

HANDOUT 3

1 Logistics

- Second homework due this Sunday (9/6).
- Final Exam: 9/9 (Wednesday).

2 International Finance

1. Monetary policy: The central bank control money supply to affect the economy.
 - Tight monetary policy: lower money supply (higher interest rate).
 - Expansionary monetary policy: Higher monetary supply (lower interest rate).
2. Exchange rates: rate at which we can exchange one currency for another.
 - Currencies can
 - Appreciate: increase in value.
 - Depreciate: decrease in value.
 - Devalue: artificially lowered in value (by government's monetary policy).
 - Revalue: artificially increase in value.

2.1 Demand and Supply for Currency

- Factors that affect demand (buying the currency):
 - U.S. firms converting earnings from foreign currency back to US dollars.
 - Foreigners coming to U.S.
 - Foreign investments in U.S.
- Factors that affect supply (selling the currency)
 - Foreign firms converting U.S. dollars back to their own currency.
 - Americans traveling abroad.
 - U.S. firms investing in foreign countries.
- Exchange rate formula:

$$\text{real exchange rate} = \text{nominal exchange rate} \times \frac{P \text{ (domestic price)}}{P^* \text{ (foreign price)}}$$

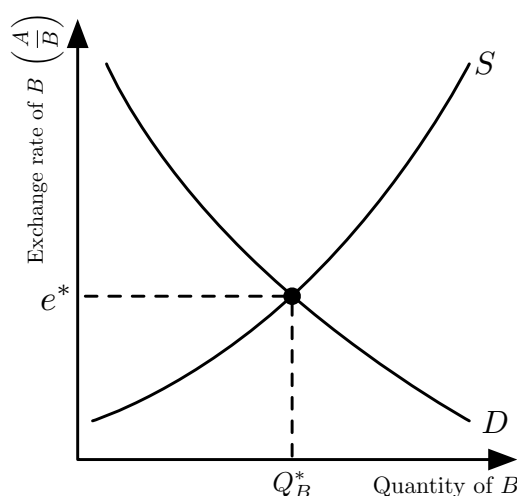
- **Purchasing power parity (PPP):**
 - is the **real exchange rate** that equalizes the price of internationally traded goods across countries (explain how exchange rate is determined). e.g The *Big Mac* index.

- ★★★ is when: **real exchange rate = 1**

* This implies the following:

$$ER_{\text{nominal}} = \frac{P^* \text{ (foreign price)}}{P \text{ (domestic price)}}$$

- * $ER_{\text{nominal}} \stackrel{\text{often doesn't hold}}{=} 1$ (Law of one price)
- implies no arbitrage opportunities
- implies all identical goods should have the same price across countries (in the same currency)
- The supply and demand graph of foreign exchange market of **currency B**:

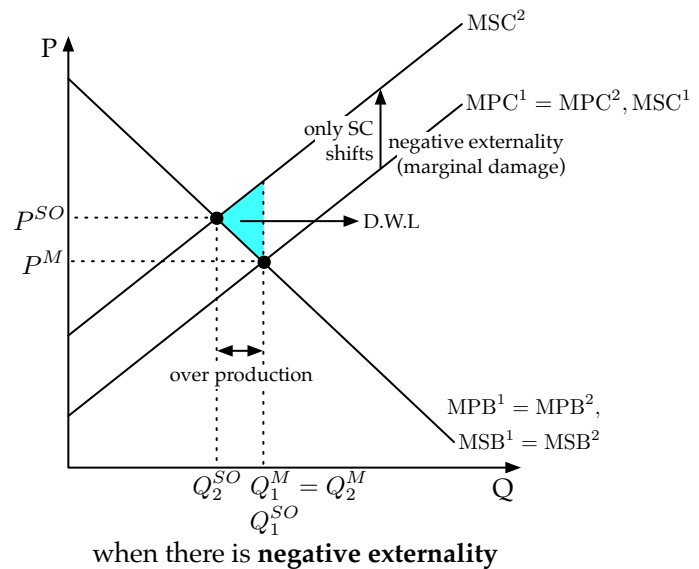
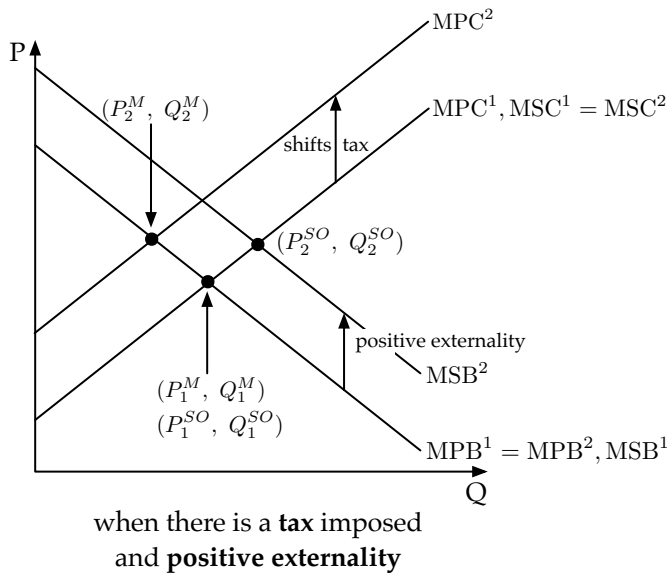


