If electricity markets are so great why does everyone hate them?

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and NBER
Restructuring and Federalism

• Restructuring (deregulation) of generation meant “trusting the process” rather than controlling the outcome
  – Regulators and planning processes were no longer to decide the fate of generation plants
  – Markets were to dictate where and what generation gets built, and in theory what retires
• Local policy makers – and operators - have not always been happy with market outcomes
  – Policy makers are still prone to pick winners (or not losers)
  – Generation investors often point to large losses in times of lower prices – would rather have regulation
  – Large customers often point to losses in times of high prices – would rather have regulation
  – System operators want to make sure no one gets angry at them
My Definition of Restructuring: Deregulation of Generation
Restructuring and Federalism

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  – Regulators and planning processes no longer decide the fate of generation plants
  – Markets were to dictate where and what generation gets built, and in theory what retires
• Local policy makers – and operators - have not always been happy with market outcomes
  – Policy makers are still prone to pick winners (or not losers)
  – Generation investors sometimes point to large losses in times of lower prices – would rather have regulation when prices are low
  – Large customers often point to losses in times of high prices – would rather have regulation when prices are high
  – System operators want to make sure no one gets angry at them
The Issues

• **Low energy prices** are posing serious financial challenges for many classes of incumbent generation.

• Some of this generation *may* provide **value currently not reflected** in market prices (location, flexibility, low carbon – probably *not* baseloadability)

• Question is if/how markets **reward generation attributes** we previously took for granted.

• Many States (Federal govt?) are deploying policies to directly or indirectly aid financially struggling generation resources
  – These policies almost certainly impact regional market prices
Reliability is not the Issue:

- Institutional structures (ISOs/NERC) have strong powers and incentives to maintain reliability
  - But at what cost?
- Lots of generation has been built (and kept alive) under capacity markets (resource adequacy); energy-only; and traditional cost-of-service.
  - How well do such mechanisms adopt to new market conditions?
What is motivating local policies?

• Buyer market power?
  – Large net buyers can economically benefit from overpayment for marginal supply if it lowers overall capacity (energy) prices

• Environmental policies?
  – Mandates for (largely) renewable energy have reached the point where they are displacing incumbent generation rather than just influencing new investment
    • Quicker reductions in carbon; higher and misunderstood costs of policies
  – Best solution: policies that promote the environmental goal (e.g. low carbon) in a non-discriminatory manner that also does not distort prices.

• Support for local communities?
  – Potentially sources of local taxes and employment
    • Above market costs create larger negative, but much more diffuse economic impacts
Solar is Shaping the CA Market

April 2013

Source: www.CAISO.com
Solar is Shaping the CA Market

April 2015

Source: www.CAISO.com

Source: www.CAISO.com
Solar is Shaping the CA Market

April 2017

Source: www.CAISO.com
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    • Above market costs create larger negative, but much more diffuse economic impacts
State support is nothing new

- Long history of tax competition between states to lure large firms/factories
  - Some economic justification (for States) if they can spur “agglomeration” benefits
  - But lots of destructive competition also
- Reasons to believe that economic benefits are modest
  - Deregulation may have led to as much/more job loss that closing the plants
  - Negative impacts of environmental and other amenity benefits
Why motivation matters: FERC and the commerce clause

• **Not acceptable?**
  – Signing above market deals with intent to depress regional capacity or energy prices.
  – Blocking transmission projects because it allows “state X to get our cheap power”

• **Acceptable?**
  – Signing above market deals to promote an environmental goal; to save local jobs?
  – Blocking transmission projects because, ... everyone hates transmission projects
What are the policy options in response?

• Reject/overturn anticompetitive arrangements?
  – Limits of jurisdiction and authority linked to type and form of arrangements

• Mitigation through ISOs?
  – Minimum offers and other mitigation tools
  – Risks of exacerbating original inefficiencies
    • Key question of deterrence effect

• If the process (market) is really leading to the wrong outcomes, *fix the process*
  – Picking solutions through narrow mandates and ad-hoc policies is a slippery slope
    • Once a favorite tool of renewable advocates, now may be used to protect coal
  – How bad do things have to get before we try carbon pricing?
Thank you

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Comments drawn from:
Bushnell and Novan. “Generation Green: Renewable Electricity Supply in the U.S.”
UC Davis working paper. 2017
Bushnell, Flagg, and Mansur. “Capacity Markets at a Crossroads.”
UC Davis working paper. 2016