# LSE EC1B5 Macroeconomics

Handout 17

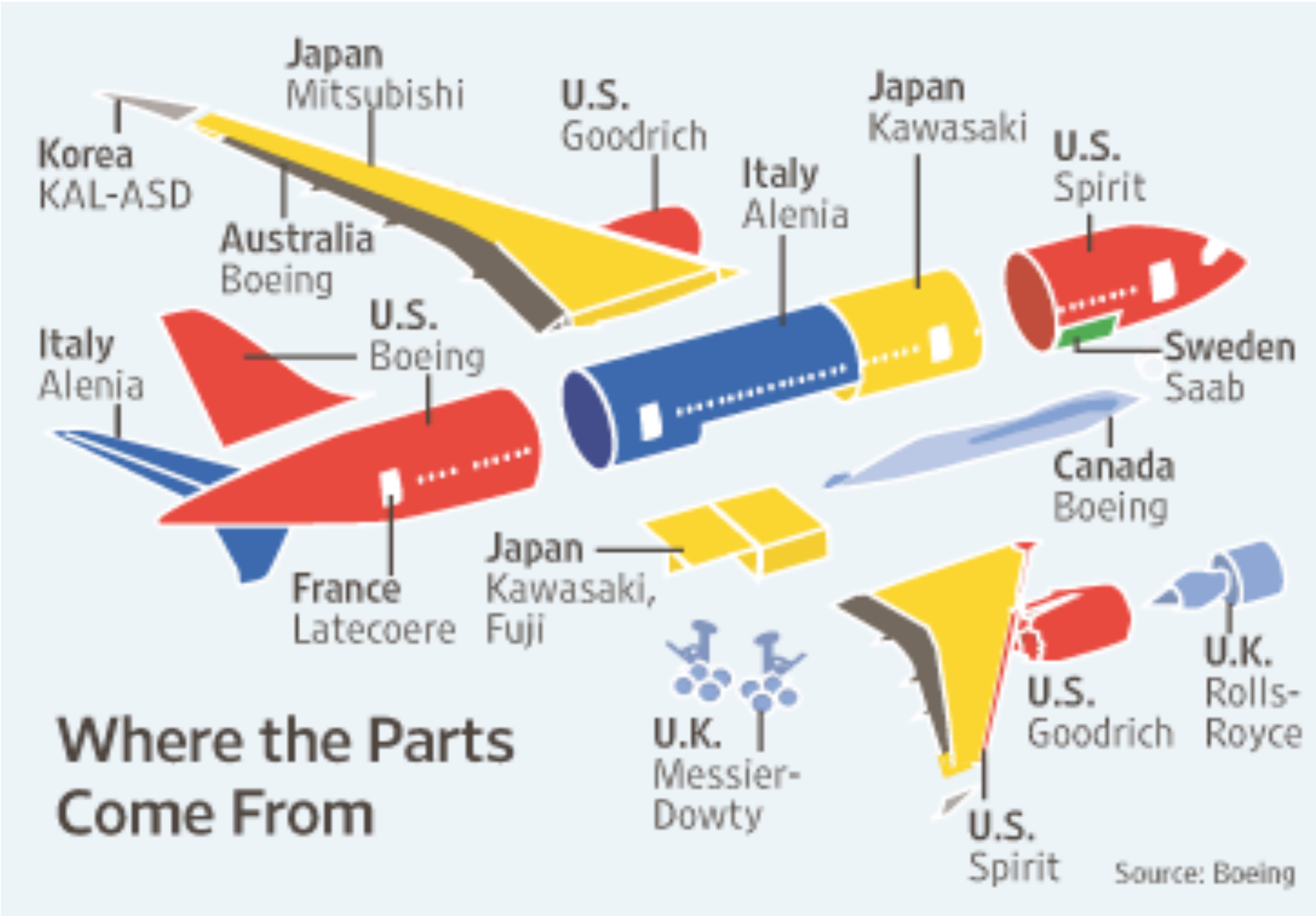
**Macroeconomics and International Trade**

# Why and How We Trade

In the 1950’s, there were over 90 American manufacturers making television sets. The United States does not make televisions anymore. The last U.S. television manufacturer was Zenith Electronics Corp., which sold its interest to South Korea’s LG Electronics in 1995.

Why did the United States give up its television industry to foreign countries? Have American workers lost the necessary skills to make televisions? These are some of the questions related to international trade that this chapter will answer.

Boeing 787 Dreamliner




Source: Wall Street Jounral

## Key Ideas

1. International trade enables countries to focus on activities in which they have a **comparative advantage**.
2. The current account includes international flows from exports, imports, factor payments, and transfers.
3. If a country runs a current account deficit, it pays for this by giving its trading partners financial IOUs. If a country runs a current account surplus, it receives financial IOUs from its trading partners.

## Why and How We Trade

- Trade, both within and between countries, enhances our quality of life by increasing the efficiency of production.
- Trade increases the efficiency of production through **gains from specialization**.
- By specializing in a single job or activity, each member of an economy can produce more than if all members produced every good or service by themselves.

A producer has an **absolute advantage** in producing a good (or service) if the producer can produce more units per hour compared to other producers.

A producer has a **comparative advantage** in producing a good (or service) if the producer has a lower opportunity cost compared to that of other producers.

By exploiting comparative advantage, international trade increases overall economic efficiency.

As a result, goods and services are sold at lower prices, which benefits consumers.

