

LECTURE 25
EXCHANGE RATES AND THE BALANCE OF PAYMENTS
April 28, 2020

- I. OVERVIEW OF INTERNATIONAL MACROECONOMICS
 - A. Building blocks
 - B. What determines net exports?

- II. SUPPLY AND DEMAND FRAMEWORK FOR EXCHANGE RATE DETERMINATION
 - A. The market for dollars to be used in foreign exchange
 - B. Some facts about foreign exchange markets
 - C. The supply and demand for dollars to be used in foreign exchange
 - D. Equilibrium

- III. WHAT MOVES THE EXCHANGE RATE?
 - A. Inflation (U.S. and Argentina recently)
 - B. Interest rates (U.S. and Germany in the 1980s)
 - C. Relative income growth (U.S. and Japan in the early 1990s)
 - D. Tastes for assets (Brazil and Europe during the Covid-19 pandemic)
 - E. Is a strong dollar desirable?

- V. THE BALANCE OF PAYMENTS
 - A. What is the balance of payments?
 - B. Net exports plus net capital inflows equals zero ($NX + KI = 0$)
 - C. The role of the exchange rate
 - D. Preview of what determines NX

LECTURE 25

Exchange Rates and the Balance of Payments



April 28, 2020

Announcements

- Problem Set 6 is due at 2 p.m. PDT on Thursday, April 30th.
- Office hours this week:
 - First hour: mainly about the pandemic and the policy response.
 - Second hour: questions about anything.

Announcements (Continued)

- We will hold lecture on Tuesday, May 5th at the normal time.
 - Go over logistics for the final exam.
 - Sum up and review the key lessons and tools from Econ 2.

I. OVERVIEW OF INTERNATIONAL MACROECONOMICS

Issues in International Macro

- What determines exchange rates?
- The balance of payments and its implications.
- What determines net exports?
 - Net exports (NX) are a component of planned aggregate expenditures.
 - $PAE = C + I^p + G + NX$
 - So changes in NX will affect Y in the short run.

II. SUPPLY AND DEMAND FRAMEWORK FOR EXCHANGE RATE DETERMINATION

Exchange Rate

- The price of one currency in terms of another.
- It currently takes .92 euros to buy 1 U.S. dollar.
 - The price of \$1 is €0.92

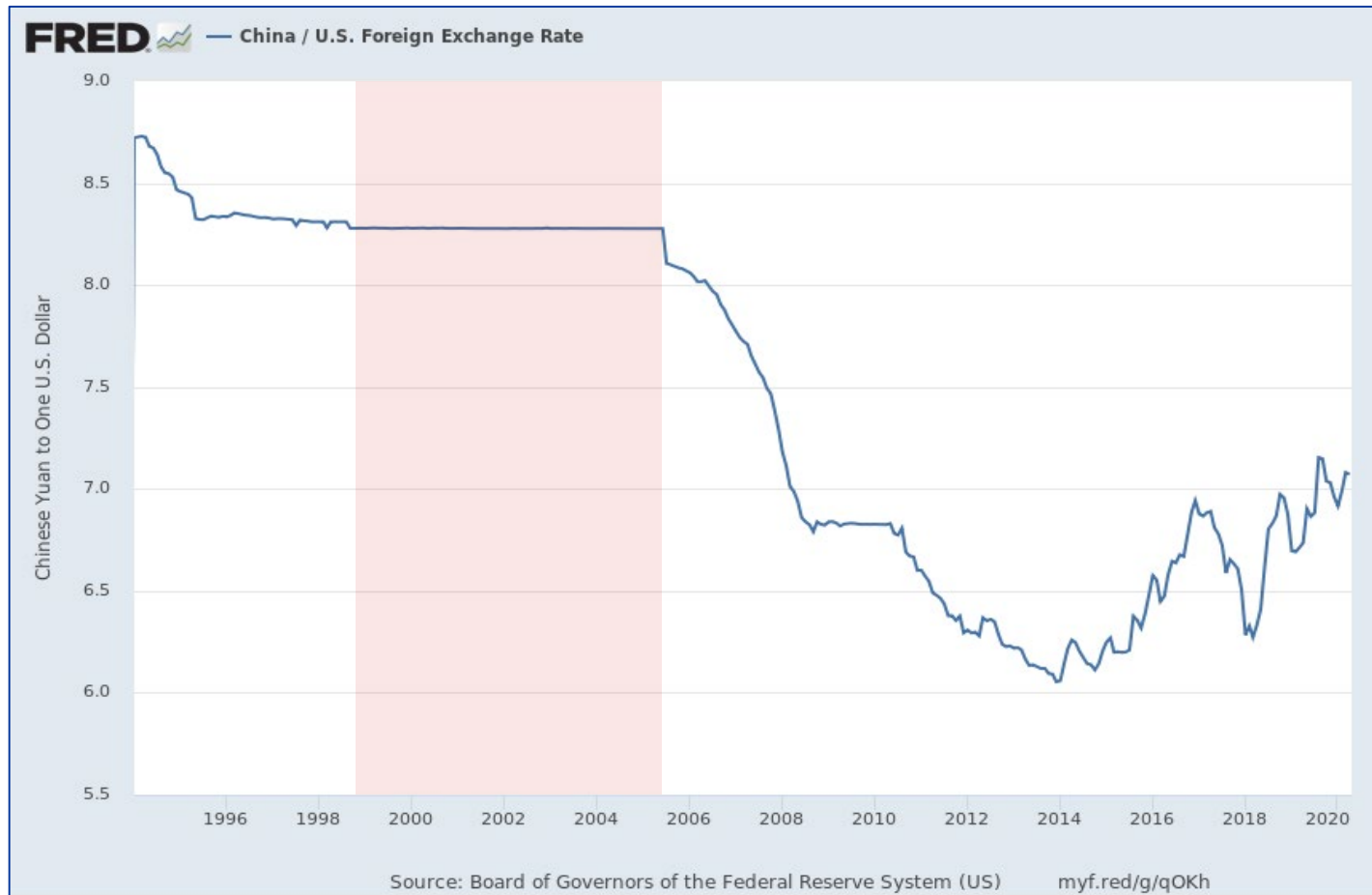
Foreign Exchange Market for Dollars

- **Suppliers of dollars:** Americans who want to buy foreign goods, services, or assets.
- **Demanders of dollars:** Foreigners who want to buy American goods, services, or assets.
- **The exchange rate** is the price of dollars (in terms of some foreign currency) that equilibrates the supply and demand for dollars to be used in international transactions.

Some Facts about Foreign Exchange Markets

- There is a market for each currency to be traded for every other currency.
 - However, the various markets for a particular currency (such as the \$) often move together.
- Today, most exchange rates are determined in markets (flexible exchange rates).
 - But, some countries today and many countries in the past used a system of fixed exchange rates.

