Putting IO back in regulatIOn

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FTC Microeconomics Conference

November 2011

Massachusetts Institute of Technology

Taking stock of regulatory economics

- Four decades since publication of classic works that invigorated the study of regulatory economics, including
  - Fred Kahn, *The Economics of Regulation: Principles and Institutions, Volumes I and II,* 1970
  - George Stigler, “The Theory of Economic Regulation,” 1971
- 25th anniversary of Laffont & Tirole, 1986
  - Confronting modern regulatory design with asymmetric info
- 3 decades of policy reform since 1978 Airline Deregulation
  - Restructuring regulation dating to Great Depression

Regulatory Reforms Yielded Substantial Benefits

- Increased productive efficiency and lower costs
- Lower prices in many sectors
- Improved investment decisions/risk allocation
- Substantial innovation gains: both processes and products
- But also significant redistribution among stakeholders

Where are we now?

- Current popular “regulatory credo”
  - “Deregulation” is a major cause of current woes
  - Imperfect markets need government regulation
  - We know how to regulate better
  - Just need clearer legislation and smarter/harder-working/more honest/public-spirited regulators
- Unfortunately, shared by many (distinguished) economists
- Little “regulatory literacy” education in most economics departments and almost (?) all business schools

Those that fail to learn from history, are doomed to repeat it.

- Winston Churchill

“…the first law of regulation is: Lawyers and bureaucrats write regulations. Markets learn to circumvent the costly ones.”

The Basel Accords tried to promote safety by requiring banks to hold more reserves if they acquired more risky assets. This ignored incentives. The banks followed the first law of regulation. They put the risky assets in structured investment portfolios that were not on their balance sheet. We went from a system that was not well monitored to one that was not monitored at all. The world and the regulators learned where the risks went when the holders were about to fail. Bad regulation, not its absence, made the problem worse. *-- Allan Meltzer, AEI, 2009*

Or in Stiglerian fashion, use regulation to create rents *Freeconference.com*

- In Iowa, .. to, in theory, help pay the costs of being a phone company that has to send the call out to a lonely Iowa farmhouse, the rural telcos get to charge as much as 6 cents or more per minute to complete [a long distance] call….Freeconference.com's address is in Los Angeles, though they do say their conference bridges are in phone company facilities in Iowa. …When you called them, your LD company paid the rural fee, and the rural CLEC kicked back that money to freeconference. As you probably guessed, there is not actually a free lunch. …It seems [AT&T] noticed something was amiss when their bill for termination charges went from $2,000 to $2,000,000 per month in a community of only 57 households.
  http://ideas.4brad.com/whoops-freeconference-coms-pants-fall 3/16/2007
- FCC Rulemaking: Connect America Fund & Intercarrier Compensation Reform Order and FNPRM – Executive Summary 10/27/2011, Final Order out shortly. Continuing litigation (appeal scheduled for 12/5/2011)

How can IO economists help?

What do economists need to know, and to convey in their courses and research, about regulatory economics?

- Information: Who knows what?
- Institutions: Matter, a lot!
- Industry Structure: Horizontal & vertical
- Incentives: Identifying and harnessing them
- Interest Groups: Shape the politics
- Imperfections: Aren't just in markets
- Innovation: Covers a multitude of sins

Information: Who Knows What?

Theory of regulation under asymmetric information has transformed regulatory economics over 25 years (Laffont & Tirole, others)

- Firms generally are better informed than are regulators
  - about market demand, investment & cost opportunities, managerial effort,…
- Trade-off between cost-minimization and rent extraction
- Centrality of incentives in regulation
  - OFGEM in the UK is the “poster agency”: adaptation
  - Slower diffusion among many regulators in US, particularly at the state level: It’s hard to implement!

Institutions Matter

My favorite example:

Paul Joskow, *Journal of Law and Economics*, 1974

- Large literature on capital input distortion caused by “rate of return” regulation of electric utilities: Averch-Johnson (A-J) effect
- Joskow argues utility regulators actually set prices, not rate of return. Also review capital projects case-by-case.
- Considers implications of consumer aversion to nominal price increases (“behavioral economics” before we coined the label)
- Implications may reverse predictions of A-J theory

Industry Structure Can be Pivotal in Design and Impact of Policy

Pricing in Restructured Electricity Wholesale Markets

HHI:
- 620 in CA
- 850 in NE
- 1400 in PJM

But CA prices spike much more- why?

