

Cross-Market Health Care Provider Mergers: The Next Enforcement Frontier

BY DAVID A. ARGUE AND SCOTT D. STEIN

IN RECENT YEARS, THE FTC HAS ACHIEVED significant victories in two health care merger cases whose outcomes turned substantially on the definition of the geographic market. Both *FTC v. ProMedica Health System*,¹ which involved hospital services, and *FTC v. St. Luke's Health System*,² which involved primary care physician services, are horizontal merger cases that were litigated under a traditional Merger Guidelines³ approach.

Since those two cases were litigated, however, the FTC appears to be contemplating a new enforcement frontier that stretches into an area beyond the standard Guidelines analyses: “cross market” transactions. In her opening remarks at the antitrust enforcement agencies’ February 2015 workshop on health care competition, FTC Chairwoman Edith Ramirez explained that “we now also hear growing concern that provider consolidation in non-overlapping product or geographic markets may also lead to higher prices. Examples of these combinations might include center city hospitals acquiring smaller hospitals in outlying areas, or vertical acquisitions of physician groups by hospitals.”⁴ The “growing concern” appears to emanate primarily from complaints by some health plans that cross-market transactions diminish their bargaining leverage against providers.

Cross-market transactions can span product or geographic markets, or both. Cross-product market mergers have often been viewed as vertical transactions, which have not been an area of traditional focus for the agencies.⁵ The courts have also been skeptical of cross-product market arguments by the agencies. The Ninth Circuit in *St. Luke's*, for example, overturned the district court’s ruling that St. Luke’s market power in physician services gave it the ability to raise prices for ancillary services. Absent a finding of market power in ancillary services, the Ninth Circuit reasoned, St. Luke’s could not harm competition in that market.⁶

A cross-geographic market merger, which is the primary focus of this article, refers to a merger of providers in the same product market but in two different geographic markets. Because such mergers involve providers in different

geographic markets, by definition, they do not raise concerns under the competitive effects analysis of the Guidelines because the providers would not be viewed as substitutes.

The agencies’ search for a new economic framework for these transactions comes in tandem with a growing body of economic literature on the subject, including articles by two former agency economists. The new literature proposes models for evaluating whether and under what circumstances cross-market mergers might have anticompetitive effects. The emergence of this literature, and the agencies’ expressed willingness to consider whether cross-market mergers have anticompetitive effects, has the potential to expand significantly the scope of mergers subject to increased antitrust scrutiny as the agencies, buoyed by recent litigation victories, are willing to consider new theories that push beyond the boundaries of traditional geographic market definition. This literature and the agencies’ perspective on it also provide further evidence of the prominence of the views of commercial third-party payers, and suggests continued expansion of bargaining theory in the agencies’ analysis of health care competition.

The Existing Agency Framework for Horizontal Health Care Provider Mergers

The Agencies’ analysis of the competitive effects of health care mergers is rooted in a “two-stage” model of competition in the health care industry, in which health care payers, rather than patients, are viewed as the true customers of health care providers. At the first stage of the model, providers compete, largely on the basis of price, to be included in health plan networks. Providers seek to be included in networks because health plan members typically have access to in-network providers at rates substantially lower than out-of-network providers. Once the plan has negotiated terms with providers in the first stage and established its network, providers within that network compete in the second stage for patients. Insofar as prices to the patient differ little across in-network providers, second-stage competition focuses primarily on non-price factors, such as location, reputation, patient experience, and convenience.⁷

A key feature of this market dynamic is that prices for health care services result from bargaining between providers

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and health plans during contract negotiations. The rates and terms of the contracts that derive from these negotiations are a function of each party's bargaining strength. Each party's bargaining strength is determined by how it would fare if no agreement were reached. If a provider demands rates above the point at which the health plan is willing to walk away from the negotiation, the health plan will refuse to contract with the provider. Conversely, if the health plan only offers to pay rates below a provider's walk-away point, the provider will refuse to contract with the health plan.

The new economic literature attempts to identify circumstances in which a cross-market merger can enhance the merging providers' bargaining leverage, even where the actual consumers of the providers' services (e.g., employees) do not view the cross-market providers as substitutes.