Chinese Yuan per 1 US \$

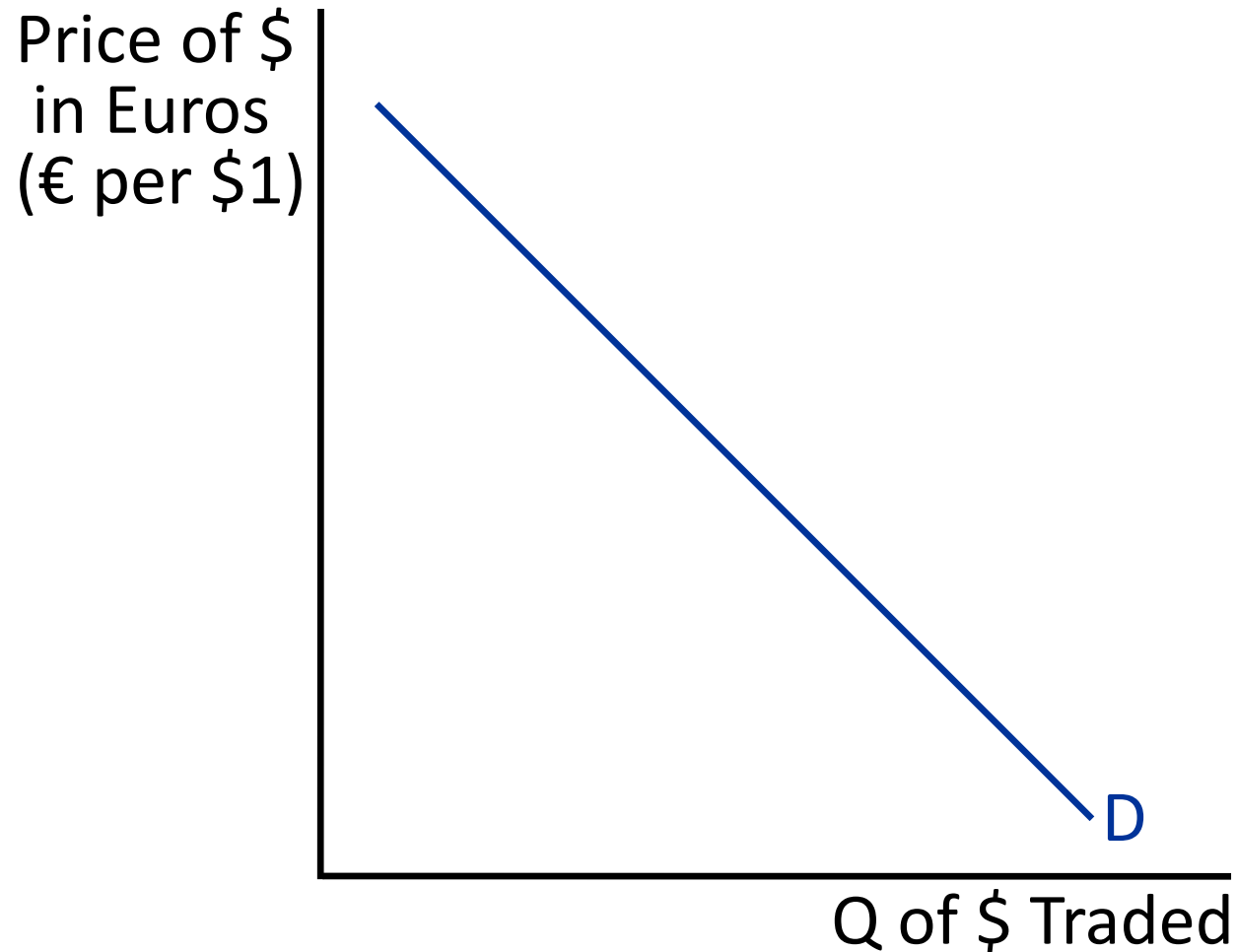


Source: Federal Reserve Bank of St. Louis, FRED.

The market for money in the U.S. and the foreign exchange market for dollars are different things.

- The market for money in the U.S. is derived from the choice between money and interest-bearing assets.
 - It is the nominal interest rate that adjusts to make people hold the amount of money supplied by the Federal Reserve.
- The foreign exchange market for dollars is derived from the desire to make international transactions.
 - It is the exchange rate that adjusts to make the quantity of dollars supplied to the foreign exchange market equal to the quantity demanded.

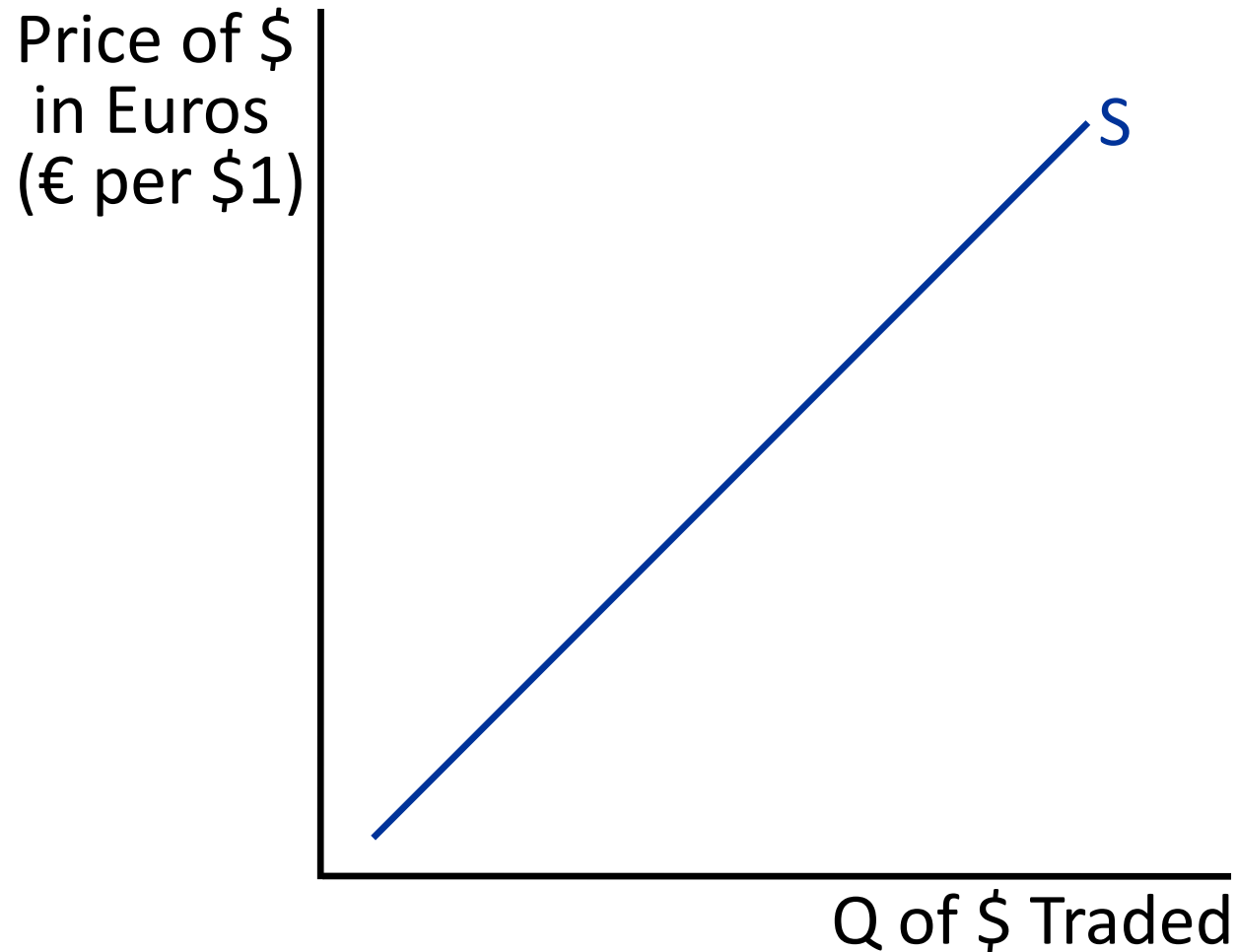
Foreign Exchange Market for Dollars



Why Does the Demand Curve for Dollars To Be Used in International Transactions Slope Down?

- If the price of the dollar falls, American goods and services look more attractive (cheaper) to foreigners.
- Foreigners want to buy more goods and services from the U.S.
- As a result, they demand more dollars in the foreign exchange market.

Foreign Exchange Market for Dollars



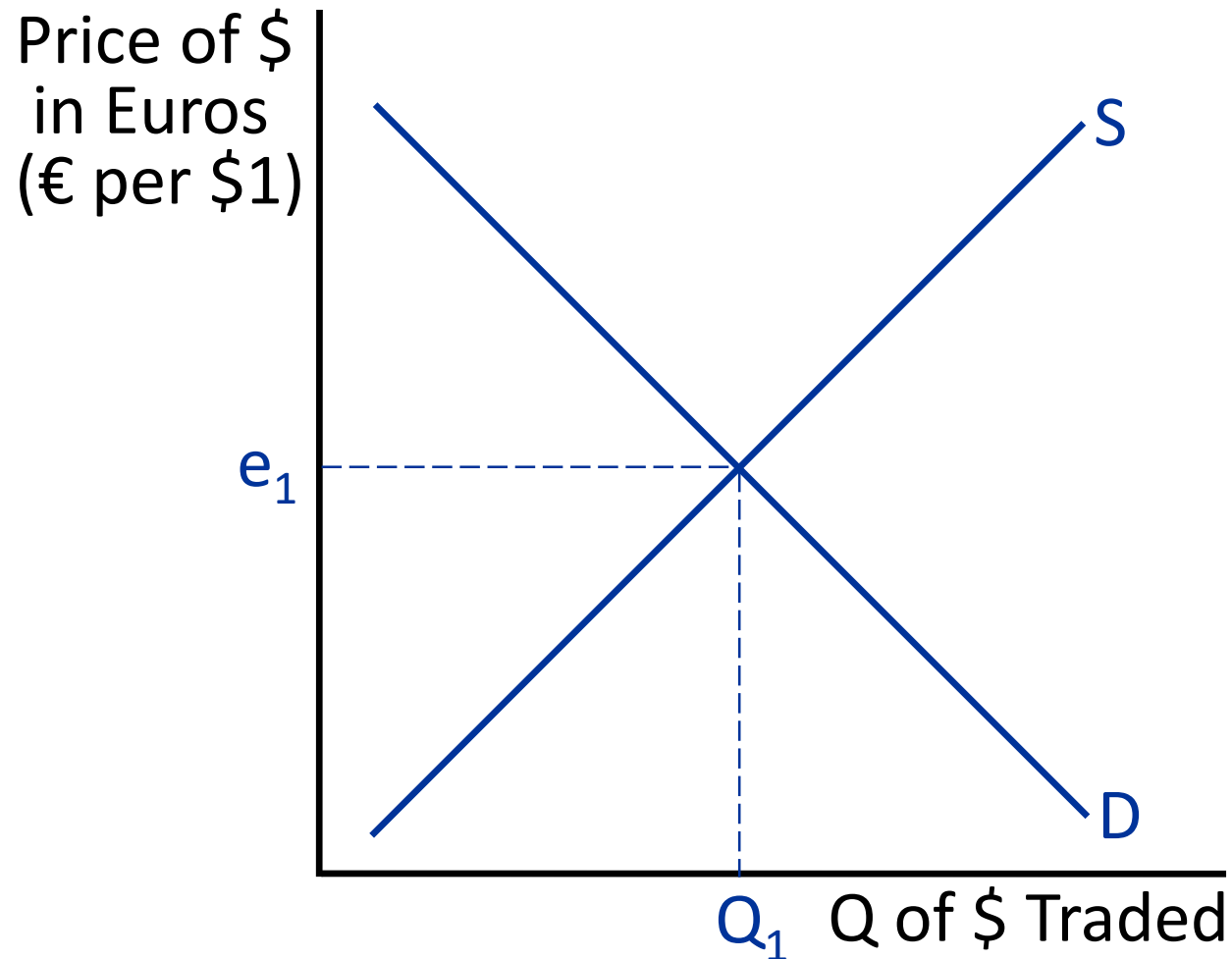
Why Does the Supply Curve for Dollars To Be Used in International Transactions Slope Up?

