

# **International Finance 4832**

## **Lecture 1: Introduction and course overview**

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# About me

- ▶ Camilo Granados - Assistant Professor of Economics
- ▶ Education:
  - Ph.D. Economics - University of Washington, Seattle (UW)
  - M.S. Data Science - University of Texas at Austin (UT)
  - B.S. Economics - Universidad Nacional de Colombia, Bogotá
- ▶ Work:
  - (~13 years, 09-22): Central Bank of Colombia - Last post at Macroeconomic Modeling Department
  - (~6 years, 15-21): PhD-ing and Teaching at UW: Macro, Int. Finance, Finance, among others.
  - (22-): UTD-EPPS. Courses: UGrad: International Finance, Intermediate Macroeconomics; Graduate: Macroeconomics (MS), International Macroeconomics and Finance (PhD).
- ▶ Research areas: International Macroeconomics, International Finance
- ▶ **Office Hours:** M 4:00-6:00PM, GR 2.820 (or by appointment, [camilo.granados@utdallas.edu](mailto:camilo.granados@utdallas.edu))

# Outline

## ► This lecture:

### 1. Introduction - Overview of Course (based on Chapter 12 of textbook)

#### ► Part 1: Exchange Rates

#### ► Part 2: Financial Transactions between countries: The Balance of Payments Related to International Borrowing/Lending

#### ► Part 3: Open Economy Macroeconomics and Policy

How Economic Variables inter-relate between economies "financially integrated"

} ER, BOP  
affect macro-economic outcomes

### 2. General Info of the Course (Syllabus)

Read the Syllabus yourself too! (e.g., know what "the textbook" refers to)

## ► Next:

Exchange Rate Fundamentals (Based on Chapter 13 of textbook)

↳ Taylor & Feenstra

"International Macroeconomics"

# Exchange Rates

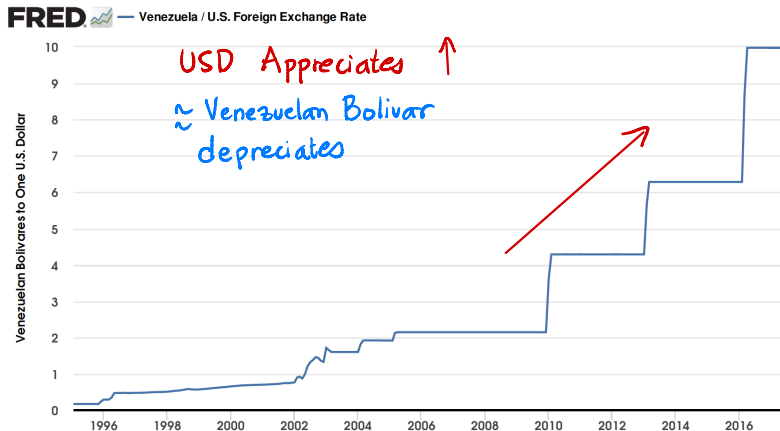
- ▶ What is an Exchange Rate? → Price of Foreign Currency in local (or home) currency units
- ▶ Example: 1 € = 1.05 US Dollars ... or:  $E_{\$/\epsilon} = 1.05$   
*Unit* (pointing to the denominator)  
*what is being priced* (pointing to the numerator)
- ▶ How are Exchange Rates determined? (big topic of this course - core of Part 1)

$$E_{\$/\epsilon} = 1.05 \leftrightarrow E_{\epsilon/\$} = \frac{1}{1.05} = 0.95$$

## Real life example

As any price, it can, in principle, vary over time ...

how it varies depends on many factors (some private, other policy/government choices)



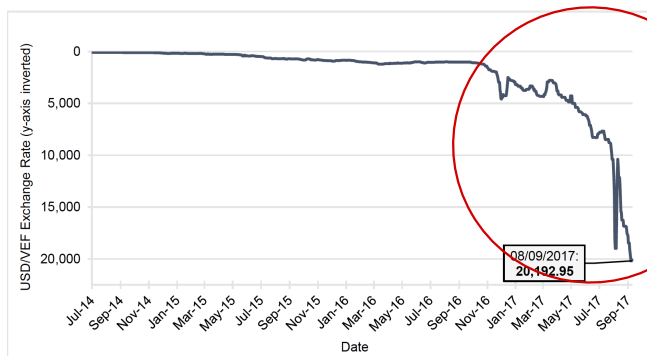
Source: Board of Governors of the Federal Reserve System (US)

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# Splitting the Price

Also, the Exchange Rates can be **very** volatile:

**Figure:** Fall in the Value of Venezuelan Bolivar: Black Market Exchange Rate



ERs are  
Volatile

Sources: *DolarToday*, *Dolar Paralelo*, *Paralelo Venezuela*, *Venezuela Econ*.  
Prepared by Professor Steve H. Hanke, The Johns Hopkins University.

