ECON 1550: International Finance

National Income Accounting for Open Economies

Announcements

- Problem Set 1 due on Wednesday before midnight
- Section
  - Nathalie: 4pm in Friedman Hall 102
  - Eric: 12pm in Salomon Center Room 202 (tentative)
- Read pages 41–57 of textbook before Wednesday lecture

Agenda

- Open economy accounting

  $GDP = C + I + G + NX$ and $GNP = C + I + G + CA$

- Saving, investment, and the current account

- Start balance of payments account

Macro Review: GDP

Gross Domestic Product (GDP) measures the total value of:

- **Production:** All final goods and services produced within a country
- **Income:** All income earned from production within a country
- **Value added:** Sum of value added at each stage of production

All three approaches yield the same number.

Closed Economy

$$Y = C + I + G$$

- All output is either consumed, invested, or purchased by government
- No trade with the rest of the world

Open Economy with GDP

$$GDP = C + I + G + \underbrace{EX - IM}_{NX}$$

- EX = Exports (domestic goods sold abroad)
- IM = Imports (foreign goods purchased domestically)
- NX = Net exports (trade balance)

GDP and GNP

- **GDP:** Value of production *within a country's borders*
  - Regardless of who owns the factors of production
- **GNP:** Value of production by *a country's residents*
  - Regardless of where production takes place
- **Relationship:**

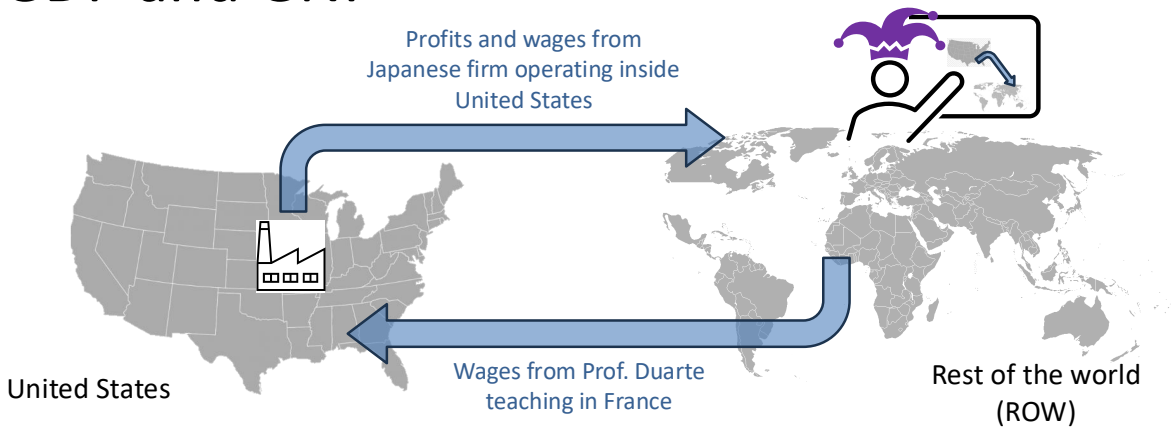
$$\text{GNP} = \text{GDP} + \text{Net Income from Abroad}$$

Open Economy with GNP

$$GNP = C + I + G + CA$$

- CA = Current account
- $CA = NX +$ Net income from abroad

GDP and GNP



Net Income = Wages from Prof. Duarte teaching in France — Profits and wages from firm operating inside US

United States GNP = United States GDP + Net Income

National Saving: Closed Economy

National saving = output not used for consumption or government spending

$$\begin{aligned} S &\equiv Y - C - G \\ &= (C + I + G) - C - G \\ &= I \end{aligned}$$

In a closed economy: $S = I$

National Saving: Open Economy

Starting from $Y = C + I + G + NX$:

$$S \equiv Y - C - G$$

$$= I + NX$$

In an open economy: $S = I + NX$

National Saving: Open Economy

Rearranging: $S - I = NX$

- If $S > I$: Trade surplus, country is a net lender
- If $S < I$: Trade deficit, country is a net borrower

Private Saving

Private saving = disposable income that is saved, not consumed

$$S^p \equiv Y - T - C$$

Public (Government) Saving

Government saving = tax revenue minus government spending

$$S^g \equiv T - G$$

- If $T > G$: Budget surplus ($S^g > 0$)
- If $T < G$: Budget deficit ($S^g < 0$)

Total Saving

Total national saving:

$$\begin{aligned} S &= S^p + S^g \\ &= (Y - T - C) + (T - G) \\ &= Y - C - G \end{aligned}$$

And we know: $S = I + NX$
Therefore:

$$S^p + S^g = I + NX$$

Balance of Payments

Current Account

1. Exports total
2. Goods
3. Services
4. Income receipts (primary income)
5. Imports total
6. Goods
7. Services
8. Income payments (primary income)
9. Net unilateral transfers (secondary income)
10. **Balance on current account**

Balance of Payments

Capital Account

11 Balance on capital account

Financial Account

12 Net U.S. acquisition of financial assets

13 Net U.S. incurrence of liabilities

14 Financial derivatives, net

15 **Net financial flows**

Statistical discrepancy