- If the price of the dollar rises, foreign goods and services look more attractive (cheaper) to Americans.
- Americans want to buy more goods and services from abroad.
- As a result, Americans supply more dollars to the foreign exchange market.

The Exchange Rate Does **Not** Affect Asset Purchases.

- When you buy an asset in another country, you need the foreign currency to do so.
- But, when the asset pays off or you sell it, the payoff is in the foreign currency, so you need to convert it back to your home currency.
- Because exchange rate movements are generally not predictable, your best guess is that the exchange rate when you buy is going to be the exchange rate when you sell later—so any cost or benefit of the exchange rate today will be undone later.

Foreign Exchange Market for Dollars



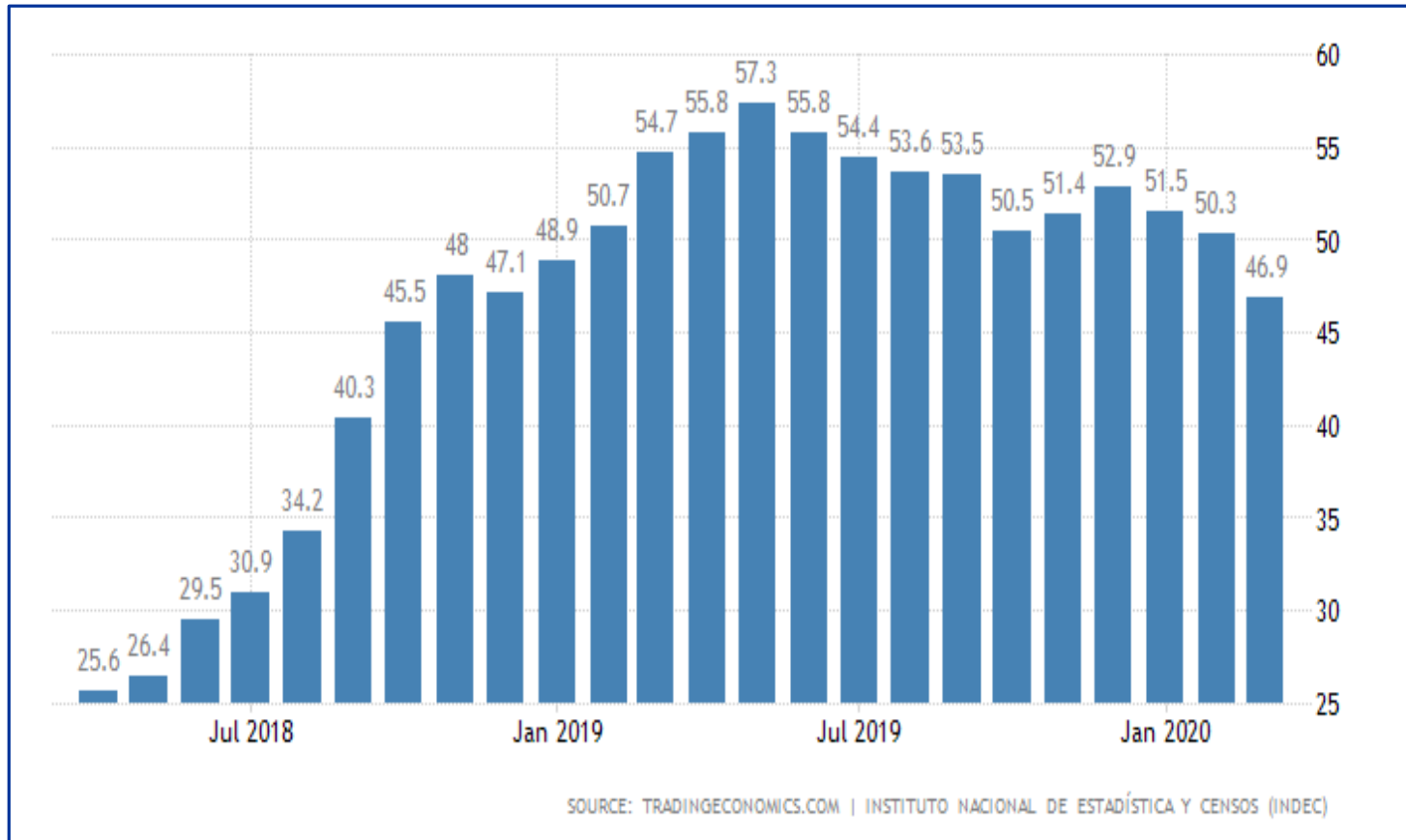
III. WHAT MOVES THE EXCHANGE RATE?

A shift in the supply curve or the demand curve for dollars in the foreign exchange market will cause the exchange rate to change.

- **Appreciation of the dollar:** The price of dollars in some foreign currency rises.
- **Depreciation of the dollar:** The price of dollars in some foreign currency falls.

Example 1: Lower Inflation in the U.S. than in Argentina Recently

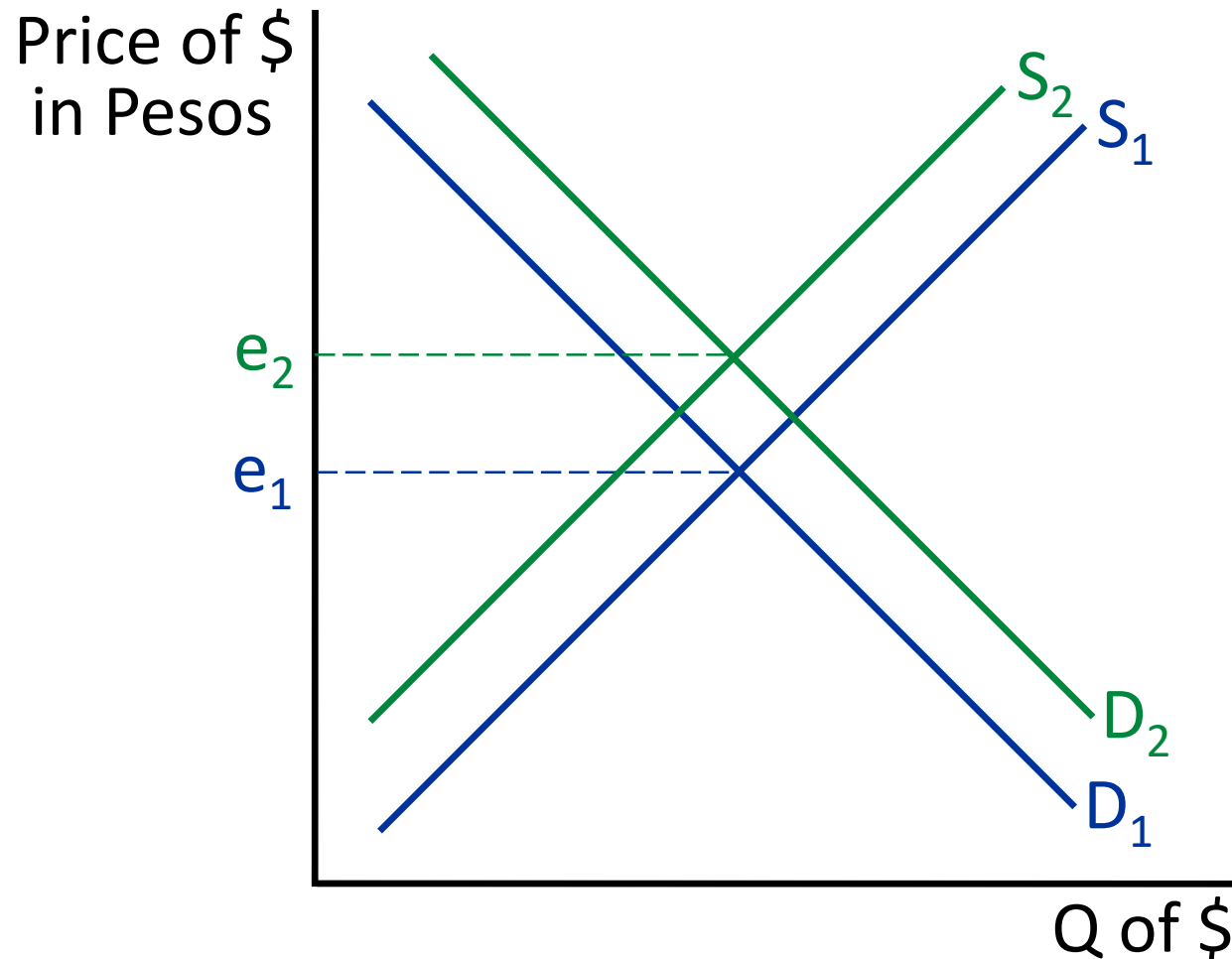
Inflation in Argentina



Source: [Tradingeconomics.com](https://tradingeconomics.com).

