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## **“Vertical Market Power” as Oxymoron: Getting Convergence Mergers Right**

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# **“Vertical Market Power” as Oxymoron: Getting Convergence Mergers Right**

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## **Abstract**

“Vertical market power” is a contradiction in terms because “market power” is essentially horizontal—that is, it depends on relationships of firms within markets. FERC invokes the term to assess “convergence” mergers between electricity generators and natural gas suppliers. It misapplies Department of Justice guidelines for vertical mergers and fails to identify exceptions to a presumption that market power depends only on competitive conditions at any single stage. A three-stage test can assess whether convergence mergers resemble horizontal ones. The key stage is the third: A convergence merger is more problematic the less vertical it is—that is, if the acquiring generator had no prior dealings with the acquired gas supplier. FERC’s analyses in leading convergence merger cases fail this test. Focusing on how convergence mergers facilitate regulatory evasion by linking regulated and unregulated enterprises, and how they reduce the ability to keep proprietary information from competitors, would be more productive approaches.

**Key Words:** Vertical mergers, electricity restructuring, vertical integration, convergence, energy regulation

**JEL Classification Numbers:** L40, L94, L22, D43

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# **“Vertical Market Power” as Oxymoron: Getting Convergence Mergers Right**

Tim Brennan\*

Convergence mergers in the utility industry—between, for example, a generation company and a fuel supplier like a natural gas provider—are widely feared because they may lead to the exercise of “vertical market power.” This paper shows that such a characterization is theoretically suspect and empirically error-prone. The paper also sets out a framework for analyzing convergence mergers based on a more sound, “horizontal” approach.

In merger analysis, “market power” refers to the ability of a firm or group of firms to raise prices above the competitive level without fear of competition from independent suppliers of substitutes, who by definition are related “horizontally.” Accordingly, “*vertical* market power” is something of an oxymoron. Vertical mergers typically eliminate independent provision of complements, not substitutes.

At first glance—perhaps all that antitrust enforcement can accurately handle—vertical mergers might be regarded as benign. If there is a monopoly at one stage of the production chain, it may well be able to exercise most of the monopoly power present in an industry. The oft-mentioned fear of “raising rivals’ costs” is, in essence, a concern about raising input prices, which requires power in an input market—and that is a horizontal rather than a vertical problem. Other effects, such as exercising greater control over pricing, eliminating double marginalization, and improving organizational efficiency, can promote efficiency and reduce product prices.

Analyzing mergers or practices in vertical terms brings both Type I and Type II errors. The more long-standing criticism involves the latter, that benign vertical relationships come under unwarranted attack. However, such analyses can and do invite the conclusion that a relationship that could enhance market power is excused by not meeting vertical criteria, e.g., not having market power at both stages of a production chain.

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This is not to say that vertical considerations can never matter, but one needs a tight argument. Vertical separation and divestiture to stifle the exercise of market power by a regulated monopolist have characterized both telecommunications and electricity policy. Strategic considerations may come into play if vertical integration or relationships change timing, information, or credibility of commitments necessary to change outcomes, but models too often tend to beg the question by assuming rather than deriving these changed circumstances. Finally, vertical integration may change the marginal profitability of horizontal monopolization and thus make it more likely, but no measures seem useful for “fine tuning” merger policy to recognize this possibility. A more likely possibility is that a vertical merger could increase incentives to exploit quasi-rents in ways unanticipated by initial contracts.

Applying this to convergence mergers should lead the analyst to ask to what extent does a merger approximate a horizontal one. This leads to a three-step checklist:

1. Would the electric utility’s and the gas company’s utility customers constitute an anticompetitive share of a relevant market? If no, stop. If yes, continue.
2. Does the gas company already have market power in supplying gas to those generators in the relevant electricity market who buy from it? If no, stop. If yes, continue.
3. Is the gas supplier the dominant fuel supplier for the acquiring electric company? If yes, the gas company *already* controls the electricity market, and the convergence merger does not make matters worse. A convergence merger is more likely to be problematic the less it is strictly vertical.

The paper begins with a review of major vertical-merger decisions by the Federal Energy Regulatory Commission (FERC). We then briefly review the theories casting doubt on vertical market power, including some possible justifications for looking at vertical aspects of mergers, in general and with respect to convergence mergers. We assess the “raising rivals’ costs” idea and suggest that a better focus would be monopolization of relevant input markets. We then develop the three-step horizontal approach to convergence mergers, outlined above. Applying it to FERC’s decisions, we see that the convergence merger approach is not well founded, although there may be justifications for concern based upon regulatory evasion and reduced incentives for competitors to develop proprietary information.

In sum, “vertical market power” is neither theoretically sound nor empirically helpful, but a properly constructed three-step test can help identify when a convergence merger may be problematic—that is, when it is most like a (horizontal) merger of electric companies.

## FERC and Vertical Market Power

### *The Enova Decision*

In 1996 the Federal Energy Regulatory Commission (FERC) issued its Merger Policy Statement,<sup>1</sup> setting out the principles by which it would evaluate mergers over which it has reviewing authority under the Federal Power Act. The statement largely followed the Department of Justice (DOJ) and Federal Trade Commission (FTC) 1992 Horizontal Merger Guidelines. As the title of the DOJ/FTC document suggests, its emphasis was on horizontal mergers—mergers of firms that compete with each other in selling products that buyers in a defined geographic area view as substitutes. Except for some brief allusions discussed below, the DOJ/FTC guidelines, and consequently FERC’s Merger Policy Statement, say little directly about vertical mergers—mergers of firms that operate at different levels along a production chain.<sup>2</sup> One type of vertical merger is the convergence merger of, say, a gas supplier and an electric utility, where the gas supplier sells to the utility’s electricity market.

In the middle of 1997, FERC filled in the blanks with its decision in the Enova-Pacific Enterprises merger case.<sup>3</sup> The key issue in that case involved the joining of San Diego Gas and Electric (SDG&E), a subsidiary of Enova, with Southern California Gas (SoCalGas), owned by Pacific Enterprises. SDG&E is the distribution company that serves the San Diego area. While the Enova case was at FERC, and before the retail electricity restructuring in California, SDG&E owned a large number of gas-fired generators. SoCalGas was, according to FERC, the “dominant supplier of delivered gas services to gas-fired generators” in southern California. This convergence merger between SDG&E and SoCalGas has come to be called the “lead case on vertical market power analysis” at FERC.<sup>4</sup>

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<sup>1</sup> FERC, “Inquiry Concerning the Commission’s Merger Policy under the Federal Power Act: Policy Statement, Order No. 592, 61 Fed. Reg. 68,595 (1996).

<sup>2</sup> In the *Enova* decision discussed below, FERC said, “the Merger Policy Statement originally was crafted to apply primarily to horizontal mergers. The Commission’s approach to evaluating the competitive effects of vertical mergers is evolving as the Commission gains more experience with the convergence of gas and electric utilities.” See note 3 *infra*, at III.C.1.

<sup>3</sup> FERC, “Order Conditionally Approving Disposition of Facilities, Dismissing Complaint As Moot, and Denying Request for Consolidation,” Enova Corporation and Pacific Enterprises, Docket No. EL97-15-001 (June 25, 1997), referred to herein as *Enova*.

<sup>4</sup> “FERC Defers to CPUC on Vertical Market Power Remedies,” *Energy Insights*, June 27, 1997.

