ICC Staff Presentation Regarding DRIPE

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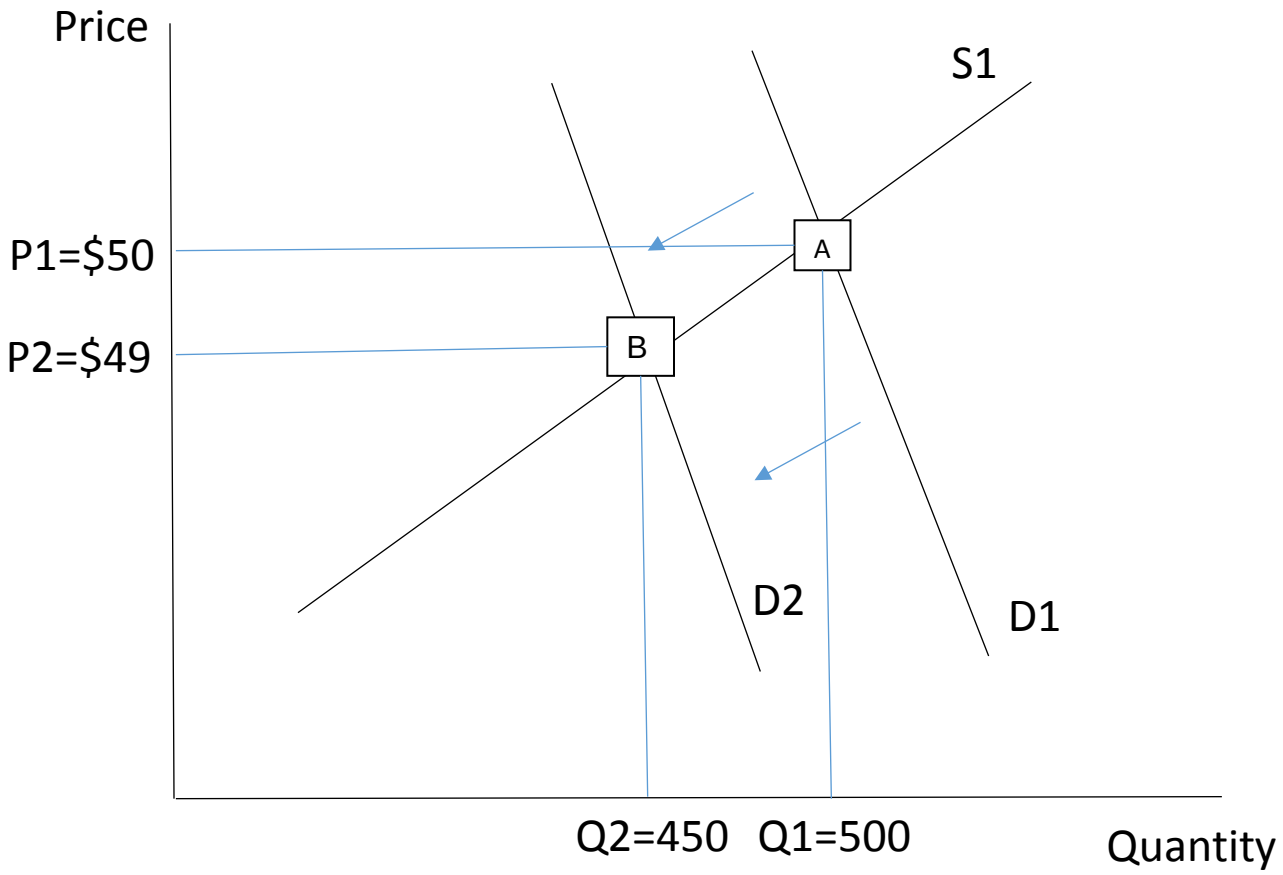
Reduction in Demand for Electricity



Price	Quantity	Total Expenditure
$50	500	25000
$49	450	22050

DRIPE would claim a benefit of $450 since consumers are now paying $1 per MWH less and using 450 MWH.

This is an example of a pecuniary externality. It has no affect on resource allocation.