Foreign Exchange Market for Dollars

Lower Inflation in the U.S. than in Argentina



Argentinian Pesos per 1 US \$



Source: [xe.com](https://www.xe.com).

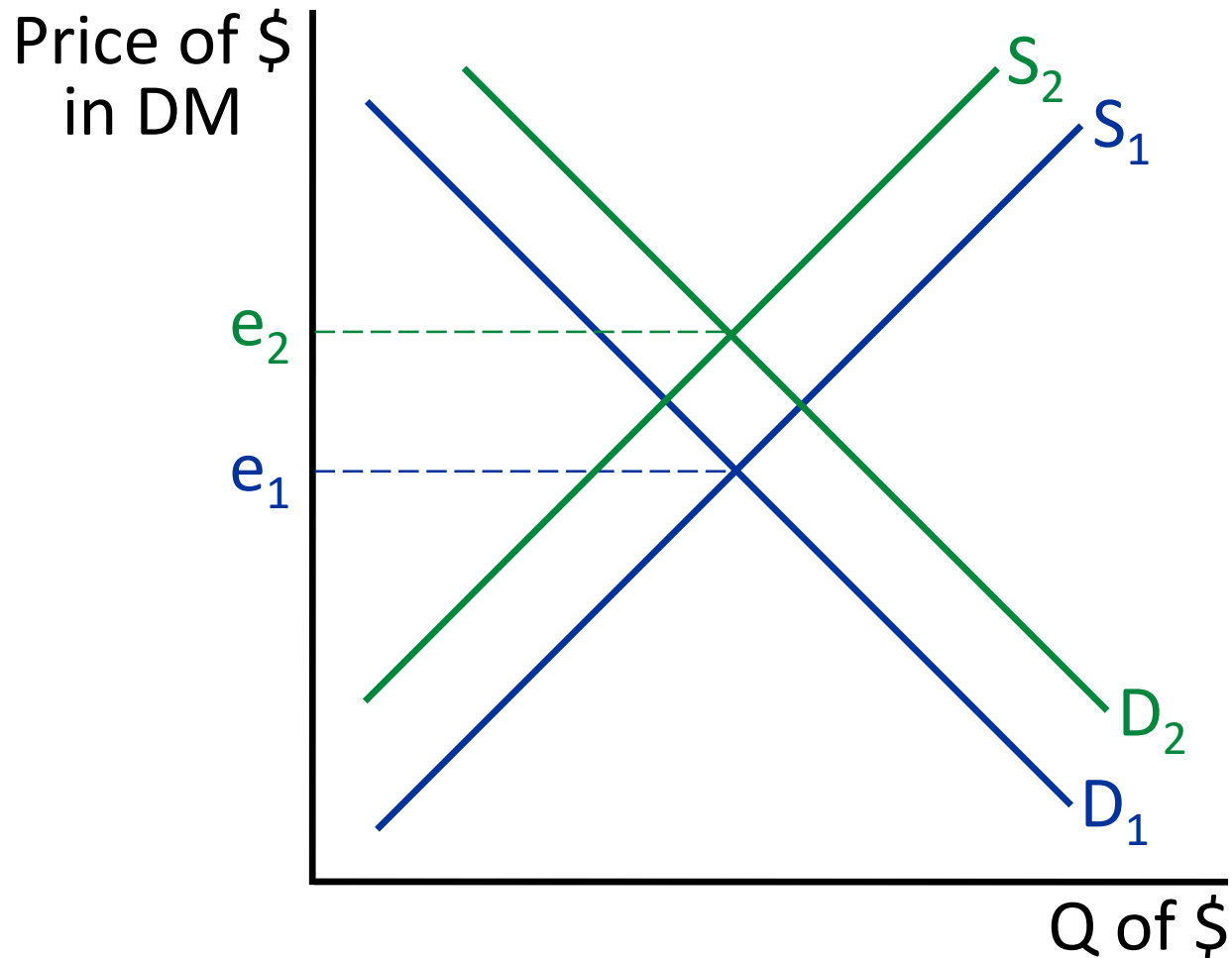
Many developments that shift one curve in the foreign exchange market, will also shift the other curve in the opposite direction.

- This is because many factors affect the ***relative*** attractiveness of goods or assets in the two countries, and so affect both supply and demand.

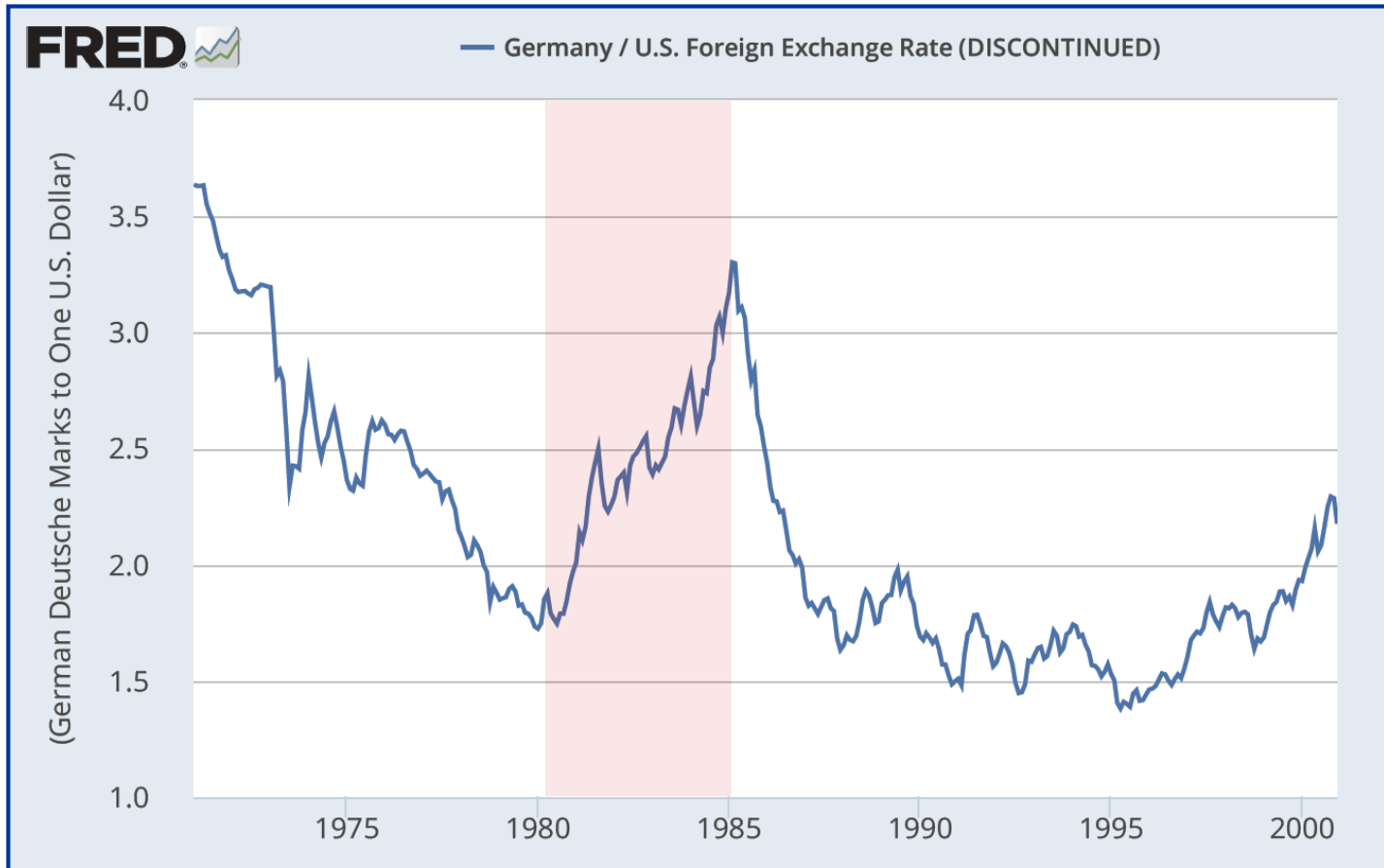
Example 2: A Rise in U.S. Real Interest Rates (Relative to Those in Other Countries) during the Volcker Disinflation

Foreign Exchange Market for Dollars

A Rise in the Real Interest Rate in the U.S.



