Monetary Policy, Exchange Rates, and Currency Crises

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POLI 150

4 - 9 April 2024

Announcements

- Exam 2 on April 18. Exact same format as Exam 1. Non-cumulative.
- PSSP module 2 open until April 10. See PSSP site for details, questions, and contact info.
- Prompt 10 due today (April 4).
- Prompt 11 due April 9.

This Week's Class

- Domestic and international exchange rate impacts
- Bretton-Woods Monetary System
- Monetary policy and currency devaluation
- Balance of payments
- Anatomy of a currency crisis
- Application: Russia
- Application: Global Financial Crisis of 2008

Key Terms

- Exchange rate (fixed and floating)
- Appreciation/depreciation
- Inflation
- Monetary policy
- Mundell-Fleming Trilemma
- Current account
- Financial account
- Balance of payments
- Currency crisis
- Eurozone debt crisis
- Austerity

Central Questions

How do currency relationships influence governments' decisions and their international relations? What are the causes and consequences of a currency crisis? What were the causes and consequences of the global financial crisis of 2008?

Currency Map

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- However, state governments both issue their own currencies and affect the value of those currencies through their use of **monetary policy**: supplying, controlling, and maintaining trust in a currency.
- How is this possible? **Not all currencies are equally valued**.

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  - 11 countries use the USD.
- Some common also currency arrangements exist (Euro, CFA Franc).
  - Makes trading, investing across borders significantly easier.
- Why would a state choose one of these options over another? The choices made here are influenced by many considerations, but the most obvious is...

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- If I have $1, how many British Pounds or Euros or Chinese Renmimbi/yuan can I get for that dollar?
- This is formalized in the concept of the **exchange rate:** The price at which one currency is exchanged for another.

Exchange Rate Examples

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- .94 Euros

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These values also change over time...

US Dollar Exchange Rate Over Time

FIGURE 9.1 ***The Value of the U.S. Dollar, 1975–2016***

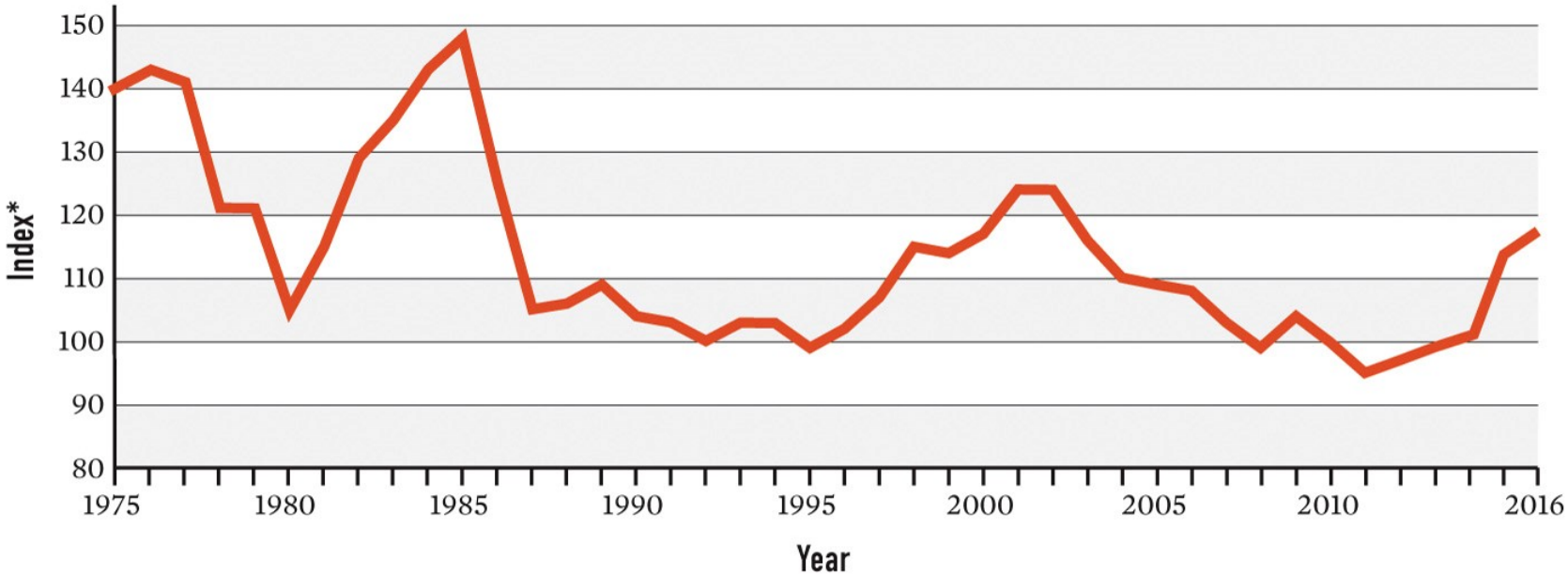

Figure source: World Bank, World Development Indicators, http://data.worldbank.org/ indicator (accessed 11/13/17).

*Real effective exchangerate index. The real effective exchange-rate index is a measure of the v alue of the dollar against a weighted average of the curr encies of the United States' major trading partners. The base y ear, 2010, is given the value of 100. Higher values indicate a s tronger (more appreciated) dollar relative to the w orld's major currencies, and lower values indicate a weaker (depreciated) dollar.