Bushnell, Mansur, and Savaria (AER, 2008)

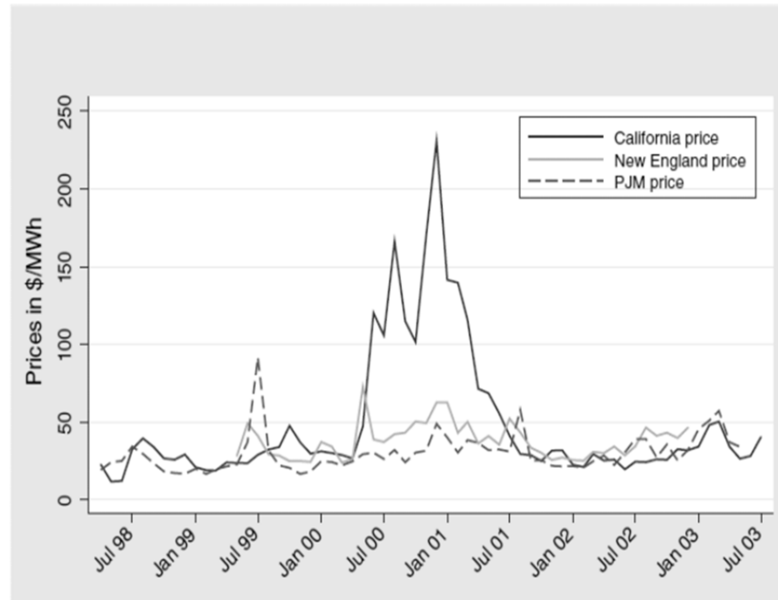


FIGURE 1. PRICE PATH IN ALL MARKETS
(*California, New England, and PJM Monthly Averages*)

Note: California price is the PX price before December 2000, and the ISO price afterward.

Vertical structure may be as much/ more important than horizontal structure

California- No vertical relations

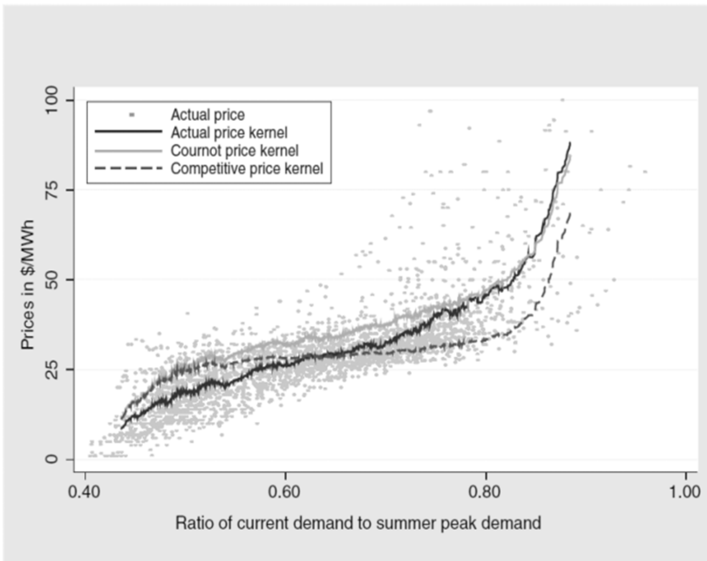


FIGURE 2. PRICES BY QUANTITY DEMANDED IN CALIFORNIA
(Actual, competitive, and Cournot price kernels)

Note: We calculate nonparametric regressions using the k-Nearest Neighbor estimator.

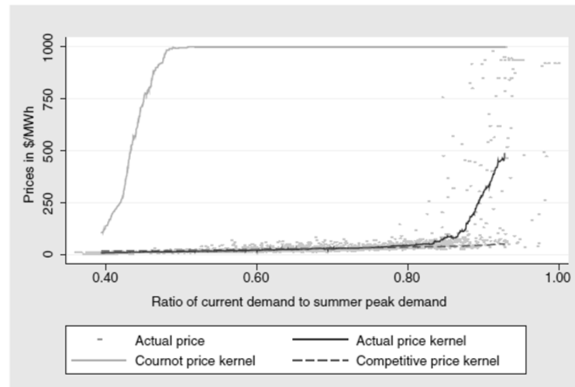


FIGURE 4. PRICES BY QUANTITY DEMANDED IN PJM
(Actual, competitive, and Cournot price kernels)

