

that can be produced, how do we decide what to produce?) these commodities

[goods]: tangible products - cars, TV's, etc.
[services]: intangible products - haircuts, insurance, etc.

GOODS AND SERVICES called COMMODITIES because they are “commodious” - they give the consumer satisfaction (utility)

What makes the economic problem interesting is the concept of SCARCITY.
-The economic problem exists because there are not enough resources to fulfill all human wants.
-The fact of scarcity means we must make choices.
- Scarcity gives us constraints and we must make choices based on these constraints.

"CONSTRAINED MAXIMIZATION" idea: We do the best we can given what we've got to work with.

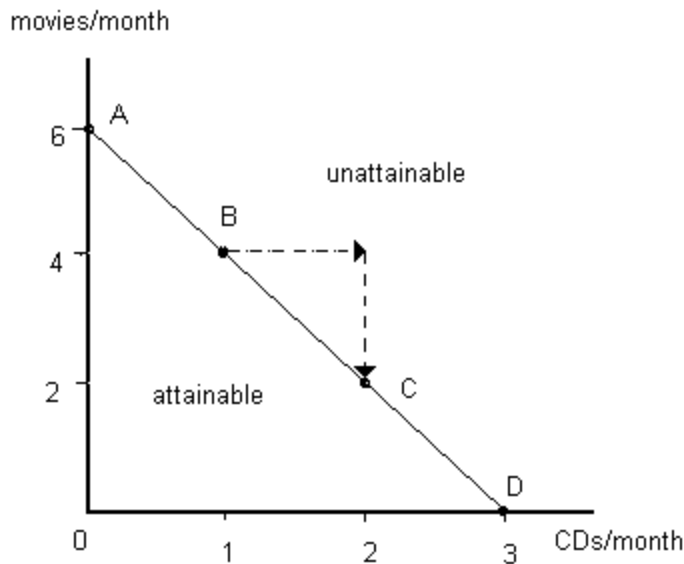
In order to "choose" more of one thing, we must give up some of another thing.

STARVING STUDENT example - monthly discretionary budget after all recurring expenses (resources): \$48

The student must choose between 2 goods/services: music CDs and movies

P_{CD} (price of CD) = \$16 {we'll “round” all the numbers in this course to keep the algebra simple}
 P_M (price of movie) = \$8

We are going to try to show this starving student's constraint using a graphical “model”
Resources = \$48 defines the relevant “budget constraint”



This boundary (line ABCD) or “frontier” represents our constraint.
- everything within the frontier is attainable
- everything outside the frontier is unattainable
This constraint is called either a “consumption opportunity frontier” or a “budget constraint”

What is possible?

- if the student devotes all of his or her resources to movies, can get 6 movies and zero CD's (point A), or,
- if student uses all resources for CD's, can get 3 CD's and 0 movies (point D)

The student can also consume a combination of both goods (points B or C)

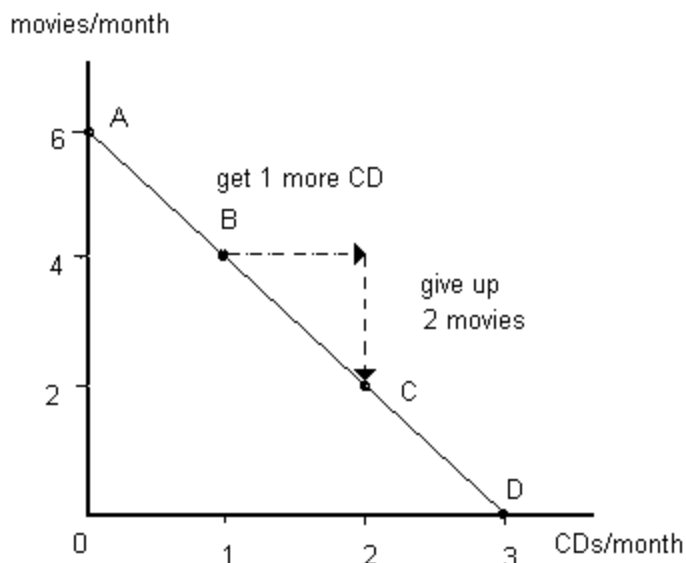
Let's say you have 4 movies and 1 CD (point B). In order to get one more CD, you must give up some movies. You could not get 1 more CD without giving up movies (otherwise that additional CD is unattainable).

We now must make an important distinction:

- If you ask someone on the street "What is the *cost* of a CD?" They would probably say \$16....they think in "money" terms
- Economists like to think of the *cost* of a CD as what is given up when you move from point B to C - which is 2 movies. So the cost of a CD is 2 movies - this is called *opportunity cost*.

[OPPORTUNITY COST] what you give up by not putting the required resources to their next best alternative use.

opportunity cost of 1 CD (the good on the horizontal axis) = 2 movies/1 CD = "rise"/"run" = absolute value of slope!



STRAIGHT LINE CONSTRAINT => *constant* opportunity cost

A budget constraint is straight line because the resource (money) is *homogeneous* - every dollar is just as good as any other dollar at making a purchase.

