

# PubPol/Econ 541

Class 5

## **Exchange Rates**

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# Outline

- Exchange markets: What they are
- Supply and Demand
- Two Simple Theories
- Pegged Exchange Rates

# Exchange Market

- Exchange rate is
  - Price of one currency in terms of another
    - E.g., \$/£ or £/\$



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## Representative Exchange Rates for Selected Currencies

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Representative Exchange Rates		
Currency	Note	Value as of September 09, 2021
Chinese yuan		6.45690000
Euro	(1)	1.18380000
Japanese yen		110.20000000
U.K. pound	(1)	1.38120000
U.S. dollar		1.00000000

### Notes:

These representative exchange rates, which are reported to the Fund by the issuing central bank, are expressed in terms of currency units per U.S. dollar, except for those indicated by (1) which are in terms of U.S. dollars per currency unit.

# Pause for Discussion

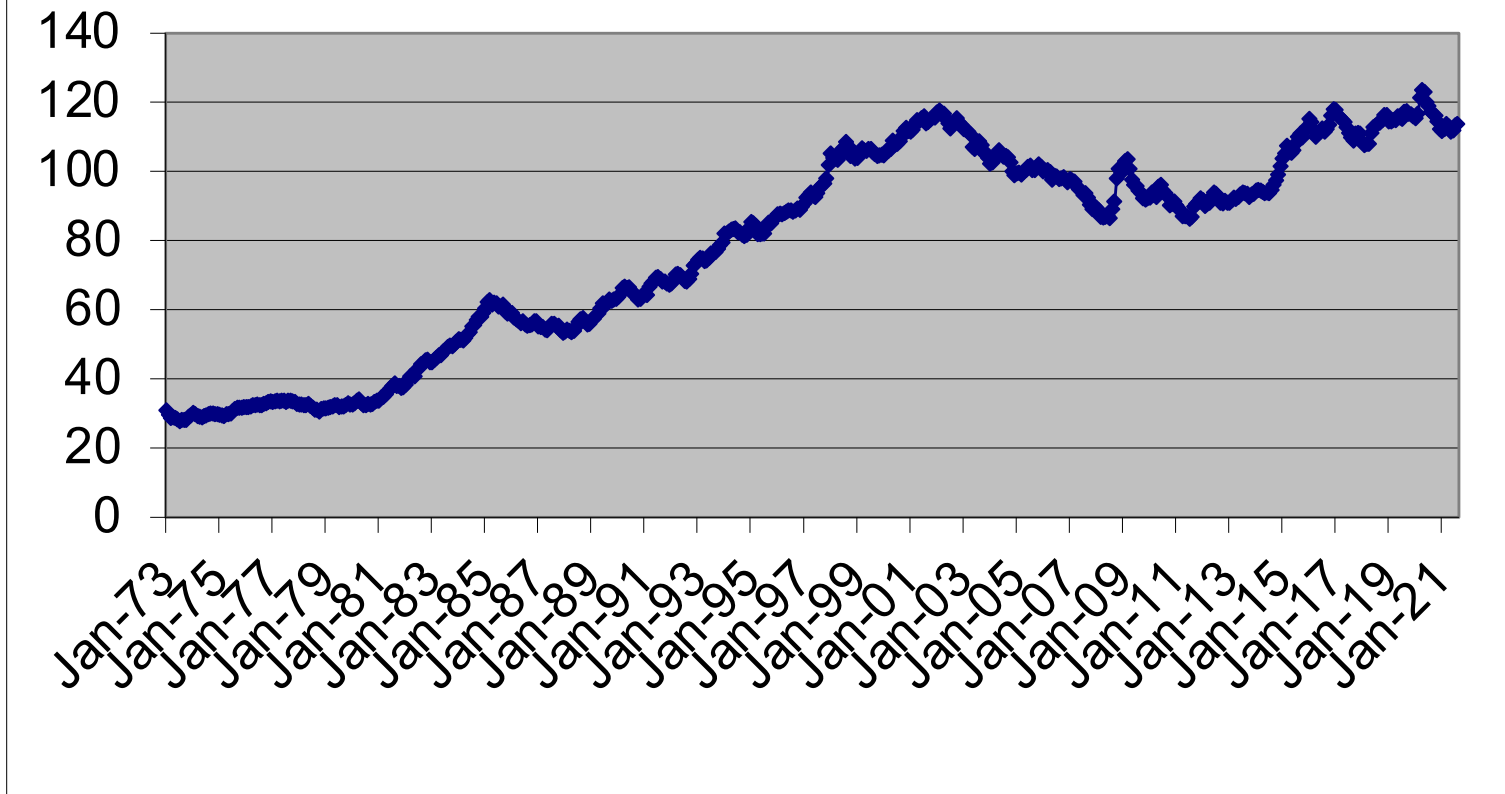
# Questions

- Is an exchange rate the price of one country's goods in terms of another's, or the price of one country's assets in terms of another's?
- On what transactions are reported rates based?
- What hours of the day are the exchange markets open?

