Continuing government intervention in markets (have done natural monopoly and public goods)

## <u>Regulation</u>

Most of the effects of a regulation are felt in the market that is regulated. Most of the benefits are going to be difficult to measure by traditional analysis, but routinely regulation affects the costs of doing business. You can look at the effects of the regulation by working through the problem using a shift up in the supply curve to reflect the change in costs. An increase in regulation may not have direct beneficial effect in the market in question, but that doesn't mean there's no benefit to regulation; it just shows up elsewhere (work safety regulations have beneficial effects in the health care market by reducing costs because of reduced clientele).

## <u>Procurement</u>

We worked through an example of this when we did the subway/bus example, but there are many examples of government procurement in private markets and the social cost of the intervention can be analyzed as we did last time for the hypothetical scenario in Ned's book. (BTW, the general theme is that the social cost of government entry into a market without distortions and with rising costs is generally less than the total cost of the goods to the government.)

## **Government** Production

If the government produces something and sells it in a pre-existing private market (say overnight packet delivery), you would have to analyze the effects of that additional production on the market (is there any difference between government entry and entry of any other additional competitor?) His example: Tennessee Valley Authority compared to other markets for electricity.

Remember that we can also use these techniques to analyze the undoing of government intervention, i.e., privatization.

Using markets in these ways to analyze effects of policies won't answer all the things that you want to know about a project, but it's a place to start. What can go wrong with these kinds of market-related analyses? Market distortions

Externalities (positive or negative): the presence of externalities moves the market away from socially optimal levels of production. We've looked at how to fix externalities; now we're going to look at what happens in our market analyses when the government enters a market where externalities are present.

External benefit

<u>constant cost market for pharmaceuticals</u>. External benefits can be expressed in two ways: either as a greater benefit (and thus a shift in the demand curve) or as a reduced cost (and thus a shift in the supply curve). Here we'll use the former approach.



External benefit of distance E Public good lowers costs by  $\Delta C$ Consumers benefit by A+B Producer surplus doesn't change C+D is the additional external benefit to society (nonconsumers). Net change in welfare is A+B+C+D. Note that we're not at either the old Q\* or the new Q\*. This policy won't be able to get us to Q\*; we need another approach.

How will the analysis of the public good look if it's accompanied by a subsidy that internalizes the external benefit? No problem: once you know the externality is taken care of, it's built into the curves and you can just look at changes in consumer surplus as you did before. These messy graphs are only necessary when the externality isn't being optimally dealt with (you could have a subsidy that partially, but not fully, internalized the externality).

rising cost market for pharmaceuticals



consumers gain A+B+C (note that for the same change in costs, consumers gain less in a rising-cost market because a smaller  $\Delta P$  brings us to equilibrium). External benefit = D+E (again, for the same change in costs, external gains are smaller in a rising-cost market because a smaller  $\Delta Q$  brings us to equilibrium).

producers gain F+G-A

Net change in society's welfare = B+C+D+E+F+G.

What if markets don't clear?



Failure to clear can take two forms: excess supply, or excess demand. The analyses are similar in both cases. Here we're doing one with excess supply. Price floors create excess supply (think minimum wage or price support regulations); price ceilings create excess demand (think price controls). Here, we have a price floor. We'll assume that there's no forced consumption here (which would be very hard to achieve); therefore, the quantity demanded and consumed is on the short side of the market.

<u>Q:</u> Who of these suppliers get to sell their good (what is the allocation of producer surplus)? Not everyone. Since not every producer gets his/her surplus, we can't do the traditional producer surplus analysis (the normal consumer surplus wedge still applies), because we don't know which surpluses are counted.

There are a number of ways to approach this problem of allocation under disequilibrium.

<u>Assume random allocation</u>. Ned chooses to assume that the allocation is random. We'll come back to this. Farmer's market example.

<u>Historical allocation</u>, where sellers who were in the market before the change got first crack at the market. Think union rules.

<u>Bribery</u>. If laborers bribe employers with a rebate of wages, the marketclearing bribe would be enough just sufficient to return us to the old equilibrium price. Think going off the books.

<u>Merit</u>. This requires some way of measuring merit, but employers might use your reservation price (how low you're willing to sell for, a.k.a. your marginal cost) as a measure.

<u>Queuing</u>. Scarce supply will be allocated to those who wait in line longest; note that time in line is a cost that cuts down on the surplus they'd otherwise gain.

We'll do the measurement stuff next time, along with discounting.