

# Review Questions: Open Economy

Econ520. Prof. Lutz Hendricks

## 1. Trade deficits

### 1.1. Tariffs

### 1.2. Blocking imports

(10 points) “Blocking imports without changing underlying savings and investment levels would simply raise the value of the dollar and cause exports to fall as well, leaving the deficit unchanged...” (“The U.S. Trade Deficit: How Much Does It Matter?”, Council on Foreign Relations, 2021).

**Answer:** The key is  $I = S^P + S^G - NX$ , making this statement true by definition. The value of the dollar would have to change so that  $NX$  can stay the same, even though imports become more expensive.

### 1.3. Growth and trade balance

(10 points) If you plotted countries’ long-run output growth rates against their trade balances, what would you expect to see?

**Answer:** The key is again  $NX = (Y - T - C) - (T - G) - I$ . Faster growth would likely increase investment (or  $I/Y$ ). That would worsen the trade deficit. There is no clear link to the government budget deficit or to private saving. If you want to be sophisticated, you could argue that faster growth could induce consumers to save less (they will be richer in the future). That would also worsen the trade deficit.

### 1.4. Dollar and trade balance

(10 points) Some argue that trade deficits are a consequence of a strong dollar. Others argue the reverse: the strong dollar is caused by the trade deficit. Which argument is correct?

**Answer:** Neither. Both are endogenous. Depending on the shock, the trade deficit and the exchange may move together or not.

### 1.5. Current account and investment

(10 points) Consider the following quotes:

1. “A current account deficit may indicate that a country offers sound investment opportunities, or it may be caused by investment bubbles or fiscal deficits.”
2. “Since I cannot believe that the world will continue to give the United States an enormous gift year after year, I am convinced that at some point in the future, our trade deficit will end and the U.S. economy will have a trade surplus.”
3. Each nation is “like a big corporation competing in the global marketplace.”

For each quote, explain why you agree or disagree.

**Answer:** To be written

## 2. Competitiveness

### 2.1. Domestic wages

(10 points) Does trade with low wage countries force U.S. companies to reduce wages in order to remain competitive?

**Answer:** . The US will specialize in goods with high relative productivity. Wages will equal marginal products in those sectors. They are determined by technology, not trade. By construction, imported products must be cheaper than domestically produced products. So the price index declines and real wages must rise.

### 2.2. Export subsidies

(10 points) How would you expect foreign export subsidies to affect U.S. wages? Explain.

**Answer:** This has the same effect as higher productivity of the foreign country. The prices of imported goods fall. In the extreme case where the home country fully specializes in the export good, wages are completely determined by the productivity in that sector. Hence, the real wage in that sector (wage / price of the export good) remains the same. Then the overall real wage must rise (the price index falls).

More generally, some workers who produce goods that compete with the now cheaper imports see their real wages fall (their productivity is unchanged, but the price of the good they produce declines). All other workers see their wages rise.

(10 points) President Clinton once said that each nation is “like a big corporation competing in the global marketplace.” Was he right?

**Answer:** No. Competitiveness is not a concept that applies to countries (or persons). Firms go out of business when their productivity is low relative to that of competitors. Countries do not.

### 2.3. Low wages in China

(10 points) Do low wages in China cause our trade deficit? How can we export to China, if wages there are very low?

**Answer:** The key is again  $I = S^P + S^G - NX$ . Low Chinese wages do not have a clear effect on domestic saving. They may redirect investment from the U.S. to China. That might increase the trade balance. So the answer is “likely no.” We compete with China by adjusting the exchange rate to the point where we are competitive in products where we have a comparative advantage.

### 3. UIP

#### 3.1. UIP and risk premium 2

(10 points) Uncovered interest parity requires  $i = i^* - RP^* + x$  where  $RP^*$  is the risk premium for holding the foreign currency and  $x$  is the expected appreciation rate of the foreign currency. Suppose the foreign interest rate rises. Explain how UIP gets restored. Is the foreign currency strong or weak when its interest rate is high?