In the context of standard Guidelines market analysis, a provider's bargaining power with health plans depends substantially on the availability of alternatives that could serve as substitutes for the provider in the eyes of the health plan's current and prospective members. The more alternatives that are available, and the more closely substitutable they are in the eyes of health plan members, the lower the provider's bargaining leverage against the health plan. Tracing the economic reasoning is more complicated in a cross-market scenario, however, if an employer purchases access to a single multi-market network, but employees do not view providers outside of their local market to be acceptable substitutes. The new economic literature attempts to identify circumstances in which a cross-market merger can enhance the merging providers' bargaining leverage, even where the actual consumers of the providers' services (e.g., employees) do not view the cross-market providers as substitutes.

The Emerging Economic Literature on Cross-Market Mergers

Models of Cross-Market Effects. A 2013 article written by Gregory Vistnes and Yianis Sarafidis (V&S) contains one of the earliest articulations of a theory of how cross-market hospital mergers may result in harmful competitive effects.⁸ Their research was motivated in large part by the perception that “[m]any health plans have been expressing serious concerns that large provider systems encompassing multiple (but generally adjoining or nearby) geographic markets are reducing the ability of health plans to negotiate favorable rates.”⁹

V&S hypothesize two models involving employers whose employees live in separate geographic markets, and neither set of employees views the hospitals in the other markets to be

substitutes. These models purport to show cross-market “linkages” arising from the impact on a health plan's marketability and profits of having hospitals left out of its cross-market hospital network. The omission of a hospital from the network is said to create a “hole” in the network. V&S show that, in some circumstances, the harm to the health plan of a two-hospital cross-market system refusing to join its network is greater than the sum of the harms caused by either hospital individually refusing to join its network. That is, two cross-market network holes have a disproportionately large impact on the health plan compared to the sum of two individual holes in the network. According to V&S, the disproportionate impact demonstrates that cross-market mergers can have anticompetitive effects.

In their Health Plan Pricing model, V&S hypothesize that cross-market contracting affects pricing decisions made by the health plan.¹⁰ The hypothetical employer in the Health Plan Pricing model has employees who live in two or more local hospital markets, and the employer offers its employees a selection of health plan networks. In this model, health plans are constrained to charge the same premiums for all of the employer's employees across the various local hospital markets. Further, it is assumed that hospital systems contract only on an all-or-nothing basis. V&S hypothesize that if a health plan has a hole in its network because a hospital refuses to join the network, the plan will reduce its premium and have lower profits as a result. Because the plan is assumed to charge a single premium to all of an employer's workers, the plan must reduce the premium it charges that employer in all markets, further reducing its profits. In V&S's model, the reduction in profits means that the cross-market system has gained bargaining leverage, for two reasons. First, the health plan's incremental loss in profits attributable to a second hole (even if it is in a different local market) is greater than the loss attributable to the first hole. Second, the health plan's profits decline even in markets without any holes.

While the Health Plan Pricing model focuses on the impact of network holes on premiums, V&S's Employer Choice model focuses on the impact of holes on the likelihood of an employer choosing a particular hospital network. In the Employer Choice model, the employer is constrained to choose a health plan with a single, cross-market hospital network to serve all of its employees. The model further assumes that the cross-market hospital system engages in all-or-nothing contracting. Insofar as a plan's network has a hole in a local hospital market, it would affect those of the company's employees who live in that market, but would have no effect on employees who live in the other markets. In this model, a cross-market hospital merger enables a system to create holes in multiple local markets, thus increasing the system's bargaining strength by disproportionately affecting the probability of employers choosing the plan.¹¹

Leemore Dafny, Katherine Ho, and Robin Lee (DH&L) have crafted a variation of the Employer Choice model that

they call the Common Customers model.¹² Like the Employer Choice model, the Common Customers model focuses on the impact of cross-market mergers on the employer's choice of plan. DH&L characterize the employer's choice of a health plan as the purchase of a hospital "bundle." From the employer's perspective, in the Common Customers model different cross-market networks are possible substitutes for its employees, even though individual employees themselves do not view hospital bundles in the same way since they do not substitute out of their local market. In the Common Customers model, the employer's preference for a cross-market bundle results in a cross-market merger eliminating a competitor and increasing the system's bargaining leverage.