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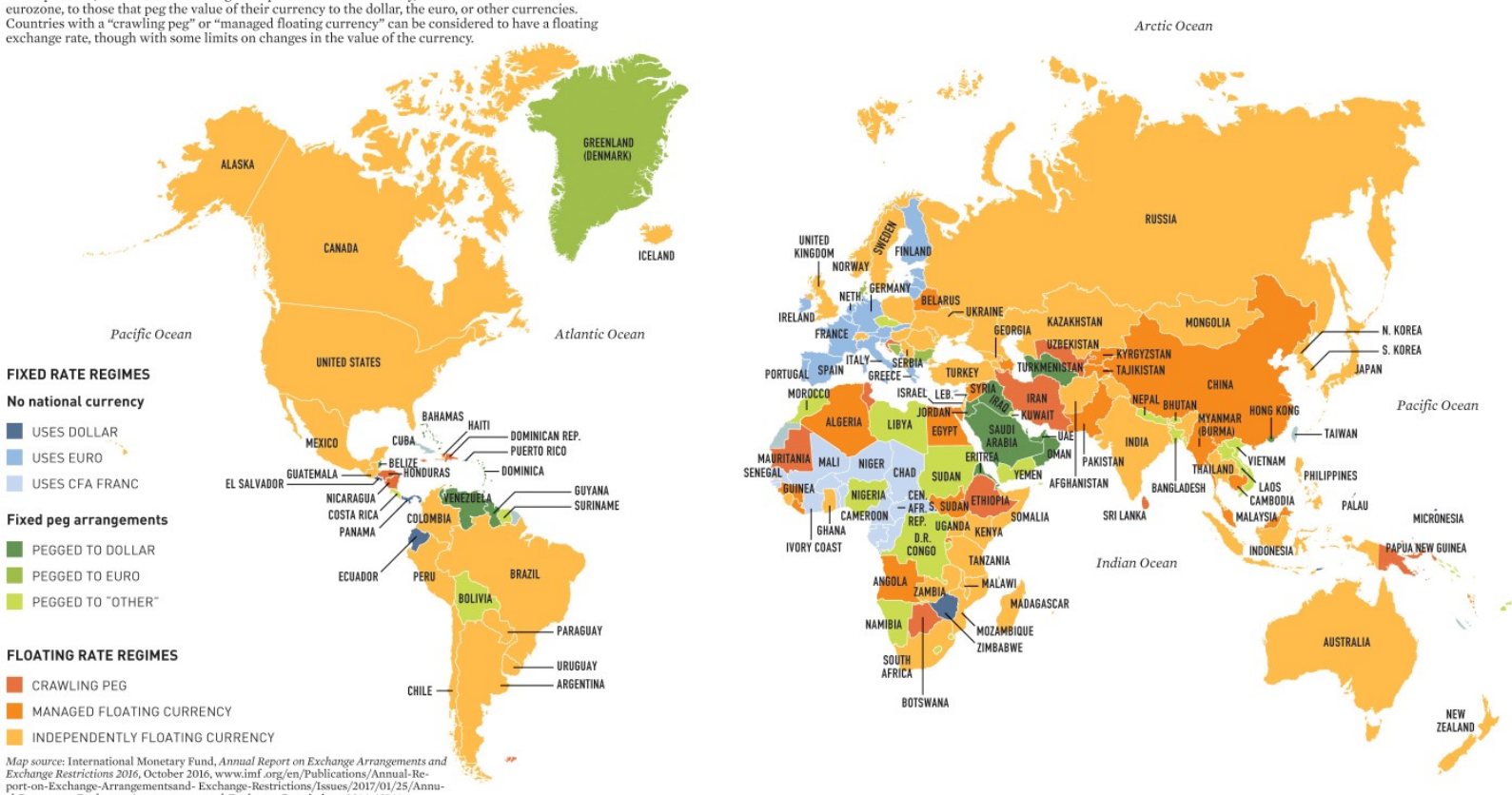
Most currencies today, and all major currencies like the USD, are floating. The following examples implicitly assume a floating currency, as these are both more common and the most important currencies in the international system float.

Exchange Rate Regimes

MAP 9.1 ***Exchange-Rate Regimes, 2015***

Today, several of the world's major economies, including the United States and Japan, allow the value of their currency to float independently. However, exchange-rate regimes around the world span a wide spectrum, from those that have given up their national currency, such as countries in the eurozone, to those that peg the value of their currency to the dollar, the euro, or other currencies. Countries with a "crawling peg" or "managed floating currency" can be considered to have a floating exchange rate, though with some limits on changes in the value of the currency.



Map source: International Monetary Fund, *Annual Report on Exchange Arrangements and Exchange Restrictions 2016*, October 2016, www.imf .org/en/Publications/Annual-Report-on-Exchange-Arrangementsand- Exchange-Restrictions/Issues/2017/01/25/Annual-Report-on- Exchange-Arrangements-and-Exchange-Restrictions-2016-43741.

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- To engage in economic activity in a given state, you need currency that state's businesses will accept.
- In most cases, especially in developed rich states, this means converting your currency into their currency.
- **Thus, changes in exchange rates have substantial implications for the profitability of international financial interactions.**
- Exchange rates are influenced by a variety of domestic and international factors.

Exchange Rates and Domestic Factors

- **Domestically, the value of money is itself subject to the laws of supply and demand.**
- As a running example, consider the US dollar (USD), which has a floating exchange rate.
- Consider **demand** for USD: what may make international investors want more USD?

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- Investment opportunities in the US (loans to US businesses), desire to buy export goods from the US, etc. – any economic activity that involves the USD increases demand for it.

