

REGULATION AND ELECTRICITY MARKETS

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The case of electricity restructuring presents examples of fundamental problems that challenge regulation of markets.

- **Marriage of Engineering and Economics.**
 - **Loop Flow.**
 - **Reliability Requirements.**
 - **Incentives and Equilibrium.**
- **Devilish Details.**
 - **Market Power Mitigation.**
 - **Coordination for Competition.**
- **Jurisdictional Disputes.**
 - **US State vs. Federal Regulators.**
 - **European Subsidiarity Principle.**

The financial crisis provides a context with a rapidly changing view of the role of government.

- **Financial Crisis Presents Conflicting Diagnoses**

“Deregulation, or the failure of regulators to keep up with fast-moving markets, can become unbelievably costly, as we have seen.”¹

- **Electricity Restructuring is not Electricity Deregulation**

Electricity markets with Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs), the North American Electric Reliability Corporation (NERC), State Public Utility Commissions (PUCs), Public Power Authorities, and the Federal Energy Regulatory Commission (FERC) are highly regulated entities. But “failure of regulators to keep up with fast-moving markets, can become unbelievably costly, as we have seen.”

The challenge of “keeping up” emphasizes the dynamic nature of the problems and the importance of understanding the fundamentals of first principles.

¹ Francis Fukuyama, “The Fall of America, Inc.,” Newsweek, October 13, 2008, p. 32.

The Federal Energy Regulatory Commission has responsibility for regulating wholesale electricity markets. The stated framework emphasizes support for competition in wholesale markets as a clear and continuing national policy:

“While competitive markets face challenges, we should acknowledge that competition in wholesale power markets is national policy. The Energy Policy Act of 2005 embraced wholesale competition as national policy for this country. It represented the third major federal law enacted in the last 25 years to embrace wholesale competition. To my mind, the question before the Commission is not whether competition is the correct national policy. That question has been asked and answered three times by Congress.

If we accept the Commission has a duty to guard the consumer, and that competition is national policy, our duty is clear. It is to make existing wholesale markets more competitive. That is the heart of this review: to not only identify the challenges facing competitive wholesale markets but also identify and assess solutions.”²

“Competition is at heart of U.S. energy policy relating to wholesale power and gas markets.”³

A task for regulation is to support this policy framework while developing hybrid markets and dealing with both the limits of markets and the failures of market designs.

² Joseph T. Kelliher, “Statement of Chairman Joseph T. Kelliher,” Federal Energy Regulatory Commission, Conference on Competition on Wholesale Power Markets AD07-7-000. February 27, 2007.

³ Joseph T. Kelliher, “Energy Competition and Regulation: The U.S. Experience,” Sydney, Australia, June 26, 2008.

There is a tension in choosing regulation to address immediate market failures and to deal with the continuing challenge of improving electricity market design.

- **Little “r” regulation:**

Design rules and policies that are the “best mixture” to support competitive wholesale electricity markets. A key requirement is to relate any proposed solution to the larger framework and to ask for alternatives that better support or are complementary to the market design. Many seemingly innocuous decisions appear isolated and sui generis, but on closer inspection are fundamentally incompatible with and undermine the larger framework.

- **Big “R” regulation:**

Frame every problem in its own terms—inadequate demand response, insufficient infrastructure investment, or market power—and design ad hoc regulatory fixes that accumulate to undermine market incentives. This creates a slippery slope problem, where one ad hoc solution creates another problem, and regulators are driven more and more to intervene in ever more ad hoc ways.

For example, socialized costs for preferred infrastructure investment can easily reduce the incentives for other market-based investments, thereby increasing the need for regulators to select among additional appropriate investments and socialize even more costs.

The public policy debate over reshaping the electricity industry confronts major challenges in balancing public interests and reliance on markets.

The International Energy Agency (IEA) examined the international experience and produced guidance for electricity restructuring.