Some Common Definitions of Externalities taken from Economics Texts:

- An externality occurs when the activity of one entity affects the welfare of another entity in a way that is outside the market (Harvey Rosen).
- Positive or negative effects that one economic agent's actions have on another's welfare that are not regulated by the system of prices. (Milgrom and Roberts).
- The effects of production and consumption activities not directly reflected in the market (Pindyck and Rubinfeld).

Classes of Externalities:

- Consumption externalities – if one consumer cares directly about another agent's production or consumption.
- Production externalities – when production possibilities of one firm are influenced by the choices of another firm or consumer.

Positive Externalities

- A Beekeeper's bees pollinate a neighboring farmer's crops. If the farmer provides compensation for the benefit, the beekeeper would purchase more bees and sell more honey. The additional pollination would increase the farmers production as well. Production of both products is less than socially optimal.
- A neighbor has a nice garden that creates intrinsic value for you. If you compensated your neighbor he could increase the quality of the garden which provides you with additional aesthetic gain (a welfare increase).

Negative Externalities

- A person that smokes a cigar in a crowded room might lower the welfare of others by using up the common resource, fresh air.
- Loud music played at 3 in the morning.
- Dumping of waste into a river used for commercial fishing.

Pecuniary Externalities

- “Effects on welfare that are transmitted via prices are sometimes referred to as pecuniary externalities. …because such effects are part of a normal functioning market, this is a confusing appellation.” Rosen (i.e., this isn’t really an externality in the traditional economic sense).
- Not an externality in the traditional sense of the definition.

Pecuniary Externalities - continued

- A neighbor buys a new efficient air conditioner. It results in the price of electricity decreasing. If you compensate the neighbor making the purchase, does it cause him/her to purchase more air conditioners?

- The farmer in the positive externality example compensates the beekeeper. It increases the supply of honey and lowers the market price. Honey buyers receive a pecuniary gain. Does the gain by consumers affect the allocation of honey?

Externalities - Pecuniary

- If the factory owner is required to pay for waste disposal rather than dumping it into the river, it increases its costs. Its customers will pay more.
- Is the additional cost to consumers of the factory's products a cost that should be in a cost benefit analysis to determine whether or not the factory should be required to pay for waste disposal ?

Pecuniary Externality - continued

- Subsidies to Energy Efficient products raise the demand for those products. An increase in demand causes an increase in market price.
- Non-participants who purchase an EE product suffer an additional cost. Should that cost be included in the TRC?

Pecuniary Externalities - continued

- A large national organization has its convention in Chicago. As a result, demand for hotel rooms increases the price from $200 per night on average to $350 per night on average.
- Restaurants are packed.
- Local restaurants and hotels pay $20,000 in overtime for the period of the convention.
- Should we consider the increased payrolls and room rates as costs when determining whether conventions and tourism are worthwhile?