FERC's analytical framework in *Enova* began with a statement that vertical mergers "increase incentives to use market position in one segment...to adversely affect competition in a regulated segment." For support, it turned to the DOJ 1984 Horizontal Merger Guidelines, as incorporated in the 1997 revision.<sup>5</sup> FERC identified from those guidelines four concerns raised by vertical mergers: eliminating potential entrants, raising barriers to entry, facilitating collusion, and evading regulation. It went on to say that the first two are subsumed in the category of "foreclosure/raising rivals' costs," later defined in *Enova* as "denying rival firms access to inputs or raising their input costs." Regarding the other two, FERC left regulatory evasion to the California Public Utility Commission (CPUC) to assess, arguing that because it was a problem affecting retail rates, it was under CPUC's jurisdiction. Collusion was ignored, since there were no claims that firms at one level were vertically integrating into another to facilitate an agreement to fix prices or allocate markets.

We assess the charge of "raising rivals' costs" below, but here it is useful to observe that that theory is not implied in the DOJ guidelines' categories of "elimination of specific potential entrants" or "barriers to entry from vertical mergers." The former refers to the idea that a vertical (or any nonhorizontal) merger reduces competition because one of the firms in the merger would have entered the other's market but for the acquisition. In *Enova*, this would have been manifested as a concern that but for the merger, SDG&E would have begun competing with SoCalGas in the gas delivery business, or that SoCalGas would have started generating electricity or distributing it in San Diego. No such allegations were made.

The latter concept, "barriers to entry," means that because of the merger, anyone who wanted to enter one market would now have to enter both, since the opportunity to buy from the upstream firm or sell to the downstream firm had been eliminated. Leaving aside the question of whether vertical mergers entail a credible refusal to deal with entrants, FERC did not assert in *Enova* that any likely entrants into one market were deterred because of multistage entry. A "raising rivals' costs" approach might or might not apply, but it would not follow from the DOJ 1984 guidelines on nonhorizontal mergers.

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<sup>5</sup> The reference is to the "Non-Horizontal Merger Guidelines" referenced (electronically) in footnote 4, Chapter 0 of the latest version of the DOJ/FTC Horizontal Merger Guidelines, revised April 8, 1997, at [http://www.usdoj.gov/atr/public/guidelines/horiz\\_book/hmg1.html](http://www.usdoj.gov/atr/public/guidelines/horiz_book/hmg1.html). The nonhorizontal guidelines are available at <http://www.usdoj.gov/atr/public/guidelines/2614.htm>.



Having defined the potential for violations in terms of “raising rivals’ costs,” FERC specifically applied it by first defining upstream and downstream markets along standard product and geographic dimensions. The upstream product was defined as “delivered gas”—presumably gas sold in bulk for use in electric power generation, but possibly including gas sold at wholesale for other purposes, such as redelivery for residential heating. The downstream market was defined as “energy”—presumably electricity, like the market in which SDG&E participates. FERC found that the relevant geographic market for both industries was southern California.

The next step in FERC’s analysis was to assess market concentration. In the upstream market, FERC found that SoCalGas was the “dominant” supplier. Virtually all gas-fired generators (96%) in southern California obtained gas from SoCalGas. Downstream, FERC did not examine concentration in the market for electricity in southern California directly. Rather, it first excluded imports and restricted the universe of firms to those “whose variable cost is equal to or less than 5% of the cost of gas-fired steam generation.” Finding that SoCalGas served 60% of the capacity, and (importantly) treating all such capacity as if it were a single firm for purposes of this analysis, FERC found that the Herfindahl-Hirschman Index (HHI) of concentration would exceed the “highly” concentrated standard in the DOJ/FTC Horizontal Merger Guidelines.<sup>6</sup> If one looks at a broader universe, including the maximum amount of power that could be imported into southern California, FERC found that “generation served by SoCalGas still accounts for more than 30% of the market” and inferred that the “relevant market would be characterized as ‘moderately’ concentrated,” with an HHI above 1,000 and below 1,800.<sup>7</sup>

The last stage in the analysis was to tie this to a vertical story. FERC’s statement in this regard, in its entirety, is

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<sup>6</sup> The HHI is the sum of the squares of the market shares of the firms in the relevant market. If SoCalGas supplies 60% of capacity, and we treat all of that capacity as if it were one firm, then the minimum value the HHI could take would be 3,600, assuming the rest of the market was completely atomistic.

<sup>7</sup> The *Enova* decision does not include the data, but this conclusion may follow because a firm with a 30% share has an HHI of at least 900. If this firm has as much as a 32% share, or if other firms are of significant size, the HHI would go above 1,000. FERC does not say how it knows that the HHI is below 1,800.

The HHI standards for “highly” and “moderately” concentrated reflect at most a prosecutorial inclination regarding priors in guessing the effects of a horizontal merger. They do not reflect robust empirical findings associating concentration with anticompetitive conduct or effects. The likelihood of an actual effect in any specific case depends on a more thorough review of the specific anticompetitive story one believes would follow the merger, plus evidence regarding entry, efficiencies, and potential exiting assets. See Horizontal Merger Guidelines, note 5 *supra*.

On the whole, circumstances in the upstream delivered gas and downstream wholesale electricity markets indicate that the merged company could potentially raise input costs to competing generators, therefore resulting in higher wholesale prices. Under the circumstances of this case, [FERC] believes that the proportion of economic capacity (not including SDG&E) served by SoCalGas is still high enough to effectively limit wholesale power customers' alternatives to economic capacity not served by SoCalGas.<sup>8</sup>

FERC apparently assumes that its concentration analysis is sufficient. It offers no theory of how the merger will incrementally increase the power SoCalGas—designated by FERC as a dominant near monopoly—has over the gas market and, by extension, the downstream wholesale electricity market into which it sells.

Despite its findings, FERC approved the merger, but with conditions. It ordered SoCalGas not to share with SDG&E any information it learns about SDG&E's competitors by virtue of its supply relationship to them. It instituted rules to keep SoCalGas from discriminating against SDG&E's competitors. One rule extended nondiscrimination rules that apply between SoCalGas's pipeline operations and unaffiliated gas marketers to its wholesale electric gas customers as well. FERC also ordered SoCalGas to set up an electronic bulletin board with posted public gas prices and required that SDG&E purchase all its supplies for electricity generation at those prices. Subsequently, SDG&E made the problem moot by selling off its gas-fired generators when California's retail electricity market was restructured.

### ***Subsequent Cases: Dominion and AEP-CSW***

In late 1999, FERC considered the convergence merger of Dominion Resources with Consolidated Natural Gas (CNG).<sup>9</sup> Dominion supplied electricity through its Virginia Power subsidiary in Virginia and North Carolina, and generated electricity throughout the country as well. CNG delivered gas through its pipelines to Dominion and other gas-fired generators and distribution companies in Dominion's service areas as well as other regions of the country.

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<sup>8</sup> *Enova* decision, note 3 *supra*, at III.C.1.d.

<sup>9</sup> FERC, "Order Conditionally Approving Disposition of Jurisdictional Facilities," Dominion Resources, Inc., and Consolidated Natural Gas Company, Docket No. EC99-81-000 (November 10, 1999), herein referred to as the *Dominion* decision.

After finding that the relevant gas and electricity markets were sufficiently concentrated, FERC cited *Enova*, with no further explanation, in its finding that the merger would create incentives to raise rivals' costs and deter entry in electricity markets. As a remedy, FERC ordered Dominion to observe FERC's Standards of Conduct for interstate pipeline operations throughout the merged entity to keep CNG from revealing to Dominion sensitive information about Dominion's competitors. In an attachment, FERC clarified its method for calculating concentration in the downstream market, saying that all generation served by a given supplier should be treated as a single firm, with "reasonable attribution" of a generator's capacity if it purchases fuel from multiple suppliers.

