

The Preliminaries:

- Office Hours are Wednesday 3-4pm and Thursday 4-5pm at 133 SSH
- I will have a class site set up with notes, sample problems and other course related materials and links at <http://jasonleeucdavis.weebly.com>

I. Macroeconomics vs. Microeconomics

We live in a world of scarcity. There is a limited amount of money, resources, time, etc. Economics is the study of how individuals and societies choose to use these scarce resources. Most people tend to think of economics as something related to the stock market, or inflation, or unemployment. In truth, it includes those subjects and a whole lot more. Given the breath of the areas covered by economics, the discipline is divided into two major subgroups which are (1) Microeconomics and (2) Macroeconomics.

Economics is defined as the study of how individuals and society choose to use scarce resources. In essence, economics is a study on how individuals make choices. There are two branches of economics: (1) **Microeconomics** and (2) **Macroeconomics**

Microeconomics looks at the decision making behavior of individual decision making units: Households, firms, industries, etc...

Macroeconomics looks at the entire (aggregate) economy. Table 1 illustrates the difference between the type of questions addressed by microeconomics vs. macroeconomics.

Table 1

	PRODUCTION	PRICES	INCOME	EMPLOYMENT
Micro	How many hamburgers does In N' Out produce?	What is the price of an In N' Out hamburger?	What are the wages of the workers at In N' Out?	How many workers are employed at In N' Out?
Macro	How much goods and services does the United States produce each year?	What is the price of all consumer goods in the economy?	What are the total wages and salaries of workers in the economy?	What are the total number of workers in an economy?

II. Some Key Principles of Economics

The book provides several themes that you will see over and over again in this course. Two of these principles that we should pay particular attention is the idea of opportunity cost and the idea of margin.

1. Opportunity Cost: All decisions involve trade-offs. Opportunity cost measures the cost of the next best alternative that we give up when making a choice.

For example, when calculating the cost of college, economists think not only about the direct costs such as tuition, textbooks, living expenses, etc..., but also the opportunity cost. What is the opportunity cost for going to college? This varies from individual to individual as people have different alternatives to going to college. Presumably for many individuals, they could have worked instead of going to college. The wages one could have earned is the opportunity cost of going to college.

See if you determine what would be the potential opportunity cost of the following:

- Ex) The opportunity cost of going to class this morning
- Ex) The opportunity cost of the war in Afghanistan

2. Marginalism: When making a decision, one should only consider the additional (not total) cost or benefits that will arise from that decision. We'll introduce two terms here, which we will discuss more fully later on in the course.

Marginal Cost: Additional cost of producing one more unit of a good

Marginal Benefit: Additional benefit of producing one more unit of a good

Example: Suppose Tiger Woods is flying to Honolulu to participate in a charity golf event (He has to pay for his own ticket to Hawaii). Suppose that after the charity event, he wants to spend a week in Maui with one of his cocktail waitress mistresses. When making a decision whether or not to spend a week in Maui, what are the costs that Tiger should consider? In this example, Tiger should only consider the additional cost of flying from Honolulu to Maui.

Example: To drive home the point of marginalism, consider an example where you are taking a class that has 2 midterms and a final. After taking the two midterms your average was a 90. Suppose you wanted an A in the course. That would mean on the final exam you would need to score a 90 or above. At the end of the semester, what really matters for your grade is not the two midterms, but rather the marginal grade (the grade on the final exam).

III. Positive vs. Normative Economics

Economists try to answer to type of questions: positive and normative. It's straightforward to differentiate between the two. In this course we'll usually limit our discussion to positive economics, although at times we might tackle normative questions as well.