In addition, domestic citizens and firms will receive payments from patents, distribution, retail, and production of component parts.

## Why and How We Trade

- Although trade creates gains for society as a whole, trade will produce some losers.
- In the United States, low-skilled workers suffer as many of their jobs are lost through trade and outsourcing.
- Example: routine assembly jobs move to developing countries, thus fewer assembly jobs performed in the U.S. than three decades ago. – need to re-train to switch to other occupations

# Example

| | James | Billy |
|---|---|---|
| Points per Season (basketball) | 2,000 | 60 |
| Hits per Season (baseball) | 40 | 20 |

Consider the example of James and Billy. Each can produce points in basketball and hits in baseball.

Who has an *absolute advantage* in baseball, and who has one in basketball?

Who has a *comparative advantage* in baseball, and who has one in basketball?

| | James | Billy |
|---|---|---|
| Points per Season | 2,000 | 60 |
| Hits per Season | 40 | 20 |

James has an *absolute advantage* in both sports since he can produce more points in basketball and also more hits in baseball than Billy.

# Comparative Advantage

James forgoes 40 hits for 2,000 points, or 40 / 2,000 = 0.002 forgone hits for each point.

Billy forgoes 20 hits for 60 points, or 1 / 3 = 0.33 forgone hits for each point.

James has a *comparative advantage* in basketball since he can produce points at a lower opportunity cost.

James forgoes 2,000 points for 40 hits, or 2,000 / 4 = 500 forgone points for each hit.

Billy forgoes 60 points for 20 hits, or 3 / 1 = 3 forgone points for each hit.

Billy has a *comparative advantage* in baseball since he can produce hits at a lower opportunity cost.

# Why We Trade

Suppose that the productivity of a US and Chinese worker is the following:

| | US worker | Chinese Worker |
|---|---|---|
| Assembly | 20,000 iPhones/ year | 5,000 iPhones/ year |
| R&D | 10 innovations/ year | 1 innovation/year |

Who has absolute advantage in assembly vs. research?

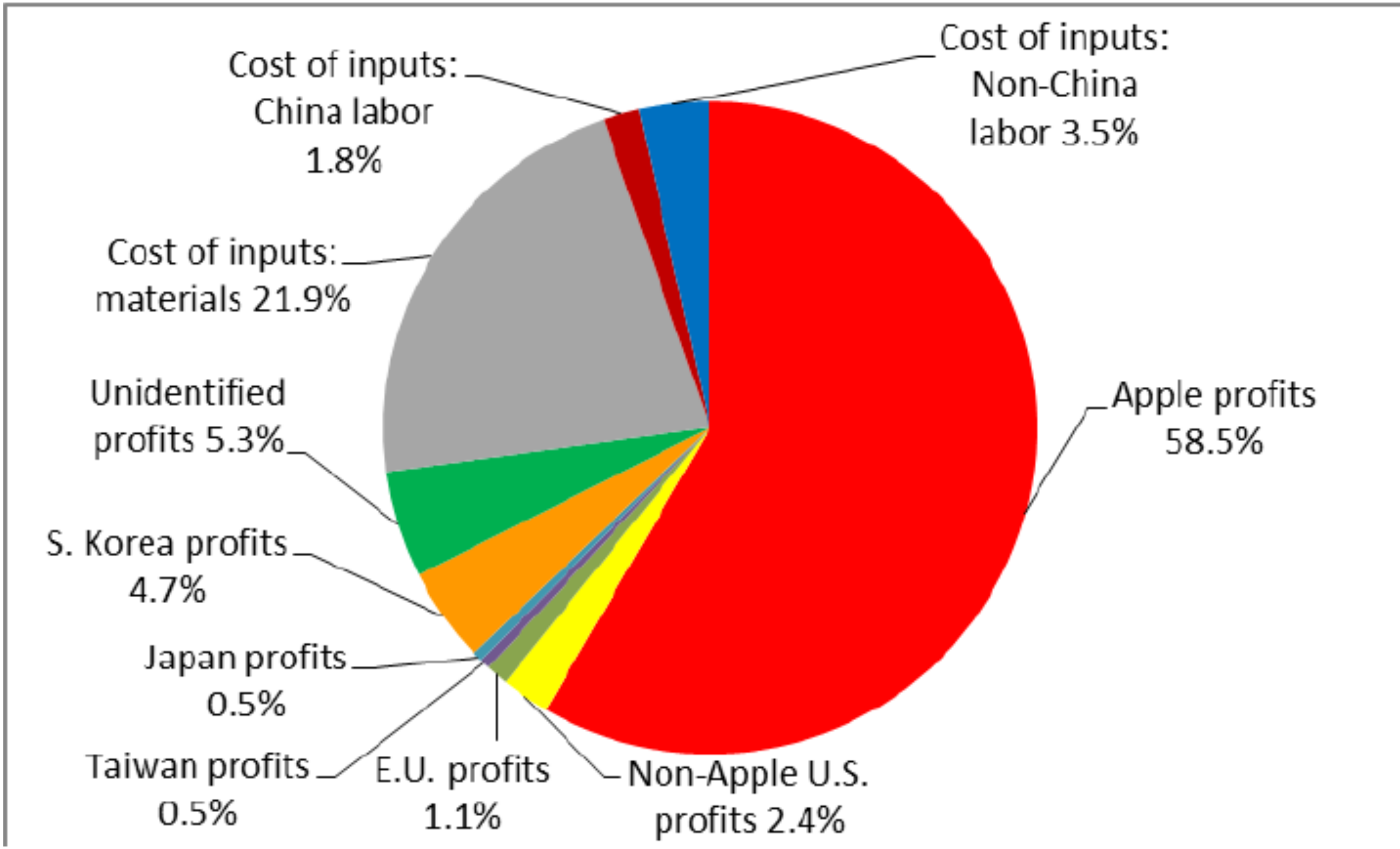
Who has comparative advantage assembly vs. research?