Assumptions and Conditions in Cross-Market Models. Each of these models is built on various implicit and explicit assumptions. To the extent that the logic of cross-market models and the key assumptions on which they are constructed withstand scrutiny, they may expand the frontier of bargaining leverage in merger analysis and call into question the utility of the Guidelines for analyzing cross-market transactions.

Each of the cross-market models assumes that hospital services are provided in local markets to employees who will not substitute to hospitals in another market. In the Employer Choice model and the Common Customers model, the extent to which there are substitutes *within* each market is, by construction, irrelevant to the cross-market effect. Neither model requires any individual hospital to possess market power in its local hospital market for the cross-market hospital system to possess cross-market market power.¹³ Rather, the competitive danger arises from combining two hospitals into one system that, through cross-market linkages, gains incremental bargaining power (i.e., has more bargaining power as a cross-market system than the two individual hospitals, together, would have) over customers that purchase in both markets simultaneously.

Notably, purchasers that do not require hospital services in both markets simultaneously (i.e., single-market health plans or employers) are not subject to the exercise of market power created by cross-market linkages. Because the lack of employee substitution between local markets means that single-market employers are immune to cross-market leverage, cross-market employers can avoid the competitive harm hypothesized to result from a cross-market merger if they can act like single-market purchasers, notwithstanding that they are purchasing health insurance for employees in multiple markets. For example, if employers with employees in multiple markets can purchase two or more single-market health plan networks, they can prevent cross-market systems from increasing their bargaining leverage.

How might cross-market purchasers act like single-market purchasers? One possibility exists where health plans sell separate products in each local market. Employers with employees in two markets could offer single-market options to employees in each market. If employers acquire health insur-

ance by purchasing it from health plans rather than contracting directly with hospitals, a cross-market hospital system would not be able to identify cross-market employers and price discriminate against them. If the hospital system attempted to raise rates above competitive levels in each local market, it would lose customers in the traditional way—customers would switch to lower-cost substitutes in the local markets. The cross-market models appear not to acknowledge sufficiently the likelihood that employers can and would seek to defeat price increases resulting from cross-market leverage by engaging in single-market contracting.

Another way to think about the cross-market models construct is as redefining the market as a "bundle"¹⁴ or an "overall combination"¹⁵ of hospitals in different geographic areas. From that perspective, a cross-market merger is viewed as a single-market transaction in which a hospital merger reduces the number of independent alternatives and increases the bargaining power of the merged hospitals. DH&L reason that if a cross-market employer values two hospitals, a merger between those hospitals could affect competition for the bundle.¹⁶ Viewed from the perspective of the employer-as-purchaser, the employer contracts for one network of hospital services providers, comparing different bundles of local hospitals in cross-market hospital networks.

But viewing the market this way is inconsistent with market realities. Consider what "substitution in the bundle" implies: an employer would accept a less favorable network for employees in one local hospital service market if it could get a sufficiently more favorable network in the other local market. The employer may even choose a network comprising hospitals in one local market only. The employer as the bundle purchaser would view a trade-off between local markets as an overall improvement, but its employees with the less attractive local network would be worse off. The employer would likely find it difficult to internalize a trade-off of hospital options among its employees. Employees in the market with the weaker network are not likely to gain personal satisfaction from knowing their co-workers have a stronger network. The employer might contemplate giving them extra compensation for having a less attractive local network, but that would present the employer with numerous practical problems that could render the approach unworkable.

