

Handout 2

- The Econ Live program
 - *Brainstorming: Can you apply some economic concepts from class to your life?*
 - Worry about this after the midterm.
- Follow the *syllabus* (weekly progress). Don't hesitate to solve you questions immediately.

1 Opportunity Cost

- Opportunity Cost = Explicit Cost + Implicit Cost
 - Explicit Cost: require to pay out some money.
 - Implicit Cost: not require a cash outlay.
- How much of one good you have to give up in order to gain more of another.
- The **total cost** of obtaining something.

2 Demand and Supply

2.1 The Market

- Market: a group of buyers and sellers of a particular product.
- Perfect competition:
 - Perfect knowledge: Knowledge is freely available to all participants.
 - Consumers maximise utility. Producers maximise profits.
 - **Homogeneous goods** and services.
 - No barriers to entry/exit.
 - A lot of firms and customers in the market: **price taker**.

2.2 Demand (or Supply)

- Quantity Demanded: amount of good that buyers are willing and able to buy.
- Law of Demand: quantity demanded of a good falls when its price rises ($P \uparrow \implies D \downarrow$).
- Demand Schedule: A table showing the relationship between the price and quantity demand.
- Market Demand: **Horizontal summation** of individual demand curves.

2.3 The dynamics

- Movement along the demand curve:
 - Only if there is change in the good's price (shift of supply curve)
- Shift of demand curve: Due to change in
 1. Income (when income \uparrow):
 - demand \uparrow : Normal good

- demand↓: Inferior good
- 2. Accumulated wealth¹
- 3. Tastes and preferences
- 4. Prices of other goods (two goods A and B):
 - Substitutes: $P_A \uparrow \implies D_B \uparrow$
 - Complements: $P_A \uparrow \implies D_B \downarrow$
- 5. Expectations (of future income, wealth and prices)
- Movement along the supply curve:
 - Only if there is a change in the good's price (shift of demand curve)
- Shift of demand curve: Due to change in
 - Costs (input price): wages, raw materials
 - Technology: more machines, increased efficiency
 - Number of sellers
 - Expectations

3 10 Principles of Economics

1. **Efficiency vs. Equality:** People face trade-offs.
2. **Opportunity Cost:** The cost of something is what you give up to get it.
3. **Rational Behavior:** Rational people think at the margin.
4. **Incentive:** People respond to incentives.
5. **Trade and Specialization:** Trade can make everyone better off.
6. **Market Economy:** Markets are usually a good way to organize economic activity.
7. **Centralization:** Governments can sometimes improve market outcomes.
8. **Productivity:** A country's standard of living depends on its ability to produce goods and services.
9. **Inflation:** Prices rise when the government prints too much money.
10. **Unemployment:** Society faces a short-run trade off between Inflation and unemployment.

4 Demand and Supply Graph

- How demand curve is obtained? Summation v.s Regression.
- The Components of the graph.
- Equilibrium:
 - Market price > equilibrium price: surplus (excess supply) $\implies P \downarrow$
 - Market price < equilibrium price: shortage (excess demand) $\implies P \uparrow$
- Analysis road map: which curve shifts? \implies How to they move (direction and magnitude) \implies Compare the new equilibrium to the old (original)
- In market economies, **prices** are the signals that guide economic decisions and allocate scarce resources².

¹ *Income* (a **flow**): sum of all earnings in a given period of time (e.g. wages, profits). *Wealth* (a **stock**): total value of what household owns minus what it owes.