PJM: If no vertical integration, looks more competitive

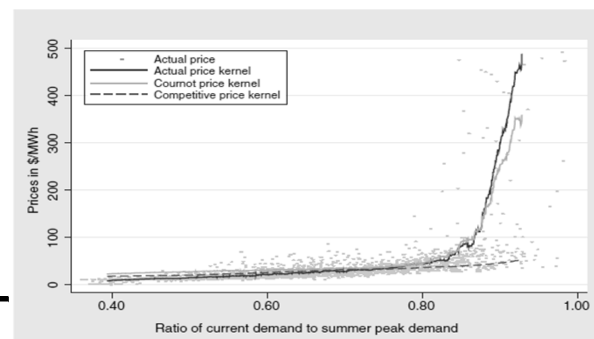


FIGURE 6. VERTICAL ARRANGEMENTS IN PJM
(Actual, competitive, and Cournot price kernels)

PJM: Accounting for vertical structure suggests Cournot

Incentives: Firms act strategically. Regulators ignore at their peril!

Impact of 1992 Cable Act per channel average price caps on:

- Cable prices
- Service offerings
- Consumer welfare

Crawford, *RAND, 2000*

TABLE 2 **Pre-Act and Post-Act Sample Statistics by Decision to Add Expanded Basic Services**

	Systems Not Adding Expanded Basic Services		Systems Adding Expanded Basic Services	
Variable	Pre-Act	Post-Act	Pre-Act	Post-Act
Prices				
P_{Basic}	\$16.64 (2.43)	\$17.36 (2.90)	\$17.74 (2.53)	\$15.62 (4.27)
$P_{Basic} + P_{Exp.Basic1} + P_{Exp.Basic2}$	\$16.79 (2.53)	\$17.47 (2.88)	\$17.74 (2.53)	\$23.21 (3.59)
Cable programming networks				
Basic service				
Top-5 cable programming networks	4.21 (1.02)	4.43 (.75)	4.49 (.94)	1.82 (1.07)
Total cable programming networks	10.64 (4.34)	12.68 (5.08)	16.53 (5.83)	10.39 (4.76)
All basic services				
Top-5 cable programming networks	4.26 (.96)	4.44 (.75)	4.49 (.94)	4.51 (.81)
Total cable programming networks	10.89 (4.35)	12.71 (4.44)	16.53 (5.83)	19.74 (4.44)

Standard errors in parentheses.

Failure to consider response may turn welfare calculation on its head

- Mandated price decreases (10-17%) alone imply expected welfare gains per HH of \$1.18/month-\$2.22/month