- “Governments must ensure a stable and competitive investment framework that sufficiently rewards adequate investments in a timely manner. ...
- Governments urgently need to reduce investment risks by giving firmer and more long-term direction on climate change abatement policies. ...
- Governments should pursue the benefits of competitive markets to allow for more efficient and more transparent management of investment risks. ...
- Governments need to ensure that independent regulators and system operators establish transparent market rules that are clear, coherent and fair. ...
- Governments must refrain from price caps and other distorting market interventions. ...
- Governments must implement clearer and more efficient procedures for approval of new electricity infrastructure. ...”⁴

⁴ International Energy Agency, Tackling Investment Challenges in Power Generation in IEA Countries: Energy Market Experience, Paris, 2007, pp. 15-25.

Application of the broad goals identified by the IEA would be compatible with recommendations by Paul Joskow for a new Federal Power Act.

“What provisions might a Federal Power Act of 2009 contain?

- [Federalize transmission] ...
- [Mandate Regional Transmission Organizations] The key provisions of FERC Order 2000 should be put into law. This would require the creation of RTOs that manage the operation of large regional transmission networks, implement FERC’s transmission access, pricing, and planning regulations, and operate voluntary wholesale markets for electric energy, ancillary services, capacity and transmission rights. There is abundant evidence (a) that RTOs are needed to support efficient competitive markets, (b) that expanding the geographic expanse of RTOs and improving the market designs for energy, ancillary services and capacity lead to efficiency improvements, (c) and that wholesale market designs built around what is generally referred to as the “standard market design,” augmented by capacity obligations and capacity markets, promote economic efficiency.
- [Unbundle generation and distribution] ...
- [States determine retail access] ...
- [Limit generation subsidies to merchant investments] ...
- [Allocate any free CO2 allowances to electricity consumers] ...
- [State regulatory jurisdiction continue over distribution facilities] ...”⁵

⁵ Paul Joskow, “Challenges For Creating A Comprehensive National Electricity Policy,” Technology Policy Institute Keynote Speech, Washington DC, September 26, 2008. (available at <http://www.hks.harvard.edu/hepg/>).

Market design in RTOs/ISOs is well advanced but still incomplete.⁶

- **Regional Markets Not Fully Deployed**

- **Reforms of Reforms**

California MRTU and ERCOT Texas Nodal reforms.

- **Market Defect: Scarcity Pricing**

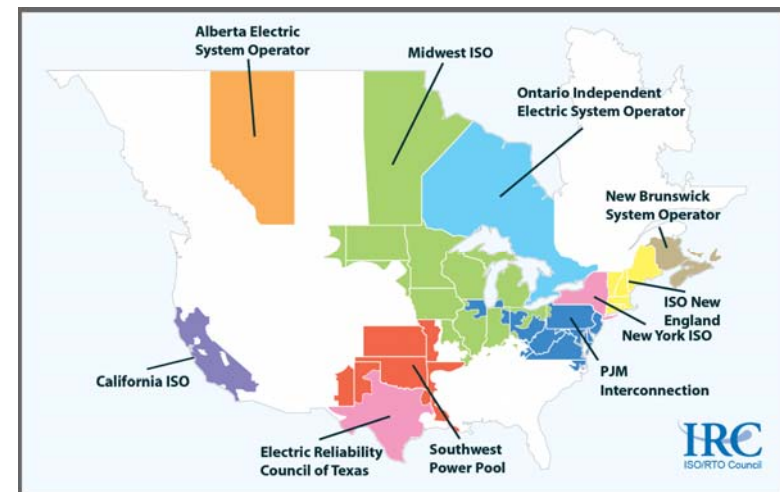
Better scarcity pricing to support resource adequacy.

- **Market Failure: Transmission Investment**

Regulatory mandates for lumpy transmission mixed with market-based investments.

Design principles for cost allocation to support a mixed market (i.e., beneficiary pays).

- **Market Challenge: Address Requirements for Climate Change Policy**



⁶ William W. Hogan, "Electricity Market Structure and Infrastructure," Conference on Acting in Time on Energy Policy, Harvard University, September 18-19, 2008. (available at www.whogan.com).

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