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- So, investors need to trade some of their currency for some USD to invest.
- However, the supply of dollars is finite.
- **As more investors want to invest in an economy, they will drive up demand for that country's currency, giving it a higher value in comparison to their own.**
- This increase is **appreciation**. Currencies **appreciate/strengthen** when they increase in value relative to other currencies.

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- Central bank interest rate changes are mirrored by the biggest banks, and then eventually filtered down to individual consumers.

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- This means a net increase in the amount of money in the economy.
- **Holding other factors constant (no concurrent increase in demand), this increase in supply decreases the value of money.**
- This decrease is **depreciation**. Currencies **depreciate/weaken/devalue** when they decrease in value relative to other currencies.

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- Thus, for governments worried about inflation, they may choose to raise interest rates.
- The correct interest rate is a balancing act for the government.

Inflation Example

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- Fixed rates reduce policy options in response to financial turbulence, but provide extra stability when markets are calm.

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- **Changes to the interest rate are the primary way state governments can impact the exchange rate.**

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- Depreciation is this story in reverse.

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A weakened dollar would lead to the reverse of this situation.

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- Weaker currency is good for import-competing industries and exporting industries, but tends to be worse for the buying power of consumers.

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Monetary policy is driven as much by which groups can effectively lobby the government for changes in monetary policy as by purely economic concerns.

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- Collective action problems are present here, meaning that relative group size matters, with industries usually having an organizational edge over consumers.

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Alfred Eisenstaedt/Time & Life Pictures/Getty Images

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- The solution was a combination of fixed and floating rates.

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- **This system was stable so long as the dollar's value stayed fixed.**

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- By 1971, President Nixon has a choice:
  - Stop spending money/raise taxes (austerity) to reduce supply of dollars to maintain the fixed rate.
  - Break promise to convert dollars to gold.

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- To prop up the dollar, US foreign policy shifts towards convincing OPEC states, in particular Saudi Arabia, to sell oil in dollars.
- This both creates the petrodollar system and ensures the primacy of the dollar in the international economy even after Bretton-Woods (see next week's Bapat (2019) reading for details).

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  - Stop contagion of crises
  - Avoid competitive devaluations
- ... but may struggle to work together

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- Other countries may more explicitly interfere with their rates via devaluation or currency manipulation.

Monetary Policy Choices

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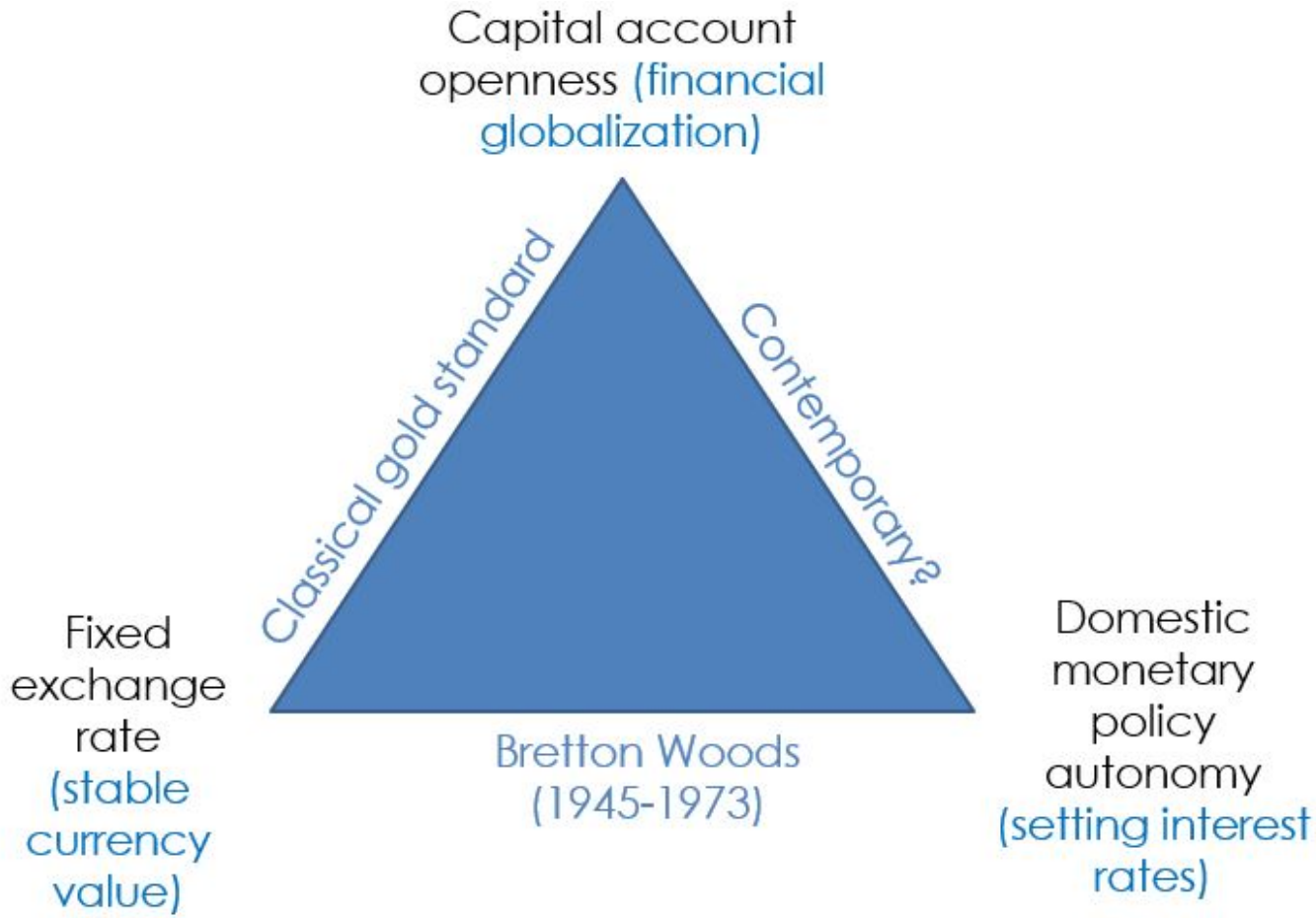
  - A quick overview of the logic behind this