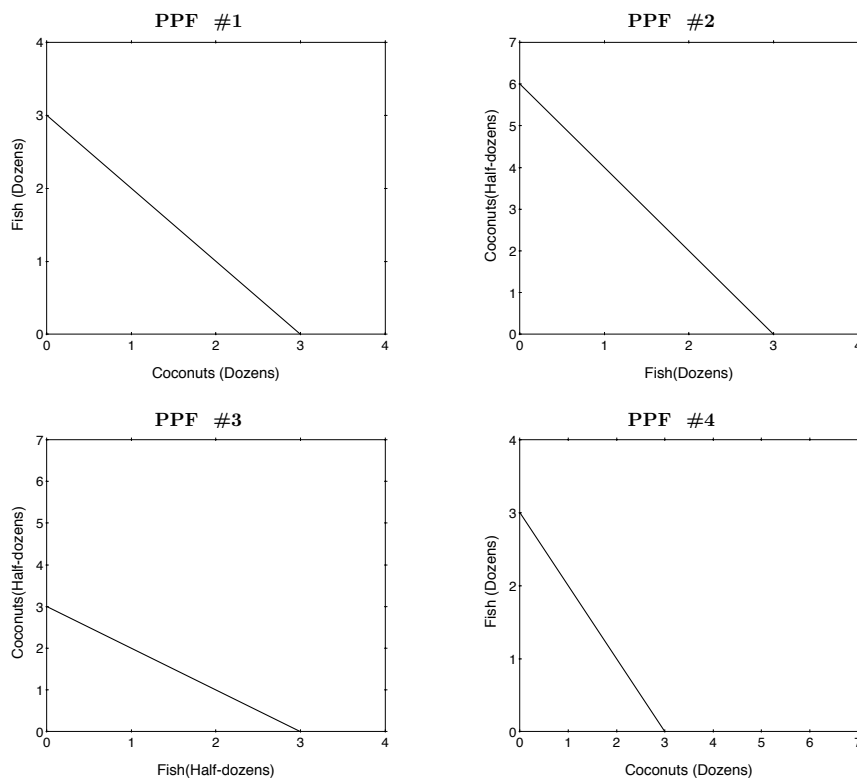
² How to compare apples and oranges?

5 Production Possibilities Frontier (PPF)

- All combinations of goods that can be produced if resources are used efficiently.
- Firm can produce **at** or **below** the PPF, but **not above** it.
- Comparative advantage v.s. Absolute advantage
- $|\text{slope of PPF}| = \text{opportunity cost of horizontal activity}$.
- Shape:
 1. Linear: constant opportunity cost
 2. Bowl: increasing opportunity cost (decreasing returns in production)
- Dynamics: PPF shifts out (may not be parallel shifting) if \exists an increase in feasibility (technology, R&D).
- A person (country) should specialize in producing a good if its opportunity cost is less than the relative price of that good.

6 Exercise

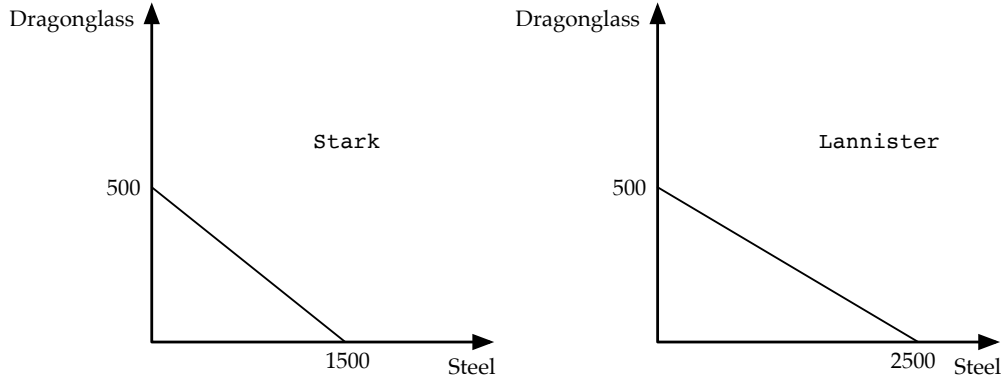
1. Which of the following four graphs represents a different production possibility frontier than the other graphs?



2. In the perfectly competitive market for hot dog, which of the following would NOT result in a shift in supply?
- (a) A change in the price of bun, an input in making hot dog.
 - (b) A change in the price of hot dog.