If valued added is $1.5 for each iPhone assembly and $5,000 for each R&D innovation, then their yearly wages are:

| | US worker | Chinese Worker |
|---|---|---|
| Assembly | $30,000 | $7,500 |
| R&D | $50,000 | $5,000 |

- Apple is based in Cupertino, California

- For the $999 iPhone it sells
  - Only 8.46 go to China (labor and parts)
  - Samsung makes the iPhone screens
  - Toshiba supplies the memory chips



Cost of inputs: China labor 1.8%
Cost of inputs: Non-China labor 3.5%
Cost of inputs: materials 21.9%
Apple profits 58.5%
Unidentified profits 5.3%
S. Korea profits 4.7%
Japan profits 0.5%
Taiwan profits 0.5%
E.U. profits 1.1%
Non-Apple U.S. profits 2.4%

# Gains from Trade

- Consumers gain from lower prices, more variety of consumption goods
- Firms gain from more intermediate inputs sold at cheaper prices, productivity rises
- Overall, more efficiency from specialization
- In addition, domestic citizens and firms will receive payments from patents, distribution, retail, and production of component parts

# Why and How We Trade

Although trade creates gains for society as a whole, trade will produce some losers.

In countries like the US and the UK, low-skilled workers suffer as many of their jobs are lost through trade and outsourcing.

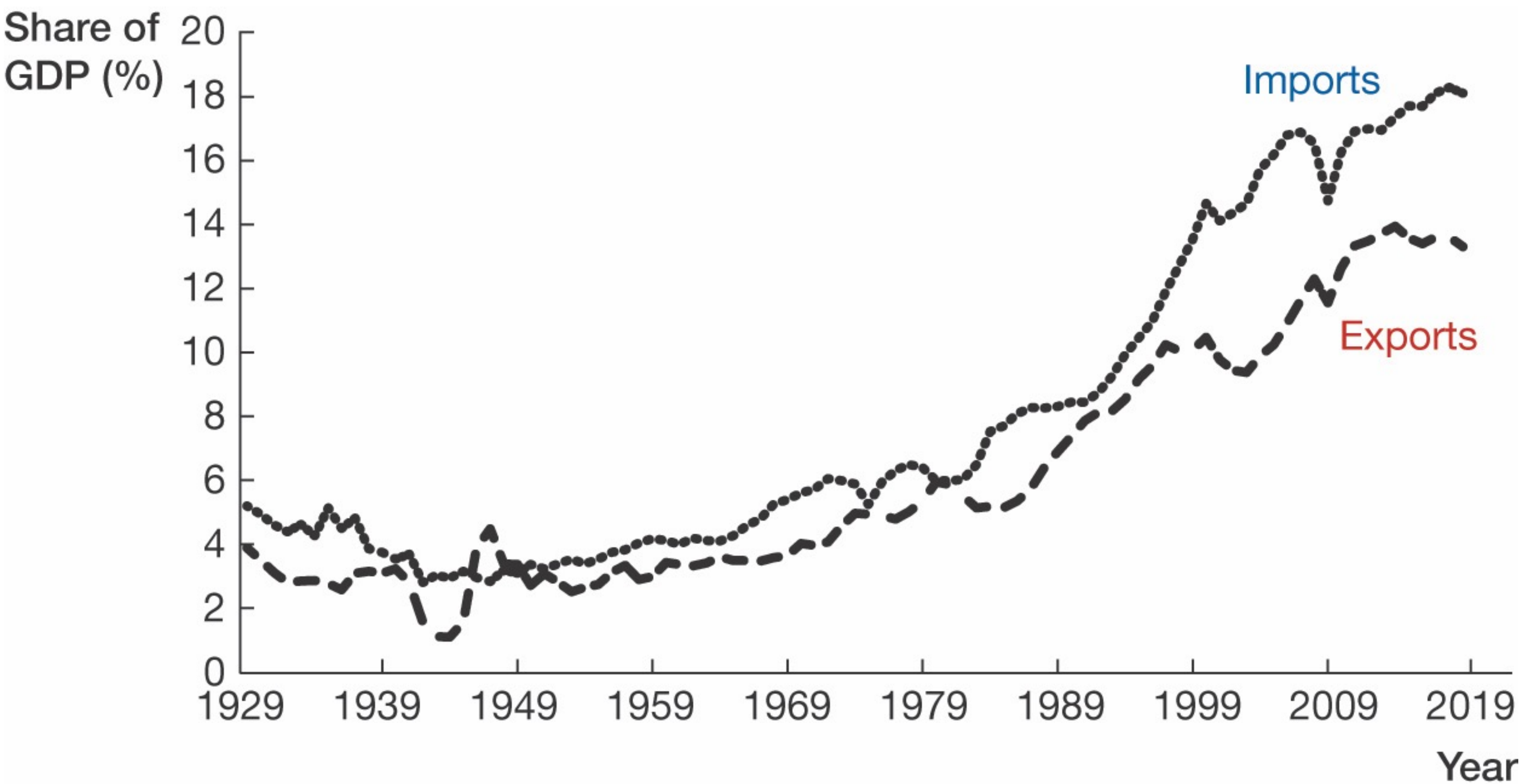
Economists argue that if the benefits outweigh the costs borne by the lowers, then a system of government taxes and transfers to compensate the losing households would still make everyone better off