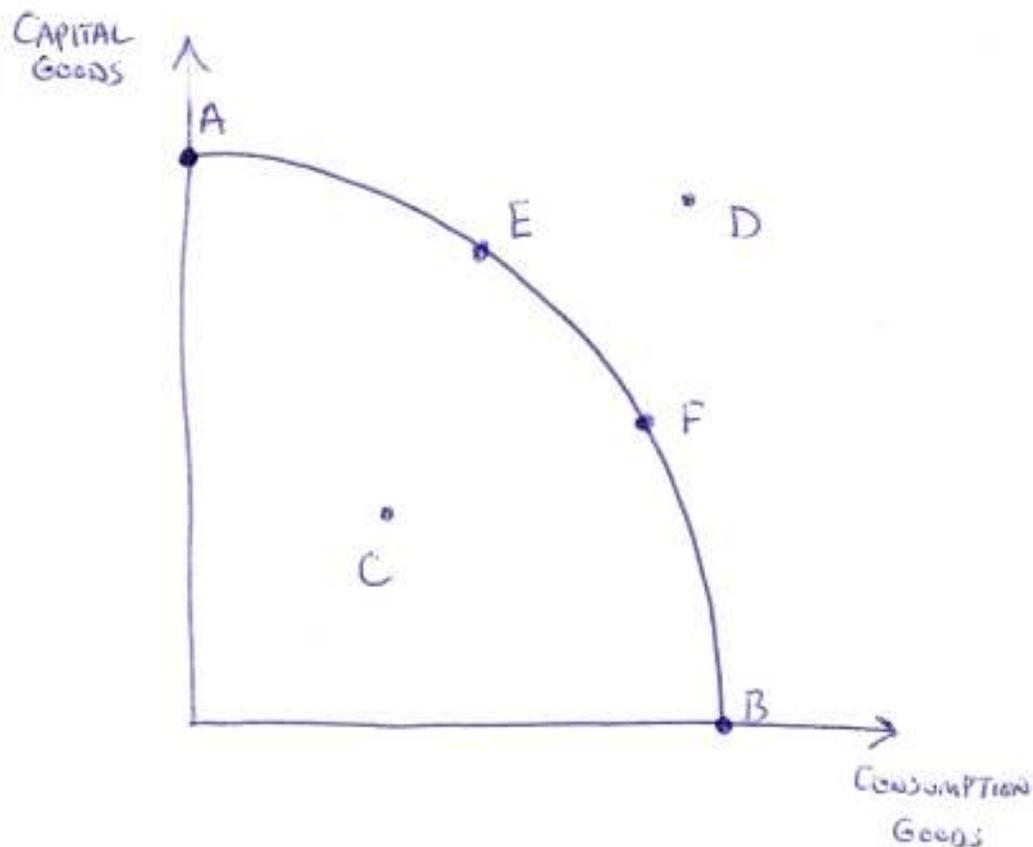
- (1) **Positive economics** is an approach to economics that seeks to understand behavior of the economic system without making judgments. It describes what exists and how it works.
- (2) **Normative economics** is an approach to economics that analyzes outcomes of economic behavior, evaluates them as good or bad, and may include recommendations on how to improve outcomes. It is also called policy economics. When economists disagree, the points they disagree about are often normative points (differences of opinion and values).

For example: Raising the minimum wage will lower employment of high school age workers is a positive statement. Raising the minimum wage is the best way to get families out of poverty is a normative statement.

IV. The Production Possibility Frontier (PPF)

The **production possibility frontier** shows all the combinations of two goods that can be produced if all of society's resources are used efficiently.

Figure 1 shows the production possibility frontier for consumption and capital goods.



Point A represents a point where all the resources in the economy are being used to produce capital goods. In this case only capital goods are produced and no consumption goods are produced.

Point B represents the opposite case where all the resources in the economy are being used to produce consumption goods. In this case only consumption goods are being produced and no capital goods are produced.

There are any number of combinations in between these two extremes, and any point on the curve in Figure 1 are possible production points for the economy. Points E and F are

points along the PPF, which means that an economy utilizing all its resources efficiently can produce at those points.