Trilemma


Capital account openness (financial globalization)
Classical gold standard
Contemporary?
Fixed exchange rate (stable currency value)
Bretton Woods (1945-1973)
Domestic monetary policy autonomy (setting interest rates)

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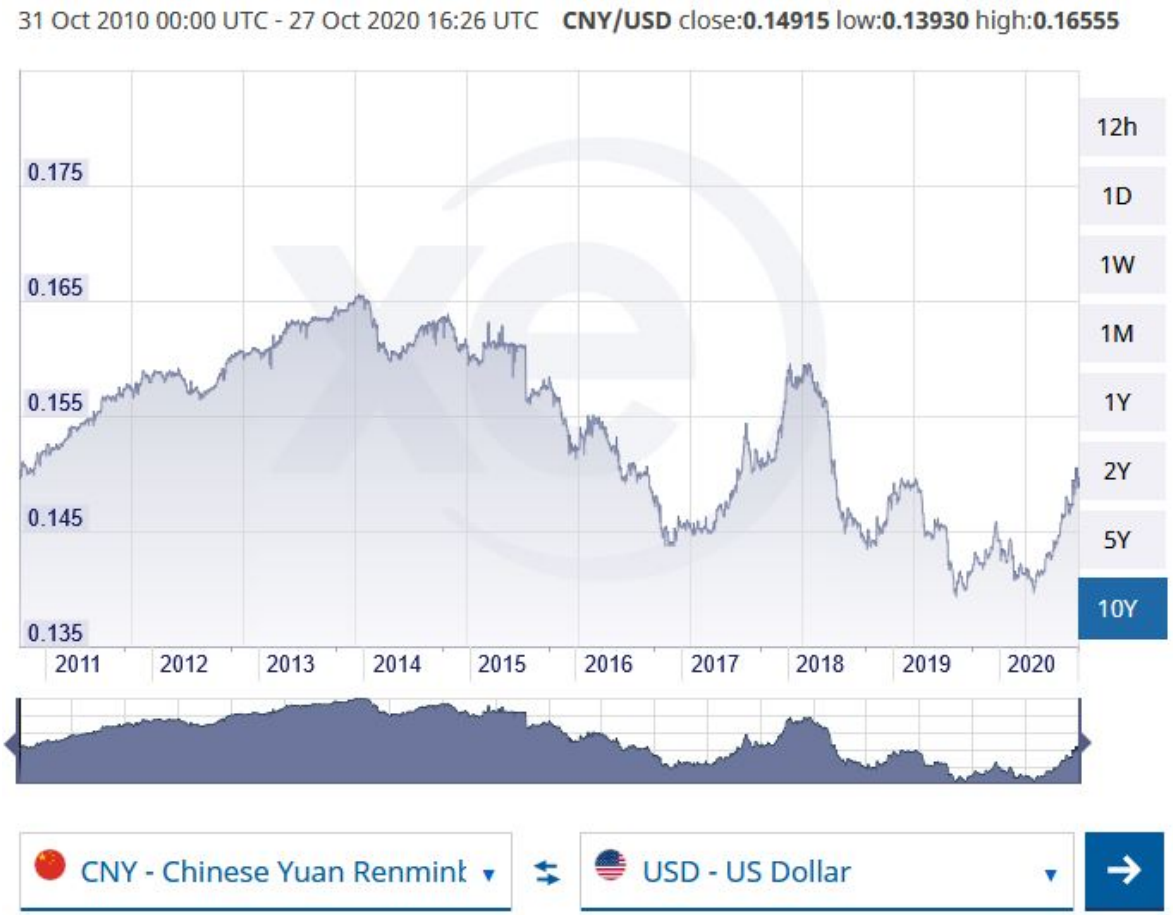
- This practice causes friction with international trading partners who face backlash from their own domestic producers, who argue their international competitors are essentially getting government help.

CNY-USD Conversion



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- President Trump named China a currency manipulator in August 2019, then revoked this in January 2020; this appeared to be a tactic in the then-ongoing US-China trade war rather than an independently verified fact.
- Unclear economic benefits from these accusations, which may explain why the US did not formally label China a currency manipulator from 2003-2013.