We can measure the openness of an economy to trade by looking at either of the following:

1. Exports / GDP

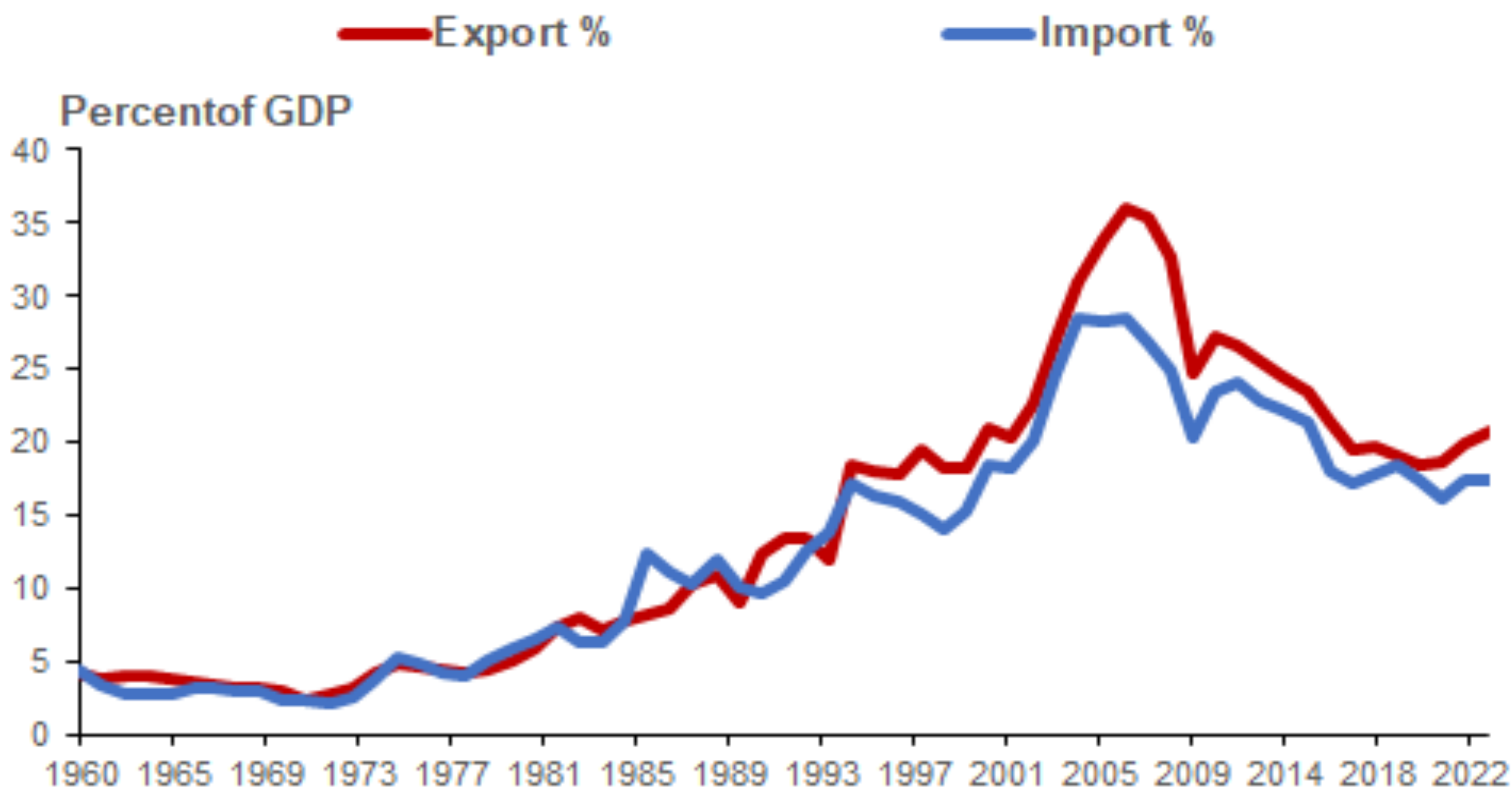
2. Imports / GDP

# U.S. Imports and Exports as a Share of GDP (1929–2019)



The Ratio of Imports to GDP in Four Large Economies and in the Total World Economy (1960–2019)