The opportunity cost of 1 movie = 1 movie/2 CDs (the inverse absolute slope of the constraint)

You give up 1/2 CD in order to consume one movie (on average, since CDs aren't really divisible into fractions).

Since there are only 2 uses for this student's money in our "stylized" example, they will most likely be on the budget constraint rather than inside it (savings and investment portfolios are not an option)

The real world problem is that *money is not the only resource*, there are also resource constraints in terms of the amounts of land, labor, and capital resources, etc. ("real resources", as opposed to money) that must be allocated. This makes the allocation problem a lot more more interesting.

We can distinguish goods as two broad categories in order to simplify things:

I. Consumer (private) goods

(consumed privately)

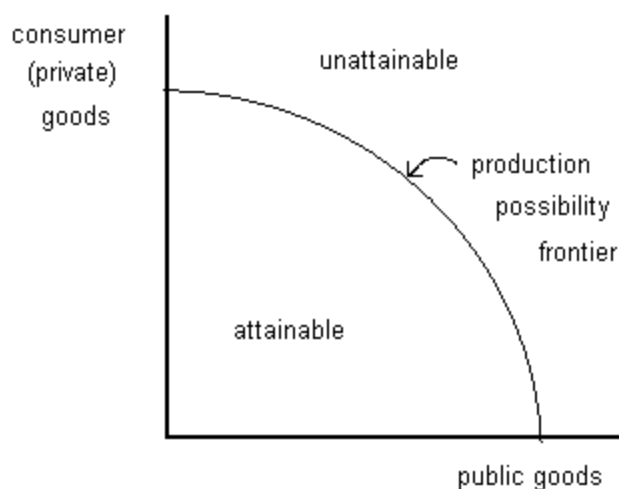
- big-screen TVs, cell phones, cars, etc.
- "plowshares" or "butter"

II. Public goods

(consumed collectively)

- national defense, terrorism prevention, street lighting, etc.
- "swords" or "guns"

Now we'll draw another more general resource constraint that applies to society (the classic "guns and butter" tradeoff).

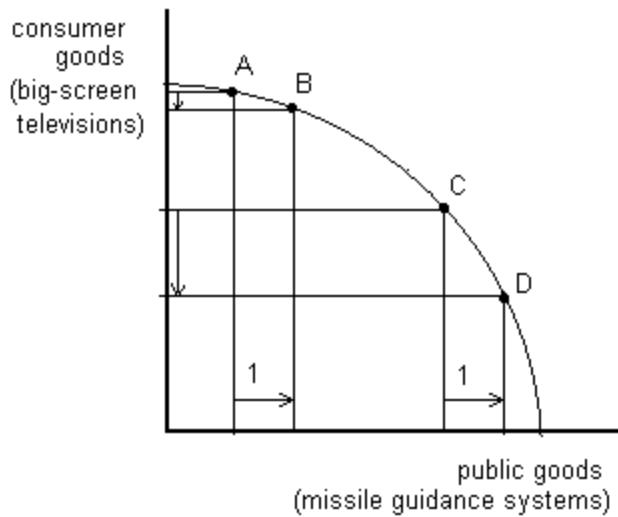


The constraint is "bowed out," but it still separates attainable from unattainable combinations of public and private goods. This constraint is called a: **PRODUCTION POSSIBILITY FRONTIER (PPF)** Why is it bowed out?

Resources have different "abilities" (differing qualities)

- some land is better for growing some goods than others
- labor is also different - some people are good at physical labor, some are not

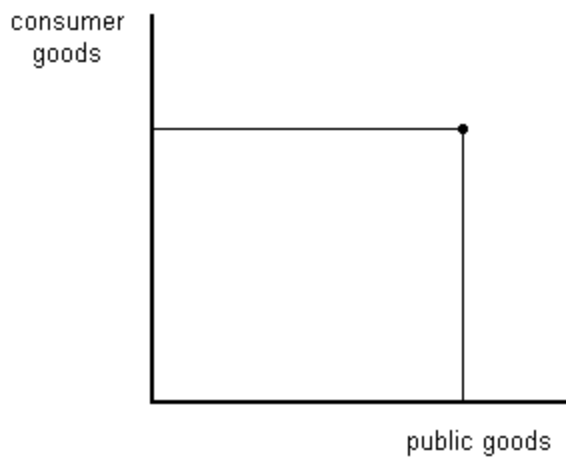
These resources are **HETEROGENEOUS**.



