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**THE ANTI-COMPETITIVE POTENTIAL OF CROSS-MARKET
MERGERS IN HEALTH CARE**

JAIME S. KING* AND ERIN C. FUSE BROWN**

ABSTRACT

Health care consolidation in the United States has been widespread at all levels and across all entities. This consolidation has extended beyond horizontal mergers of hospitals or other providers to include out-of-market mergers, or cross-market mergers. Cross-market mergers include the merger or acquisition of any health care entity that does not directly compete with the acquiring entity in the same product or geographic market. Antitrust enforcers have historically had little in the way of market theory, economic models, or empirical data to inform their analyses on the potential impacts of cross-market mergers on competition. However, recent developments in economic theory and empirical studies now offer evidence that cross-market mergers can, in some instances, harm competition and drive price increases in health care markets when a common insurer exists across those markets. This article aims to start a discussion among the health policy and antitrust communities about the potential for cross-market acquisitions to harm competition, whether existing antitrust laws could theoretically support a challenge to a cross-market acquisition, and the practical challenges to doing so. This article will argue that health policy analysts, antitrust enforcers, and academics should begin to consider the anti-competitive potential of cross-market acquisitions and develop a means to analyze them both legally and economically.

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INTRODUCTION

Over the last several decades, the U.S. health care system has experienced unprecedented provider, insurer, and pharmaceutical company consolidation.¹ This consolidation generated significant concerns among consumers, employers, health services researchers, and government entities, especially in light of ever-rising prices in all facets of health care.² Unfortunately, these concerns proved warranted: The U.S. health care pricing problem is largely a provider market power problem.³ Within the same geographic area, prices for health care services can vary up to 60% for inpatient services and up to 100% for outpatient services between the highest- and lowest-priced hospitals.⁴ Further, health services research demonstrates that provider market power drives these variations in price, rather than differences in quality, payor mix, demographics, or health of the patient population.⁵ In other words, higher-price providers rarely

1. Martin Gaynor et al., *Making Health Care Markets Work: Competition Policy for Health Care*, 317 JAMA 1313, 1313–14 (2017).

2. See ERIN C. FUSE BROWN, NAT'L ACAD. FOR STATE HEALTH POLICY, STATE STRATEGIES TO ADDRESS RISING PRICES CAUSED BY HEALTH CARE CONSOLIDATIONS 1 (Sept. 2017), <http://www.nashp.org/wp-content/uploads/2017/09/Consolidation-Report.pdf>; see also Robert Berenson, *Acknowledging the Elephant: Moving Market Power and Prices to the Center of Health Policy*, HEALTH AFF. BLOG: FOLLOWING THE ACA (June 3, 2014), <http://healthaffairs.org/blog/2014/06/03/acknowledging-the-elephant-moving-market-power-and-prices-to-the-center-of-health-policy/>; *Health Care Market Consolidations: Impacts on Costs, Quality and Access*, 2015-2016 Leg., 413th Sess. 1–2 (Cal. 2016) (statement of Paul B. Ginsburg), <https://www.brookings.edu/wp-content/uploads/2016/07/Ginsburg-California-Senate-Health-Mar-16-1.pdf>.

3. See, e.g., PAUL B. GINSBURG, CTR. FOR STUDYING HEALTH SYS. CHANGE, WIDE VARIATION IN HOSPITAL AND PHYSICIAN PAYMENT RATES EVIDENCE OF PROVIDER MARKET POWER 6–7 (Nov. 2010), <http://www.hschange.org/CONTENT/1162/1162.pdf>; CHAPIN WHITE ET AL., CTR. FOR STUDYING HEALTH SYS. CHANGE, HIGH AND VARYING PRICES FOR PRIVATELY INSURED PATIENTS UNDERSCORE HOSPITAL MARKET POWER 1 (Sept. 2013), <http://www.hschange.org/CONTENT/1375/1375.pdf>; Robert A. Berenson et al., *The Growing Power of Some Providers to Win Steep Payment Increases from Insurers Suggests Policy Remedies May Be Needed*, 31 HEALTH AFF. 973, 973 (2012); Berenson, *supra* note 2; see also FUSE BROWN, *supra* note 2, at 2.