**China:** Imports and Exports as a Share of GDP (1960–2022)



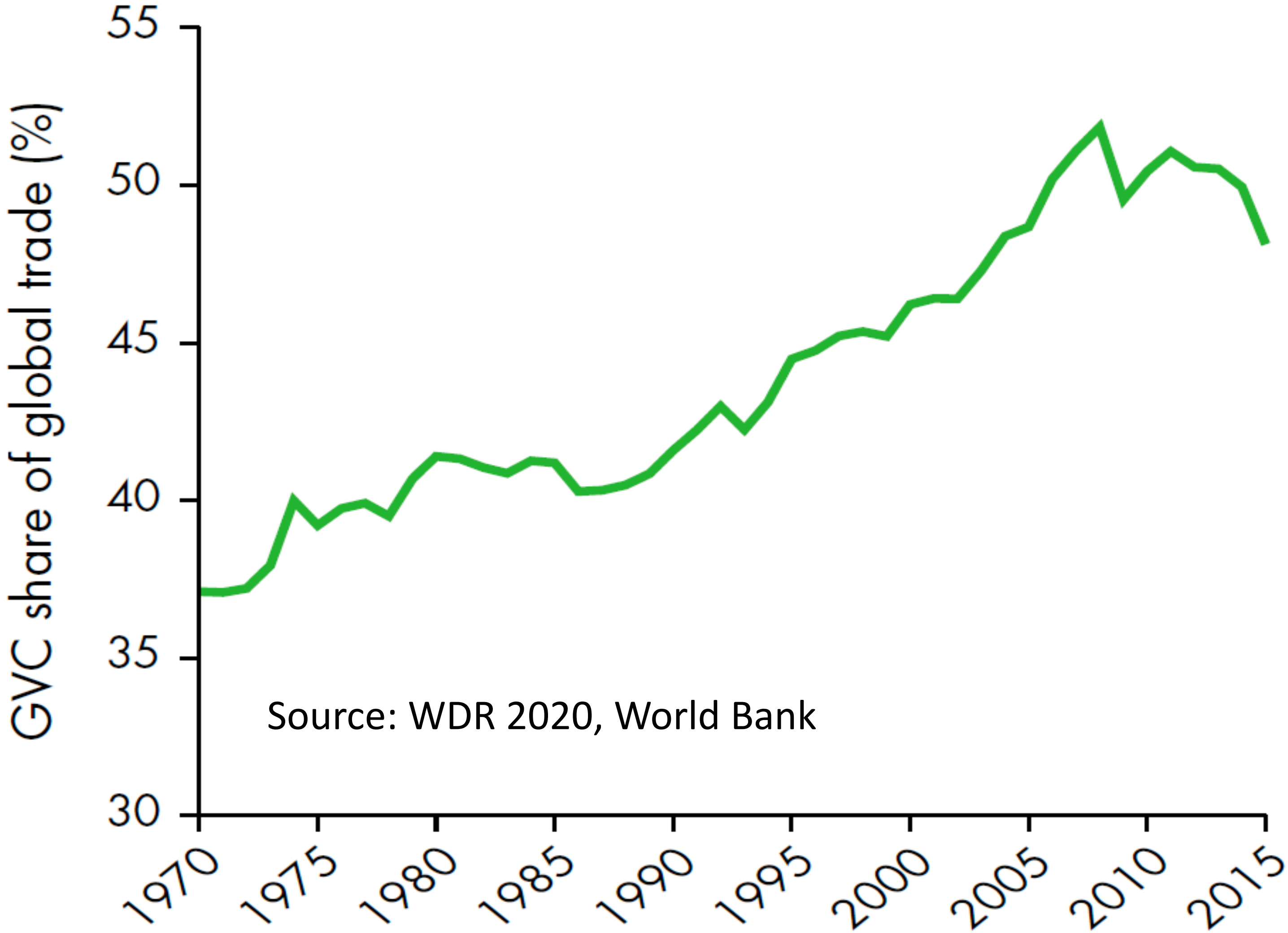
# Trade Barriers

Because international trade creates winners and losers, most countries, including the United States, impose *trade barriers* like tariffs.

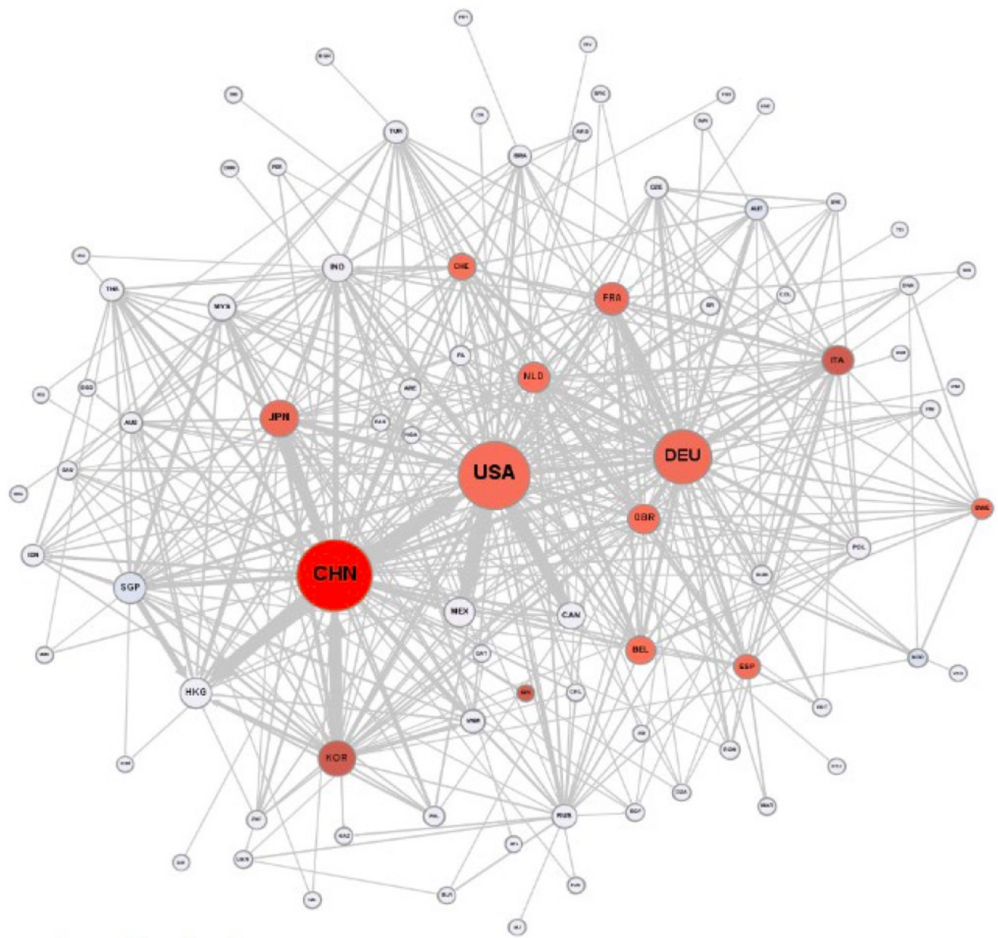
In industrialized countries, tariffs are generally low but can be quite high for agricultural goods.