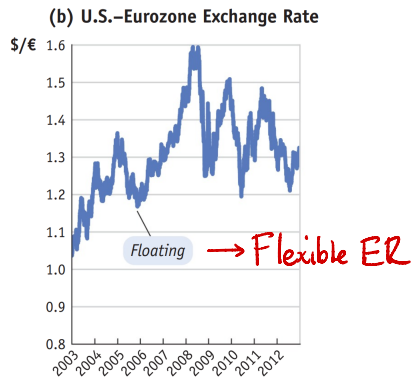
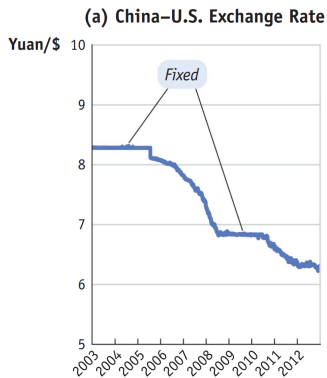
# More Examples

Here we can see how differently some major currencies can behave

Why? ... In this case a policy choice → Exchange Rate Regime

(not only private agents, government can also play a major role in the foreign currency -or FX- market)

Figure: Major Currencies (from FT Chp. 12)



# Exchange Rates

► What is an Exchange Rate? → Price of Foreign Currency in local(or home) currency units

► How are Exchange Rates determined?

► Government Sets the Price (to which extent? Why? How?)

► Assets **No Arbitrage**

→ Short-Run

► Goods **No Arbitrage**

→ Long-Run

Arbitrage: Free profit  
Opportunity

► Related to Monetary Policy of financially integrated countries



# ER Regime and Link between Monetary Policy and ER

↑ Money Supply → lower Interest rate → lower demand for Currency → ↓ Price of Currency (ER)



SOURCE: TRADINGECONOMICS.COM | BANCO CENTRAL DE VENEZUELA

# Exchange Rates

- ▶ What is an Exchange Rate? → Price of Foreign Currency in local(or home) currency units
- ▶ How are Exchange Rates determined?
  - ▶ Government Sets the Price (to which extent? Why? How?)
  - ▶ Assets **No Arbitrage**
  - ▶ Goods **No Arbitrage**
- ▶ Related to Monetary Policy of financially integrated countries
  - Impossible Trinity or Mundellian Trilemma (Pick at most 2, can't have the 3):
    - Fixed/Stable ER
    - Independent Monetary Policy
    - Free Capital Flows

# International Borrowing and Lending

- ▶ Imbalances in production and trade generate deficits and surpluses
- ▶ If  $\text{Income (production)} > \text{expenditure (consumption)} \Rightarrow \text{Surplus} \Rightarrow \uparrow \text{Savings and Lend it Abroad } (\uparrow \text{Wealth})$
- ▶ But If  $\text{Income (production)} < \text{expenditure (consumption)} \Rightarrow \text{Deficit} \Rightarrow \downarrow \text{Savings and Borrow from Abroad } (\downarrow \text{Wealth})$  to make up the difference.
- ▶ Same with trade:  $\text{Exports} > \text{Imports} \Rightarrow \text{Trade Surplus} \Rightarrow \text{Lend the difference abroad}$

# US Current Account Balance (share of GDP %)

FRED 

$$\hookrightarrow \frac{\text{Exports} - \text{Imports (+ other items)}}{\text{GDP}} \times 100 \%$$



$< 0$  ( $\Rightarrow$  Imports > Exports)

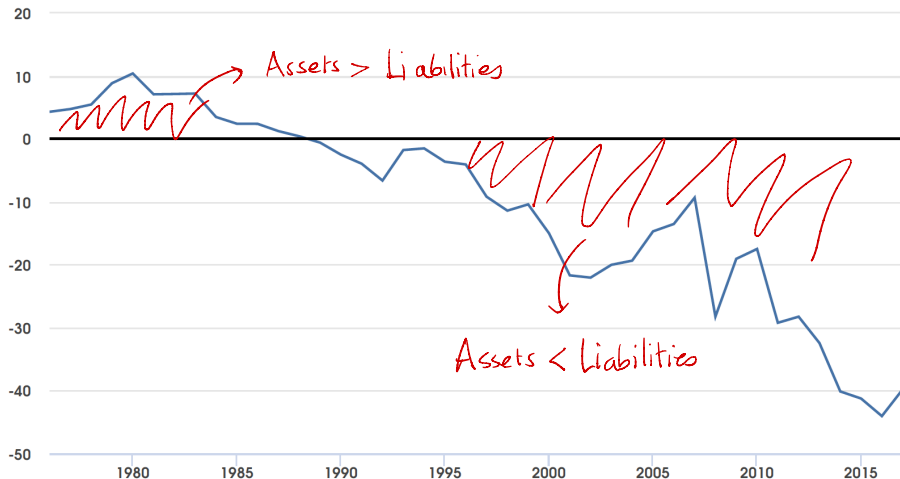
Source: U.S. Bureau of Economic Analysis