4. WHITE ET AL., *supra* note 3, at 2.

5. See, e.g., MARTHA COAKLEY, MASS. OFFICE OF ATTORNEY GEN., EXAMINATION OF HEALTH CARE COST TRENDS AND COST DRIVERS: REPORT FOR ANNUAL PUBLIC HEARING 2 (2011), <http://www.mass.gov/ago/docs/healthcare/2011-hcctd-full.pdf>; Joseph P. Newhouse & Alan M. Garber, *Geographic Variation in Health Care Spending in the United States: Insights from an Institute of Medicine Report*, 310 JAMA 1227, 1227–28 (2013) (“[P]rice variation is responsible for an estimated 70% of the total geographic variation in spending among privately insured persons. Variation in wage levels and variation in the quantity of services delivered are almost equally responsible for the remaining estimated 30% of spending variation.”); Zack Cooper et al., *The Price Ain't Right? Hospital Prices and Health Spending on the Privately Insured* 3, 33 (Nat'l Bureau of Econ. Research, Working Paper No. 21815, 2015), <http://www.nber.org/papers/w21815> (concluding that hospital market structure, that is, the degree of competition in the market, is strongly associated with hospital prices); GINSBURG, *supra* note 3, at 7.

provide better care or treat patients with more complicated diagnoses; they simply have more market leverage.⁶

Health care consolidation has been widespread at all levels and across all entities. Initially, hospitals, individual physicians, and provider groups merged horizontally with direct competitors.⁷ Next, hospital systems formed and began acquiring additional hospitals, while physician practice groups began to form larger group practices.⁸ In more recent years, consolidation has extended beyond horizontal mergers of hospitals or physician organizations to include non-horizontal, or “cross-market mergers.”⁹ Cross-market mergers include the merger or acquisition of any health care entity that does not directly compete with the acquiring entity in the same product or geographic market.¹⁰ Cross-market mergers can include the acquisition of a physician organization by a hospital system (commonly referred to as vertical health care integration), the purchase of a local community hospital in a rural or suburban area by a hospital system in a major city, or the acquisition of a single-specialty physician group by a larger provider organization in a different market.¹¹ This article will focus on geographic cross-market mergers in which a merger occurs between health care entities in different geographic markets.

Modern health care mergers often involve horizontal, vertical, and cross-market integration of providers, and in some instances the integration of an insurance entity as well.¹² This multifaceted combination of competitors and market complements greatly complicates antitrust analysis. Unfortunately, antitrust enforcers have had little in the way of market theory, economic models, or empirical data to inform their analyses on the potential impacts of geographic

6. See, e.g., COAKLEY, *supra* note 5; GINSBURG, *supra* note 3, at 2–3.

7. See GINSBURG, *supra* note 3, at 7; Kelly J. Devers et al., *Hospitals’ Negotiating Leverage with Health Plans: How and Why Has It Changed?* 38 HEALTH SERVS. RES. 419, 427 (2003).

8. See GINSBURG, *supra* note 3, at 7.

9. See Leemore Dafny, Kate Ho & Robin S. Lee, *The Price Effects of Cross-Market Hospital Mergers* 29–30 (Nat’l Bureau of Econ. Research, Working Paper No. 22106, 2016), <http://www.nber.org/papers/w22106> (revised June 2017).

10. See, e.g., Gregory S. Vistnes & Yianis Sarafidis, *Cross-Market Hospital Mergers: A Holistic Approach*, 79 ANTITRUST L.J. 253, 254, 289 (2013); Joe Cantlupe, *New Scrutiny for Hospital Mergers*, NEW ENG. J. MED. CATALYST (Nov. 29, 2016), <https://catalyst.nejm.org/scrutiny-hospital-cross-market-mergers/> (last visited Oct. 16, 2017).

11. See David A. Argue & Scott D. Stein, *Cross-Market Health Care Provider Mergers: The Next Enforcement Frontier* 30 ANTITRUST 25, 25 (2015).

12. Prior to the 1982 Merger Guidelines and their 1984 revisions, courts divided non-horizontal mergers into vertical and conglomerate (which this article refers to as cross-market) mergers. ROBERT S. SCHLOSSBERG, *MERGERS AND ACQUISITIONS: UNDERSTANDING THE ANTITRUST ISSUES* 475–76 (Am. Bar Ass’n, 3d ed. 2008). The Supreme Court has defined a conglomerate merger as “one in which there are no economic relationships between the acquiring and acquired firm,” while lower courts and commentators often label non-horizontal and non-vertical mergers as conglomerates. *Id.* at 475 (quoting *Fed. Trade Comm’n v. Proctor & Gamble Co.*, 386 U.S. 568, 577 n.2 (1967)).

cross-market mergers on competition in health care. In antitrust circles, the assumption has always been that geographic cross-market mergers, by definition, were not anti-competitive because the merging entities did not compete against one another.¹³ However, recent developments in economic theory and empirical studies now offer evidence that geographic cross-market mergers can harm competition and drive price increases in health care markets under certain circumstances.¹⁴ While these findings, accompanied by anecdotal reports from insurance companies claiming that cross-market provider mergers were contributing to higher reimbursement rates, have piqued the interest of the Department of Justice (DOJ) and the Federal Trade Commission (FTC), antitrust enforcers have yet to challenge a cross-market health care merger.¹⁵

