

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

$$GDP = C + I + G + NX \text{ and } GNP = C + I + G + CA$$

- 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



# National Saving: Closed Economy

**National saving** = output not used for consumption or government spending

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

**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:**

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

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**