In some *developing* countries, tariffs are used to raise revenue and to protect domestic producers.

# Another Type of Trade: Global Value China



# The global network of intermediates trade




Source: WDR 2020, World Bank

# Current Account
# And
# Financial Account

# The Current Account and the Financial Account

In 2019, the United States imported $3,105.1 billion in total, with $472.3 billion coming from China.

In 2019, the United States exported $2,528.2 billion in total, with only $164.5 billion going to China.

What does this mean? More importantly, should the US be concerned?

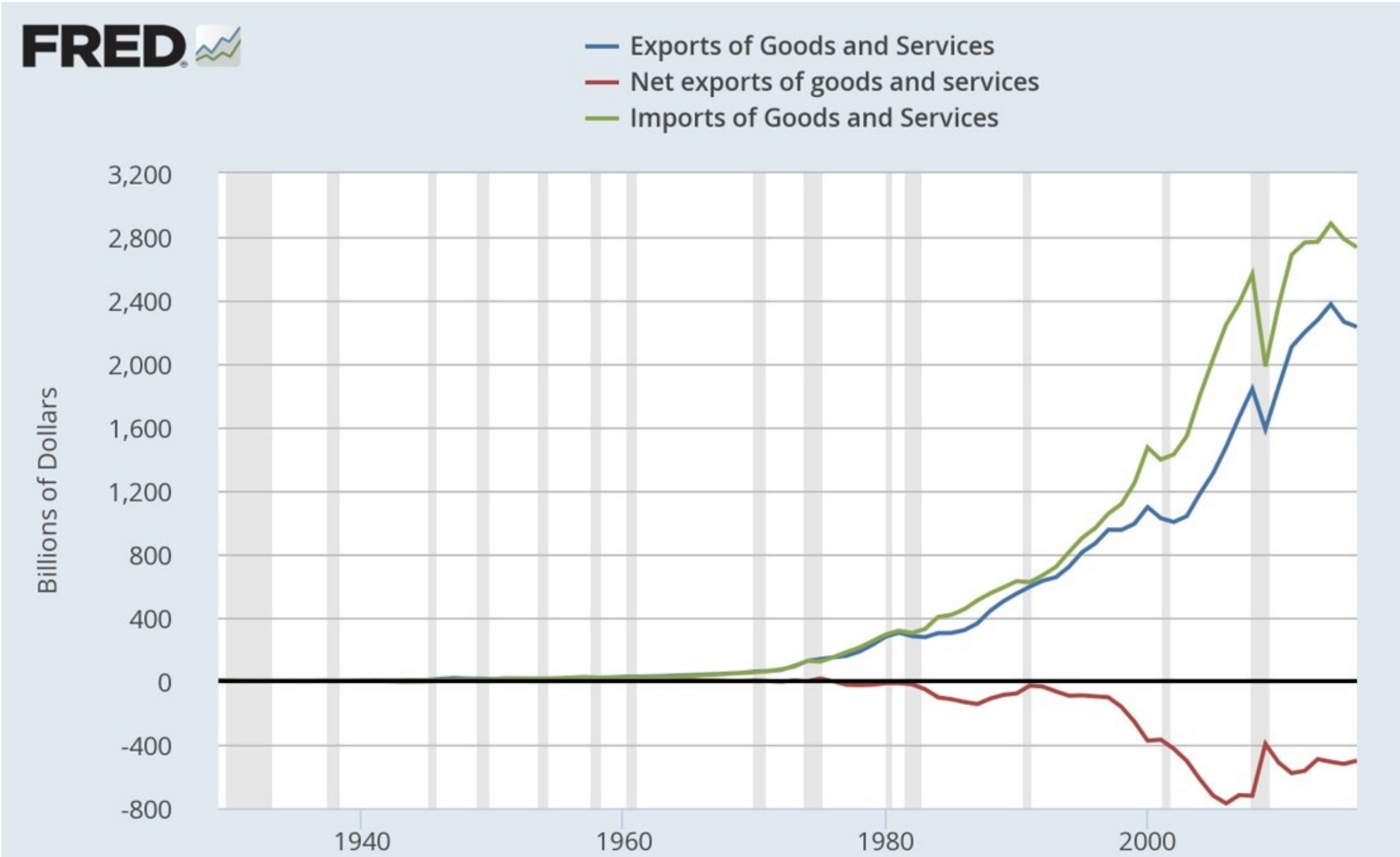
**Net exports** or the **trade balance** is defined as exports minus imports.

