BCA 1/16

When the model fails

Monopolies: The marginal benefit to consumers (MU) = P, but P > MC, so we're not at an efficient production level. We'd like to increase production, and any increase will improve society's welfare.

External economy: Marginal benefit to society (MBS) > MBP = MU = MC; we want quantity to increase.

External diseconomy: marginal cost to society (MCS) > MC = P = MB; we want quantity to decrease.

Taxes: MB = MU = P = MC + T > MC; we want quantity to increase in the face of a tax. This only holds in absence of any other distortion; you can use taxes to offset negative exernalitites.

Problems: distribution of income: nothing in markets that necessarily leads to a good distribution. What does distribution depend upon?
> How much people/entities already have (ownership) of productive resources (labor, land, capital, human capital). This can be extremely unequal. Social scientists generally like to see a relatively even distribution, although this is politically controversial.
> Prices. This will determine how much your ownership values are worth and ultimately what

> Note that numerically equal ownership of factors like land does not necessarily mean equal income: compare an acre of land in a Texas oilfield with one in Napa Valley with one in Antarctica...incomes from nominally equal land resources will not be the same across these plots.

> Dealing with the problem: Assume that someone else will deal with that problem and concentrate on the efficiency aspects of the market. At first this seems doable: let the government step in, tax the rich and pay the poor. We attempt this in our society (progressive income tax), but no redistribution is perfect: efforts to redistribute always introduce inefficiencies, driving the market away from the efficient result.
>> Taxes: they alter the production and consumption behavior of suppliers and demanders. This only works by taxing things that people have no control over, which means taxing without regard to income distribution. It also means taxing necessities.
>> Leaky bucket effect: transaction costs drain away some of the income that we're trying to redistribute, so the dollar taken from the rich becomes something less than a dollar received by the poor.

3 instances of market failures (we only got to one today):
> public goods (definition: provision of the good to one demander automatically provides it to others). Typical characteristics:

<u>Non-exclusive</u>: excluding others from benefiting from/using the good is
impossible
difficult
arguably stupid
<u>Non-rival</u>: my consumption of a particular unit of the good does not
interfere with your consumption of that same unit of the good.
Why do public goods lead to market failure? (Note that these results all depend on good information regarding absolute and relative marginal benefits and costs.)
Examples:
MC = constant (no problem here)
MBi = Marginal benefit for person i.
MBj = Marginal benefit for person j.
Case 1: Lots of people in the economy, but MBi < MC for all i.
It won't happen privately. You'd think that some folks would get together to bring collective MBi above MC, but that won't happen because ?????
Case 2: MBi = MBj > MC for all i and j.
It won't happen privately. You'd think that someone would build the thing since the marginal benefit is higher than the marginal cost for each person, but everyone will wait to see whether someone else will shell out the money: it's the free rider problem. You may or may not eventually get the good, depending on how strong the free rider effect is.
Case 3: Various MBi (not equal for all i); also, the maximum MBi > MC.
We might get it here. Depends on how many people are present with MBi > MC. If there's only one person for whom MC < MBi AND person i knows that, they'll provide the public good (while complaining perhaps) because it's worth it to i to build it and s/he knows that no-one else will be willing to. However, if more than one has MBi > MC, the free rider problem reappears.
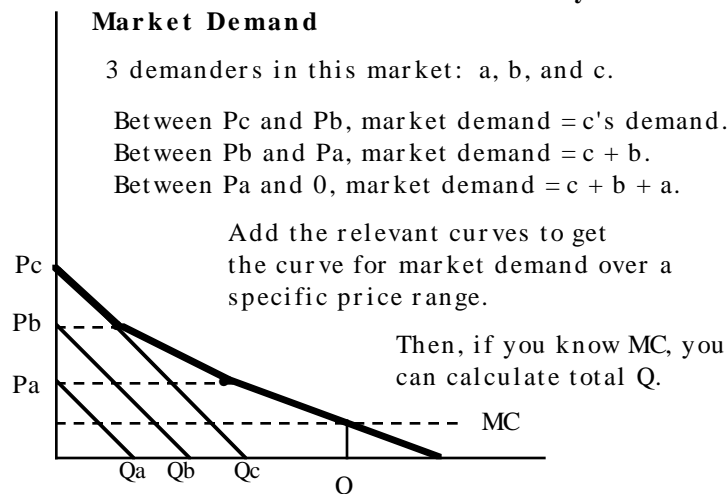Case 4: MBi varies across i with Q.
general assumptions: demands are parallel (declination is at same rate). Differ with respect to how much they value the good and therefore how much of the good that they'd want even when P = 0. Note that the demand curves become the horizontal axis when P<0 since it doesn't hurt to have more of the good.
a) <u>private goods</u>:
When A consumes in this case, that consumption does not affect the utility of the other consumers, so the quantity consumed by each consumer is different.