German Marks per 1 US \$

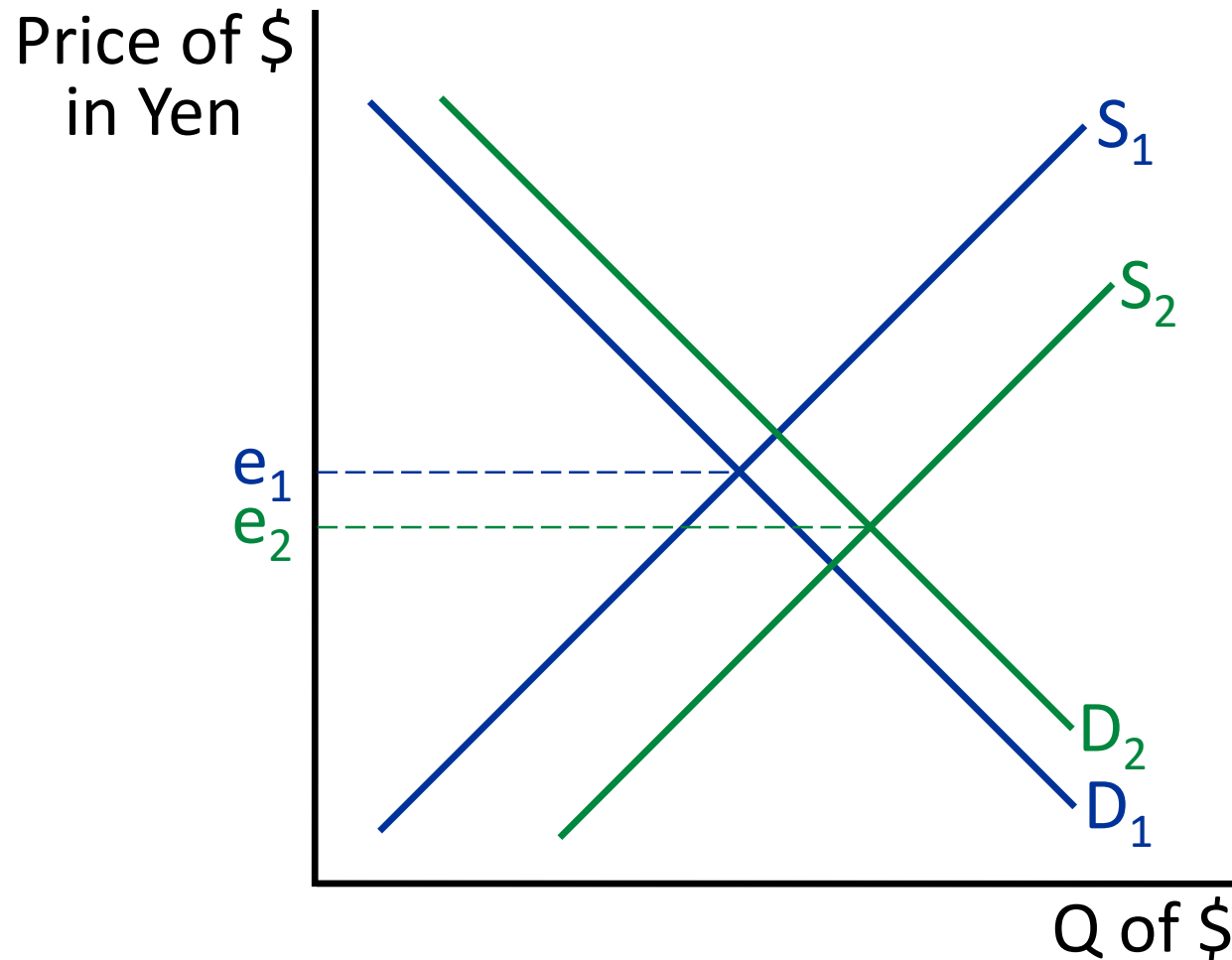


Source: Federal Reserve Bank of St. Louis, FRED.

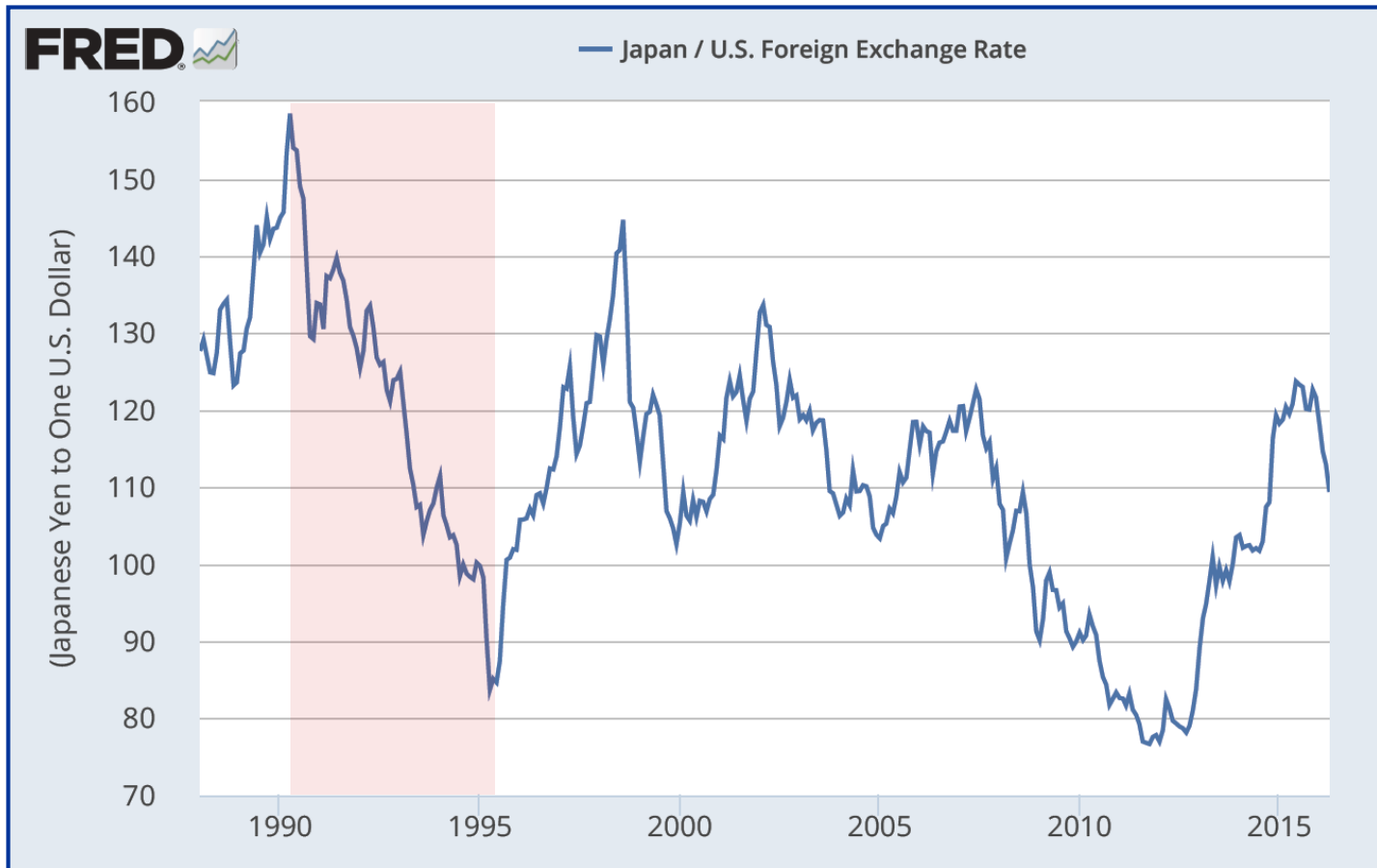
Example 3: Faster Income Growth in the U.S. than in Japan in the Early 1990s