When the trade balance is positive, it is called a **trade surplus**.

When the trade balance is negative, it is called a **trade deficit**.

The international accounting system is built on the concept of residency:

- Income-based payments *from* foreigners
- Income-based payments *to* foreigners




**Source:** U.S Bureau of Economic Analysis

## **Income-Based Payments *from* Foreigners**

1. Receiving payments from the sale of goods and services to foreigners: *exports*
2. Receiving income from assets that the domestic resident owns in foreign countries: *factor payments from foreigners*
3. Receiving transfers from individuals who reside abroad or from foreign governments: *transfers from foreigners*

## Income-Based Payments *to* Foreigners

1. Making payments to foreigners in return for their goods and services: *imports*
2. Paying income on assets that foreign residents own in the domestic economy: *factor payments to foreigners*
3. Making transfers to individuals who reside abroad or to foreign governments: *transfers to foreigners*

## The Current Account and the Financial Account

For each item, we can sum payments from foreigners ( + ) and payments to foreigners ( – ):

*Net exports* = (Payments from abroad for exports) – (Payments to foreigners for imports)

*Net factor payments from abroad* = (Factor payments from abroad) – (Factor payments to foreigners)

*Net transfers from abroad* = (Transfers from abroad) – (Transfers to foreigners)

## The Current Account and the Financial Account

The **current account** is the net flow of payments made to domestic residents from foreign residents on goods, services, factor payments, and transfers:

Current account = (Net exports) + (Net factor payments from abroad) + (Net transfers from abroad)

# The US Current Account and the Financial Account

The Current Account of the United States in 2019  (Billions of 2019 dollars)

| | Payments from Foreigners | Payments to Foreigners | Net Payments |
|---|---|---|---|
| Trade in goods and services | 2,514 | 3,125 | -611 |
| Factor payments | 1,170 | 900 | +270 |
| Transfer payments | 147 | 309 | -162 |
| **Current account** | 3,831 | 4,334 | -503 |

The **financial account** is the increase in domestic assets held by foreigners minus the increase in foreign assets held domestically.

The **financial account** is defined so that the net flows in the financial account offset the net flows in the current account:

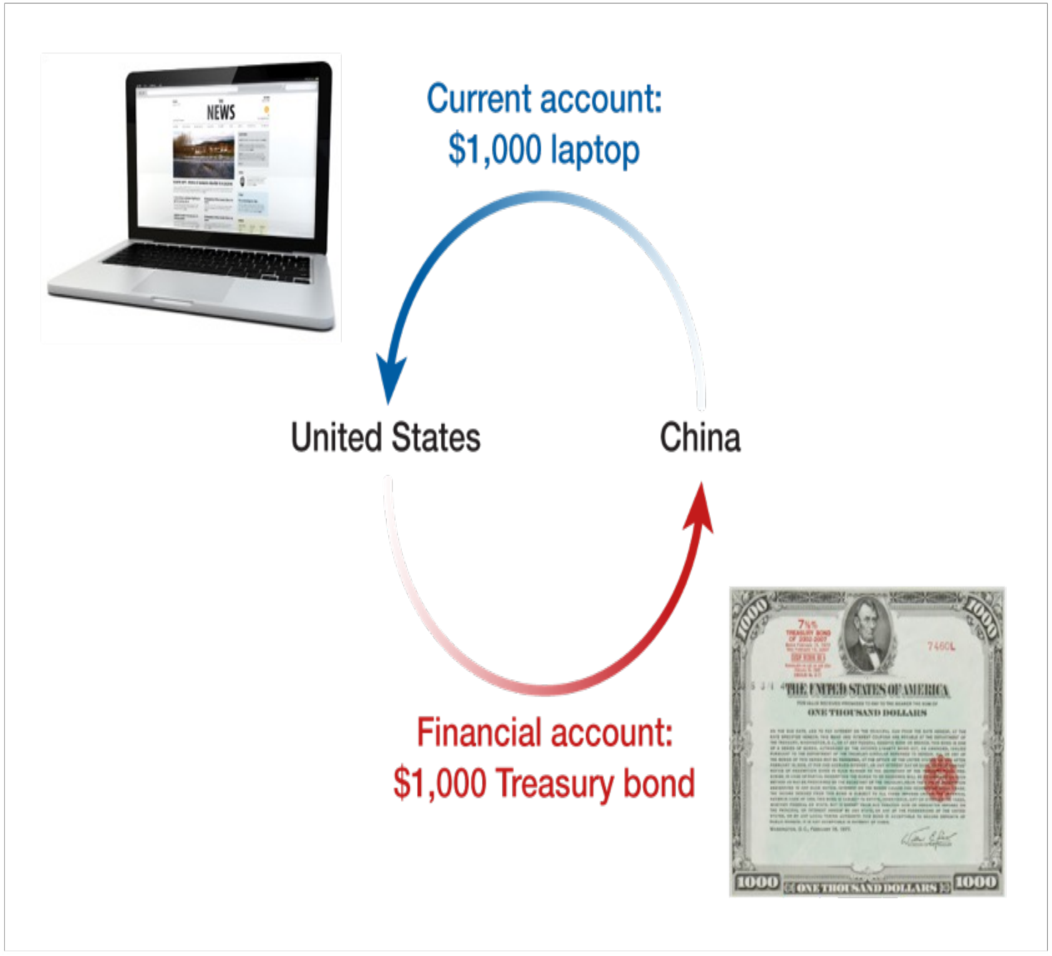
(Current account) + (Financial account) = 0

**Question:** What are the consequences of running a current account deficit?

**Idea:** When U.S. residents make $503 billion of net payments to foreigners, the payments are made in U.S. dollars.

**Answer:** These dollars enable the foreign residents to buy U.S. assets, which can be exchanged for U.S. goods and services at some point in the future.