Five months later, FERC dealt with another vertical merger, although not a convergence merger, involving American Electric Power (AEP) and Central and South West Corporation (CSW).<sup>10</sup> Both are vertically integrated electricity companies, providing generation, transmission, and distribution. AEP's operations stretched from Michigan to Tennessee and Virginia, and CSW served customers in the southcentral United States. Although this deal did not involve gas, FERC applied the *Enova* and *Dominion* reasoning and treated electricity transmission as the upstream market. FERC determined that an adequate remedy would be for AEP and CSW to vest control over their transmission lines within a FERC-approved Regional Transmission Organization (RTO), designed to ensure that transmission grids do not favor affiliated generators in providing access.<sup>11</sup>

The adoption of the RTO remedy confirms that the crucial issue here was not raising rivals' costs but evasion of regulation—a risk that comes with crossing the boundary between regulated and unregulated firms. In such cases, a regulated monopolist (here, transmission) may have the incentive and ability to exploit its otherwise constrained market power by using its control over access to create an artificial competitive advantage for its affiliates in the related vertical market (here, generation).<sup>12</sup> The theory came to prominence in telecommunications,

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<sup>10</sup> FERC, "Opinion and Order Reversing in Part, Affirming in Part, Vacating in Part, and Modifying in Part the Initial Decision," American Electric Power Co. and Central and South West Corp., Docket No. EC98-40-000 (March 15, 2000), herein referred to as the *AEP-CSW* decision.

<sup>11</sup> FERC set out the standards for RTOs in its "Regional Transmission Organizations," Order No. 2000, Docket No. RM99-2-000 (December 20, 1999), at <http://www.ferc.gov/news/rules/pages/RM99-2A.pdf>.

<sup>12</sup> T. Brennan, K. Palmer, et al., *A Shock to the System* (Washington, DC: Resource for the Future, 1996), particularly chapter 5.

rationalizing the separation of competitive long-distance telecommunications from regulated monopolies.<sup>13</sup>

The role of regulation in this theory is crucial, since without it, the monopolist could exploit its monopoly power without having to integrate vertically. In this case, it was not clear how this merger would increase incentives for either AEP or CSW to exploit its control over transmission grids, since they were vertically integrated prior to the merger.<sup>14</sup> Forcing AEP and CSW to assign their transmission grids to an RTO may be good policy, but that would be so irrespective of the merger.

## Why Be Concerned about Vertical Theories

### ***Market Power: Horizontal, Not Vertical***

The foremost reason to be concerned with vertical theories is that the phrase “vertical market power” is an oxymoron. Market power is essentially a horizontal, in-market phenomenon. It stems from the elimination of independent providers of *substitutes* through collusion, contract, or merger. Vertical mergers eliminate independent providers of *complements*, which by definition occupy separate markets. In principle, these mergers leave competitive circumstances—such as market concentration, scale economies, and the competitive interaction—in the separate markets unaffected.

Most vertical integration reflects a “make-buy” decision, based on whether the benefits of coordinating production within an organization are greater or less than the benefits of purchasing inputs or selling outputs into the market. Benefits of coordination include the potential for reduced monitoring costs, greater ease in aligning incentives with desired outcomes, and reducing the potential for opportunistic exploitation of specific commitments between buyers

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<sup>13</sup> See, e.g., T. Brennan, “Is the Theory behind *U.S. v. AT&T* Applicable Today?” *Antitrust Bulletin* 40 (1995): 455–82.

<sup>14</sup> In a dissent, FERC Commissioner Curt Hébert said that the majority offered no analysis to show how this merger would exacerbate whatever anticompetitive incentives existed prior to it. An argument on the other side would be that the merger would give AEP or CSW (or both) more generation that could capture inframarginal rents if it were able to discriminate against unaffiliated power producers in providing access to its transmission grid. Some of the analysis cited in this decision seems to support this possibility. *AEP-CSW* decision, note 10 *supra*, at text accompanying note 19.

and sellers. These benefits can be reaped even if firms at one level or the other in a vertical merger possess market power.

According to the simple (some might say “simplistic”) “single monopoly profit” story, when market power exists at only one level, the firm holding that market power, according to the simple story, can exploit that power through reduced output, higher prices, and perhaps price discrimination. Vertical integration does not make matters worse. If market power exists at both levels, a vertical merger can eliminate double marginalization—that is, the problem that firms raising prices separately in a vertical chain do not internalize the loss in profits that such price increases impose on others. Eliminating double marginalization through merger not only increases both firms’ profits but also reduces prices to final consumers as well.

Commentators have identified numerous possible exceptions to this simple story.<sup>15</sup> With some thoughts on overall significance and relevance to convergence mergers, the list of exceptions includes the following:

*Variable proportions.* A classic argument is that an upstream monopolist cannot capture all the monopoly profit available in the production chain if the downstream firms can substitute away from its product. For vertical integration to lead to greater monopoly, the upstream firm must go beyond vertical integration and buy up firms selling to a substantial share of the downstream market. That set of acquisitions would likely (if not necessarily) constitute an anticompetitive merger of the downstream firms, regardless of the vertical integration. In addition, when there are variable proportions, vertical integration can prevent inefficient substitution away from the monopolized upstream product. In convergence mergers, the question is moot, because gas is used in fixed proportions with electricity output. Hence, a gas monopolist could extract the monopoly profit available from a cartel of the gas-fired generators.

*Price discrimination.* Vertical integration could also facilitate price discrimination by the upstream monopolist. For example, it might make it easier for the firm to distribute its product to downstream firms with lump-sum fees followed by unit prices equal to marginal costs. Because price discrimination can promote efficient allocation, its net effects on economic welfare are usually ambiguous.

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<sup>15</sup> For a useful review, see S. Salop, “Vertical Mergers and Monopoly Leverage,” *New Palgrave Dictionary of Law and Economics* (New York: Palgrave, 1988).

*Regulatory evasion.* Vertical integration can clearly be harmful when it crosses the boundary between regulated and unregulated operations. A regulated monopolist could tie the unregulated product to its regulated service by denying competitors in the former market ready access to the latter. The regulated firm also may be able to boost regulated rates by misallocating costs of the unregulated service to the revenues that regulated ratepayers must cover, or by selling itself inputs at inflated prices.<sup>16</sup> This concern has been at the core of antitrust practice, most notably in forcing AT&T to divest its regulated local telephone monopolies in 1984. As noted above, it also underpins policies to impose at least functional unbundling, if not full separation, of generation from transmission and distribution. As we show below, regulatory evasion is a stronger justification than “vertical market power” for FERC’s convergence merger concerns in *Enova*.

*Changing the game.* Since the 1980s, game theoretic approaches to industry behavior have emphasized the role of timing, strategic variables, information asymmetries, repetition, learning, and credibility of commitments in determining prices and outputs. This has led to an explosion of models in which varying any of those factors changes the market outcome. When vertical integration changes those factors—for example, by making certain commitments credible or by changing the timing of “moves”—detrimental effects could follow. Whether vertical integration is necessary often remains an open question; some models might be thought of as putting the game-theoretic rabbit in the vertical integration hat. More important in the convergence merger context, these models tend to be very sensitive to specific contexts. The analyses in *Enova* and *Dominion* neither identify such a model nor approach the detail necessary to validate the assumptions behind any such model.