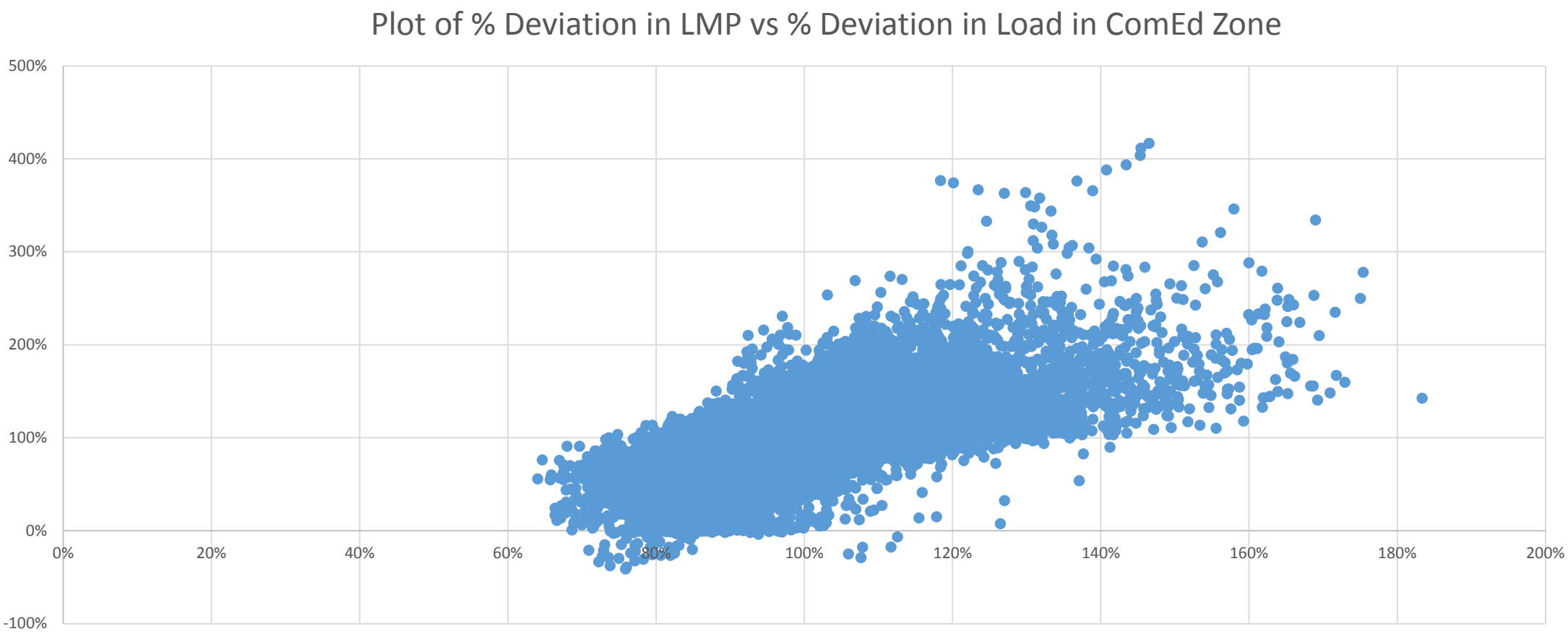
Pecuniary Externalities: an alternative Chicago

- Drug use leads to rampant gang violence and makes Chicago unsafe.
- The homicide, assault, and robbery rates increase by 80%.
- The hotels that were averaging $200 per night average rates are now averaging $80 per night.
- Half the restaurants in the previous example are out of business. Total hotel and restaurant payrolls are down $600,000 annually.
- Should we include the reduced room sale revenues and payroll reductions as a benefit in an analysis of whether drug use and gang violence is acceptable?

DRIPE as a transfer payment

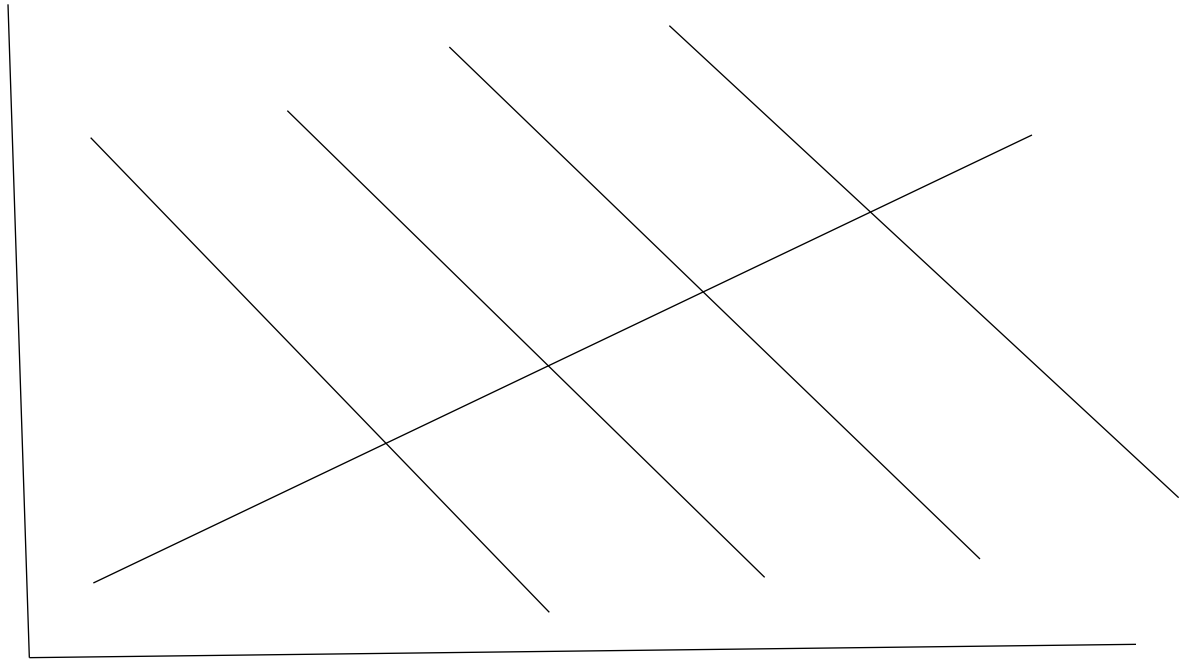
- Slides 2 and 3 showed an illustrative shift in demand and corresponding prices and quantities. At the $50 price 500 MWH are sold.
- At the $49 price 450 MWH are sold. Those $450 MWH are sold regardless of the price. At $49, consumers pay and generators receive $22, 050.
- At $50, consumers pay and generators receive $22500.
- The $49 price represents a $450 gain to consumers that is completely offset by a $450 loss to generators. On net, there is no benefit or cost.

