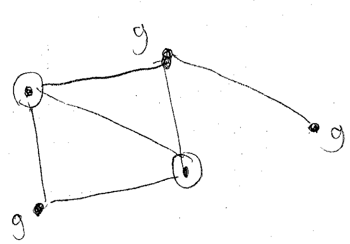
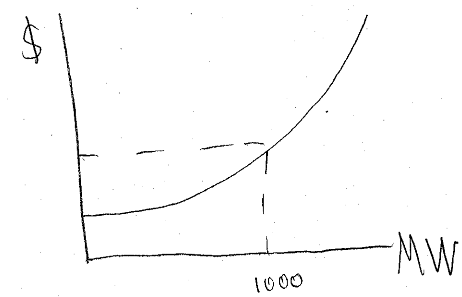
Electricity

- Lots of institutional detail
  - need to be able to explain differences between electricity mkts and others
  - loop flow, cannot control where electrons go, so there are issues associated with this.
    - those affect prices
  - cannot store electricity
- Regulated monopolies to unbundled companies
  - In the US, many were government owned.
  - Movement to unbundle this into natural monopoly (lines) components and potentially competitive components.
- Newbury / Green: British market. Supply function equilibrium
  - bid a supply curve
- Wolfram
- Sweeting



- g generators
- supply the operator with bid curves



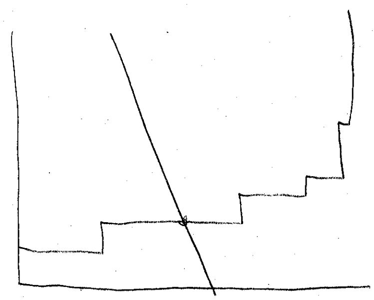
England: one price for the whole market
Elsewhere: some places have one price for each node.
Market operator solves least cost supply problem

- physical laws and capacities provide constraints

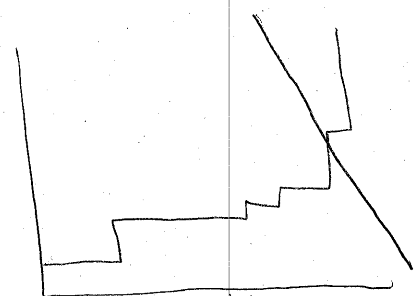
Sweeting: Ways to exercise market power:
- capacity withholding
- tacit collusion

Congestion is what causes prices to be different in different places

Wolfram estimates mc's and backs out markups.



in this setting, there isn't much ability to exercise market power

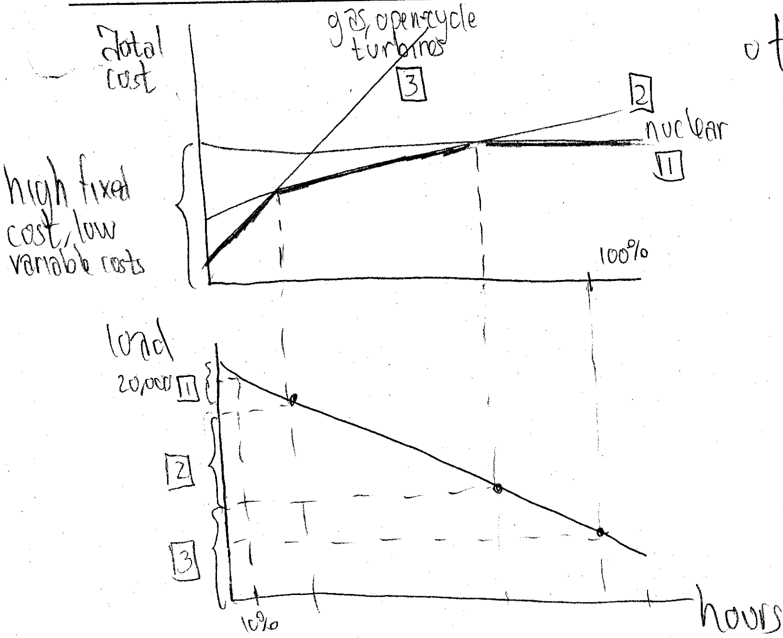


here, withholding can cause price increases.

Sweeting looks at the market and asks if the participants are playing static NE strategies.

Forward contracts
- 80% of capacity is already priced through forward contracts. Only 20% is priced on spot markets.

Incentives for investment and their relation to maximum prices.

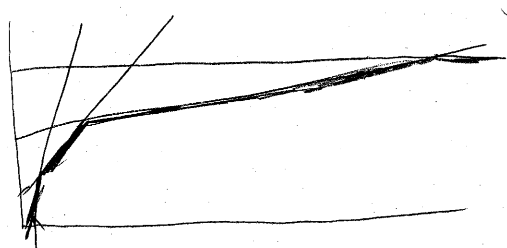


∘ take lower envelope

∘ 10% of the time, need 20,000 MW

load duration curves

Can include demand rationing with slope of maximum price:



demand rationing

∘ the steeper this demand rationing curve, the more incentives to invest in more capacity

∘ during these hours, firms are able to recover most of their fixed costs.

If the regulator tinkers with this, the rents are dissipated, and fixed costs are not able to be recovered, so there will be an inefficiently low amount of investment.

(*) Read the paper about SOE's in Mexico.

- SOE vs private firms might have different object
- Need to know Ramsey pricing
- PS4 covers some accessing
- One-way and two-way access pricing.

Costs of regulation delaying innovation
- Voice mail and cell phones, Hausman
- use local conditions to extrapolate the demand curve to estimate welfare

Nancy has a paper on regulation utilities before and after privatization.
- effects on productive efficiency.

Regulation on investment: (in telecom.)
- setting the right rate of return
- getting depreciation right.

Hausman - real option value of some of those things.
- Unbundling the local loop

This will lead to underinvestment, since the real option value is not taken into account by the regulators.

(*) Nevo - assumptions going into BLP with time trends.