Balance of Payments

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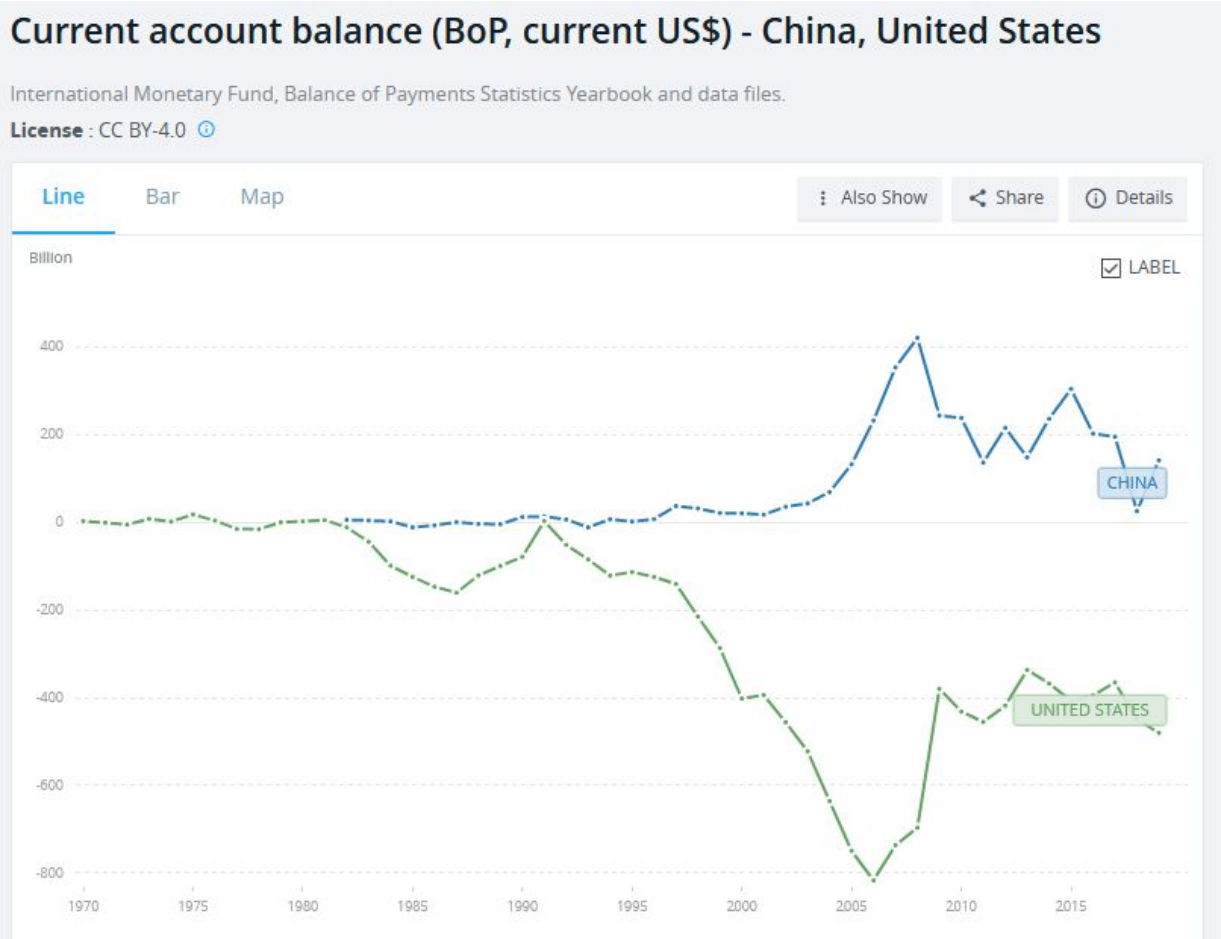
- The financial and current accounts should balance out to 0 (thus, known as the **balance of payments**).

US-China Current Accounts



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- Example: if I import $100 of goods from a foreign producer, then I am sending $100 of my currency (filtered through the exchange rate) abroad to that foreign producer.
- During normal economic activity, this balance holds, and international trade and investment continues as normal.

Currency Crisis

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- In a currency crisis, the current account and financial account no longer sum to 0.
- Substantively, this means that the state's economy is unable to continue to pay for imports and/or make timely repayments on its foreign debt.

Anatomy of a Currency Crisis

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- A current account deficit is not intrinsically bad, so long as the state's economy is able to pay for these incoming goods/services by attracting some inward flow of foreign capital.

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- A financial crisis is now also occurring concurrently with everything else described here.

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- Step 3: the state's currency begins to devalue. Why?
- Those outbound capital flows mean that investors are now converting their previous holdings from the state's economy (which were in the state's currency) back into the currency of their home state.
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- **This means a massive devaluation of the currency as the currency supply suddenly drastically increases.**

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Step 3 continued:

- Feedback loops and contagion effects begin to take hold.
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- Domestic consumers may also panic and try to remove their money for savings or convert it into foreign currency that is perceived as safer, exacerbating this.
- **This devaluation is especially bad for domestic groups that have borrowed money in foreign currency, as it is now more expensive to repay those loans.**

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- Step 4a: if the central bank is successful and stabilizes the currency, then the crisis is over. If it fails to do so...

Anatomy of a Currency Crisis

- Step 5: the state's currency is in free-fall as investors dump their holdings.
- Remember that a financial crisis is now also occurring as domestic borrowers (possibly including the government) are now struggling to repay loans denominated in foreign currency. Domestic firms may start to go bankrupt, creating further economic turmoil.

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- The state's central bank can try to raise interest rates, while the government can implement austerity measures, but both of these steps will have negative domestic economic impacts.
- These crises are usually resolved with some kind of bailout and/or structural adjustment program.

Application: Russia

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- This is a general understanding, but what specifically is going on, and why are these sanctions so damaging?