The market curve is derived by adding horizontally.

Private Goods: Add Horizontally for Market Demand

3 demanders in this market: a, b, and c.

Between Pc and Pb, market demand = c's demand.
Between Pb and Pa, market demand = c + b.
Between Pa and 0, market demand = c + b + a.

Add the relevant curves to get the curve for market demand over a specific price range.

Then, if you know MC, you can calculate total Q.

Pc
Pb
Pa
MC

Qa Qb Qc

Q

At a given price, we can now tell how much the market is providing and who is consuming.
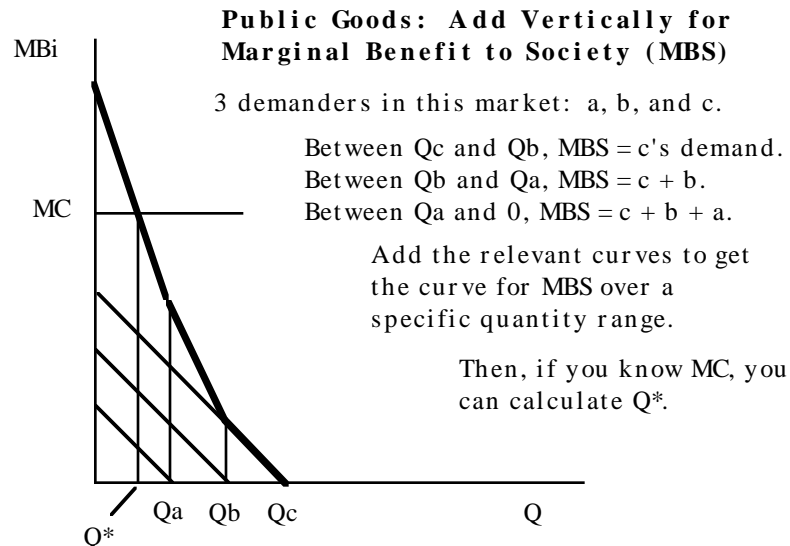
Public Goods:

MBi

MCa

MCb

MCc

MCd

Qd   Qd'

Q
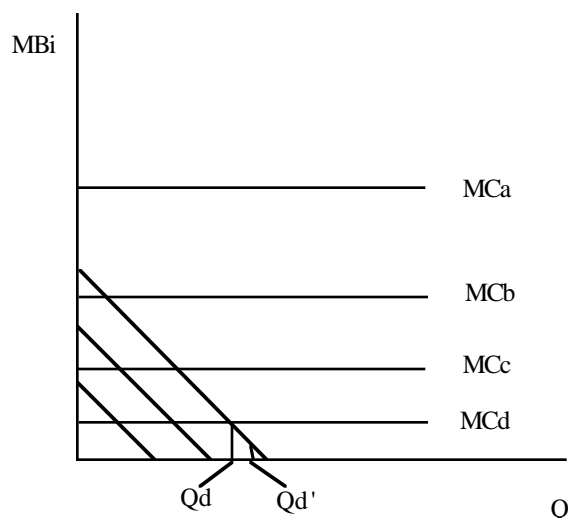
At MCa, the private market will not provide the good. This is bad because everyone has demand for the good, but we won't do it without government action.
At MCb, the private market will provide some of the good (though not enough) if C knows that A and B won't produce the good.
At MCc and MCd, the free rider problem may make it impossible to get anything.
Even if we get Qd, it is not optimal for society because expanding to Qd' would allow person c to satisfy more of his/her demand.

What we need to do is add the different marginal benefits generated at each Q.

MBS = sum over i of MBi. Note that you're summing benefits, not quantities as we did for a private good. This is a vertical summation (easier to start from the right).

Public Goods: Add Vertically for Marginal Benefit to Society (MBS)

3 demanders in this market: a, b, and c.

Between Qc and Qb, MBS = c's demand.
Between Qb and Qa, MBS = c + b.
Between Qa and 0, MBS = c + b + a.

Add the relevant curves to get the curve for MBS over a specific quantity range.

Then, if you know MC, you can calculate Q*.

MBi

MC

Qa   Qb   Qc   Q

Q*

Now when we draw an MC > C's highest willingness to pay, we can see how much of the public good we should provide society as a whole.

optimal level for public good: MC = sum over i of MBi.

How do we decide who pays how much for a public good? If you can charge people without changing their behavior, you can simply divide the bill equally. However, this is not equitable. You can also charge people in accordance with their individual marginal benefits. Problem: hard to determine in the market, and if you ask people what their MB is they have an incentive to lie to reduce their own costs.

Wouldn't it work if everyone would just be honest? In fact, economists tend to underestimate peoples' honesty when those people haven't had econ, but after they have had it they lie more!