The Employer Choice model relies on an additional, seemingly innocuous, assumption that turns out to be of great importance. This model assumes that employers have inherent preferences for health plans that are unobservable by the plan and are not dependent on whether the network has any holes.¹⁷ V&S argue that if an employer prefers a health plan strongly enough, it may opt for that plan, even if the plan has holes in its network, over a hole-free network.¹⁸ A critical implication of that assumption is that if one plan is significantly favored relative to alternative plans *ex ante*, a second hole in the favored plan's network has more than twice the impact of the first hole on the probability of being chosen by the employer. That results in a cross-market system

having greater bargaining leverage than the individual hospitals in the system. The creation of this cross-market leverage against the preferred health plan, however, is caused by the health plan being significantly preferred over other plans in the first place. If the employer has weak health plan preferences, the disproportionality disappears and the cross-market linkages disappear as well.

Further, as V&S recognize, it is the impact on the plan's profitability rather than on the likelihood of an employer choosing the plan that results in cross-market effects. The Employer Choice model assumes that the disproportionate impact on the likelihood of an employer choosing a plan has a comparable disproportionate effect on the health plan's profits.¹⁹ It is not clear, however, how a plan's profitability would be affected by the issues under consideration. A plan could avoid having holes in its network by acceding to a cross-market hospital system's demand for higher rates, and doing so may make its network more attractive than a network without the system's hospitals (i.e., a network with holes). But the health insurance product with that hole-free network will also have higher hospital costs and would be expected to have higher premiums. These factors could easily tug in different directions on the plan's profits.

The Health Plan Pricing model accounts for the ability of health plans to change premiums. Presumably the likelihood of an employer choosing a plan is significantly affected by differences in premiums as well though this is not incorporated into the Employer Choice model. The Health Plan Pricing model assumes that the health plan sets premiums to maximize its profits and that it generates cross-market linkages by constraining a plan's premiums to an employer to be the same in all hospital service markets.²⁰ This assumption may comport with current common practice as V&S assert, but it appears to be unduly restrictive for an analysis of competitive effects. V&S acknowledge that the assumption of a common health plan premium across markets is not likely to be realistic beyond a "reasonably sized geographic region."²¹ At least as importantly, if a health plan or an employer could undermine a hospital system's cross-market linkages and cross-market market power by having different premiums in different markets, it would likely be economically sensible to do so.

Empirical Analyses of Cross-Market Transactions.

The cross-market theories of harm to competition have also been tested empirically using different econometric techniques, data sets, and measurement approaches. Using a sample of consummated hospital mergers between 2008 and 2012 that were investigated by the FTC, as well as a larger sample of system mergers, DH&L conduct an empirical analysis designed to separate the effect of cross-market mergers attributable to lessening competition from effects attributable to other causes.²² DH&L attempt to isolate competition-related price changes by estimating post-merger price changes of systems that acquire hospitals in an "adjacent" market and those that acquire hospitals in "non-adjacent"

markets, comparing both to price changes of hospitals unaffected by transactions.²³ DH&L argue that effects that appear in non-adjacent markets (which they describe as "out-of-state") are unrelated to competition but changes in adjacent ("in-state") markets have roots in changing competitive circumstances.²⁴ Their analysis finds post-merger price increases of 5–10 percent for adjacent market hospitals relative to unaffected hospitals and no price increases for non-adjacent market hospitals relative to unaffected hospitals.²⁵ They conclude that hospitals in adjacent markets constrain each other's prices because "contracting occurs at broader geographic units."²⁶

Matthew S. Lewis and Kevin E. Pflum (L&P) focus directly on empirical tests of cross-market effects in a recent working paper.²⁷ L&P refer to the theoretical models of V&S and attempt to test whether some version of a cross-market theory of competitive harm is evident in the data. L&P focus on a set of hospital transactions in 2000–2010, using a difference-in-differences econometric model to compare price changes after cross-market transactions to price changes of hospitals that do not join a system.²⁸ In various specifications of their model, L&P find that cross-market transactions lead to 10–18 percent higher prices, which is comparable to the price increase they find for in-market transactions.²⁹ L&P conclude that cross-market mergers can be just as competitively harmful as in-market mergers.