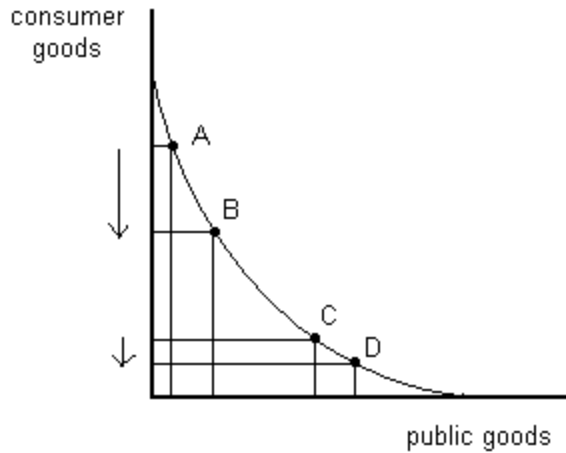
Let's say we produce two goods – big-screen TVs and missile guidance systems

- if we start out at point A and want to move to point B with one more missile guidance system, we would move laborers from producing TV's to producing missile guidance systems. Who would we move first? The workers who are relatively best at making missile guidance systems, so we will lose some TVs to get one more missile guidance systems. But first we take the people who are REALLY bored by TV assembly who would be far more productive at missile guidance systems.
- as we continue to increase the number of missile guidance systems we are trying to produce, we must give up more and more TVs (we must move laborers who aren't so good at making missile guidance systems, but were great at making TVs). So we eventually have to give up more and more TVs to get just 1 more missile guidance system.
- “opportunity cost” of one additional missile guidance system increases as we try to produce more and more missile guidance systems...hence the “bowed out” shape.

Think about what would happen if labor was extremely specialized and can only produce one type of good. You would get a PPF that is rectangular. Starting at the corner, it doesn't matter how much you give up in the way of consumer goods, you cannot get any more public goods. The resources just cannot be reassigned to making something else.



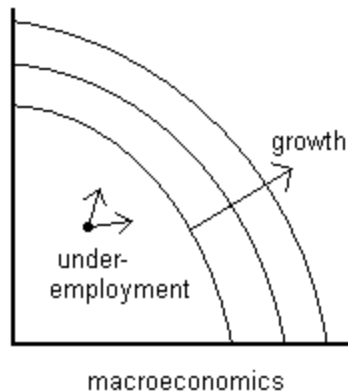
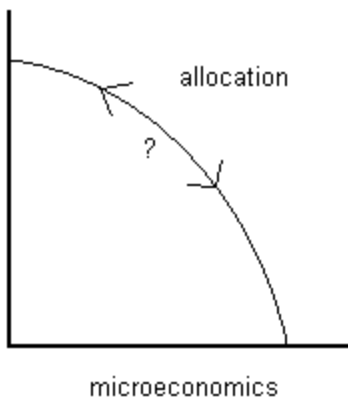
What if the “manager” was not very smart, and first shifted to public goods production the workers that were relatively the worst at making the public goods (but relatively the best at making the private good) when moving from point A to point B, and then further. You would get a PPF that is bowed in. Why?



Can use a PPF to illustrate the difference between Microeconomics vs. Macroeconomics:

-in Microeconomics, assume people will be on the frontier, study how they choose where they are along the frontier. (Economics 1)

- in Macroeconomics, study how a country grows, or deals with unemployed resources (Economics 2)



Sidebar: Teaching Assistants....(time permitting)

Specialization:

- when economies first developed agricultural surpluses, trade began, so people decided to specialize in doing certain tasks.

surpluses \approx trade \approx specialization

- specialization allows us to be better off. People can do only what they're good at and then trade for what they need so, as a society, all of the people will be better off.

SPECIALIZATION (advantages)

1. exploit inherent aptitudes
2. large scale economies (e.g. assembly-line sorts of efficiency gains, even without inherent aptitude differences)

example: chopping wood, if there are two people,,
can produce more wood if one person gets the wood and the
other swings the axe (like an assembly line)

If you have specialization and trade, must have a place to make trades.

[market]: the collection of all buyers and sellers exchanging a particular good/services

Can break markets into 3 types of players (economic agents)

(1) HOUSEHOLDS = consumers

decide: how to spend incomes

how to sell resources they control (labor, land, etc.)

objective: make decisions in order to maximize their happiness (-utility")

(2) FIRMS = producers

decide: what factors to buy

what to produce and how

objective: make decisions to maximize their profits.

(3) CENTRAL AUTHORITIES = government (anybody that has legal authority)

decide: how to intervene in private markets to tell consumers/producers what to do

how much regulation

objective: ? Who knows? (re-election?)

Degree of government intervention:

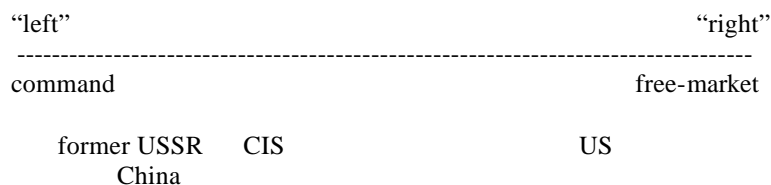
- economies existing with only agents 1 and 2 (households and firms)

are called **FREE MARKET ECONOMIES**

- economies existing with only agent 3 (government) are called **COMMAND ECONOMIES**

Most economies include all 3 types of agents making decisions, in different proportions - **MIXED ECONOMIES**

There is a spectrum:



Reminder: Take your handout to your TA section.