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# US Net International Investment Position (share of GDP %)

**FRED** 

$$\text{Net Assets} \approx (\text{Assets} - \text{Liabilities}) / \text{GDP}$$



Source: U.S. Bureau of Economic Analysis

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# International Borrowing and Lending (cont.)

- ▶ Imbalances in production and trade generate deficits and surpluses
- ▶ If Income (production) > expenditure (consumption)  $\Rightarrow$  Surplus  $\Rightarrow$   $\uparrow$  Savings and Lend it Abroad ( $\uparrow$  Wealth)
- ▶ But If Income (production) < expenditure (consumption)  $\Rightarrow$  Deficit  $\Rightarrow$   $\downarrow$  Savings and Borrow from Abroad ( $\downarrow$  Wealth) to make up the difference.
- ▶ Same with trade: Exports > Imports  $\Rightarrow$  Trade Surplus  $\Rightarrow$  Lend the difference abroad

**Takeaway: If countries import beyond what they export, or in general consume beyond what they produce they have to make up the difference by digging in savings or borrowing from other countries.**

Some countries do either (borrow or save by running persistent current account(mostly trade) deficits) depending on their objectives

## International Borrowing and Lending (cont.)

+ ▶ Unbalanced trade  $\Rightarrow$  Borrowing or lending abroad  $\rightarrow$

$\left\{ \begin{array}{l} \text{Borrowing} \rightarrow \uparrow \text{Debt} \\ \text{Lending} \rightarrow \uparrow \text{Savings} \end{array} \right.$

- ▶ Why would a country do this?
- ▶ that is, consistently save or get indebted with another country.

Same as an individual household:

Consumption Smoothing

Wants to Diversify Risk (Insurance Mechanism, e.g. save in good times to have a buffer for bad times)

We need to think in terms of Dynamic Models here ... after all: Savings = Future Consumption

Related:

These Financial Flows interact w/ the Exchange Rate ... affecting several economic outcomes

(relative trade prices, consumption, investment, GDP, etc)



# Open Economy Macroeconomics

A Framework to make sense of all of this:

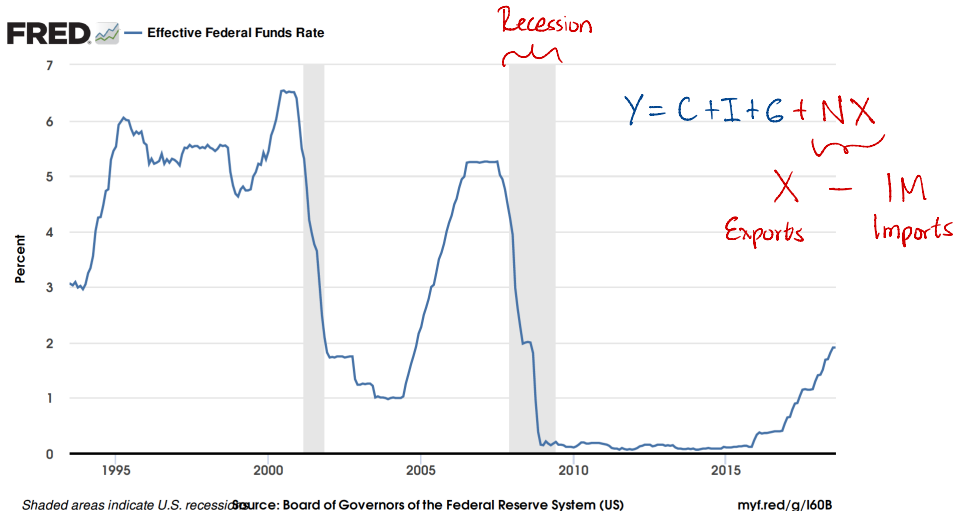
- ▶ Exchange Rates + unbalanced trade + model of consumption and investment (IS-LM type)  
    ↳ Part 1                      ↳ Part 2
- ▶ We can use this model to study:
  - ▶ Transmission of economic shocks across countries
  - ▶ Economic Policy Responses: Monetary, Fiscal

Examples: Great Financial Crisis of 2008, COVID crisis, Asian Crises of 1997.