Foreign Exchange Market for Dollars

Faster Income Growth in the U.S. than in Japan



Japanese Yen per \$1

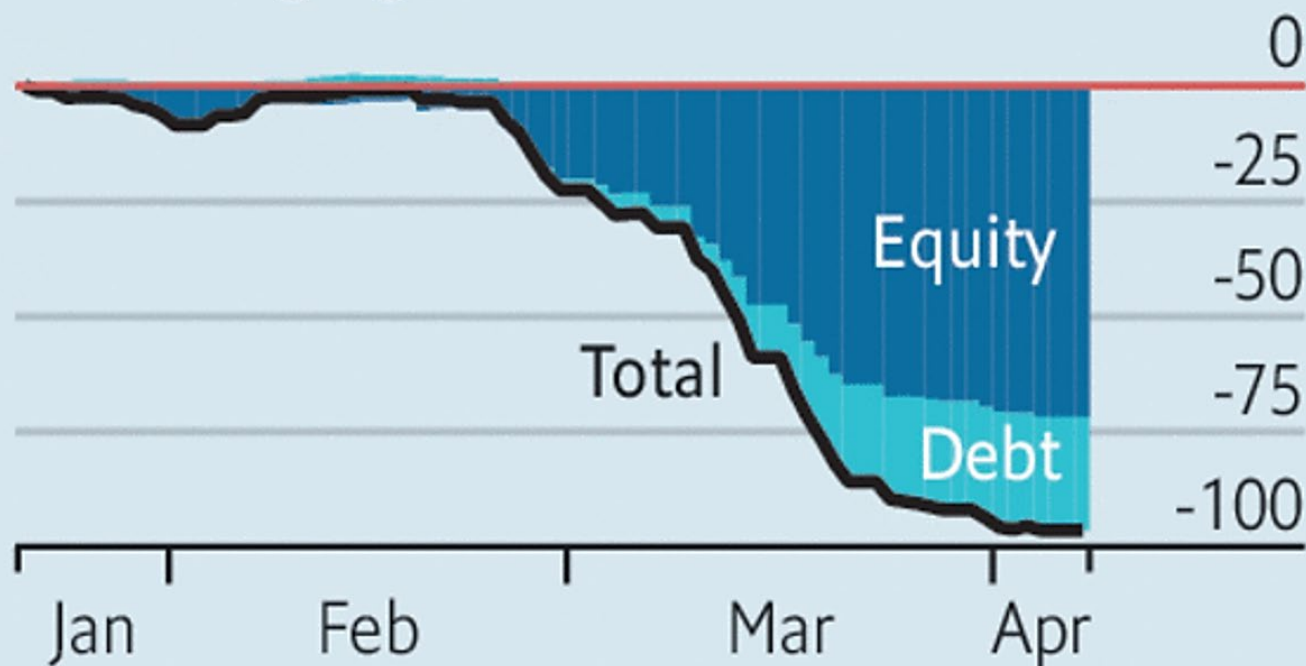


Source: Federal Reserve Bank of St. Louis, FRED.

Example 4: A Change in Tastes away from Emerging Market Assets because of Covid-19