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- Personal targeted sanctions against Putin and assorted Russian government officials and oligarchs.
- These mean that any of their assets in the international banking system are now frozen, while it is illegal for Americans to do any form of business with them.
- These may hurt these oligarchs to some degree, but these are not the primary source of Russia's financial pain.

General Sanctions

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- EU implemented similar import bans, with some exceptions for states dependent on these imports.

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- There is no short-term alternative to using SWIFT, making this tantamount to ripping the Russian banking sector out of the global economy.
- This means that Russian banks are effectively unable to transfer currency into or out of the country.

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- This means that there are very few loopholes for Russian firms to evade these sanctions.
- Meanwhile, many MNCs have also suspended or ended operations in Russia of their own volition (likely influenced by the difficulty of actually getting profits out of Russia given these sanctions).

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- This meant a massive, swift, and brutal currency crisis for Russia **with the central bank effectively powerless to fight it**.

USD:RUB Exchange Rate

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- End result: a currency crisis leading to general financial crisis, but with several major actors in the global economy doing their best **to make the situation worse**.

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The takeaway: the Russian government's responses are simply insufficient to prevent severe economic damage, despite the ruble's rebound in April.

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- Russian economy is hurting on all measures (source), but has been surprisingly resilient and has avoided the complete collapse predicted initially.

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- Goal of these sanctions: a concerted effort to hurt the Russian economy, effectively cutting off a major market from the rest of the world.

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- These crises and their consequences are important for understanding the global economic environment.

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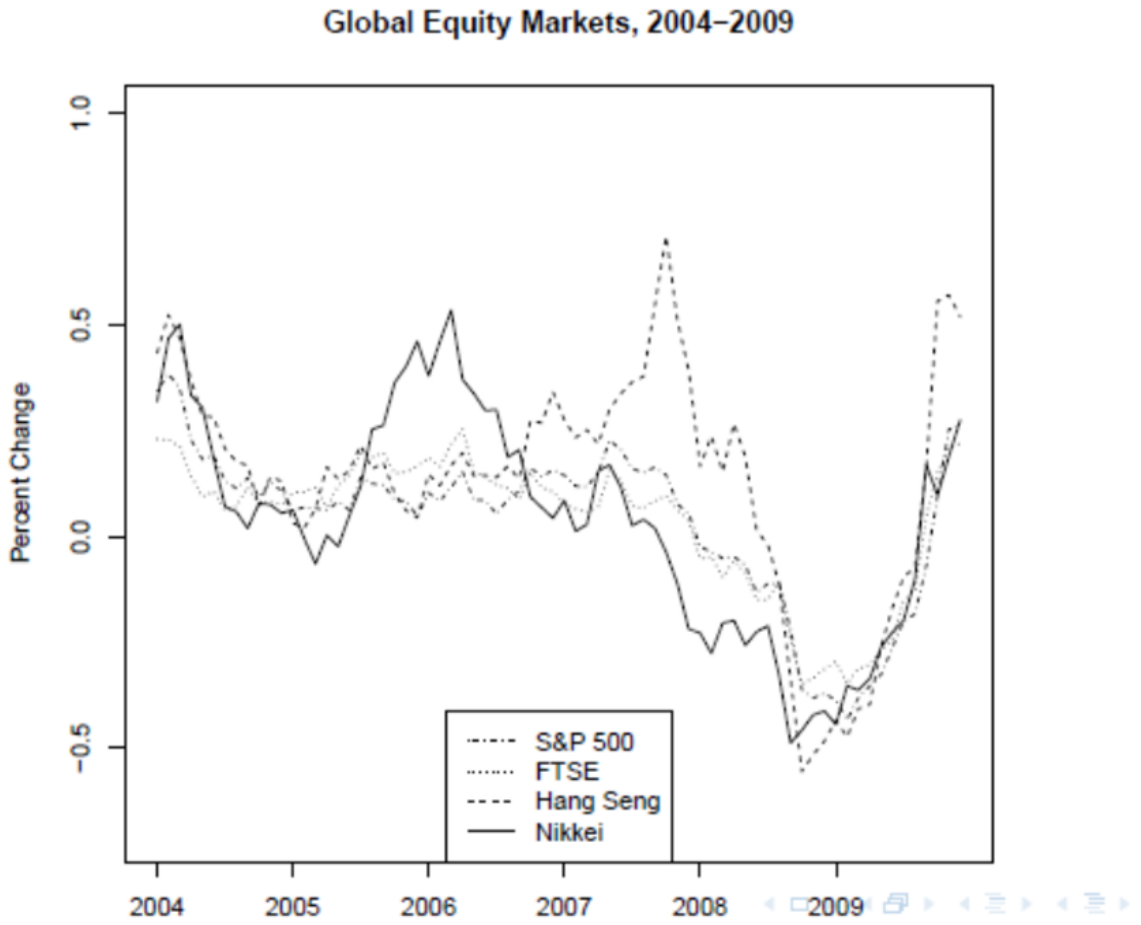
- Was it worse than the Great Depression? Probably not, but still very bad...

Recession Job Losses

Recession Equity Market Contract



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- Net result: more investment flowing into the US to finance this current account deficit.

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- These investments offered very high returns because of their high interest rates.

Background: US Investment

This influx of liquidity, in the form of investment inflows, means high market demand for investments into which this capital can be invested.