# Economic Policy Response

Central Banks (Federal Reserve in the US) do what they can to maneuver this Economic Changes

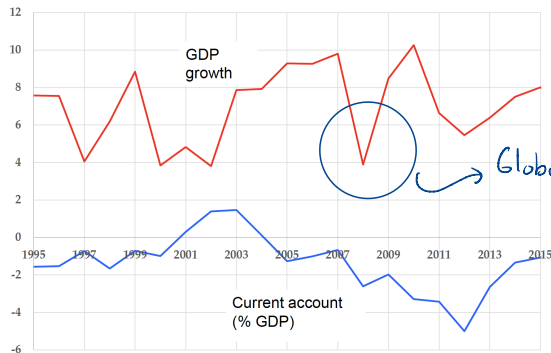


# Impacts in Other Countries

Should countries be worried about shocks in other economies and their policy response?

... yes, if they think it impacts them

## India



They can be touched in many ways if they are interlinked with other economies  
(via trade or financial flows)

# An Overview of this course

1. Exchange Rates
2. Balance of Payments (Int. Borrowing and Lending)
3. Open Economy Macroeconomics (applications of theory in Policy)
4. Recent Research (optional presentations if time allows)

↳ After midterm 1: Release a list of research papers  
• You will form groups & present the paper to the course (w/ Q&A)

# Course Information

- ▶ **Course Clearing House:** <https://cagranados.github.io/intfinance.html>

You will find there the Syllabus, updates, Lecture Slides, Problem Sets. (Syllabus: [\[Link\]](#))

- ▶ **Textbook:** International Economics by Feenstra and Taylor - Edition 4 (or 3)

- ▶ **Workload Expectations:**

- The course involves checking data, reading about models and economic policy.
- **Skills needed:** basic statistics and plotting (excel, other software is a plus -e.g., R, Python-). Basic math (algebra and calculus). Must be able to read through textbook.
- **In a nutshell:** 5 problem sets, 3 exams, and a final (optional) group presentation module

- ▶ **Attendance:** Not required, but highly recommended.

- ▶ **Office Hours:** M 4:00-6:00PM or by appointment

- ▶ **Email:** camilo.granados@utdallas.edu

Problem Sets → 20%

Exams → 80% { midterm 1 25%  
midterm 2 25%  
Final 30%

Presentation: 10% Full Credits

## Appendix: Additional Topics

# Additional Relevant Topics

We talked about the Exchange Rates (price of a one currency *foreign* quoted in another *home* currency)  
... about how it impacts economic outcomes (trade, investments, GDP)

We discussed the relationship between Imbalances of a country (of expenditure/income, trade) and International Lending

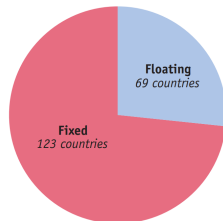
All of this naturally generates a lot of debate in economic circles (policy and academic)

Some of these topics:

- ▶ ER Regimes → Policy decision {
  - Stable ER (Fixed, peg)
  - Flexible ER
- ▶ ER Crises → Sudden large drop in the value of a currency
- ▶ International Financial Transactions (Capital Flows)
- ▶ Role of Government and Institutions → Trade-off {
  - Act as a private agent in FX markets
  - Or regulate (more actively)

# ER Regimes

Figure: Countries by ER Regime



Source: FT figure 12.6, and Iltzetki, Reinhart, Rogoff (2010)

## Case for Fixed ER:

- ER volatility induces economic costs that can erode wealth  
(make the exports expensive to buyers, make assets lose value, liabilities increase suddenly)

## Case for Floating ER:

- With Fixed ER the economy relinquishes its Monetary Policy Autonomy  
(i.e., cannot intervene to cool down/boost the economy as needed)
- Maintaining a Fixed ER can be very costly for an economy (the process of maintaining it consists on intervening the money/currency markets as if they were private agents)

# ER Crises

Process in which a currency loses value drastically and quickly

This erodes national welfare, e.g., increases the value of debt in other currencies

Induces countries to default in their obligations (decide not to pay or to pay at a discount) ...