Other Factors Affecting Cross-Market Prices. Each of these papers recognizes the possibility that factors other than increases in market power may lead to cross-market hospital systems negotiating higher prices than individual hospitals would receive. V&S acknowledge that other factors that could account for price increases resulting from a cross-market merger include the acquiring hospital having better negotiating skills or superior information than the acquired hospital, or having different incentives, such as a focus on short- versus long-term profitability, that result in different optimal prices.³⁰ DH&L also identify several possible mechanisms unrelated to competitive concerns by which cross-market mergers may lead to increases in price. These include imperfect adjustment in prices for service and patient mix, improvements in quality, changes in bargaining skill, or ability to bear risk.³¹ L&P note that systems may gain bargaining strength by sharing the cost of a more costly and skillful contract negotiating team and by pooling information from a larger set of contract negotiations. They cite Tenet Healthcare's objective of using new technology and a standardized negotiating format to improve its system results.³²

L&P state elsewhere that "[t]he complexities of the contract require negotiators to have a substantial amount of information and skill in order to achieve a favorable outcome."³³ That complexity may include important non-price terms. Hospitals or health plans may concede on price levels to gain more favorable terms that cover promptness of payment, dispute resolution, or contract duration, among other terms. Similarly, they may trade off payment rates in com-

mercial products for rates in managed Medicare or Medicaid products as part of their normal bargaining process.

DH&L assert that the factors not related to competition are accounted for in their empirical analysis by comparing prices in adjacent and non-adjacent transactions to prices of hospitals not involved in transactions at all.³⁴ L&P attempt to control for factors unrelated to competition by incorporating various hospital characteristics like case mix and cost of care into their estimations, and through their difference-in-differences econometric technique. One factor that L&P are unable to account for directly is transaction-related improvements in quality. They attempt to proxy its effects in different ways and ultimately conclude that price changes are not heavily influenced by quality changes.³⁵

These empirical results may not be good indicators of what will occur in future cross-market transactions. Data issues abound in these empirical models, including how to incorporate changes in negotiating skills, how to measure quality changes, the validity of approximating price based on total revenue in the absence of transaction data, and how to account for non-price contract terms, among other things. In addition, econometric modeling techniques have sensitivities that must be properly addressed. The difference-in-differences technique, for example, can be very useful, but its accuracy depends on choosing an appropriate control group of hospitals. Ultimately, if the factors unrelated to competition that affect bargaining cannot be fully separated from the competition-related factors, the resulting estimates of cross-market effects will not be accurate.

Payer Testimony as a Substitute for Economic Analysis?

As has been acknowledged, the search for a theory of competitive harm from cross-market transactions is motivated in large part by complaints of health plans that hospital prices have risen after such transactions. While the models discussed above seek to predict the effect of cross-market mergers on health plans' profitability or marketability, the models' authors concede that such predictions are likely to be very difficult due to limitations in the available data. Health plans are unlikely to know, for example, whether network holes affect their profitability in the disproportionate way that

V&S's models require. As V&S state, "[T]rying to ask that question of a health plan representative is unlikely to yield a meaningful response."³⁶ If payers do not actually know this information, they are unlikely to know that a shift in bargaining leverage is attributable to anticompetitive conduct. Thus, even if the cross-market models are theoretically sound, they may be impractical to use because of the difficulty of finding objective evidence against which to evaluate the subjective views of payers.

V&S suggest that given these limitations, the agencies might be able to obtain similarly useful information by seeking payers' subjective views on whether a cross-market merger is likely to affect their bargaining leverage.³⁷ Virtually any hospital merger is likely to shift bargaining power in favor of the hospital, however.³⁸ As a result, experience shows that health plans frequently oppose transactions on the basis that they will lead to a price increase regardless of whether the price increase results from anticompetitive factors. In all likelihood, better bargaining skills alone enable hospital systems to improve their contract rates and terms absent market power. L&P identify some concrete evidence that at least one major hospital system believes that its size allows it to employ more sophisticated bargaining teams and techniques.³⁹ Payers may nevertheless perceive that insofar as systems receive better rates than stand-alone hospitals, it must be that their size gives them an unfair competitive advantage. The agencies should therefore be highly cautious about relying on payer testimony about cross-market effects as a proxy for sound economic analysis.