Econometric issues



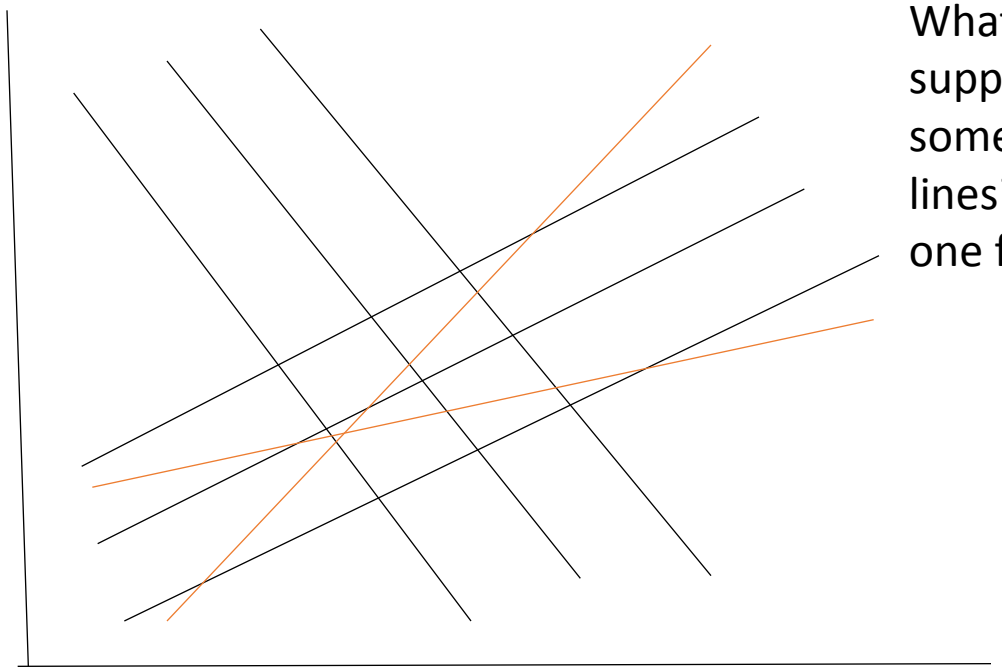
Econometric issues continued

- The assumption is that supply is stable and demand is shifting



Econometrics continued

- Most likely supply and demand are both shifting



What is being measured? Is it the supply lines parallel to each other or some variation of one of the orange lines? The model cannot distinguish one from the other.

Other modeling issues

- The model uses a partial equilibrium approach. It should use a general equilibrium approach.

- Both the electricity market and the market for energy efficient products and services are affected by the program.
- Demand curves measure the willingness and ability to pay holding constant all other factors that affect demand.
- Energy efficient products and electricity are substitute goods. Price of one goes up, buy less of it and more of the other. Price of one goes down, buy more of it and less of the other.
- Subsidies in the EE markets raise the price of EE products to non-participants. Less EE by non-participants and more electricity. The lower electricity price also means purchase more electricity and less EE.
- There is a feedback between the EE markets and the electricity market that is not considered.