This article aims to start a discussion among the health policy and antitrust communities about the potential for cross-market acquisitions to harm competition, whether existing antitrust laws could theoretically support a challenge to a cross-market acquisition, and the practical challenges to doing so. This article examines the applicability of the emerging economic models and empirical evidence on geographic cross-market mergers in health care for antitrust enforcement purposes, presents the case that antitrust enforcers should consider these theories in evaluating cross-market mergers, and discusses the attendant challenges of doing so. Part I describes geographic cross-market mergers and the forces that led to their rise in health care markets. Part II traces the historical evolution of health care antitrust merger enforcement as it adapted to changes in the economic evidence of health care market dynamics. Part III outlines the theoretical model and empirical economic evidence of how geographic cross-market mergers can lead to anti-competitive price increases. Part IV sets forth the legal foundations for bringing a cross-market merger challenge and then identifies areas where further economic and legal analysis is needed. The article concludes that health policy analysts, antitrust enforcers, and academics should begin to consider the anti-competitive potential of geographic cross-market acquisitions and develop a means to analyze them both legally and economically in a much-needed effort to avoid further market consolidation and price increases in health care.

13. See Vistnes & Sarafidis, *supra* note 10, at 254–55.

14. Dafny, Ho & Lee, *supra* note 9, at 2, 29–30; Matthew S. Lewis & Kevin E. Pflum, *Hospital Systems and Bargaining Power: Evidence from Out-of-Market Acquisitions*, 48 RAND J. ECON. 579, 603–04 (2017).

15. See Edith Ramirez, Chairwoman, Fed. Trade Comm'n, Opening Remarks at the Fed. Trade Comm'n & Dept. of Justice Workshop: Examining Healthcare Competition 6 (Feb. 24, 2015) (transcript available at https://www.ftc.gov/system/files/documents/public_events/618591/transcript-day1.pdf).

I. CROSS-MARKET MERGERS

Cross-market mergers in health care involve the merger of health care entities that do not operate in the same geographic or product markets.¹⁶ This article will use the term “cross-market” to describe health care acquisitions across *geographic* markets, regardless of whether the entities offer the same or different products. For example, the merger of hospitals in different counties or the acquisition by a hospital system of a home-health agency in a different metropolitan area would be such a geographic cross-market merger. Under the broad definition, cross-market mergers also include so-called vertical acquisitions of physicians by hospital systems because the two entities offer different products (physician versus hospital services).¹⁷ However, because the early data on cross-market mergers focused on geographic cross-market mergers, this article will also focus on this subset of cross-market mergers, referring to mergers among hospitals and physicians as “vertical” to reflect the separate literature regarding hospital-physician mergers.¹⁸ Cross-market (and vertical) mergers can be contrasted with horizontal or within-market health care mergers that compete in both the same geographic and product markets, such as the consolidation of two hospitals located in the same metropolitan area into a single hospital system.

Cross-market mergers are increasingly common. From 2000 to 2010, roughly one-third of hospital mergers involved cross-market acquisitions.¹⁹ According to another calculation, between 2000 and 2012, more than half of the 528 general acute care hospital mergers involved hospitals or health systems in different geographic areas.²⁰ Prominent examples of national cross-market health care mergers include the 2014 acquisition of 71-hospital Health Management by 135-hospital Community Health System for \$3.9 billion, as well as the 2013 merger of Dallas-based Baylor Health Care System and Temple-based Scott White Health, creating a 43-hospital combined entity with more than 6000 affiliated physicians.²¹ However, cross-market mergers also can be more regional, such as the growth of Sutter Health in Northern California to dominate the areas spanning from San Francisco to Sacramento or the growth of Partners Healthcare in Eastern Massachusetts beyond Central Boston to include

16. Dafny, Ho & Lee, *supra* note 9, at 2.

17. See Caroline S. Carlin et al., *The Impact of Provider Consolidation on Physician Prices*, HEALTH ECON. 1, 2 (2017).

18. See, e.g., *id.*

19. Matthew S. Lewis & Kevin E. Pflum, *Diagnosing Hospital System Bargaining Power in Managed Care Networks*, 7 AM. ECON. J. 243, 244 (2014).

20. Dafny, Ho & Lee, *supra* note 9, at 1 (defining geographic areas as Core Based Statistical Areas, which are metropolitan statistical areas for larger cities and micropolitan areas for smaller towns).