- $\frac{\text{€}}{\text{\$}}$: exchange rate of **dollars** (how much euros you can buy with 1 dollar)
- $\frac{\text{\$}}{\text{€}}$: exchange rate of/between **euros** to dollars (how much dollars you can buy with 1 euro)

3 Externality

- Market failure: an inefficient distribution of goods and services in the free market.
 - e.g. monopoly, **externalities**, asymmetric information, public goods with free rider
 - Externalities: a cost (negative externality) or benefit (positive externality) that affects a party who did not choose to incur that cost or benefit (Wikipedia).
- **Social and private curves:**
 - Tax (on seller): shifts marginal private cost (MPC) curve.
 - Subsidy (on buyer): shifts marginal private benefit (MPB) curve.
 - Negative externality: shifts marginal social cost (MSC) curve.
 - Positive externality: shifts marginal social benefit (MSB) curve.

- When there is NO externality and No policy imposed: $MPB = MSB$ and $MPC = MSC$.
 - M: Market (competitive equilibrium), private sector
 - SO: Social optimal, social sector



- Public policies to fix externality:
 - Command-and-control regulations:
 1. pollution quantity limits (allowance)
 - Market-oriented environmental tools:
 1. pollution charge (tax)
 2. marketable permits
 3. property rights
- Impossible trinity: you must give up one of the following policies
 1. Free capital flow: no capital controls
(examples of controls: transaction taxes, exchange controls, caps)
 2. Fixed exchange rate
 3. Independent monetary policy
(policy that controls interest rate or money supply, i.e. targeting inflation)
- **Coase theorem:** Assume no transaction cost, bargaining between the parties will lead to an efficient outcome regardless who has the property rights.

4 Exercise

1. Other things the same, if the dollar depreciates relative to the British pound, then
 - (a) the exchange rate falls. It will cost more pounds to travel in the U.S.
 - (b) the exchange rate falls. It will cost fewer pounds to travel in the U.S.
 - (c) the exchange rate rises. It will cost more pounds to travel in the U.S.
 - (d) the exchange rate rises. It will cost fewer pounds to travel in the U.S.
2. If P = domestic prices, P^* = foreign prices, and e is the nominal exchange rate, which of the following is implied by purchasing-power parity?
 - (a) $P = \frac{e}{P^*}$
 - (b) $1 = \frac{e}{P^*}$
 - (c) $e = \frac{P^*}{P}$
 - (d) None of the above is correct.
3. Which of the following could be a consequence of a depreciation of the U.S. real exchange rate?
 - (a) John, a French citizen, decides that Iowa pork has become too expensive and cancels his order.
 - (b) Nick, a U.S. citizen, decides that the trip to Nepal he's been thinking about is now made affordable by the depreciation.
 - (c) Roberta, a U.S. citizen, decides to import fewer windshield wipers for her auto parts company.
 - (d) All of the above are correct.
4. The theory of purchasing-power parity primarily explains
 - (a) the determination of the real exchange rate.
 - (b) why trade deficits tend to move to zero over time.
 - (c) how foreign prices affect domestic prices.
 - (d) why a change in the real exchange rate changes a country's net exports.
5. An externality
 - (a) causes demand to exceed supply.
 - (b) strengthens the role of the "invisible hand" in the marketplace.
 - (c) affects buyers but not sellers.
 - (d) results in an equilibrium that does not maximize the total benefits to society.
6. Negative externalities occur when one person's actions
 - (a) cause another person to lose money in a stock market transaction.
 - (b) cause his or her employer to lose business.
 - (c) adversely affect the well-being of a bystander who is not a party to the action.

- (d) reveal his or her preference for foreign-produced goods.
7. In order to increase society's total welfare, a production process that produces a negative externality should be
- (a) provided by the government
 - (b) taxed
 - (c) subsidized
 - (d) ignored
8. The optimal level of pollution is
- (a) zero
 - (b) the level at which the average social cost of air quality equals the average social benefit
 - (c) the level at which the total social cost of air quality equals the total social benefit
 - (d) the level at which the marginal social cost of air quality equals the marginal social benefit
9. If the U.S. demand for British pounds increases,
- (a) the dollar price of a British pound will decrease
 - (b) the dollar price of a British pound will increase
 - (c) the pound will fall in value against the dollar
 - (d) the exchange rate between dollars and pounds will be out of equilibrium
10. A rightward shift of the Mexican demand curve for foreign exchange will
- (a) decrease the price of foreign exchange in Mexico
 - (b) increase the value of the peso
 - (c) make foreign goods less expensive in terms of pesos
 - (d) make foreign goods more expensive in terms of pesos
11. Regulations to reduce pollution
- (a) cause pollution levels to drop below the regulated amount.
 - (b) are a more costly solution to society than a corrective tax.
 - (c) allow firms with the lowest cost to reduce pollution by more than those with highest costs.
 - (d) are a better solution for the environment than a corrective tax.
12. If 112 Japanese yen purchased \$1.00 U.S. in 2008 and 83 Japanese yen purchased \$1.00 U.S. in 2009, then
- (a) the dollar appreciated against the yen
 - (b) the dollar depreciated against all other currencies
 - (c) the yen appreciated against the dollar
 - (d) the yen depreciated against the dollar