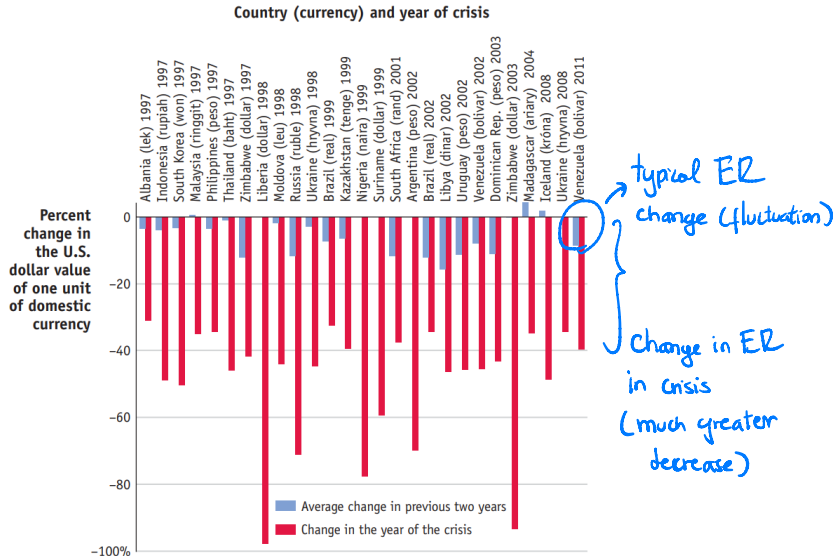
which itself damages their reputation making it harder (and costlier) to acquire future debt

**Why relevant?** → Imagine a country whose wealth (portfolio) is largely allocated in foreign assets whose currency of demonination suddenly loses its value.

Or think about companies that trade and have to face costs/revenues in other currencies



## ER Crises (cont.)



Source: FT figure 12.2, and IMF-IFS

# International Financial Transactions (Capital Flows)

The world works like a closed economy (impossible to spend more than income)

(who to borrow from after all?...aliens?)

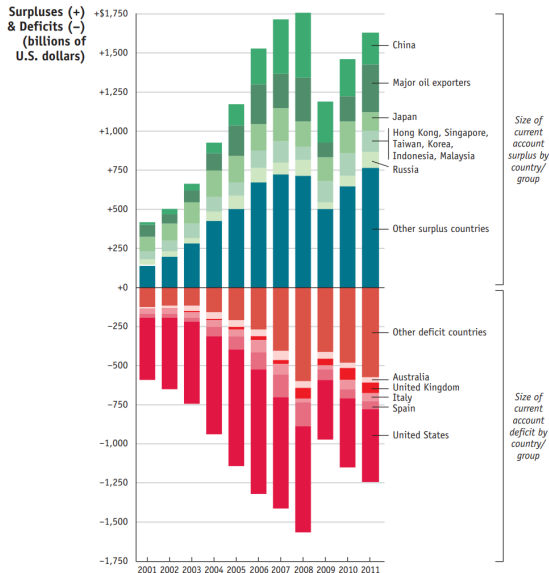
But at the country level, economies may decide to spend more than what they make according to their needs (or to spend less, and then save, and lend that money to other countries)

(- i.e., they can incur on current account Imbalances)

The Current Account describes the national savings of an economy (~ excess of exports over imports)

This global lending process implies resources traveling from country to country through international markets and as **international capital flows**.

# International Financial Transactions (Capital Flows) (cont.)



Relevant to understand:

Why some countries decide to do get indebted with other economies

What is the role of financial openness on this?

Savings/debt affect the External Wealth of Countries which itself can be affected by Exchange Rate Changes

(Source of plot: IMF-WEO, 2012-10)

# Role of Government and Institutions

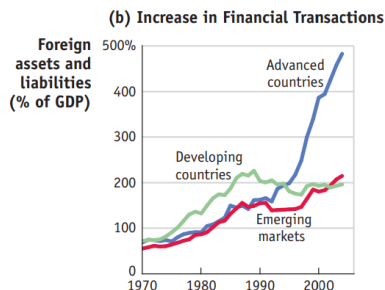
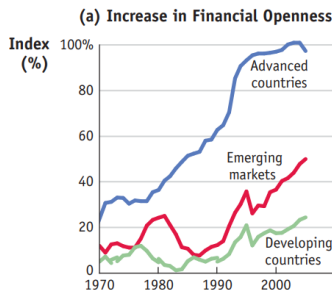
Government can be a key determinant of the international finance outcomes

With *regulations* —including but not limited to picking the ER Regime— it can determine:

- How easy is for capital to flow in/out the economy
- How easy is for goods/trade to flow in/out the economy

→ How Financially Open  
or Integrated an economy is

Usually, the Advanced Economies are more financially open and they have benefited from this:



Source: FT Fig. 12.5 and Lane and Milesi-Ferretti (2007)