*Changing marginal incentives.* One possibility, related to the “raising rivals’ costs” arguments we consider below, is that the incentive for an upstream firm to exercise market power over its customers might increase if it could capture some of those profits. This idea, if valid, pertains to whether an upstream firm’s market share is large enough to warrant the exercise of market power. It might apply to a merger of upstream firms if one or both were vertically integrated, perhaps leading one to adopt a somewhat stricter standard for approval. This argument does not seem to apply here, however, since SoCalGas’s upstream market share is given and there is no argument that its “near-monopoly” status crosses the line of concern only

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<sup>16</sup> See Brennan, note 13 *supra*.

because of vertical integration. It is doubtful whether merger enforcement can be fine-tuned to address some small range of market shares if, and only if, vertical integration is present.

*Breaching contracts.* This, too, is a variant on the “raising rivals’ costs” idea. Suppose that a downstream firm is locked into a particular upstream firm. In a convergence merger, a situation might be that a generator picked a supplier and then had built a pipeline to it, and unable to switch suppliers without incurring the cost of building a second pipeline. In such cases, one would expect the generator to have a long-term contract with the gas supplier to prevent opportunistic exploitation of the locked-in commitment. Then, suppose the gas supplier merges with one of the locked-in generator’s competitors. It could have an added incentive to breach the contract or otherwise exploit the lock-in, since putting the locked-in generator at a disadvantage will benefit the new generation partner. While possible, a theory based on postcontractual opportunism was not invoked in *Enova*. A question beyond the scope of this paper is whether antitrust-related regulation or contract law would be a better venue to deal with any breach brought about by such a vertical merger.<sup>17</sup>

### ***Raising Rivals’ Costs***

The rationale explicitly used by FERC in its decisions is “raising rivals’ costs” (RRC). In evolving over the years, this theory has become a moving target. It originated in the early 1980s as an attempt to devise a general theory holding that dominant firms in a market would increase their power by making it more expensive for their competitors to serve their markets.<sup>18</sup> Shortly thereafter, it changed into a catalogue of practices having in common a broad range of vertical practices that facilitate collusion or perhaps exclude rivals.<sup>19</sup> Its next manifestation, in 1990, was as a specific game theoretic model in which vertical integration by one upstream and one downstream firm would raise prices by forcing other downstream firms to deal with a more

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<sup>17</sup> We might leave issues of monopoly rents to the antitrust laws that were designed to handle them, and postcontractual quasi-rent exploitation to contract law. Conflating antitrust with contract law also introduces a bias, in that breach awards are based on actual damages, but antitrust awards are based on treble damages. This bias may have contributed to the lack of clarity and focus on competition in the evolution of antitrust.

<sup>18</sup> S. Salop and D. Scheffman, “Raising Rivals’ Costs,” *American Economic Review* 73 (1983): 267–71.

<sup>19</sup> T. Krattenmaker and S. Salop, “Anticompetitive Exclusion: Raising Rivals’ Costs to Achieve Power over Price,” *Yale Law Journal* 96 (1986): 209–93.

concentrated upstream market.<sup>20</sup> In recent years, the focus has been on the use of vertical mergers and contracts to foreclose competitors' access to necessary inputs.<sup>21</sup>

Whatever its stripe, RRC depends on an economic truism: To raise a firm's costs, one has to raise the price it pays for an input. This requires the acquisition of market power over that input. "Exclusion" or "foreclosure" requires that one has tied up the market for an input needed by (those who happen to be) rivals. Moreover, tying up that market is sufficient to violate the antitrust laws because it constitutes monopolization of the market for that input. Consequently, one can treat vertical RRC theories as horizontal theories of input market monopolization. One could focus on the input market tied up by the downstream firm through vertical integration or exclusionary contracts using conventional Horizontal Merger Guidelines analysis, as if those input providers had merged.

The vertical perspective of RRC may be useful in defining that market, in that the ability of the acquirer of input market power to raise prices depends on the degree to which the buyers would be willing to switch to other inputs. A unilateral vertical story can fill in the requirements in the Horizontal Merger Guidelines for a specific theory of anticompetitive conduct. Damage calculations may depend on how the acquired power was exercised.

Although a vertical perspective can be useful, adopting a vertical framework when a horizontal one will suffice for determining antitrust liability brings considerable risk of both attacking benign mergers and excusing harmful ones. The traditional criticism is that because vertical integration and restraints reach across markets, they do not create additional competitive problems without an incremental horizontal component.<sup>22</sup> Competitors may be hurt, but the process of competition, including reducing costs through adopting new organizational structures,

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<sup>20</sup> J. Ordover, G. Saloner, and S. Salop, "Equilibrium Vertical Foreclosure," *American Economic Review* 80 (1990): 127–42. For a criticism of this model, particularly in the purported artificiality of its commitment structure, see D. Reiffen and M. Vita, "Is There New Thinking on Vertical Mergers? A Comment," *Antitrust Law Journal* 63 (1995): 917–41.

<sup>21</sup> M. Riordan and S. Salop, "Evaluating Vertical Mergers: A Post-Chicago Approach," *Antitrust Law Journal* 63 (1995): 513–68. This is the only vertical analysis study cited by FERC in *Enova*, note 3 *supra*, at note 45, and only for the proposition that the Justice Department's theories of "eliminating potential entrants" and "barriers to entry" are subsumed under "raising rivals' costs." As we saw above, whatever the merits of "raising rivals' costs" as a theory, this equivalence is incorrect.

<sup>22</sup> The standard reference is R. Bork, *The Antitrust Paradox: A Policy at War with Itself* (New York: Basic Books, 1978), Chapter 11.



typically puts some competitors at a disadvantage.<sup>23</sup> An RRC approach risks thwarting the reform of antitrust that, since 1970, has been to focus attention on protecting competition and the resulting low prices, rather than protecting competitors by possibly handicapping more efficient firms.<sup>24</sup>

But RRC can also lead courts and authorities to ignore harmful input market monopolization. By telling a vertical story, it focuses attention on the downstream market rather than the upstream input market, where the market power is being created. RRC also creates an expectation that the downstream firm is in a position to be a monopolist, adding an unnecessary condition to the analysis. Regulators might ignore entry conditions in the crucial market and not act to halt an anticompetitive practice because this superfluous condition is not met.

In one actual example, the Department of Justice chose not to investigate a claim that Miller and Budweiser had bought up exclusive rights to advertise on televised sports, because there was no evidence that those two firms were in a position to be predators in the beer market. But their position in the beer market is irrelevant—the only important consideration is whether they had acquired a monopoly share in the market for television advertising space that beer companies would want. *Anyone* tying up that market would create a competitive problem, even if it had *no* share of the beer market.<sup>25</sup> At least in this case, the vertical focus in RRC led authorities to look at the wrong market, where concentration and entry conditions were irrelevant. An input market monopolization approach would have avoided that mistake.

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<sup>23</sup> A recent and prominent case on the other side of this debate was *Eastman Kodak v. Image Technical Services, Inc.*, 504 U.S. 451 (1992), in which the Supreme Court allowed ITS to sue Kodak after Kodak adopted a policy of providing repair parts only to Kodak repair shops. This decision is controversial on many levels. First, it goes against the idea that Kodak can extract whatever market power inheres in its parts by charging high prices to independent dealers, implying that the vertical integration likely had some efficiency motivations. Second, the case required that the courts define a market in “repairing Kodak copiers,” rejecting the idea that the meaningful competition in this industry is among copier companies themselves, one dimension of which is repair services. Third, if ITS depended on access to Kodak parts, it could or should have protected that access via contract. If ITS was wronged by Kodak’s decision, it could sue for breach of an actual or implied contract to continue access to Kodak parts at reasonable prices.