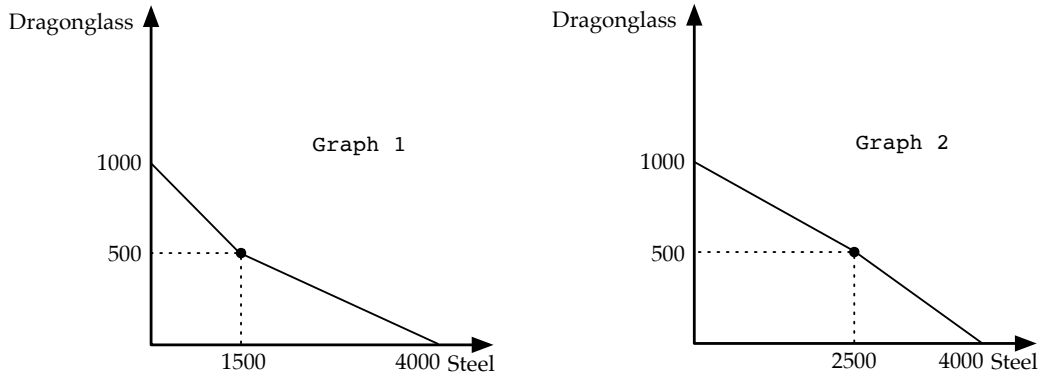
Use the following information to answer the next 2 questions. Suppose both groups, Stark and Lannister, both produce Dragonglass and Valyrian Steel. The linear production possibility curves for 2 groups are shown in the following figure.

3. Which group has the comparative advantage in producing Dragonglass?



- (a) Stark
- (b) Lannister

4. Which graph shows the combined PPF of these two groups (graph not scale)?



- (a) Graph 1
- (b) Graph 2

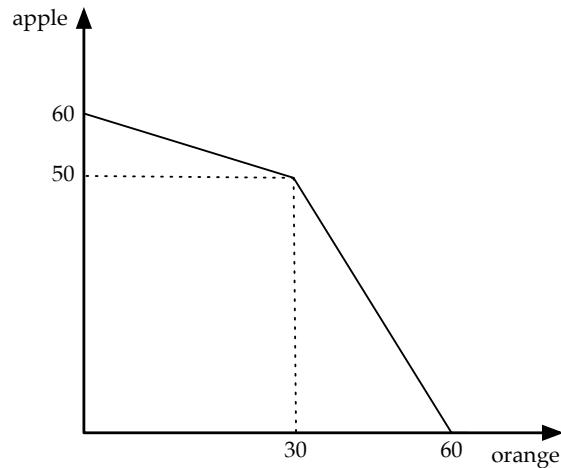
5. Suppose the following two events happen simultaneously:

- I. Consumers believe that the price of toilet paper will increase significantly in the near future.
- II. A wide fire destroys half of the nation's oil and toilet paper production plant.

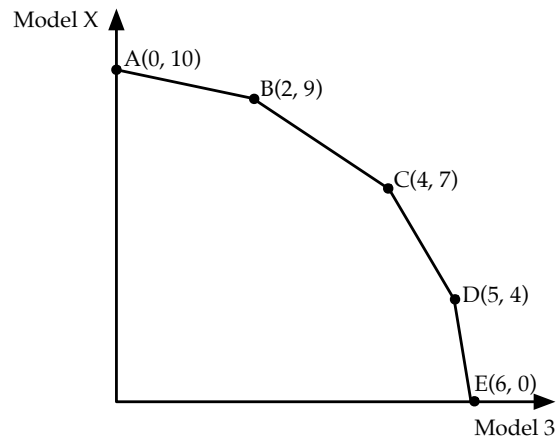
What happens to the equilibrium price and quantity of toilet paper?

- (a) The price of toilet paper rises, and the quantity of toilet paper falls.
- (b) The price and quantity of toilet paper both increase.
- (c) The quantity of toilet paper rises, but the price of toilet paper could rise or fall.
- (d) The price of toilet paper rises, but the quantity of toilet paper could rise or fall.

6. The following graph shows a joint PPF for Alan and Lorenzo who both produce apples and oranges. What is the acceptable trading range of prices for potions between these two individuals?



- (a) Between $\frac{1}{3}$ oranges and 3 oranges
 - (b) Between $\frac{1}{3}$ oranges and $\frac{5}{3}$ oranges
 - (c) Between $\frac{3}{5}$ oranges and 3 oranges
 - (d) Between 30 oranges and 60 oranges
7. Assume Tesla has the following production possibility frontier. The PPF is linear between any two adjacent points. What is happening to the opportunity cost of producing more Model X as we move from point D to point B?



- (a) The opportunity cost of a Model X increases.
- (b) The opportunity cost of a Model X decreases.
- (c) The opportunity cost of a Model X stays the same all along the PPF.
- (d) The opportunity cost of a Model X cannot be calculated from the given information.