# Exchange Market

- Types of exchange rate
  - Spot
  - Forward
  - Bilateral
  - Futures
  - Trade weighted
  - Real

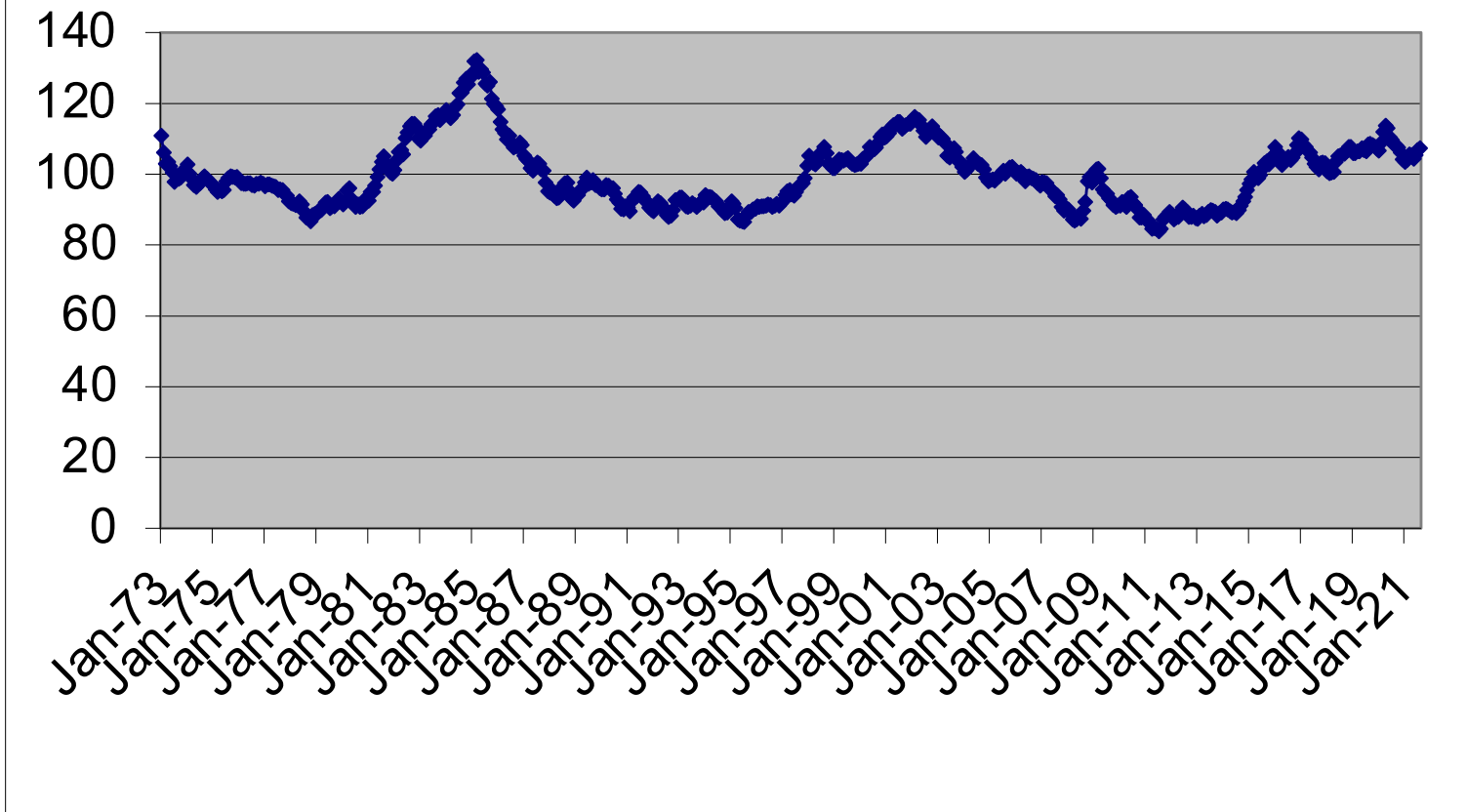
## Trade-Weighted Dollar Index (Nominal)



Source: Federal Reserve, “Broad Index” based on a large group of currencies, monthly data



