# Trade Imbalances



## Big Picture

- In an open economy
  - spending need not equal output
  - saving need not equal investment
- Think about your economic life...
  - Does your spending equal your income?
  - What does it imply when it does not? Saver? Borrower?



## Open economy demand for goods and services

- Expenditure Components
  - C = consumer demand for goods and services
  - I = demand for investment goods.
  - G = government demand for goods and services
  - EX = foreign demand for home goods and services
  - IM = domestic demand for foreign goods and services



## Savings, Investment, Net Exports I

Recall...

$$Y = C + I + G + NX.$$

Then rearranging ...

$$S = \underbrace{Y - C}_{\text{Private Savings}} - \underbrace{\bar{G}}_{\text{Public Savings}}$$

$$= I + NX$$

## Savings, Investment, Net Exports II

Then rearranging again...

$$S - I = \underbrace{NX}_{\text{international borrowing/lending}}$$

Think about if net exports are positve...

- Selling more goods than buying... how is this possible... Then you must be a net **lender** to the rest of the world.

If net exports are negative...

- Buying more goods than selling... how is this possible... Then you must be a net **borrowing** from the rest of the world.



## Savings, Investment, Net Exports III

Then rearranging again...

$$S - I = \underbrace{NX}_{\text{Trade Balance}}$$

Key point...

- Trade balance tells us about net international capital flows.
- If running a trade deficit, then this implies a country is a net borrower!!!!



## Savings and Investment in Small Open Economy

- Production

$$\bar{Y} = \mathrm{F}(\bar{K}, \bar{L}).$$

- Consumption

$$C = \beta \times (Y - T), \quad \text{where} \quad \beta \in (0, 1).$$

- Investment function is:

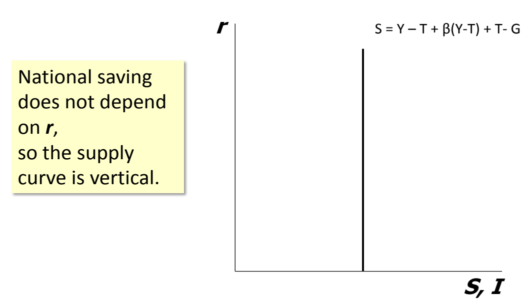
$$I = I(r)$$

- Government policy

$$G = \bar{G} \qquad T = \bar{T}$$



## Supply of Savings



## Assumptions about capital flows

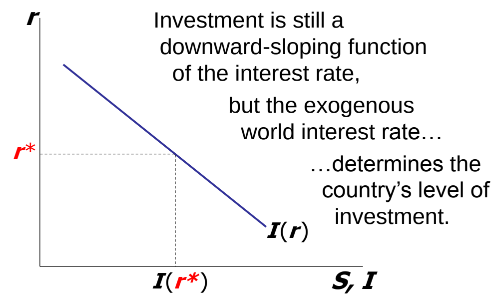
1. Domestic & foreign assets are perfect substitutes (same risk, maturity, etc.)
2. Perfect capital mobility: No restrictions on international trade in assets
3. Economy is small:
   Cannot affect the world interest rate, denoted $r^*$

1. and 2. imply that domestic $r = r^*$ always.

3. implies actions in home economy do not affect $r^*$.

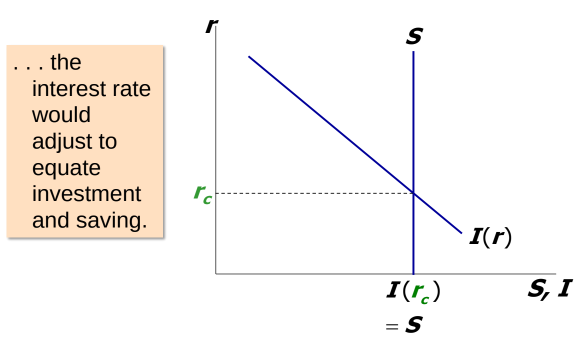


## Investment in Open Economy



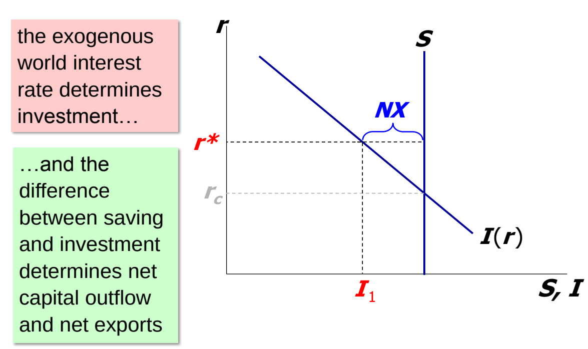



## Equilibrium in Closed Economy






## Equilibrium in Open Economy

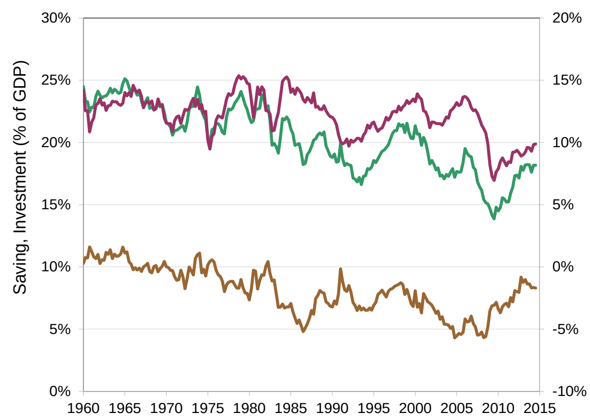


## Several things worth thinking about...

1. How does fiscal policy at home affect the trade deficit?
2. How do changes in the world interest rate affect the trade deficit?
3. How do changes in investment demand affect the trade deficit?



## The US Trade Deficit






## US NX and Government Budget Deficit (% of GDP)