Conclusion

The novel economic models of cross-market competitive effects might yet be employed by the antitrust agencies to support an extension of the frontier of antitrust enforcement beyond the bounds of the Guidelines. Those theoretical models rely, however, on some important assumptions that both limit their applicability and undermine their validity. These assumptions must be vetted more thoroughly before the agencies embrace the models. The initial empirical analysis of cross-market effects likewise must be refined. Numerous plausible alternative explanations need to be accounted for to give greater credence to the findings. ■

¹ *FTC v. ProMedica Health Sys.*, No. 3:11 CV 47, 2011 WL 1219281 (N.D. Ohio Mar. 29, 2011).

² *FTC v. St. Luke's Health Sys.*, No. 13-cv-00116, 2014 WL 407446 (D. Idaho Jan. 24, 2014), *aff'd*, *St. Alphonsus Med. Ctr. v. St. Luke's Health Sys.*, 778 F.3d 775 (9th Cir. 2015).

³ U.S. Dep't of Justice & Fed. Trade Comm'n Horizontal Merger Guidelines (2010) [hereinafter Guidelines], <https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf>.

⁴ Edith Ramirez, Chairwoman, Fed. Trade Comm'n, Opening Remarks Before the Workshop: Examining Healthcare Competition (Feb. 24, 2015), https://www.ftc.gov/system/files/documents/public_events/618591/transcript-day1.pdf.

⁵ Deborah L. Feinstein, Director, FTC Bureau of Competition, Antitrust Enforcement in Health Care: Proscription, Not Prescription, Remarks Before the Fifth National Accountable Care Organization Summit (June 19, 2014) ("[A]ntitrust challenges by the federal agencies based on vertical theories of harm are rare."), <https://www.ftc.gov/public-statements/2014/06/antitrust-enforcement-health-care-proscription-not-prescription>. A recent speech by Commissioner Brill, however, indicates that the FTC is "on the lookout" for vertical health care transactions to challenge. Julie Brill, Comm'r, Fed. Trade Comm'n, A Common Goal: The U.S. Federal Trade Commission's Healthcare Enforcement Program and Its Implications for ACOs, Remarks Before the Sixth National Accountable Care Organization Summit Preconference (June 17, 2015), https://www.ftc.gov/system/files/documents/public_statements/673881/150617aco-summit.pdf.