Point C is another point that is obtainable in this economy. In fact any point inside the production possibility frontier is obtainable. However, Point C is not desirable since it implies that the economy is not using its resources efficiently. We can see that, because the economy can go to another point which would be able to produce more capital goods **and** more consumption good. Thus the economy doesn't want to remain at a point inside its PPF. How does an economy get to be at a point inside its PPF? There are two possibilities:

- (1) Resources such as labor are not being fully utilized. If there is unemployment, then the economy is not producing at its full potential. As workers get hired, the economy will be able to produce more.
- (2) Resources are wasted or mismanaged. Even if workers and capital are fully employed, there can be ways in which the economy produces below full potential. Suppose a new law was put into effect saying that all college educated individuals could only work as janitors, while those only with a high school education would be allowed to run corporations and factories. Although labor might be fully utilized, it is clear that it is being mismanaged as jobs are not matched with the skill sets. As a result production will be less.

Point D represents a point that is unattainable. Given the level of technology in the economy, there is no method which will allow the economy to reach that level of consumption and capital goods.

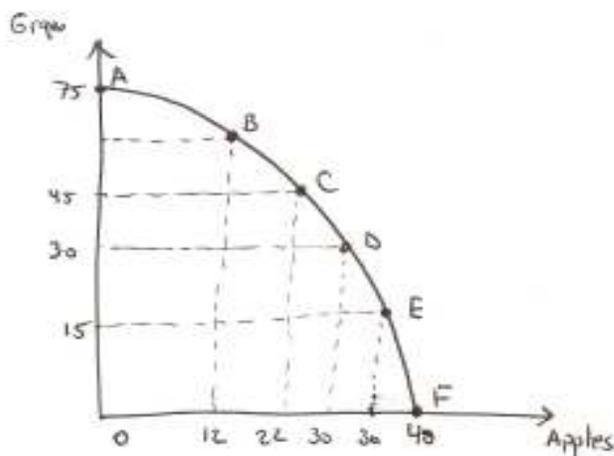
A. Properties of the Production Possibility Frontier

PPFs are not just useful in examining the tradeoffs between consumption and capital goods, they can be used to examine the tradeoffs between any two goods. For example the table below shows an economy with fixed resources is able to produce the following combinations of grapes and apples.

POINT	GRAPES	APPLES
A	75	0
B	60	12
C	45	22
D	30	30
E	15	36
F	0	40

Figure 2 uses the data in the table to graph the PPF between apples and grapes.

Using Figure 2 we can illustrate several properties of PPF.



Property #1: To be efficient and economy must also produce what consumers want. This is called output efficiency. We talked earlier about how an economy is efficient if it uses all of its resources (production inefficiencies). Any of the Points A-F uses its resources efficiently. However, if the economy is producing at Point F, but everyone in the economy hates apples then the result is a waste of resources (we have output inefficiency). The point of output efficiency is determined by consumer preferences.

Property #2: PPF have negative slope. The slope of the PPF is called the **marginal rate of transformation (MRT)**. Note that throughout the curve, the slope is negative. For example as we move from Point C to Point D, the number of grapes decreases by 15 while the number of apples increases by 8. The slope from C to D is $-15/8$. The reason for the negative slope is quite straightforward. Because resources are limited, in order to produce more apples, the other product (grapes) must be sacrificed. Thus between C and D, in order to produce 8 more apples, the economy has to sacrifice 15 grapes.

Property #3: The Law of Increasing Opportunity Costs implies that PPF is bowed. Notice in Figure 2 that opportunity cost is increasing as we shift production from grapes to apples. For example, as we move from A to B, in order to get 12 apples we have to sacrifice 15 bushels of grapes. The opportunity cost per apple is $15/12 = 1.25$ grapes. Now as we move from E to F, if we sacrifice 15 bushels of grapes we only get 4 more apples. The opportunity cost per apple is $15/4 = 3.75$ grapes. Why does the opportunity cost increase? It's reasonable to assume that apples and grapes require different land to grow best. As we shift production more and more away from grapes, we are increasingly taking away land that is best suited towards grape production and shifting it to apple production. As a result we are sacrificing more grapes to get less apples. This idea of increasing opportunity cost explains why the PPF curve is bowed. If the opportunity cost was constant (like in our island example) then the PPF would simply be a straight line.