**Answer:** Returns on foreign bonds are higher than returns on domestic bonds. Investors buy foreign bonds, driving up the exchange rate. As  $E \uparrow$  (foreign currency appreciates),  $x \downarrow$  (holding  $E^e$  fixed). This expected capital loss reduces the total return on holding foreign currency. The process continues until the expected capital loss (depreciation  $-x$ ) exactly offsets the interest rate gap.

The foreign currency gets stronger ( $E \uparrow$ ) when  $i^*$  rises. But it is weak (in the sense of  $E$  falling over time) as long as  $i^*$  remains high.

#### 3.2. Interest rate differentials

(10 points) With floating exchange rates and perfect capital mobility, what does a positive interest rate differential ( $i > i^*$ ) indicate about investor's expectations about the exchange rate? Explain.

**Answer:** UIP requires expected returns to be the same in two currencies. The total return is interest plus currency appreciation. If one interest rate is higher than the other, that currency must be expected to depreciate.

#### 3.3. i differential and future exchange rates

(10 points) With floating exchange rates and perfect capital mobility, what does a positive interest rate differential ( $i > i^*$ ) indicate about investor's expectations about the exchange rate? Explain.

**Answer:** UIP requires expected returns to be the same in two currencies. The total return is interest plus currency appreciation. If one interest rate is higher than the other, that currency must be expected to depreciate.

### 4. Fixed exchange rates

#### 4.1. Speculative attacks

(10 points) Explain why fixed exchange rate regimes are vulnerable to speculative attacks, even if the economic fundamentals are sound. What would you expect to happen to the interest rate of a currency that investors think might be devalued?

**Answer:** The short answer: the peg insures the speculators against currency movements that go against them. If a currency comes under attack (or doubt), investors expect possible capital losses and the interest rate must rise to compensate.

## 4.2. Loss of monetary autonomy

(10 points) Explain in words why the central bank loses control over the money supply under fixed exchange rates.

**Answer:** If the peg is credible, it fixes the expected exchange rate. Investing in either currency involves no capital gains or losses. UIP then forces the interest rates in both countries to be the same. But if the Fed wanted to change the money supply, the interest would have to change. Capital flows would result, forcing the Fed to buy back any money it previously issued.

## 5. Floating exchange rates

### 5.1. No capital mobility

(10 points) Consider an environment with floating exchange rates and no capital mobility. How would a foreign recession affect the domestic economy? You don't need a model for this; just logic.

**Answer:** There is no effect. No capital flows means  $NX = 0$ . A foreign recession decreases export demand. But the FX market is not in equilibrium. The home currency must depreciate until net exports are zero again. Then there is no change in aggregate demand at home. Note that capital flows would invalidate this argument.

## 6. Exchange Rate Regimes

### 6.1. Currency crisis logic

(10 points) Explain the “impossible trinity” of exchange rate regimes. How do different regimes attain two out of three goals, but never all three.

**Answer:** There are 3 goals: exchange rate stability, open capital mobility, and monetary autonomy.

There are 3 “pure” regimes that fully get 2 goals by sacrificing the 3rd

1. Float: the CB ignores the exchange rate, so we have monetary autonomy. Capital flows can be open, but the exchange rate is volatile.
2. Peg: the CB is fully occupied with the exchange rate. We get the other 2 goals.
3. Capital controls: FX can only be bought and sold through a government agency. The exchange rate is a government choice (b/c markets don't clear). Money supply can do what it wants. But capital is immobile.

## 7. Gains from trade

### 7.1. Gains from Opening Trade

(10 points) Suppose you could open up trade with one of two countries. Country A is half as productive in making all goods compared with the U.S. Country B is twice as productive in making good X, but three times as productive as the US in making good Y. Which country would you want to be able to trade with? What would happen to domestic prices and wages when trade opens?

**Answer:** is about comparative advantage. Opening up trade with A would not do anything. Relative prices in A are the same as relative prices in the US. There would be no trade. Opening up trade with B would be more beneficial (setting aside distributional concerns). B could export the good where it has a comparative advantage (Y).

When trade opens, the real wage in sector X would not change. Let's make good X the numeraire, so its price is 1. Good Y would then become cheaper (imported). Overall real wages would rise.