- ⁶ *St. Luke's*, 778 F.3d at 787.
- ⁷ Gregory Vistnes, *Hospitals, Mergers, and Two-Stage Competition*, 67 ANTITRUST L.J. 671, 681–84 (2000). Even at the second stage price competition can play a role, particularly in plans offering tiered or directed benefits that provide financial incentives to use certain in-network providers.
- ⁸ Gregory Vistnes & Yianis Sarafidis, *Cross-Market Hospital Mergers: A Holistic Approach*, 79 ANTITRUST L.J. 253 (2013) [hereinafter V&S].
- ⁹ *Id.* at 255.
- ¹⁰ *Id.* at 281–83.
- ¹¹ *Id.* at 278.
- ¹² The only information related to DH&L's research that is currently available are two presentations by Leemore Dafny: Consolidation in Healthcare Markets, Challenges for Researchers and Enforcers, FTC Microeconomics Conference (Oct. 7, 2014), https://www.ftc.gov/system/files/documents/public_events/204241/dafny.pdf [hereinafter Dafny 2014 Presentation], and Effects of Cross-Market Combinations: Theory and Evidence from Hospital Markets, FTC Health Care Workshop (Feb. 25, 2015), https://www.ftc.gov/system/files/documents/public_events/618591/transcript-day2.pdf [hereinafter Dafny 2015 Remarks], https://www.ftc.gov/system/files/documents/public_events/618591/dafny.pptx [hereinafter Dafny 2015 Presentation]. DH&L propose a second model that focuses on a "common insurer" in which a health plan offers different networks in different hospital markets and may charge different premiums in each market. Dafny 2015 Remarks, *supra*, at 93. This theory does not rely on an assumption that a single employer has employees who live in different hospital markets. DH&L suppose in the Common Insurer model some ability of the hospital system to cross-subsidize by pricing differentially, meaning that the ultimate effect on consumers will be ambiguous. The Common Insurer model bears some resemblance to the Health Plan Pricing model, but we do not consider it in detail.
- ¹³ If one of the hospitals in a cross-market system has market power, then it is conceivable that certain conduct—e.g., all-or-nothing contracting—may be subject to challenge under tying or more traditional theories based on leveraging of market power. Such other theories are, however, beyond the scope of this article.
- ¹⁴ Dafny 2015 Presentation, *supra* note 12, slide 8.
- ¹⁵ V&S, *supra* note 8, at 275.
- ¹⁶ Dafny 2015 Remarks, *supra* note 12, at 92.
- ¹⁷ V&S, *supra* note 8, at 277. V&S do not identify specific reasons for an employer to prefer a health plan or how to measure those preferences in practical applications of the model. Interestingly, V&S assume in the Health Plan Pricing model that individual employees do not have a predisposition toward one plan over another. See *id.* n.88.
- ¹⁸ *Id.* at 277.
- ¹⁹ See *id.* at n.76. Notwithstanding the importance of a disproportionate effect on the plan's profits, the V&S article does not show that such a relationship actually exists between the likelihood of a plan being chosen and the plan's profits.
- ²⁰ *Id.* at 282. This assumption contrasts to DH&L's Common Insurer model that allows health plans to charge different premiums across markets. See *supra* note 12.
- ²¹ *Id.* at n.86.
- ²² Dafny 2015 Remarks, *supra* note 12, at 94–95.
- ²³ Price is not measured by actual transactions but approximated from aggregated revenue data. Dafny 2014 Presentation, *supra* note 12, slide 20. DH&L approximate hospital service geographic markets by travel time of 30 minutes. Dafny 2015 Remarks, *supra* note 12, at 95. The hospitals unaffected by transactions are determined to be "closest matches" to the merging hospitals based on distance, case mix, for-profit status, and urban/rural status. Dafny 2014 Presentation, *supra* note 12, slide 22.
- ²⁴ Dafny 2015 Remarks, *supra* note 12, at 95.
- ²⁵ *Id.* at 95.
- ²⁶ Dafny 2015 Presentation, *supra* note 12, slide 14.
- ²⁷ Matthew S. Lewis & Kevin E. Pflum, Hospital Systems and Bargaining Power: Evidence from Out-of-Market Acquisitions (Working Paper, Aug. 25, 2014) http://www.clemson.edu/economics/faculty/lewis/Research/Lewis_Pflum_hosp_bp.pdf [hereinafter L&P Working Paper]. L&P also show some related results in a recently published paper, Matthew S. Lewis & Kevin E. Pflum, *Diagnosing Hospital System Bargaining Power in Managed Care Networks*, 7 AM. ECON. J.: ECON. POL'Y 243 (2015).
- ²⁸ L&P Working Paper, *supra* note 27, at 18. L&P's measure of price is not based on actual negotiated rates or transactions data, but is derived from aggregate hospital revenue provided in each hospital's Medicare Cost Report. *Id.* at 16. "Local" markets comprise hospitals that are within 45 miles of each other, though they test the sensitivity of that distance. *Id.* at 11, 22.
- ²⁹ *Id.* at 18, 22, 37.
- ³⁰ V&S, *supra* note 8, at n.69.
- ³¹ Dafny 2015 Remarks, *supra* note 12, at 91.
- ³² L&P Working Paper, *supra* note 27, at 8.
- ³³ Lewis & Pflum, *Diagnosing Hospital System Bargaining Power*, *supra* note 27, at 248.
- ³⁴ Dafny 2015 Remarks, *supra* note 12, at 94.
- ³⁵ L&P Working Paper, *supra* note 27, at 33–35.
- ³⁶ V&S, *supra* note 8, at 280.
- ³⁷ *Id.* at 280–81.
- ³⁸ Dafny 2014 Presentation, *supra* note 12, slide 17 ("Generalizing the insurer's objective function expands the set of combinations possibly generating price increases: any combination of providers with nonzero WTP can reduce insurer's disagreement payoff.").
- ³⁹ L&P Working Paper, *supra* note 27, at 8.