- The market's answer: the subprime mortgage.
- **Subprime mortgage**: high-interest mortgages offered to borrowers with low credit ratings. More details here. Can include **adjustable rate mortgages (ARMs)**.
- These investments offered very high returns because of their high interest rates.
- Remember that those interest rates are high *due to the greater risk of default by borrowers.*

Background: Derivatives

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- A **derivative** is a type of financial product with value conditional on the value of the assets contained within it.
- In particular, the type of derivative that contributed to the financial crisis was a **mortgage-backed security**: a bundle of real estate debt, mainly home loans, sold as a single product. More info here.

Background: Derivatives

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- Remember that the subprime mortgages that comprised these financial products are risky investments. **This makes these products risky too.**

Background: Interest Rates

In spite of these risks, the high returns continue to attract capital, and that capital helps pay off the current account deficit.

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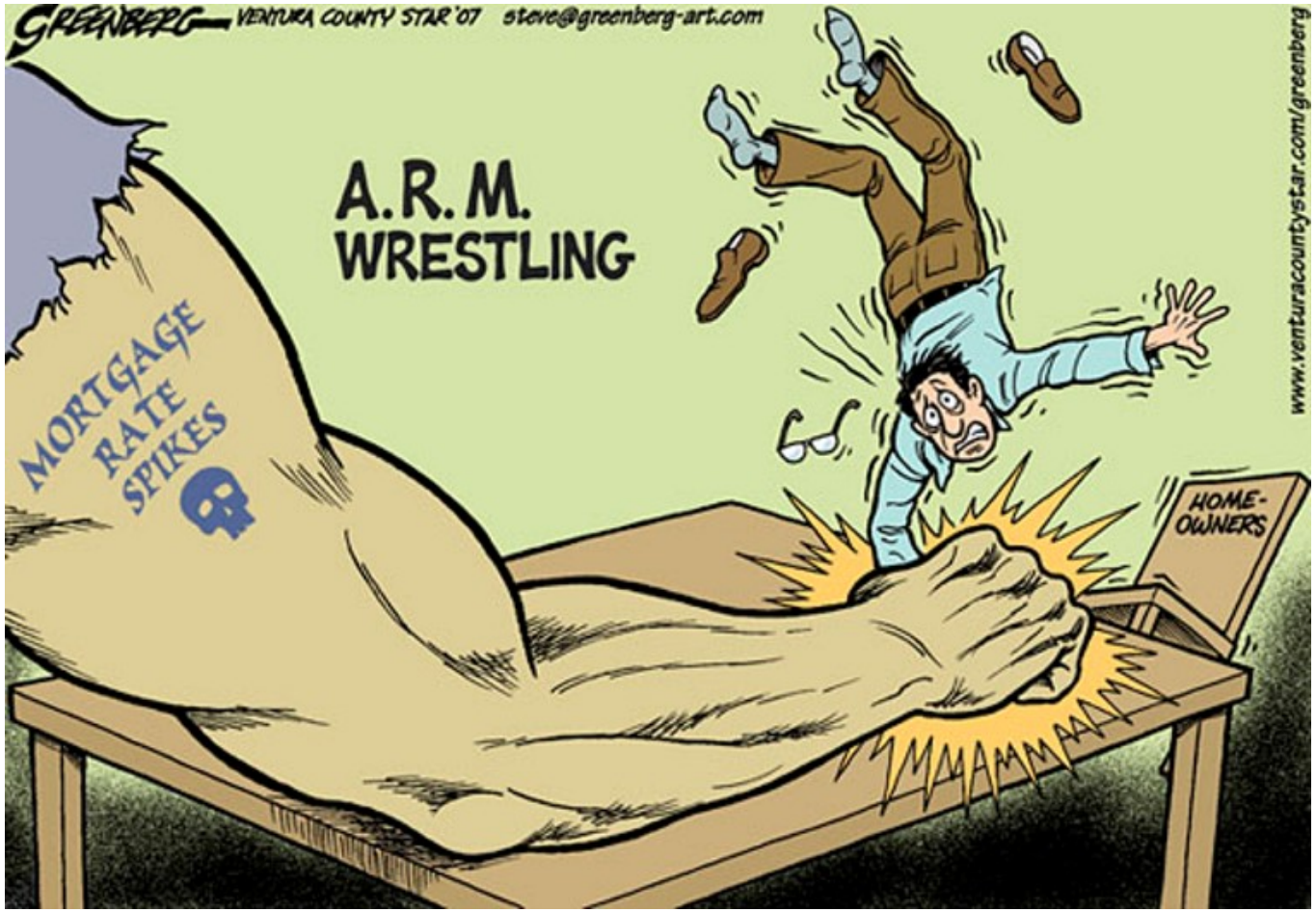
- Some of those high risk borrowers default on their debts (mortgages) as the interest becomes too high to pay.

ARMs and Default



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- ...Many banks and investment firms were heavily invested in derivatives and financial products based on these subprime mortgages.
- **As borrowers default on their mortgages, this drags down the value of any products based on those mortgages. This implicates a wide array of complex financial products.**

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- This means that brokers are encouraged to buy and sell these financial products quickly, to avoid being exposed to the risk for long.
- **Most importantly, this means that any one firm dependent on these complex products going bankrupt will likely set off a chain reaction of bankruptcy.**

2008 Financial Crisis Begins

At this point, the stage is set for the financial crisis as the subprime mortgage bubble is set to burst.

- Defaults start to occur, pulling down the stocks of investment firms that are heavily committed to products based on those loans.
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- With the values of their assets plummeting, and firms cashing out of credit default swaps, these firms begin to implode.
- These firms contain millions in assets from other banks, other Americans, and from other countries.
- If they declare bankruptcy, or their stock value plummets, everyone gets collectively poorer...and this is exactly what happens.