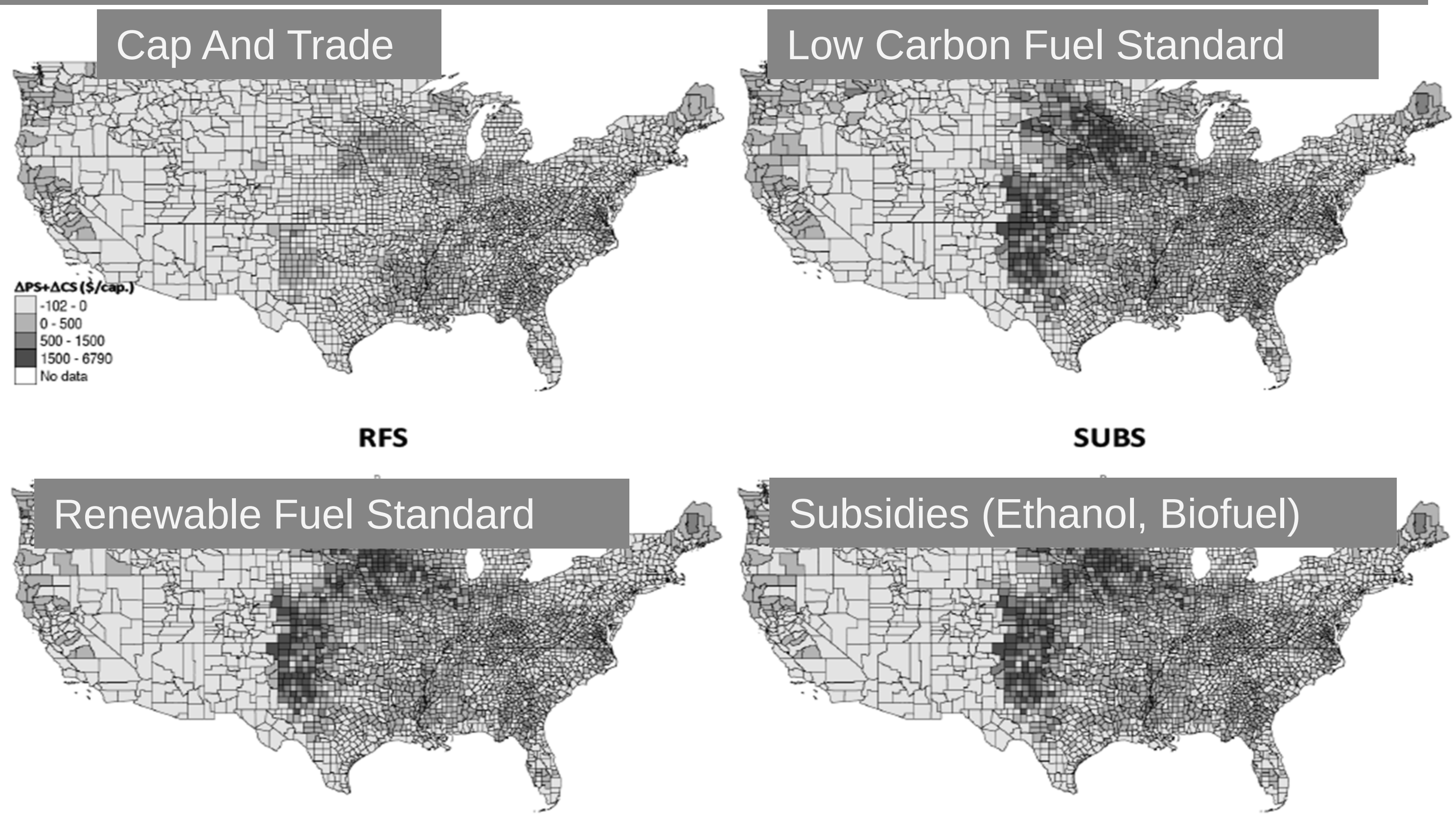
- Estimated actual impact was average welfare gain per HH of \$.03/month
  - OR loss of \$.69/month if include "demographic and control variables" such as year fixed effects

Crawford, *RAND, 2000*

Interest group politics:

Why we get the policies we do (Stigler redux)

County-level Per Capita Surplus Changes under Alternative Policies



….and gains go primarily to producers under RFS, Subsidies…

Holland, Hughes, Knittel, Parker (2011)