<sup>24</sup> A colleague once defined the First Theorem of Antitrust thus: “If a competitor complains about something, it must be good.” RRC risks reducing the force of that “theorem” in antitrust practice.

<sup>25</sup> For more detail, see T. Brennan, “Understanding Raising Rivals’ Costs,” *Antitrust Bulletin* 33 (1988): 95–113.

## Getting Convergence Mergers Right: The Three-Step Horizontal Approach

### *“As If” Horizontal Merger and Incremental Control*

The theoretical and practical problems with the vertical approach in general and RRC in particular do not mean that convergence mergers are never anticompetitive. A merger could change the incentives of the gas partner to raise the price it charges for gas. But what we want to know is how much those incentives have changed, above and beyond whatever market power the gas company had in the first place.

To find an effective and accurate approach to convergence mergers, we can return to the traditional horizontal perspective, by asking to what extent such a merger approximates a horizontal merger. Suppose that our focus is on the downstream electricity market. We would begin our inquiry asking what the postmerger situation would be if the acquiring electric generator merged with the acquired gas generation company’s customers.<sup>26</sup> That such a merger would create a problem is not sufficient. One would then have to ask how owning this gas supplier enables the acquiring generator to control the price or output of the gas supplier’s customers, as if there in fact had been the hypothesized direct horizontal merger of the acquiring generator and those customers.<sup>27</sup>

One could ask similar questions if the concerns were directed upstream of the merger; that is, the exercise of monopsony power against the sellers of gas to the gas suppliers rather the

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<sup>26</sup> We refer here to the electric generator as the acquiring company and the gas company as the acquired company, largely for convenience and to focus on the potential anticompetitive harms in the electricity market. If the convergence merger is profitable, whether for competitive or anticompetitive reasons, one would expect it to occur regardless of who initiated the deal or ended up running the company afterward. Those facts may matter in terms of how the gains are divided, but they are immaterial for our purposes.

<sup>27</sup> A stark example would be if Ford were to acquire not General Motors per se but its board of directors. This would not be a direct horizontal merger: Ford would not be acquiring GM’s production assets. But the merger would allow Ford to control GM’s output and pricing as if it had acquired the assets directly. The seed for this step in the analysis was planted in a conversation with Jonathan Baker.

For an interesting analysis of the general question of how one can acquire control through something other than a horizontal merger—in this case, horizontal joint ventures—see S. Salop and D. O’Brien, “Competitive Effects of Partial Ownership: Financial Interest and Corporate Control,” *Antitrust Law Journal* 67 (2000): 559–614. One notable finding is that if a firm acquires control over a competitor without a financial interest, it will have more of an incentive to reduce that competitor’s output than if it merged. In the extreme, it could shut the firm down altogether, at no cost to itself (because it has no financial interest). Presumably, the original owners of the competitor, who begin with both financial interest and control, would not relinquish control without substantial compensation.

exercise of monopoly power against the purchasers of electricity from the generators. In such a case, one would begin by considering the consequences of a direct horizontal merger of the acquiring gas supplier in the convergence merger and the gas companies that supply the acquired generator. The “control” question would now be whether owning the electric company would permit the acquiring gas company to control output of those gas suppliers by reducing gas purchases from the acquired generator.

The analysis is not yet done. Finding both concentration and control with an “as if” horizontal merger of the generator partner with the gas supplier’s customers (the downstream monopoly case) or of the gas partner with the electric generator’s suppliers (the upstream monopsony case) is not sufficient to indicate a competitive problem. The convergence merger *need not have added* to the effective control the convergence merger partners had prior to the merger. In the downstream monopoly case, the gas supplier may already have had market power derived from its ability to increase gas prices, because its customers collectively (but not collusively) dominated the electricity market.<sup>28</sup> In the upstream case, the generation company may have been able to profit from monopsony power over gas suppliers if reducing its purchases of gas would drive down wellhead prices, and thus the price it pays for delivered gas.

In either case, what we need to know is whether the added vertical control matters—that is, does the merger add to market power already present? The crucial question is whether the generation partner in a convergence merger was a customer of the gas supplier prior to the acquisition. Perhaps counterintuitively, a convergence merger is more likely to reduce competition if the gas supplier and generation company had less to do with each other prior to the merger. Consider the downstream monopoly case. If the gas company is supplying the generation company, it already has whatever power it is going to have over the price and output of the downstream generators. It can exploit whatever market power those generators have downstream by raising the price of its gas. Only if a prior buyer-seller relationship between the generator and the gas supplier is lacking can a convergence merger increase horizontal control and, hence, market power that can be exercised against electricity users or gas producers.

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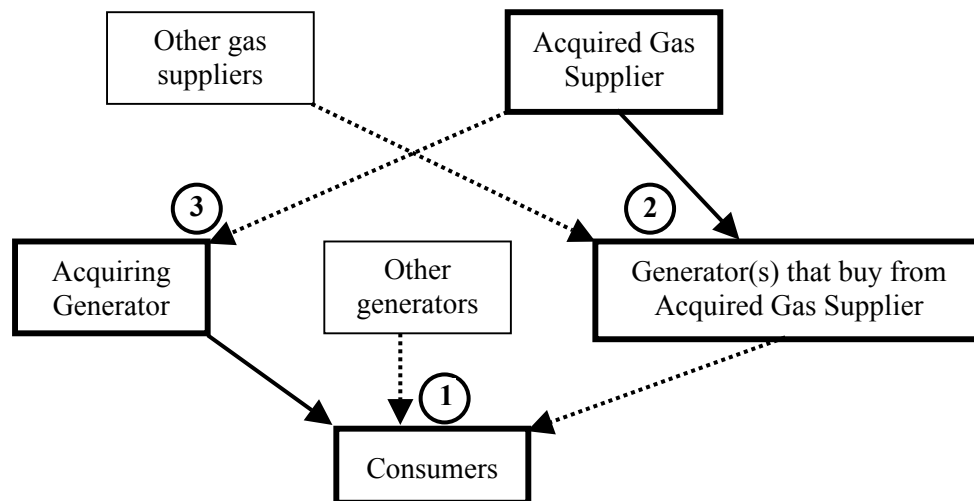
<sup>28</sup> In the Ford-GM example, note 27 *supra*, the analogue would be that a “merger” of Ford with GM’s board of directors would have no additional effect on the automobile market if GM’s board already controlled Ford’s output and prices as well as GM’s.

**The Three-Step Test: Diagram and Implementation**

The discussion in the preceding section leads to a three-step test for analyzing convergence mergers to see whether they lead to anticompetitive effects. For a convergence merger where exacerbating downstream market power is at issue, the three steps are as follows:

1. Would a merger of the electric utility and the gas company’s utility customers constitute an anticompetitive share of a relevant electricity market? If no, stop. If yes, continue.
2. Does the gas company already have market power in supplying gas to those generators in the relevant electricity market that buy from it? If no, stop. If yes, continue.
3. Is the gas supplier the dominant fuel supplier for the acquiring electric company?

For the case of a convergence merger that could increase market power exercised downstream against electricity users, the three steps in the analysis are illustrated in Figure 1.