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- In this market, practically everyone is exposed to the negative consequences of risky loans.

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- This means that these corporations, even those that are not banks themselves, are now exposed to the risks of the market.
- As the market contracts, the capital of these companies dries up, leaving them unable to pay their obligations and thus default.
- This leads to chains of bankruptcies and layoffs, *even for firms which were not in the banking sector.*

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- However, interest rates were already low (even after the 2004 increase), and so money was already saturating the system.
- At the same time, money and value are disappearing with all the bankruptcies and defaults.

At this point, the US economy is in free-fall.

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- The US also implements a stimulus package in 2009.
- Meanwhile, the EU turns to austerity measures.

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- Increased financial regulations may prevent specific risk-taking behaviors, but do not address this core problem.

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- As global demand collapses due to the 2008 Financial Crisis, Greece can no longer pay off its deficit or finance its debt, and so it defaults.
- This launches the **Eurozone Crisis**, AKA the **European (Sovereign) Debt Crisis**.

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- The states most affected by the Great Recession are Greece, Portugal, Ireland, Spain, and Cyprus.

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- Those EU states that were least affected, especially Germany, argued for the need for structural reforms to EU economies to prevent the crisis from recurring.

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- These measures involved substantial tax increases and cuts to government spending.
- Predictably, this led to substantial economic pain: in Greece and Spain unemployment was about 25%, in Portugal and Iceland it was near 15%. Economic demand collapses, making the recessions even worse.

Austerity Reactions

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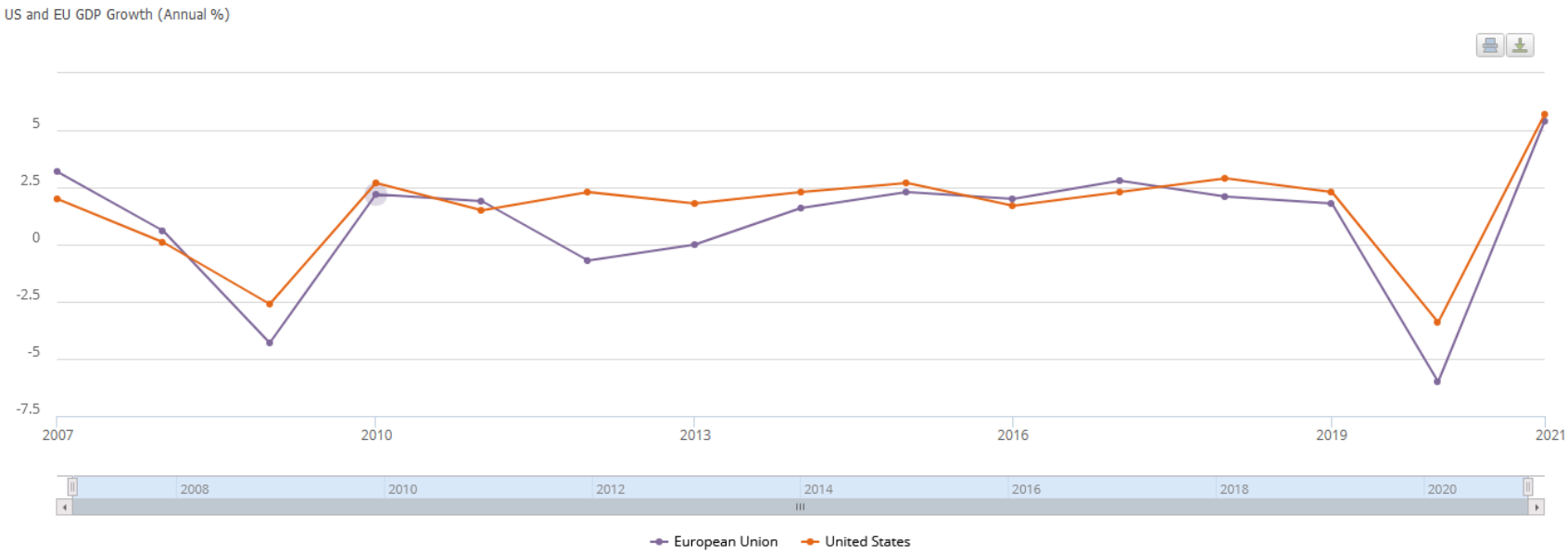
- However, substantial doubts remained over whether austerity was the best policy option...

US and EU Growth as % of Annual GDP



Source: World Development Indicators

Legacies of Crisis

- Rise of backlash against globalization in both US and EU politics, influencing electoral rhetoric and trends in the following years.
- Brexit and its negative economic impacts.
- Rise of right-wing nationalist movements in the EU, often responding to economic concerns by advocating protectionism.

Legacies of Crisis

- Rise of protectionist rhetoric from both parties in the US; withdrawal of US from trade agreements like the Trans-Pacific Partnership and Transatlantic Trade and Investment Partnership.
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- Security concerns: is a more protectionist, less economically prosperous world going to encourage more adversarial relations between states?

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- Exchange rates are the relative values of currency to one another.
- Governments must commit to exchange rates, but may struggle to because of tradeoffs and domestic policy pressures.
- Currency manipulation is a heated debate, in US-China relations and elsewhere.
- Currency crises occur due to imbalances in the balance of payments.
- Optional link reviewing the economic basis of these concepts.