Even when those policies are very costly

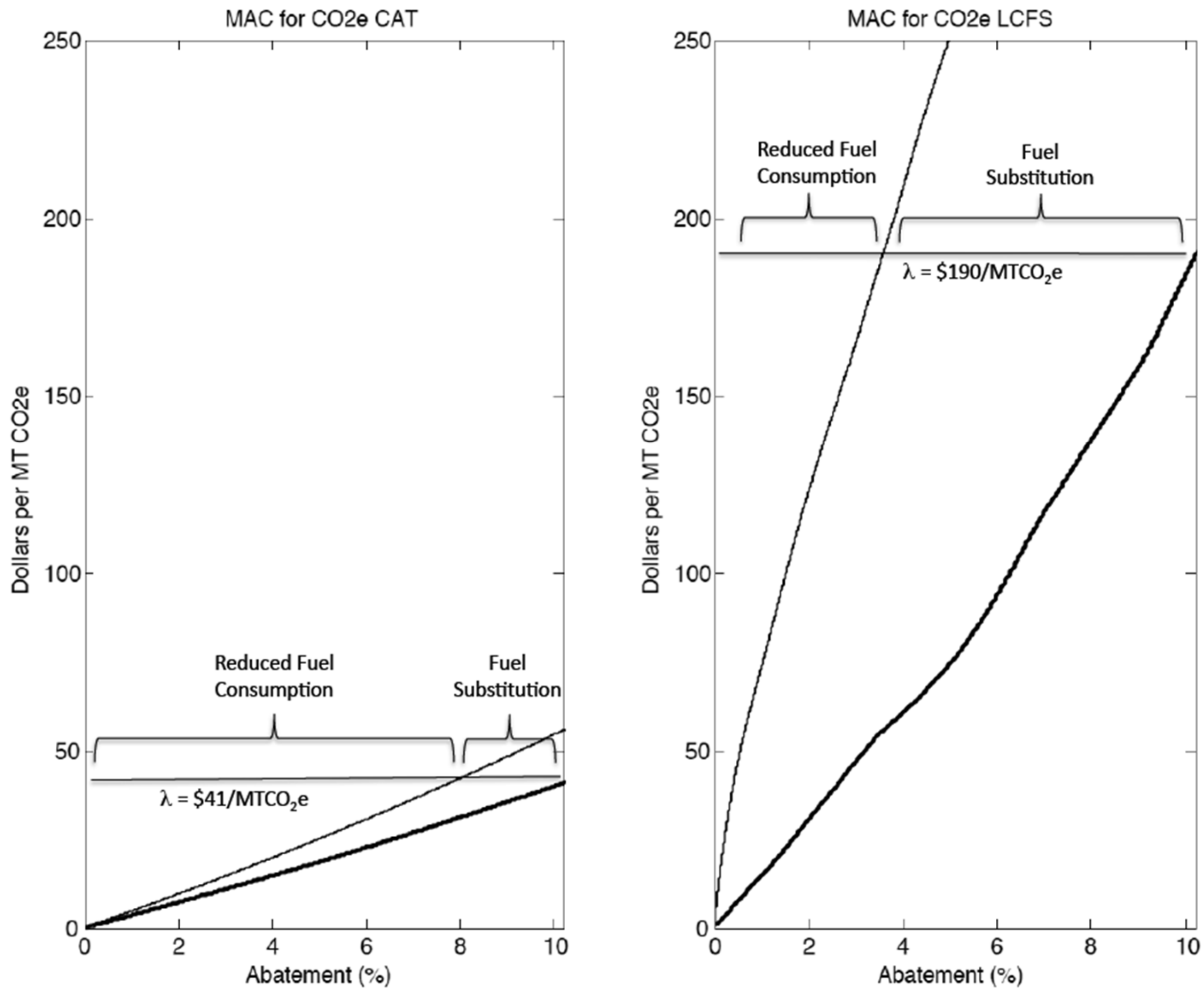
CO_2 abatement costs of equivalent alternative motor vehicle fuel policies

•Low Carbon Fuel Standard (mix satisfies average CO_2 intensity target)

•Same reduction through CO_2 cap & trade program on fuel

Holland, Hughes, Knittel, Parker (2011)

Figure 1: Marginal abatement cost curves and emissions reduction mechanisms for CAT and LCFS systems.



Imperfections aren't only in markets

The choice is not perfect regulation v. imperfect markets

- Government intervention is inherently imperfect
- Solving last year's problem is easier than identifying and preventing next year's
- Smart regulation needs resources
- Consider trade-offs with eyes wide open

Joskow (2009)

Even regulators with the best intentions & efforts may play "Whack a Mole"

"Banks are loading fees onto customer accounts in an attempt to recover billions of dollars in revenue that will be lost from new restrictions on debit cards, credit cards and overdrafts. Most big banks have already eliminated free checking for customers who don't meet certain criteria …"

Wall Street Journal, Oct 28, 2011

Innovation costs can swamp static gains/losses- and regulators may not do well here

Hausman (1997) argues FCC debates, including whether to authorize AT&T, one monopoly carrier, or duopoly carriers in each market, delayed cellular 7 – 10 years. Even half the estimated cost is huge!

Table 4. Estimated Lost Consumer Welfare in 1983 Because of Cellular Telephone Delay (1994 Dollars)

Scenario	*Penetration*	*Assumed price*	*Lost welfare*
Similar to 1994	1994 level	1994 price	$49.8 billion
Higher price	1994 level	50% higher	$33.5 billion
Lower demand	50% 1994 level	50% higher	$16.7 billion

Soruce: Author's calculations.

The past is prologue…..?

It's time for Maryland to stop waiting, stop playing the victim and take control of its fate. The Public Service Commission has pointed the way, ….for building new generation plants and requiring BGE or Potomac Electric Power Co. — or both — to buy that electricity. By forcing BGE or Pepco to buy electricity from a new plant, regulators would simultaneously guarantee its construction and pass the building costs to BGE or Pepco customers. ***Such a move would partially re-regulate Maryland electricity, one generation plant at a time***.

Baltimore Sun, 1/18/2011

We can’t afford to relegate regulatory economics to economic history!

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