**Figure 1: Three Steps of Convergence Merger Analysis**

The boxes with heavy lines refer to parties present in the merger, and the dark arrows refer to initial relationships with which the analysis begins. The lighter boxes and dotted lines

refer to possible parties the presence of which would affect the competitive analysis. The circled numbers refer to the steps and indicate the questions they address.<sup>29</sup>

### **Step 1. Assessing the Downstream Market**

In the first step in the analysis, the focus is on the relevant market for selling electricity to consumers, as indicated by Circle 1 in the diagram.<sup>30</sup> The first question is whether the merger of the electric generator and the gas company's utility customers constitutes an anticompetitive share of a relevant electricity market. To answer this question, we need first to show that the generator and those customers are in the same relevant market; that is, that consumers purchase from both or at least view them as substitutes. We would verify that the dotted line in Figure 1 between the generators supplied by the acquired gas company and the consumers is active.

If it is, one then conducts a test, perhaps as prescribed by the DOJ/FTC Horizontal Merger Guidelines, to see whether these firms together would have a substantial share of this electricity market. The box "Other generators" represents the possibility that consumers could get electricity from other generators, either locally or through imports from those in other areas.<sup>31</sup> If concentration measures are useful, one would calculate the HHI as if the acquiring generator were buying the generators who purchase from the acquired gas company, but other generators would remain independent actors—that is, with no additional aggregation. In electricity, important aspects of market definition should include the possibilities that the combined firms in the heavy boxes may have market power over only a relatively small share of the market, because of inelastic demand for electricity and inelastic supply from competing generators.<sup>32</sup> A second consideration is that local markets may be smaller and concentration greater during peak

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<sup>29</sup> A mirror image of the picture and the following analysis would apply in the monopsony case.

<sup>30</sup> By "consumers" here, we mean buyers of electricity. Depending on the nature of the market, consumers could include retail residential, commercial, and industrial buyers, or load-serving entities buying at wholesale.

<sup>31</sup> Following the Guidelines, one would investigate whether market power would likely be exercised unilaterally or through collusion with other generators, the likelihood of entry, the size of countervailing efficiencies, and the possibility that some of the generators would shut down but for the merger. DOJ/FTC Horizontal Merger Guidelines, note 5 *supra*.

<sup>32</sup> David Hunger has emphasized this point in his analysis of FERC's method for analyzing convergence mergers. D. Hunger, "Gas and Electric Convergence Mergers: A Supply Curve Is Worth a Thousand Words," Center for Research in Regulated Industries, Rutgers University, 19<sup>th</sup> Annual Conference on Advanced Regulatory Economics, Bolton Landing, New York (May 26, 2000).

demand periods, if transmission lines become congested and unable to handle imports that would otherwise limit the ability of these generators to collectively raise the price.

### ***Step 2. The Gas Company's Control Over Its Customers***

If this first step suggests that a direct merger of the acquiring generator and the acquired gas supplier's customers would not present a competitive problem, the convergence merger would not lead to the exercise of additional market power against electricity consumers in the relevant market. If, on the other hand, such a merger does merit more scrutiny, we move to the second step in Figure 1. Step 2 asks whether the acquired gas supplier effectively controls the prices and output of the generators to which it sells, *other than the acquiring company*. Those generators are indicated by Circle 2 in Figure 1. (We explain why we exclude the acquiring company from the calculation in the third step.) Such control is necessary for the acquiring electric generator to control its competitors' prices by raising the price of gas sold by the acquired gas company.

Since electricity production uses gas in essentially fixed proportions, the fundamental consideration here is whether the acquired gas company has market power over sales to that set of generators. This is why Circle 2 is positioned only over those generators. Again, the Horizontal Merger Guidelines indicate how to determine who is in the relevant market for selling gas to these generators. We would want to find out if there were other gas suppliers, as indicated in the diagram, that would sell to the acquired gas company's customers if the price of gas rose. There may not be if, for example, the generators depend on the one gas supplier's pipelines. If there were other gas suppliers, we would ask whether they were already locked in to other customers by long-term contracts, although if the price to the acquired gas supplier's customers rose enough, the buyers in these contracts could be paid off to allow sales into that newly lucrative market.

The market for sales to the acquired gas suppliers' customers need not be the same market we would use in assessing a horizontal merger in the gas market. Absent a merger that creates power in the electricity market of the sort we are talking about, the gas suppliers to those generators may not be able to raise the price of gas by a significant amount. Their customers might lose too much business to competing generators if they tried to pass those higher gas costs along in higher rates. Consequently, the acquired gas company may have more power over sales to its customers than might appear from an antitrust analysis of the gas market. Looking at the market as a whole could understate the competitive risks posed by the convergence merger. On

the other hand, if the acquired gas company sells proportionally more to the acquiring generator than it does to other generators, its share of the overall market will exceed its share of the market to those generators. Measures of concentration in that case could lead to an overestimate of the ability of the acquired gas company to control the prices and output of the generators to which it sells.<sup>33</sup>

With that information, one could construct an HHI or other concentration index of gas suppliers to those customers of the acquired gas company. However, an HHI may not be the relevant measure. The specific concern in a convergence merger is the ability of just one company, the acquired gas company, to control supply to its customers. It is not the market-wide phenomena of either explicit collusion or oligopolistic setting of price above marginal cost that matter here. We are more concerned with the unilateral market power of the acquired gas company—its share of the market.

### ***Step 3. Prior Dealing Between The Merging Parties***

If the acquired gas company does not dominate the supply of gas, the convergence merger would not give the acquiring generator significant ability to raise the prices of competing generators by raising gas prices, since those generators could turn elsewhere. But if the acquired gas company does have market power over its generators,<sup>34</sup> we move to the third step in the analysis: Is the gas supplier the dominant fuel supplier for the acquiring electric company? Step

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<sup>33</sup> A situation could arise in which a set of gas companies that compete against each other in separate areas and have separate facilities could be seen as selling in a geographic market comprising the union of all those areas. The proportion of business any one firm has in one of those areas, and the level of market concentration in that area, can be smaller or larger than the average over all of them. If the facilities are separate, however, a gas company may not be able to economically divert its sales from one area to another if the price in the latter increases. Thus, the relevant market may be a single area. Measures based on the union of the areas could overstate or understate concentration and the ability of the acquired gas company to exert market power over its particular customers in a narrow geographic market for electricity.

<sup>34</sup> Note that we are not talking about market power created because the generators are locked into this particular customer by contract. One would expect such contracts to prevent the gas company from acting opportunistically against its customers. Such contracts would presumably limit the degree to which the gas company could raise prices to these customers after the merger, unless it has long-run market power over them, not just power created because of contractual lock-in.

As noted above, if contracts between the acquired gas company and its generators are incomplete, leaving some room for opportunism, one may then ask whether any resulting problems should be settled through antitrust-like regulation from FERC or contract law. See note 17 *supra*.

3 asks to what extent the dotted line in Figure 1 between the acquired gas supplier and the acquiring generator, indicated by Circle 3, reflects premerger selling by the former to the latter.

