

# Paying for Demand-Side Response at the Wholesale Level

*The recent FERC Notice of Public Rulemaking regarding the payment to demand-side resources in wholesale markets has engendered a great deal of comments including FERC's obligation to ensure just and reasonable rates in the wholesale market and criteria for what FERC should do (on grounds of economic efficiency) without any real focus on what that commitment would really mean if FERC actually pursued it.*

*Jonathan Falk*

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## I. The Issue

While there are probably as many nuances of opinion here as there are economists thinking about what to pay, the basic theory espoused most prominently by Prof. Bill Hogan is that when electricity customers are asked to sell power back to the wholesale grid, the implicit price they face is  $V - G$ , where  $V$  is the value of the kWh they would have consumed at the retail price of the energy,  $G$ . In other words, every kWh which would have been consumed – but for an offer to

forego consumption and, in effect, consign those kWh to the wholesale market – will be valued by the consumer at his lost surplus. The marginal value on the wholesale market is conventionally denoted LMP. LMP is what generators are paid. Dr. Hogan (and many others) note that if we pay LMP for foregone consumption, there is a potential efficiency loss if  $V$  exceeds LMP, while  $V - G$  is less than LMP: the consumer will offer those kWh back even though his value in consumption would have been worth more than LMP. To rectify

this potential loss, Dr. Hogan and others propose paying LMP – G, which ensures no such high-valued uses are offered back to the wholesale market.<sup>1</sup>

This view, while simple, and obviously correct so far as it goes, has two problems: it's too simple and it doesn't go far enough. Those adopting this position have (1) allowed their quest for efficiency to stop well short of efficiency; (2) mistakenly characterized what it is the consumer is selling back; (3) completely mischaracterized the obligation of the Federal Energy Regulatory Commission in wholesale markets (or at least silently substituted their own vision of what they want it to be); and (4) woefully underestimated the practical difficulties of what they propose. These views have been laid out by Prof. Fred Kahn in testimony submitted in the FERC Notice of Public Rulemaking proceeding (FERC Docket RM 10-17). Dr. Kahn's paper addressed all of these issues with his usual encyclopedic scope but limited by time and the demands of testimonial exigencies. This article provides greater depth on the issues Dr. Kahn has testified about to provide a more complete exposition of those ideas.

## II. Efficiency

My late colleague Sally Hunt would often remind me that while we economists are obsessed with efficiency, almost nobody else is – everyone else focuses on rents.

While FERC is, in my opinion, certainly entitled to treat the obligation to set just and reasonable rates in wholesale electric prices as a mandate for efficiency above all else, it never has, and I suspect it never will. It is child's play to find something inefficient in electric markets. There is almost always a rent-based or policy-based rationale underlying it. Many of these inefficiencies are the direct result

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of policy decisions. Economists have for years pointed out the economic efficiency, for example, of Ramsey pricing in the presence of declining average cost industries. To regulators, however, Ramsey pricing looks like the expropriation of those who can't protect themselves. While it is undoubtedly *efficient* to ask a drowning man for his life savings in return for access to a lifeguard,<sup>2</sup> there is no one who thinks it *fair* or even *reasonable*.

Thus, it's not at all clear what weight FERC ought to give efficiency (in this narrow sense) over, say, the general principle that people offering the same good for

sale ought to receive the same price for it (which can itself be restated as an efficiency principle.<sup>3</sup>) But if we're going to make efficient prices our goal, we've got a long way to go before focusing on something as minor as this. In the most obvious example, if we're going to worry about the lost efficiency from loads offering back consumption valued above LMP, we'd better worry about the obviously much larger problem of the inefficiency of supplies generated at LMP values far above the value of the associated consumption. Whenever LMP is above G there are immense amounts of resources wasted on consumption whose value falls below LMP but above G. The fact that capping payments to generators at G would solve this problem is, I take it, not the sort of solution which would be tolerated in the name of efficiency.

And our newfound devotion to efficiency obviously mandates a careful consideration of environmental externalities. A modest assumption that marginal generation resources are gas- and/or coal-fired and an external unpaid social cost would of course mandate paying more for demand-side resources (which are clean by definition, other than behind-the-fence generation), not less.

The obvious source of difficulty here is the theory of the second-best, the oft-cited but rarely implemented theorem of economics (Lipsey and Lancaster, 1956) in which *N* wrongs make a right.<sup>4</sup> But not just any *N* wrongs

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