# The U.S. International Transaction Accounts



# The Current Account and the Financial Account

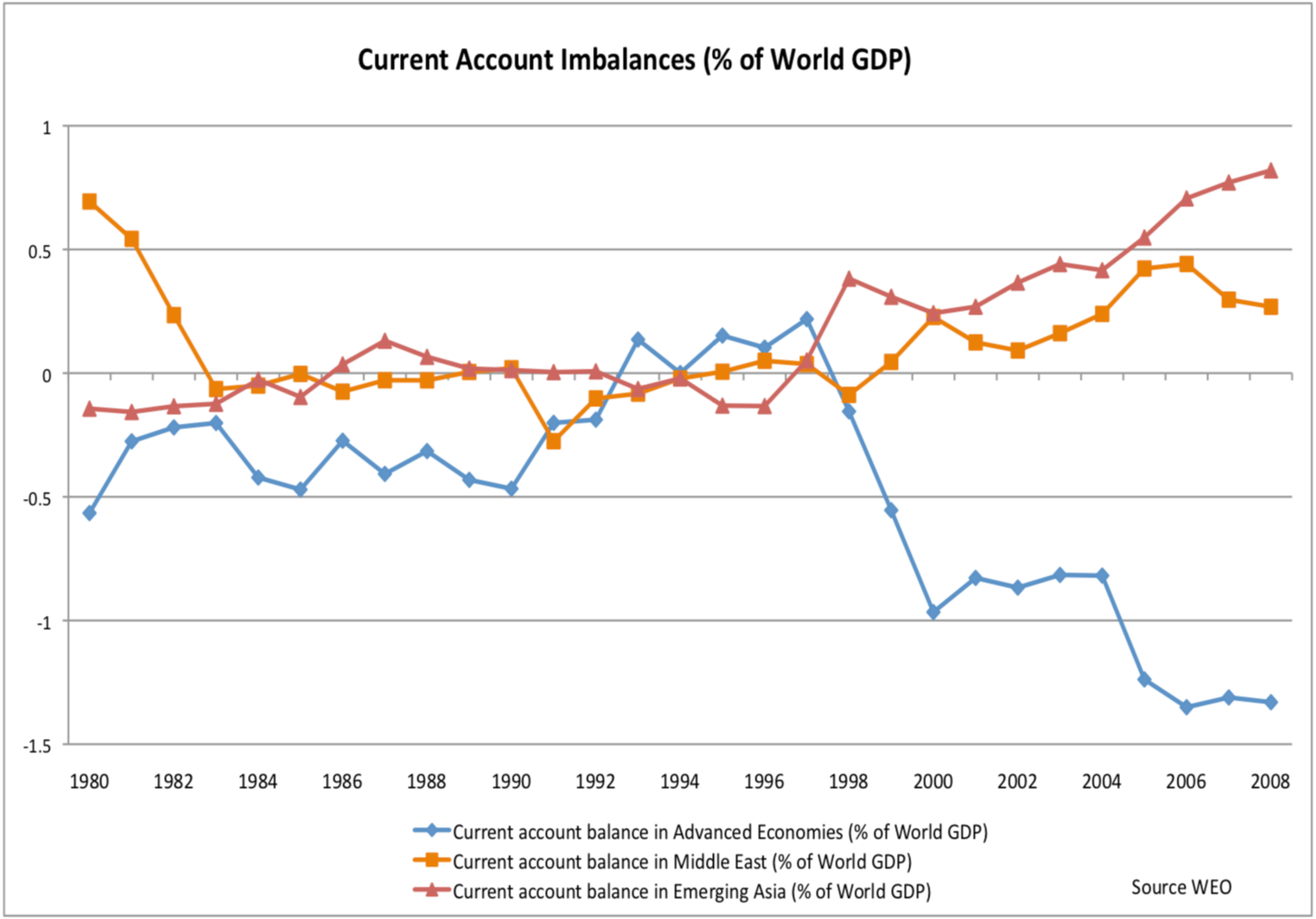
Linking real interest rate to **net capital outflows** and to net exports.

Net capital outflows are the difference between investment by the home country in foreign countries and foreign investment in the home country.

The national income accounting identities yields:

$$S - I = NX = \textit{Net capital outflows}$$

Increase in real interest rate reduces net capital outflows and, therefore, net exports fall.


Current Account Imbalances (% of World GDP)
1
0.5
0
-0.5
-1
-1.5
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Current account balance in Advanced Economies (% of World GDP)
Current account balance in Middle East (% of World GDP)
Current account balance in Emerging Asia (% of World GDP)
Source WEO

- Can the U.S. borrow forever?
- At some point, it will have to repay by running trade surpluses—sharp depreciation?
- Two views:
  - Benevolent view: US has better financial assets
  - Pessimistic view: US borrowing beyond its means
  - Saving glut from emerging markets