## Trade-Weighted Dollar Index (Real)

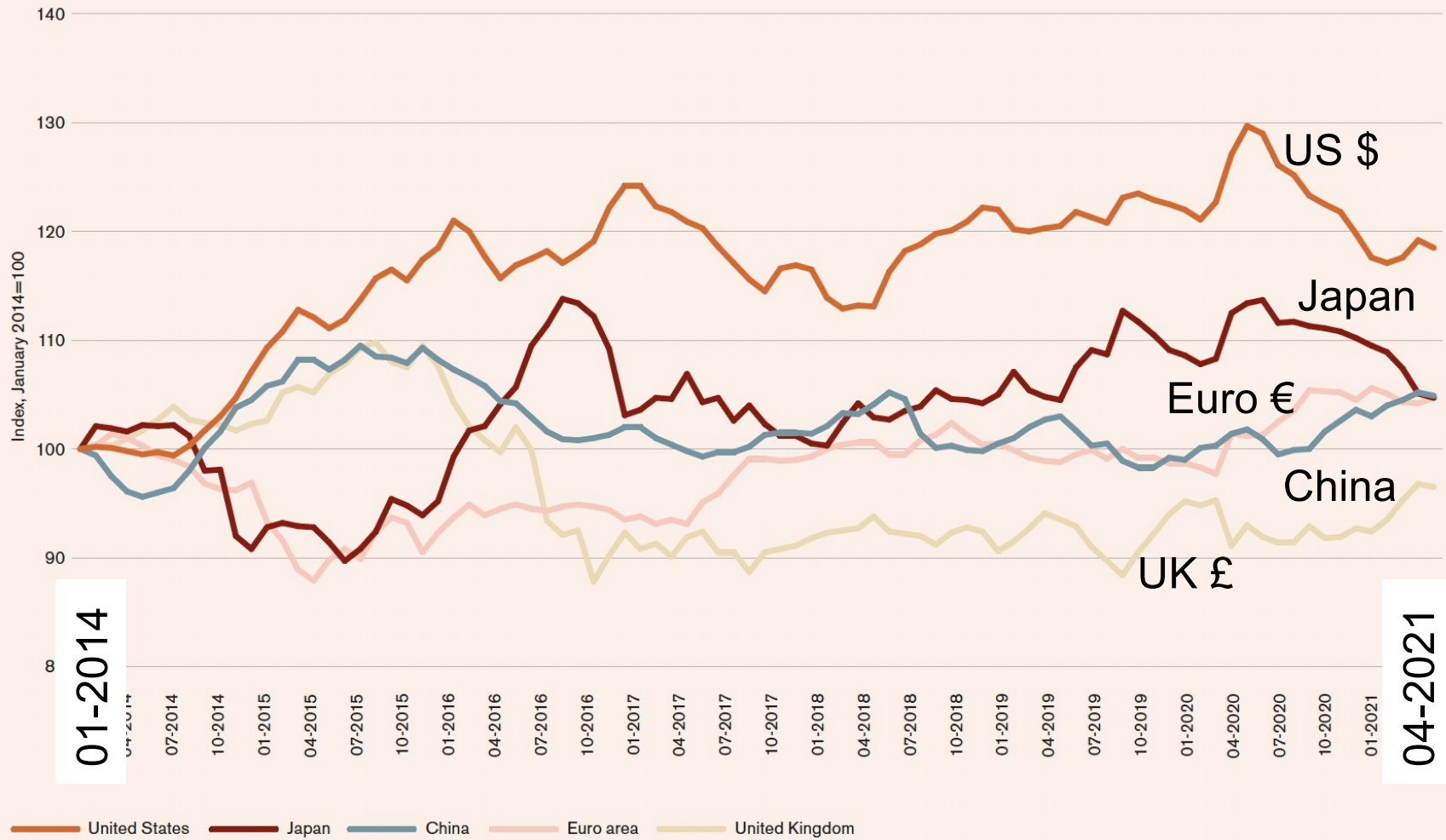


Source: Federal Reserve, "Broad Index" based on a large group of currencies, monthly data

Chart 3.6

**Exchange rate indices for selected economies, January 2014 – May 2021 <sup>a</sup>**

(Index, January 2014=100)



<sup>a</sup> Nominal effective exchange rate indices against a broad basket of currencies.  
Source: Bank for International Settlements (BIS).