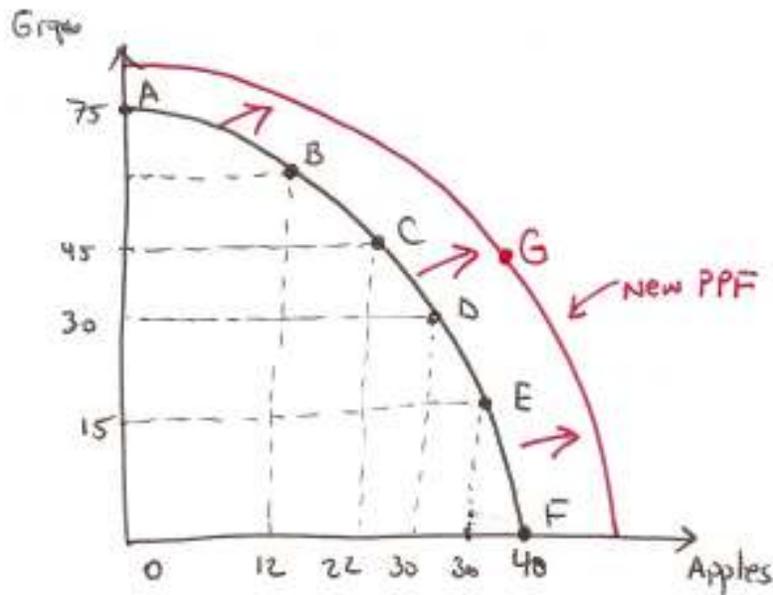
Property #4: Economic growth is characterized by the PPF shifting outwards to the right.

Economic growth can occur if:

- (1) There are more resources such as more labor or more capital or
- (2) There is new technology that allows producers to produce more output with the same level of inputs.

Figure 3 shows how economic growth can be represented by our PPF. Suppose that the economy was fully utilizing its resources at Point D. With new technology, with the same amount of capital and labor it can produce both more apples and more grapes and will move to a higher point such as Point G. This will be true at every other old combination and thus the curve will shift to the right.

Figure 3: Economic Growth



Section Problems

1. Describe the opportunity cost associated with the following choices.

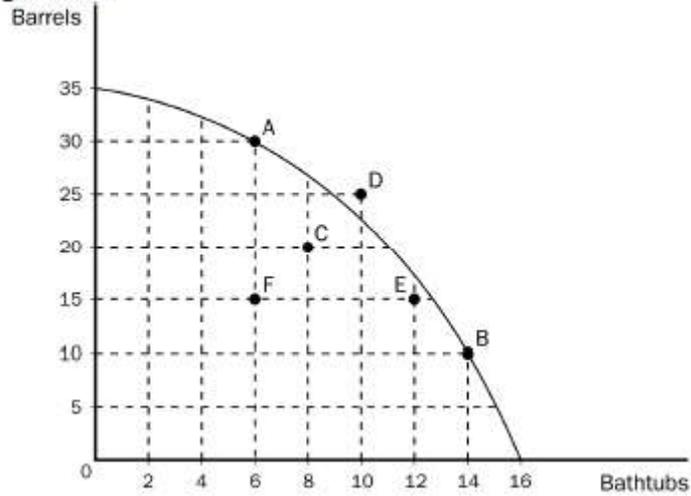
- (a) Your decision to attend section
- (b) A family deciding to buy a new car
- (c) Owning your own home
- (d) Fighting a war in Afghanistan

2. Classify the following statements as positive or normative

- (a) A reduction in the rate of money growth will reduce the rate of inflation.
- (b) The Federal reserve should reduce the rate of money growth
- (c) Society ought to require welfare recipients to look for jobs

3. Production Possibility Frontier

Figure 2-8



- What is the opportunity cost of moving from Point A to Point B?
- Which of the following points are obtainable?
- Which of the following points are unobtainable?
- Which of the following points are efficient?
- Which of the following points are inefficient?