The incremental anticompetitive effect of the merger is inversely related to the dealings between the acquiring and acquired firms. If the acquired gas supplier is the sole supplier to the acquiring generator, and the generator has no other options, then the gas supplier already can exercise effective control over that generator's prices and output. The convergence merger does not make matters worse. The anticompetitive potential is greatest if premerger control was nonexistent—that is, if the acquired firm did not purchase from the acquired gas company, or if the acquired gas company had no market power over the acquiring generator because the latter had access to other gas companies.<sup>35</sup>

If the answer in step 3 is no, the convergence merger is more likely to be problematic. As a consequence, it is more likely to be anticompetitive the less it is strictly vertical. Because this may be counterintuitive, an example may help. Imagine that a generator in Oklahoma competed with generators from Nebraska to sell electricity in those two states. First, suppose that all the generators in both states got their gas from a single gas supplier that served both states. That gas supplier is already able to set the price of electricity through the price it sets for natural gas. Next, suppose that the generators in each state got their gas from a gas supplier that operated only in that state. If the Oklahoma generator acquired the Nebraska gas supplier, it would then effectively unify control of the generation it already owns with that operating in Nebraska, thus allowing it to exercise market power across the two states as if it had merged with the Nebraska generators.

### **Application to *Enova***

By the above framework, did FERC's analysis lead to a correct decision in *Enova*?

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<sup>35</sup> Vertical integration of the gas company with the generators it supplies could increase its ability to capture the rents those generators might earn from an increase in electricity prices, and thus change its incentive to raise gas prices. However, if that gas producer has market power over the generators already, it can capture some if not all of these rents already through higher gas prices.



### ***Step 1. Assessing the Downstream Electricity Market***

The first step is to identify the relevant electricity market and assess concentration within it. This is probably the most intuitive step, and FERC's analysis here was correct in most but not all respects. FERC correctly treats SoCalGas's electricity customers as one firm in its assessment of market calculation, and infers market concentration from that alone. One must take the relevant geographic market into account, but it appears from the *Enova* decision's eventual recognition of imports that that was done.

But aggregating SoCalGas customers into a unified whole is not sufficient to characterize properly the effect of the convergence merger. The analysis did not consider how the convergence merger would increase concentration in this market, specifically by adding SDG&E to that aggregation.<sup>36</sup> For concentration not to increase, SoCalGas must either already sell to SDG&E, or SDG&E must not be in the same market as SoCalGas's customers. If the latter, the merger has no competitive consequences in a downstream electricity market. If the former, the convergence merger does not increase the effective control of the electricity market held by SoCalGas that SDG&E could exercise, as we see when we consider the third step.

### ***Step 2. SoCalGas's Control Over Its Customers***

We next ask whether SDG&E could control the output of its competitors by owning SoCalGas. If SoCalGas's customers could get gas from others at comparable prices, SoCalGas would have no control that SDG&E could exercise through the convergence merger. To address this, we need to focus on the market in sales of gas to the customers served by SoCalGas.

FERC's approach was to look at the entire gas market, not just SoCalGas's customers. One would expect that concentration in the relevant market would be the same as concentration faced by SoCalGas's customers. But as we saw above, this is not always the case. The relevant geographic markets for gas may not be the same as the relevant geographic markets for electricity produced from that gas.

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<sup>36</sup> In the attachment to its *Dominion* decision, FERC specifically and incorrectly says that changes in concentration are irrelevant to the analysis of convergence mergers.

*Dominion* also appears to say that other generators should be aggregated by fuel supplier (or perhaps type of fuel) as well. This was not necessarily claimed in *Enova*; and if so, it would be incorrect. Absent a theory that the convergence merger was facilitating collusion among fuel suppliers, the generators would remain independent competitors following the merger and thus should not be aggregated.

Recall that a relevant geographic market is one just large enough for the firms in it to be able to raise prices profitably.<sup>37</sup> SoCalGas might not dominate the geographic market we would consider were it merging with another gas company. As noted above, the derived demand for gas from a small market might be too elastic to sustain a price increase because the underlying generation market is broader and competitive. But since the issue here is whether SoCalGas could control its producers in a noncompetitive electricity market (Step 1), we should consider sales of only the gas producers from which the target generators purchase. In that contest, SoCalGas could have more market power than the simple, direct concentration measure would indicate.

Hence, it is possible that a gas supplier would dominate the market we would consider relevant for a convergence merger, yet have a small presence in the relevant market for a horizontal merger. One could excuse troublesome mergers if SoCalGas were not dominant overall, but those to whom it did sell could not readily switch to competitive suppliers. From the information in the decision, it appears FERC probably reached the right conclusion (if fortuitously), that SoCalGas dominates the market for sales to its customers. But if the acquired gas company does not supply the acquiring generator, as would be the case in the most troubling convergence mergers, the dominance of the acquired company in the market as a whole has to be below that in the market in sales to only its customers. FERC's approach here is, if anything, more lenient regarding convergence mergers.

### ***Step 3. Prior Dealing Between The Merging Parties***

This is the step that FERC missed. Any leeway it might allow in a marketwide measure of concentration or dominance of the acquired gas supplier pales beside it. According to the *Enova* decision, SoCalGas was already selling to SDG&E, and there was no indication that SoCalGas's dominance over SDG&E was not at least as great as that over SDG&E's competitors. Accordingly, SoCalGas already exercises as much control over the electricity market as it would after a merger with SDG&E. It may already favor or disfavor one or another set of generators, perhaps selling favorable treatment in exchange for a lump-sum payment. The

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<sup>37</sup> According to the Horizontal Merger Guidelines, this is known as a SSNIP—a small but significant nontransitory increase in price, often taken to be 5% to 10% over a year.

error here is simply that FERC's decision was based on only an unsubstantiated assertion that mergers of dominant firms in vertically related markets necessarily make a bad situation worse.

## Rescuing *Enova*

### *Regulatory Evasion*

For reasons apparently related to jurisdiction, FERC declined to pursue theories based upon regulatory evasion.<sup>38</sup> However, regulatory evasion may well have been the strongest argument to invoke in *Enova*. According to the decision, SoCalGas's delivered gas services were regulated,<sup>39</sup> and both the intervenors and FERC argued that SoCalGas held a "near-monopoly" in those services. If that regulation involved price, then SoCalGas would have an incentive to integrate vertically by merging with SDG&E, if it could then discriminate against SDG&E's competitors in such a way as to allow SDG&E to charge its customers a premium relative to the prices of its competitors. Such discrimination would, in effect, allow SoCalGas to capture some of the profits otherwise limited by regulation, through sales of SDG&E electricity at that premium.

Finding that SoCalGas is a regulated monopolist need not lead to a decision against the merger. Whether such discrimination is possible was a matter of dispute. The merging parties contended that SoCalGas's intrastate pipeline operations were regulated to preclude discrimination, although that left aside the regulator's ability to monitor and enforce compliance. In addition, although SoCalGas's pipeline operations are regulated, if its delivered gas prices are not, it may already have been able to extract the monopoly value of its pipeline. To do so, it would have to have been able to discriminate against unaffiliated gas shippers and sell the gas itself at a monopoly premium reflecting the market power inherent in its pipelines.<sup>40</sup>

Finally, at the time of the acquisition, SDG&E's retail rates were also regulated. The merger's opponents contended that the regulation would allow SDG&E to pass along higher gas

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<sup>38</sup> *Enova* decision, note 3 *supra*, at note 47.

<sup>39</sup> *Id.*, at III.C.1.b.i.

<sup>40</sup> The *Enova* decision included a claim by the intervenors that SoCalGas can "manipulate the price of delivered gas" to SDG&E and its competitors. *Id.*, at text accompanying notes 15, 16.

prices to its electricity customers.<sup>41</sup> This variation on the regulatory evasion argument is that by vertically integrating, SDG&E evades the regulatory constraint on electricity rates by vertically integrating and selling itself an input, gas, at above-market rates. Ironically, introducing this theory hurts the intervenors' case. It requires that SoCalGas be not regulated while SDG&E have the regulated monopoly. Both this theory and the above theory cannot simultaneously hold. If neither SoCalGas nor SDG&E is regulated, each can exploit its market dominance already. If both are regulated, neither has the ability to raise prices, whether or not they are vertically integrated.