# Exchange Market

- Who uses the exchange market
  - Traders in both goods and services
    - Travelers (but that's trade)
  - International borrowing, lending, and asset trade
  - Speculators
  - Hedgers
  - Arbitragers

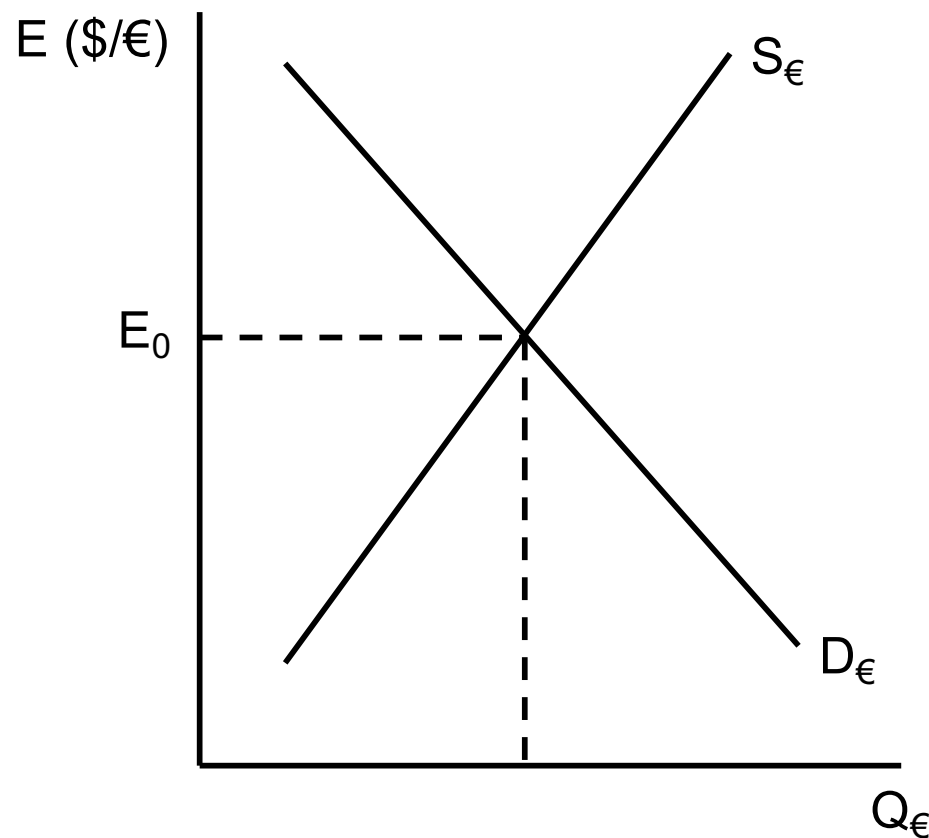
# Pause for Discussion

# Questions

- What is “arbitrage” in the foreign exchange market?
- What is “hedging” in the foreign exchange market?
- What role does the US dollar play in international finance?

# Supply and Demand for Foreign Exchange

- Market Model:



Questions:

- Who demands  $\epsilon$ ?
- Who supplies  $\epsilon$ ?

# Exchange Market

- Traders respond to
  - Prices of goods
    - Rise in home prices causes currency to fall
- Capital movements respond to
  - Interest rates
    - Rise in home interest rate causes currency to rise
  - Expectations
    - Expectation of any change causes that change

# Two Simple Theories

- Asset Theory
  - Simple:  $E$  is whatever it is expected to be
    - If it were not, its expected change would drive capital flows that would swamp the market
  - Works best in short run (but not useful)
- PPP = Purchasing Power Parity
  - Exchange rate reflects the prices of goods
  - See Big Mac Index
  - Works best in long run



## The Big Mac index

Local currency under(-)/over(+) valuation against the dollar, selected currencies, %



\*At market exchange rates (July 20th 2021) †Subject to "enhanced engagement" with US Treasury ‡Average of four cities §Weighted average of member countries \*\*Average of five cities ††Maharaja Mac ‡‡Unofficial exchange rate

Sources: McDonald's; *The Economist*

Explore the full, interactive version of our Big Mac index at [economist.com/BigMac](https://economist.com/BigMac)

# Pause for Discussion

# Questions on Economist, “Big Mac index”

- On what basis does this article rank countries?
- Why does this article focus on the Vietnamese currency, the dong?
- What criteria does the US Treasury use to identify an undervalued currency?
- Is Vietnam’s poverty relevant to this?

# Pegged Exchange Rates

- Bretton-Woods System
  - Successor to the Gold Standard
  - Most currencies pegged to US \$
- How to peg
  - Need “reserves” of foreign currency
  - Use them to buy or sell own currency as needed
- Does it work? Yes and no

# Pause for Discussion

# Questions on Economist, “...Bretton Woods...”

- What names and characteristics describe the three international monetary regimes that the *Economist* article describes, the last of which may be coming to an end?
- Why did the world not shift to using dollars, euros, and renminbi more equally for transactions and reserves?
- Why is currency stability so hard to achieve?

# Questions on Rappeport

- Is China listed as a currency manipulator by the US? Who is?
- Why was it expected that Taiwan might be identified as a currency manipulator?
- What prompted Biden's Treasury Department to issue this report?
- Why did this report remove Switzerland and Vietnam from the list, after the Trump administration had listed them?