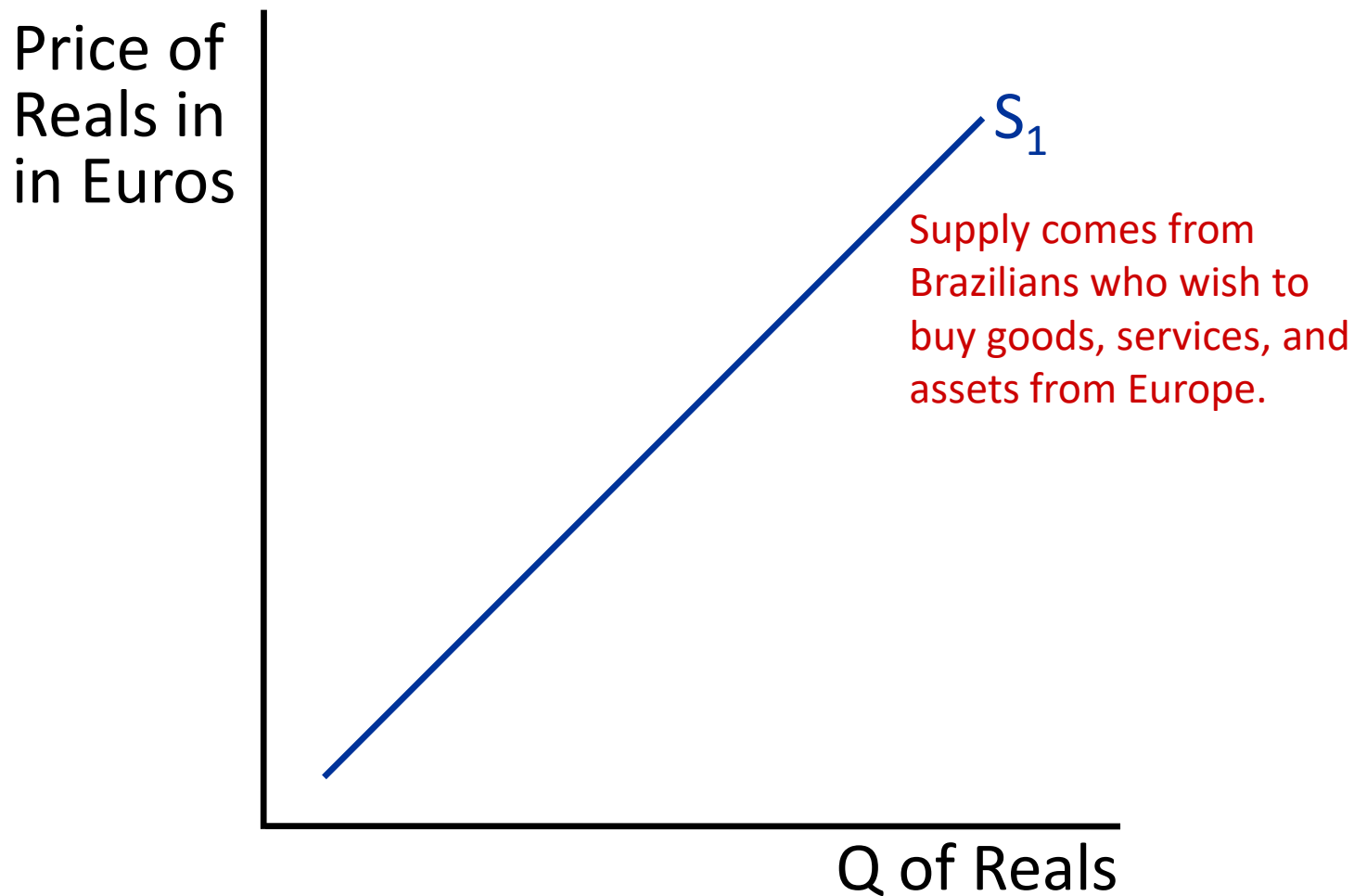
Accumulated portfolio flows

To emerging markets, 2020, \$bn

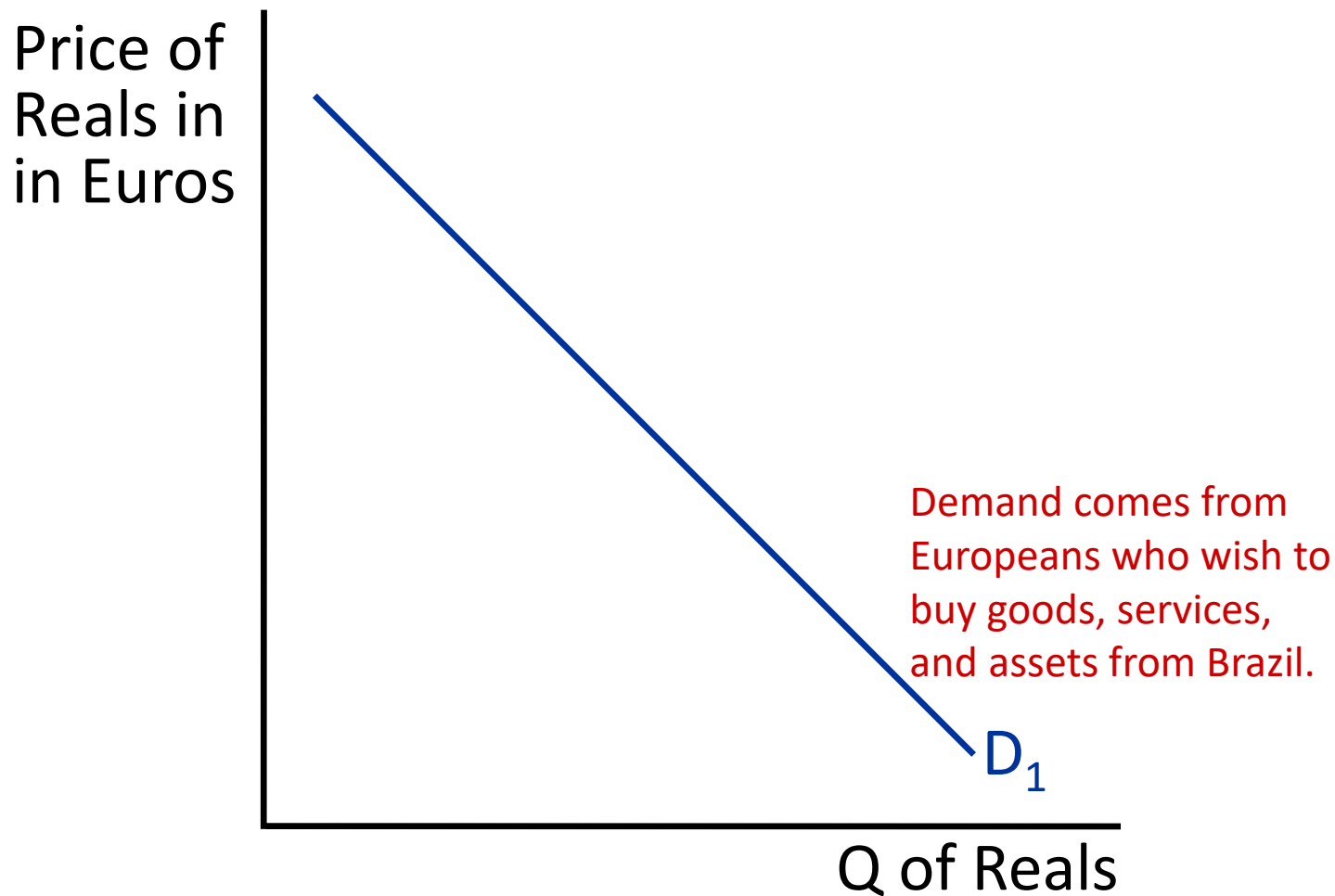


The Economist

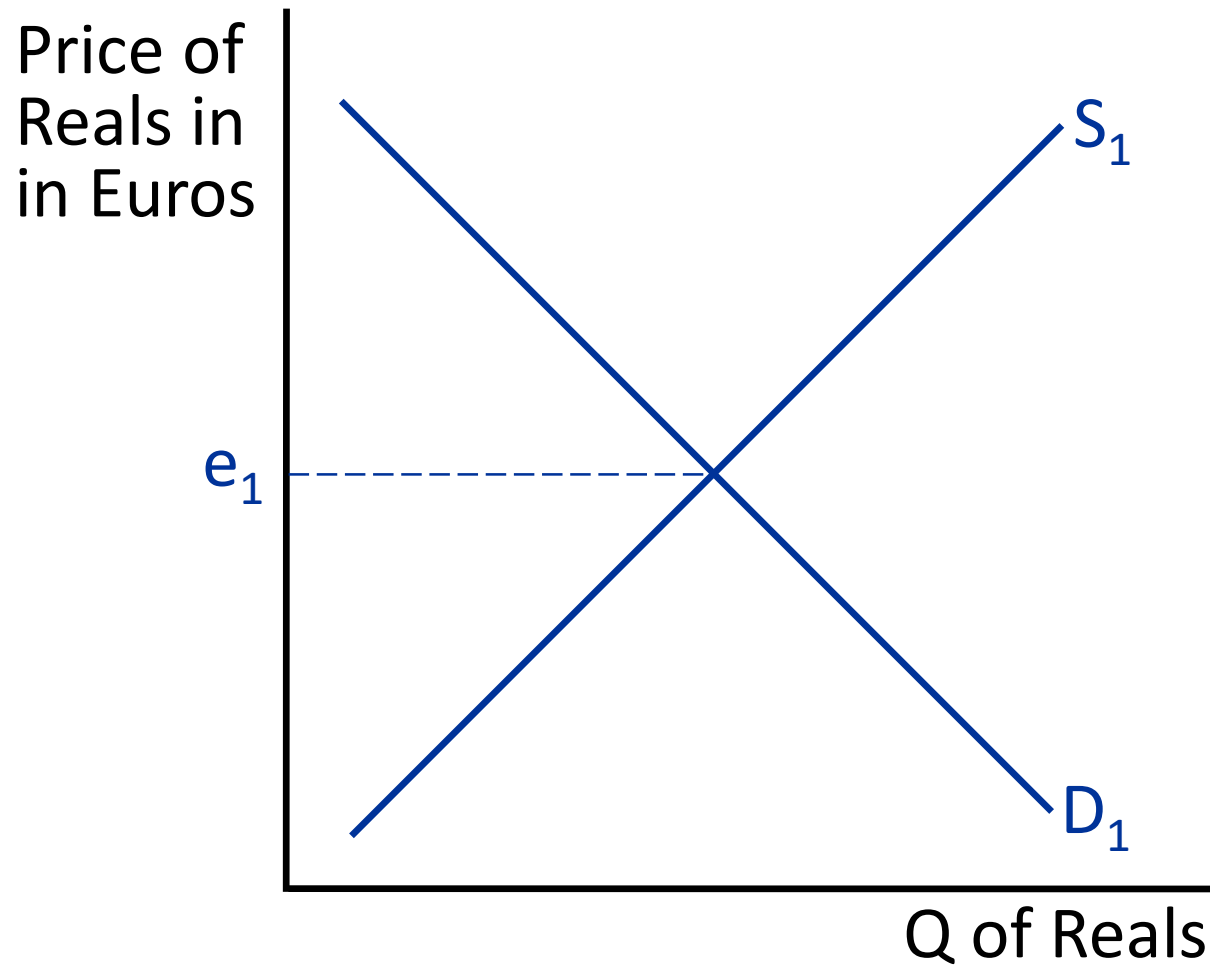
Foreign Exchange Market for Reals



Foreign Exchange Market for Reals

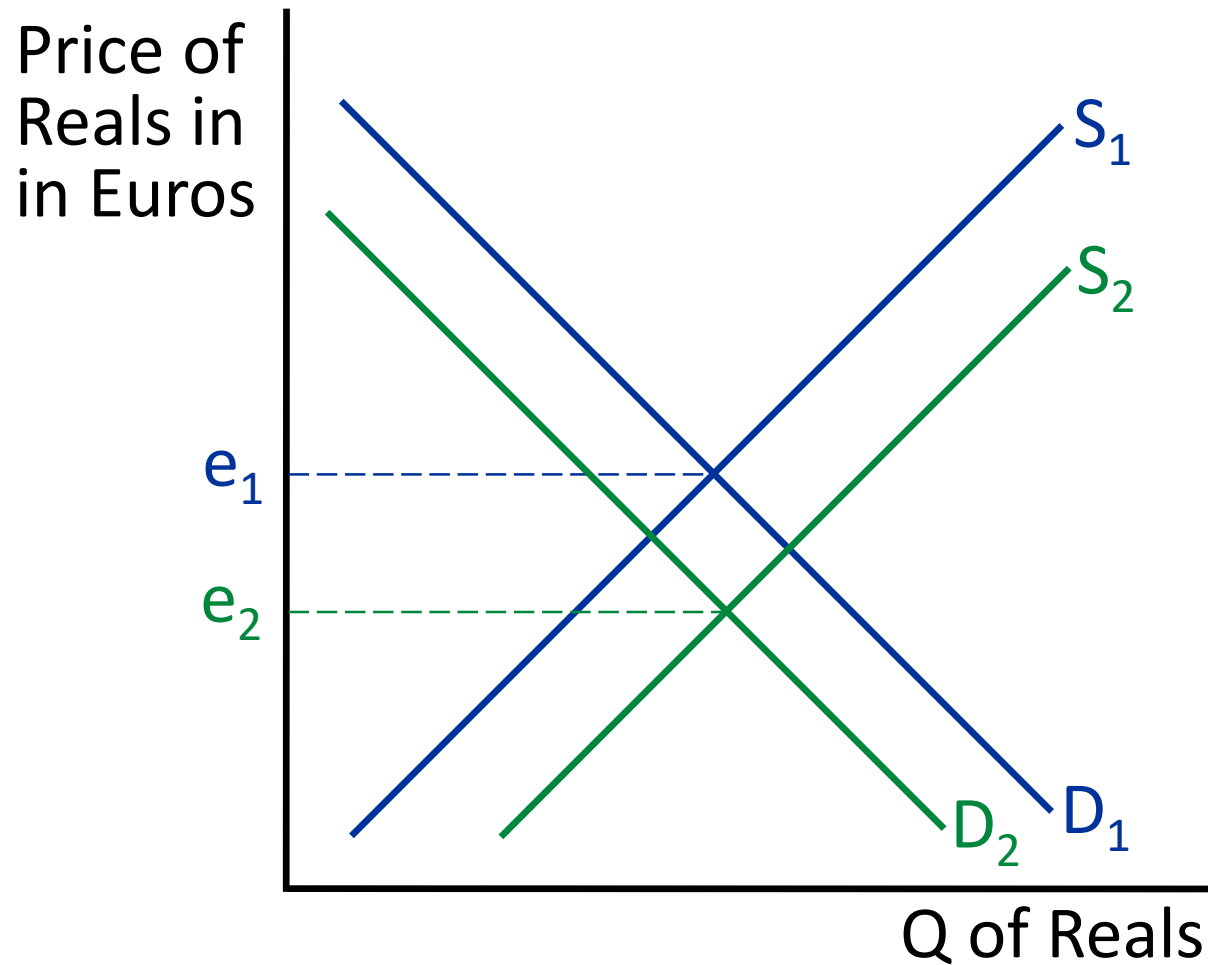


Foreign Exchange Market for Reals



Foreign Exchange Market for Reals

Change in Tastes away from Brazilian Assets



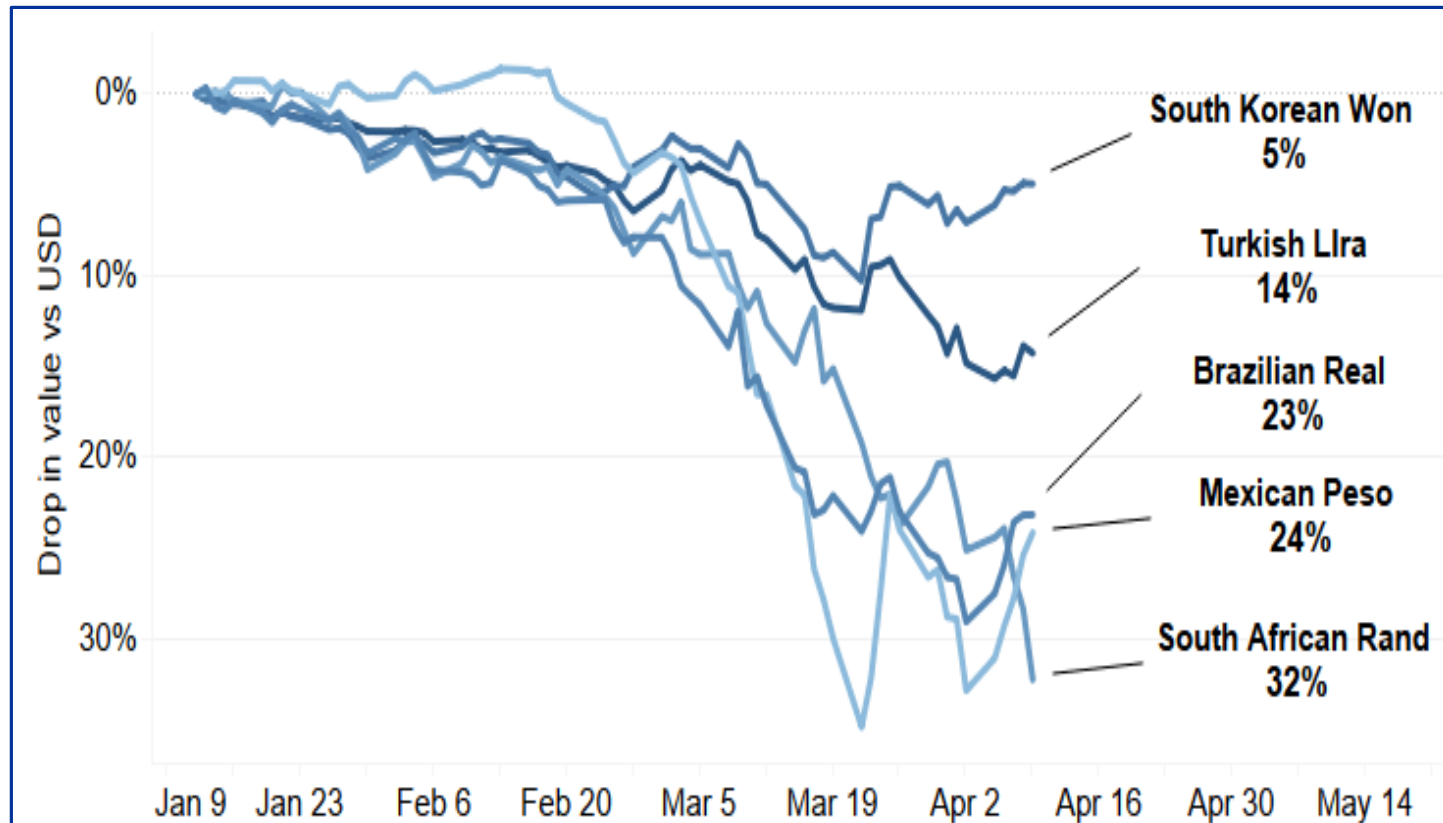
Euros per 1 Brazilian Real



Source: [xe.com](https://www.xe.com).

Emerging Market Currencies

Drop in Value versus US \$



Source: Reuters.

Is a Strong Dollar Desirable?

- Some terminology:
 - A **strong** currency is one whose price in terms of other currencies is high.
 - A **weak** currency is one whose price in terms of other currencies is low.
- **Why** a currency is strong or weak is more important than its absolute strength.
 - For example, both higher growth and a change in tastes against a country's assets lead to a weak currency.

