Issues in International Finance

Policy in the open economy I

UW – Madison // Fall 2018

Roadmap

- Where we have been
  1. Measuring external transactions and wealth
  2. Unbalanced trade means borrowing or lending with ROW
  3. The long run budget constraint
- Today
  1. The gains from international borrowing and lending
  2. Consumption smoothing, efficient investment, risk diversification

Big picture

- Time to put our earlier studies to work again
  - Foreign exchange market
  - Money market
- Add to those, the goods market
  - Need to develop a model of the goods market
  - Looking for a short run model (prices fixed)
  - Use the classic IS-LM model, but adapted to the open economy
- Focus on the home country and the RoW
- Need a model of C, I, G, TB
- Make simplifying assumptions…

Some assumptions

- Short run: prices are fixed, inflation is zero
- Government policy $(\bar{G}, \bar{T})$ is constant, but we will later see what happens when we change policy variables
- Foreign output $\bar{Y}^*$ and interest rate $\bar{i}^*$ is constant and exogenous
- No $NFIA$, or NUT, so $CA = TB$

Consumption

- Model household consumption as a function of income

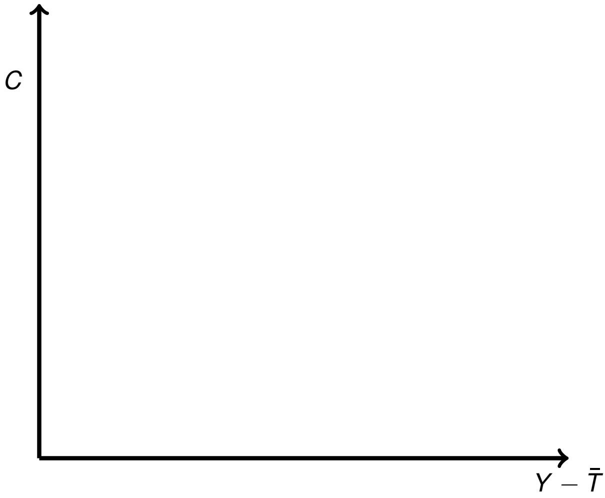
$$C = C(Y - \bar{T})$$

- The **function** $C(\ )$ is increasing in disposable income, $Y - T$
- The slope of the consumption function is the **marginal propensity to consume**
- Suppose that

$$C = 2 + 0.8(Y - \bar{T})$$

- $MPC = 0.8$: for each extra dollar of disposable income, save 20 cents spend 80 cents

Consumption



Investment

- Many possible investment projects, each paying a different real rate of return (start Google, open a beach club in Madison in December...)
- Projects whose rate of return is greater than expected real interest rate will be undertaken

$$r_{\text{project}} > r^e$$

$$r_{\text{project}} > i - \pi^e$$

- In the short run, $\pi^e = 0$

$$r_{\text{project}} > i$$

- The lower is i the more projects will be undertaken
- Total investment, I, is a decreasing function of i

$$I = I(i)$$

Investment

The government

- Collects taxes T and purchases consumption G
- These levels are fixed and do not depend on other factors
- Use bars to make this obvious $\bar{T}, \bar{G}$

- Later, we will see how changes in T and G affect the economy

The trade balance

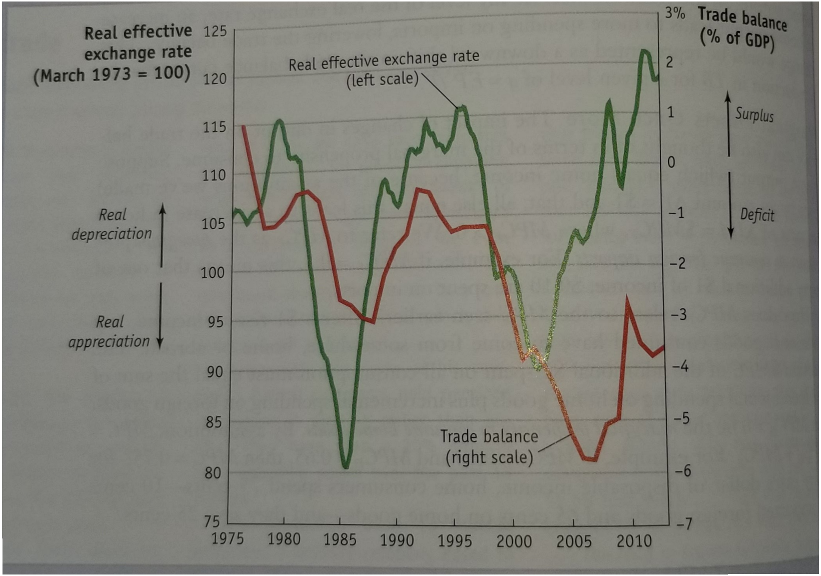
- What drives the trade balance?
  1. Prices: The real exchange rate
  2. Incomes: home and foreign incomes
- Write this as

$$TB = TB(E\bar{P}^*/P, Y - \bar{T}, Y^* - \bar{T}^*$$

- TB is increasing in $E\bar{P}^*/P, Y - \bar{T}$
- TB is decreasing in $Y - \bar{T}$
- TB is increasing in $Y^* - \bar{T}^*$
- Let's look at each separately

The trade balance and prices

- The real exchange rate
$$q = \frac{E_{H/F} P_F}{P_H}$$
- In the long run, PPP says that $q = 1$
- In the short run, prices are fixed and movements in $E_{H/F}$ lead to movements in q
- When $E_{H/F}$ falls, foreign goods are cheap relative to home goods: **buy more foreign and less home goods**
- When $E_{H/F}$ rises, foreign goods are expensive relative to home goods: **buy less foreign and more home goods**
- The trade balance is increasing in the real exchange rate



Real effective exchange rate (March 1973 = 100)
Trade balance (% of GDP)
Real effective exchange rate (left scale)
Trade balance (right scale)
Real depreciation
Real appreciation
Surplus
Deficit
125
120
115
110
105
100
95
90
85
80
75
3%
2
1
0
−1
−2
−3
−4
−5
−6
−7
1975
1980
1985
1990
1995
2000
2005
2010

The trade balance and income levels

- An increase in **disposable income** leads to an increase in consumption of everything — including imports
- All else equal
  - An increase in home disposable income leads to an increase in home imports: trade balance should fall
  - An increase in foreign disposable income leads to an increase in home exports: trade balance should rise
- Looking ahead…how would tax policy change affect the trade balance?

Shocks to C, I,and TB

- Consider things that shift to the C, I, and TB functions
- Think of them as being "shocks". Changes outside of our model. This is where business cycles come from
- **Shocks to** C**:** Consumers would like to consume more (or less) for any level of income. Example: increase in wealth from home prices
- **Shocks to** I**:** Businesses would like to invest more (or less) for any given interest rate. Example: New, more profitable ideas are created.
- **Shocks to** TB: Consumers would like to consume more (or less) foreign goods relative to home goods. Example: Change in tastes towards foreign goods.