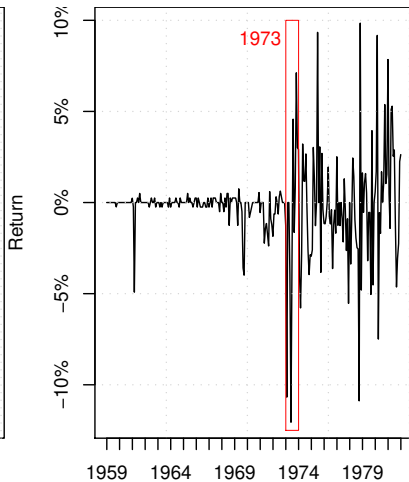
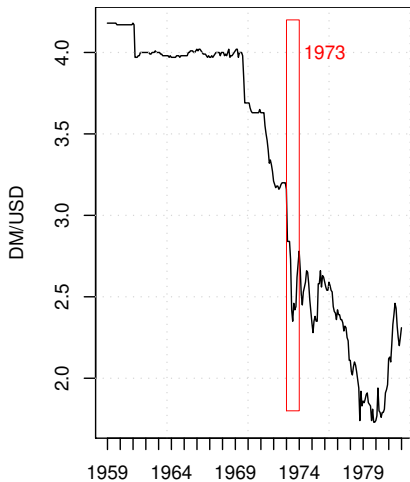
In favor of floating

- Authorities incapable of identifying the correct FX
- May want a wrong rate for political reasons
 - overvalued currency to make voters feel artificially wealthy
 - undervalued to help industry
- Costs of incorrect rate are high
- Interventions are distortionary
- Speculators may undermine the interventions

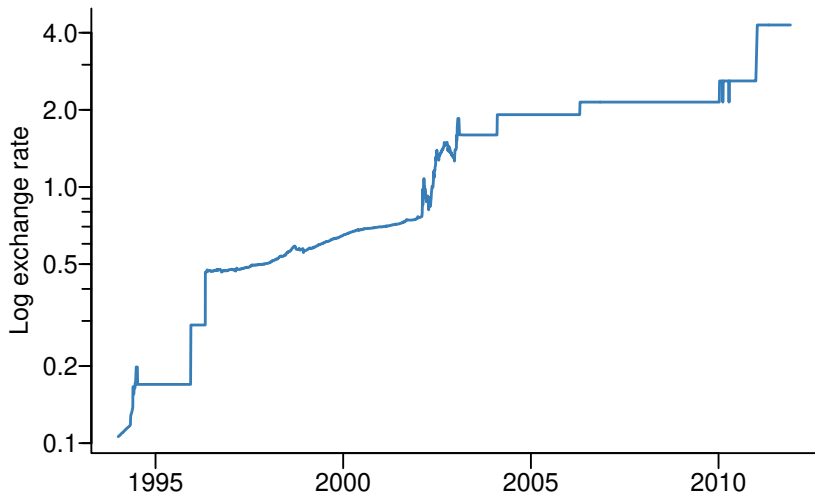
So...

- Floating may not be less stable
- Are we trading *volatility for jumps*?
 - See DM/USD plot below, or Venezuelan bolivar FX
- Allows for an independent monetary policy
- So the speculators attacking a fixed regime are doing the country a favor

Dollar crisis



Venezuelan bolivar to the dollar



Conclusion

- Both compelling elements
- Countries alternate, never happy
- No exchange rate regime is perfect
- *All* governments think some interventions are necessary
- Academic economists are often vocal in their opposition to FX interventions, those actually in charge disagree

Intervention

Official intervention

Introduction

- The *government* chooses the exchange rate regime
- In no other asset market do governments interfere as strongly
- Fixing an exchange rate means that the government must always be willing and able to trade its currency with investors at this rate — unless capital controls
- Fixing an exchange rate means that the government *gives up* independence of its monetary policy
- Governments have actually intervened *more heavily* with (officially) flexible exchange rates

Sterilization

central bank balance sheet

Assets	Liabilities
Net foreign currency bonds	Monetary base
Net domestic currency bonds	Net worth
Foreign currency reserves	
Gold	

- Official intervention is sterilized when the central bank carries out transactions that *insulate* the effects of a change in net foreign asset holdings on the domestic money supply

- Foreign exchange interventions involve a *purchase* or a *sale* of foreign assets
- If the CB wants to keep its currency from appreciating, it will sell it for foreign currency and purchase foreign assets
- The purchase leads to an *increase* in assets and therefore the monetary base
- To sterilize, the CB *sells* domestic bonds drawing currency out of circulation to keep the monetary base constant

- Sterilization may lead to an increase in *domestic interest rates*
- As a result, money flows in to profit from the higher rates, leading to an appreciation of the currency
- For sterilization to be effective, *capital controls* often need to be implemented (as in emerging markets)
- Sterilization is a useful tool in the *short term* for countries that accumulate reserves to ease *inflationary pressures*
- But creates problems in the *longer run* by introducing economic distortions and impeding corrections of global imbalances

Choices

- Hard in developed countries because assets are substitutable
- Sterilization increases interest rates, attracting investors to domestic assets — strengthening FX
- Easier in developing countries
- China largest user, sterilizing 80% of its intervention