FERC may have been reluctant to invoke those arguments because the prices likely to be affected are the retail electricity rates Californians would pay, which are not directly under its jurisdiction. Another possibility is that it may not have understood that discrimination in access to a regulated service and inflated self-dealing prices *are* forms of regulatory evasion. Discrimination is simply a way of tying an unregulated service to a regulated one, so the price of the former can include the monopoly premium for the latter that regulation otherwise precludes. Self-dealing at inflated prices is a way to get a regulator to raise prices on the basis of artificial costs, thus allowing the regulated firm to capture more of the monopoly profit. A better understanding of the inherently regulatory nature of these theories might have made "regulatory evasion" a more attractive basis for FERC's decisions.

### ***Sharing Information***

A final theory mentioned but not elaborated in the *Enova* and *Dominion* decisions is that a convergence merger raises problems because the electric company will learn competitively sensitive information about others in its market. The conduit for this information would be the acquired gas company. Although the decisions do not give specifics, the idea is that a generator's fuel suppliers would learn its customers' otherwise private information about marketing plans when they sign contracts, schedule deliveries, and place spot orders for fuel purchases. If the gas supplier is bought by a competitor of its customers, that competitor will now have access to this information.

Two situations would justify concern about such information sharing. A first is that all the generators together could share information to facilitate collusion in setting electricity

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<sup>41</sup> *Id.*, at text accompanying note 26

prices.<sup>42</sup> The shared information could reveal that one firm is cheating on an electricity cartel by additional discounted sales if its gas purchases, hence its output, rose unexpectedly. But if the upstream gas supplier was already a monopoly, as asserted in *Enova*, industry profits would fall with a successive monopoly in electricity because of the adverse effects of double marginalization. In addition, were the convergence merger to facilitate collusion, one would expect the customers of SoCalGas to support rather than oppose it.

A more plausible concern is that the acquiring electric company—in this case, SDG&E—would gain access to information that SoCalGas’s other customers would rather it not have. The economic problem here is akin to the basis for intellectual property rights. If the other generators believe that their proprietary information on market developments and the profitability of particular initiatives would leak to a competitor, they will have less incentive to be entrepreneurial. A necessary condition for this concern is the second of the three steps given above—that the gas supplier in the convergence merger have market power over its generators. Otherwise, those generators could turn to another supplier who would protect the information. Under this theory, the third step in the horizontal convergence merger analysis would not be necessary, if one believed that information would leak to SDG&E only if it owns SoCalGas but not if it just buys from SoCalGas.

If SoCalGas is the dominant firm in the entire market, then it already has this information, plus the incentive to act on it. But with some care, a targeted, fact-based remedy may be beneficial, in terms analogous to policies to protect trade secrets.<sup>43</sup> In both *Enova* and *Dominion*, FERC prominently features rules prohibiting information sharing by requiring the merging firms to file a “code of conduct” or “standards of conduct.”<sup>44</sup> These remedies should be designed to continue what would have been the general industry expectation of confidentiality. They should be grounded in conceptions not of “vertical market power” but of intellectual property—here, to preserve the incentive of firms to develop marketing plans under normal expectations of nondisclosure to competitors.

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<sup>42</sup> A case in which an upstream firm allegedly served as a conduit for sharing information, specifically about prices, was *U.S. v. Airline Tariff Publishing Co. et al.*, Competitive Impact Statement, Civil Action No. 92-2854, District Court for the District of Columbia, filed March 17, 1994.

<sup>43</sup> 18 U.S.C. §1832, “Theft of trade secrets.”

<sup>44</sup> *Enova* decision, note 3 *supra*, at text accompanying note 57; *Dominion* decision, note 9 *supra*, atnote 24.

## Summary

As a conceptual framework, “vertical market power” is neither theoretically sound nor empirically helpful. Vertical approaches are internally contradictory. If not used carefully, they can cause authorities to dismiss problematic practices and focus on competitors rather than competition. Nevertheless, a convergence merger may be problematic when it resembles a (horizontal) merger of generators. We developed a three-step test for determining increased market power, focusing on the extent to which a convergence merger allows the acquiring generator to exercise control over the acquired gas supplier’s prices and outputs.

One difference between this framework and FERC’s is that we examine the dominance of the gas supplier over only its customers in the relevant electricity market, not overall. A less intuitive but more crucial difference is our finding that the convergence merger is more likely to merit scrutiny if the merger partners had *no* prior buyer-seller relationship. If there was such a relationship, particularly if the acquired gas supplier was the dominant supplier to the acquiring generator, the convergence merger will give the gas supplier little if any additional control over the electricity market. From a theoretical standpoint, the key difference is that FERC’s decisions reflect only an unsupported presumption that vertical mergers between firms in concentrated industries must be harmful.

The significance of this discussion goes beyond electric-gas convergence mergers. Since the 1980s, the economic analysis of industrial organization has moved from relatively general, simple theories and prescriptions (the “Chicago” school) to relatively specific, complicated strategic interaction stories (“post-Chicago”) based on asymmetric information, institution-specific commitment, and interaction conjectures. Two policy consequences could follow. One is that the post-Chicago approach will lead to a more refined sorting of benign practices from bad ones, following the difficult task of carefully verifying that the necessary specific conditions hold. A second possibility is that these theories could serve as only “quasi-evidence,” in that because a practice like a vertical merger would be bad under some hypothetical conditions, it could be harmful in the actual case at hand.

In terms of antitrust, the question would be whether post-Chicago economics leads to “pre-Chicago” antitrust, in which economic analysis is no longer much of a constraint on the legal and regulatory resolution of situations involving potential reductions of competition. No

doubt, this is what many practitioners who have long resented the constraining effect of economics believe.<sup>45</sup> If economics has stood in the way of appropriate antitrust enforcement, the incorporation of post-Chicago analysis may be a good thing. But if regulators, prosecutors, judges, and juries have little incentive or ability to verify which model is the correct one—the applicants’ or the intervenors’—decisions may do little more than rationalize gut feelings, whether friendly toward or suspicious of the case before them.

This issue goes beyond competition-oriented regulatory policy or antitrust. Policy analysis generally has wrestled with the questions of how to introduce research into the process and whether it is helpful. The title of a talk by Robert Reischauer, “The Explosion of Policy Analysis: Arms Race or Enlightenment?” makes the point very well. Another is the example of Paul Krugman, who after seeing his strategic trade theory abused in support of protectionism, became the leading economic spokesperson for the traditional neoclassical arguments in support of free trade. That better economics leads to better policy is not a forgone conclusion. How best to analyze convergence mergers is but one facet of the very general issue of how economics can contribute most valuably to public policy.

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<sup>45</sup> Activist practitioners may be less enamored of the post-Chicago approach if it were more widely appreciated that this approach can provide efficiency justifications for practices currently regarded as legal per se. T. Brennan, “Vertical Excuses for Horizontal Practices: Should There Be Any Per Se Rules?” 45 *Antitrust Bulletin* 45 (2000): 467–90.

This illustrates that the criticism is not that post-Chicago antitrust is too strict. Parties can disagree about the merits in particular cases, such as whether the acquiring generator and the acquired gas company’s customers together could dominate a relevant electricity market. But the question here is about process—whether real-world political and legal institutions can and will effectively use economics—rather than the substantive question of how much competition policy is too much.