IV. THE BALANCE OF PAYMENTS

Balance of Payments

- An accounting of the supply and demand for dollars used in international transactions

Balance of Payments

At the equilibrium exchange rate:

Q of \$ demanded = Q of \$ supplied

$$EX + CI = IM + CO$$

EX: Exports of goods and services

CI: Capital inflows (purchases of American assets by foreigners)

IM: Imports of goods and services

CO: Capital outflows (purchases of foreign assets by Americans)

Balance of Payments

$$EX + CI = IM + CO$$

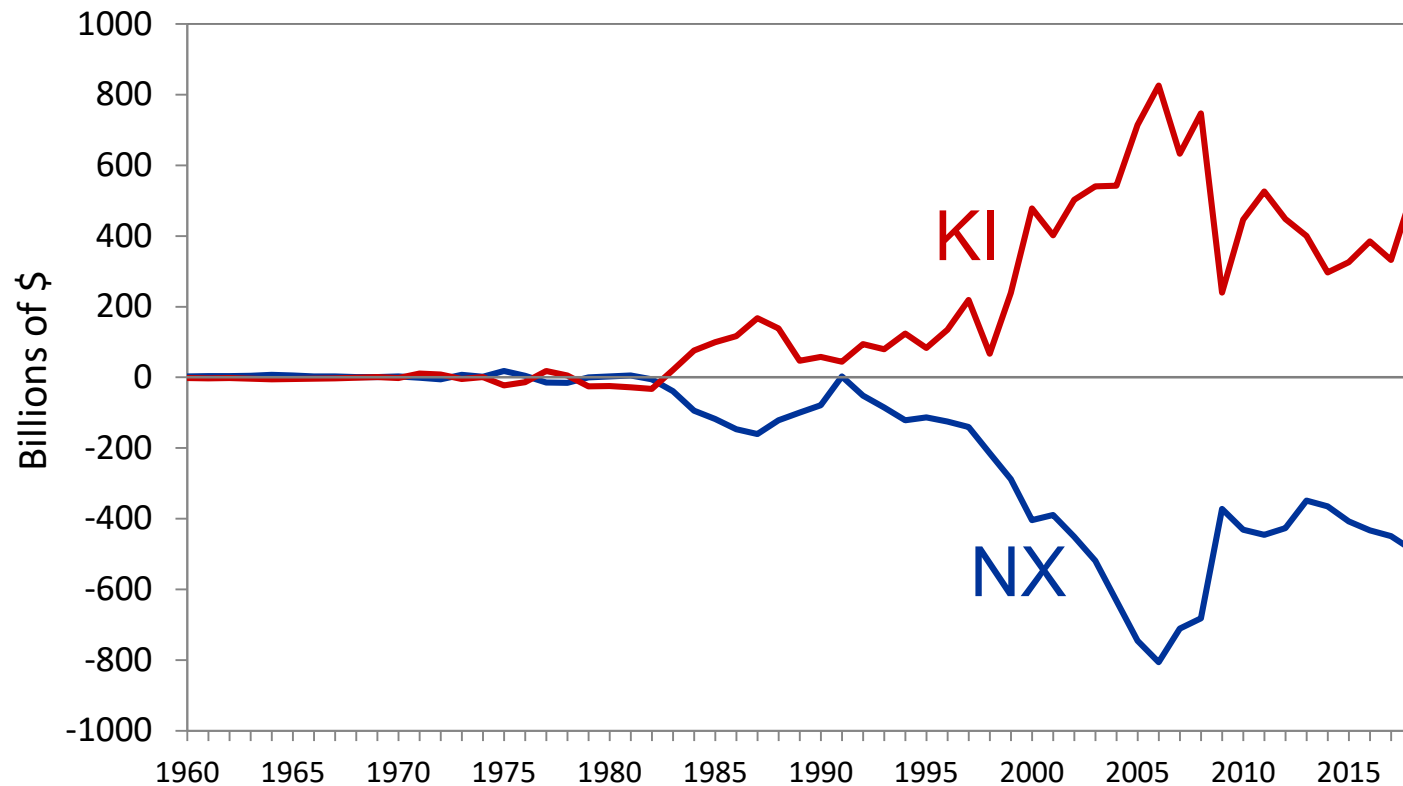
$$(EX - IM) + (CI - CO) = 0$$

$EX - IM$: Net exports (NX)

$CI - CO$: Net capital inflows (KI)

$$NX + KI = 0$$

Net Exports (NX) and Net Capital Inflows (KI)



Source: Bureau of Economic Analysis

Preview of What Determines Net Exports

$$NX + KI = 0$$

- Anything that moves KI moves NX in the opposite direction.
- What moves KI? Things that affect the relative attractiveness of assets (real interest rates, tastes)
- Corollary: If something doesn't affect KI, it will *not* move NX.