21. *Id.* at 1 & n.3.

physician groups, clinics, and community hospitals spanning from Cape Cod to New Hampshire.²²

Despite antitrust agencies' focus on horizontal health care mergers,²³ the trend of cross-market mergers is growing in importance. The vast majority of hospital markets in major metropolitan areas are already highly concentrated,²⁴ narrowing the options for further concentration in many of those markets. Similarly, many rural areas struggle to support more than one health system.²⁵ Barriers to entry also make it difficult for new firms to open new hospitals as a means of growth.²⁶ As a result, cross-market mergers are likely to increasingly dominate the growth strategy of health care providers.

Under prevailing antitrust enforcement approaches, cross-market mergers in health care have largely escaped antitrust scrutiny. The DOJ's and FTC's traditional view under the Horizontal Merger Guidelines was that mergers across geographic markets did not affect competition because the merging firms did not directly compete in the same geographic or product markets—they were not substitutes at the point of service for any given patient—rendering them either pro-competitive or competitively neutral.²⁷ Without economic evidence to suggest otherwise, U.S. antitrust enforcers have been reluctant to challenge cross-market mergers.

At the same time, growth of health care systems through acquisition (as opposed to building new facilities) has become an industry imperative for providers, and many of these acquisitions have occurred across geographic markets.²⁸ Left unchecked, cross-market acquisitions will continue to allow

22. See DAVID DRANOVE, NAT'L INST. FOR HEALTH CARE MGMT., FEDERAL ANTITRUST ENFORCEMENT IN HEALTH CARE (Mar. 2014), <https://www.nihcm.org/component/content/article/6-expert-voices/1272-federal-antitrust-enforcement?showall=1>.

23. Vistnes & Sarafidis, *supra* note 10, at 254.

24. *E.g.*, David M. Cutler & Fiona Scott Morton, *Hospitals, Market Share, and Consolidation*, 310 JAMA 1964, 1966 (2013) (noting that nearly half of all U.S. hospital markets are highly concentrated); STEPHEN ZUCKERMAN & JOHN HOLAHAN, URBAN INST. HEALTH POLICY CTR., DESPITE CRITICISM, THE AFFORDABLE CARE ACT DOES MUCH TO CONTAIN HEALTH CARE COSTS 2 (Oct. 2012), <http://www.urban.org/UploadedPDF/412665-Despite-Criticism-The-Affordable-Care-Act-Does-Much-to-Contain-Health-Care-Cost.pdf> (noting that as of the mid-2000s, eighty-eight percent of hospital markets in large metropolitan areas are highly concentrated).

25. See KEVIN J. BENNETT ET AL., S.C. RURAL HEALTH RESEARCH CTR., VULNERABLE RURAL COUNTIES: THE CHANGING RURAL LANDSCAPE, 2000-2010 12 (July 2016), [http://rhr.sph.sc.edu/report/\(13-4\)Vulnerable_Rural_Counties_The_Changing_Rural_Landscape_2000-2010.pdf](http://rhr.sph.sc.edu/report/(13-4)Vulnerable_Rural_Counties_The_Changing_Rural_Landscape_2000-2010.pdf) (reporting that “[m]ore than one-fourth of all remote rural counties did not have a hospital in 2010” and there have been seventy-five additional rural hospital closures since 2010).

26. See ORG. FOR ECON. CO-OPERATION & DEV., COMPETITION AND BARRIERS TO ENTRY 1 (Jan. 2007), <http://www.oecd.org/competition/mergers/37921908.pdf>.

27. See, *e.g.*, Argue & Stein, *supra* note 11, at 25–26.

28. See *supra* notes 18–19 and accompanying text.

health care systems to grow and charge excessive prices while evading antitrust scrutiny.²⁹

II. THE EVIDENCE-BASED EVOLUTION OF MERGER ENFORCEMENT PHILOSOPHY

Economics and antitrust law are inextricably linked. As the U.S. Supreme Court noted in *Kimble v. Marvel Entertainment, LLC*, as knowledge and understanding of economics evolves, so should antitrust law and its enforcement.³⁰ This mutual evolution of economics and antitrust law has occurred numerous times as new developments have modified traditional understanding of the economic impact of certain types of mergers and acquisitions.³¹ When economists evaluate a particular industry, they develop theoretical models that attempt to capture key features of its competitive market.³² They then use empirical data to test their theoretical models.³³ If the empirical data validates the model, economists can then use both the theory and the analytical model to make predictions about the potential impact of a particular market event, like a merger or acquisition.³⁴ In recent years, advances in economic modeling of health care markets have resulted in significant advances in the agencies' ability to predict the impact of mergers and acquisitions, resulting in a string of successful antitrust challenges to horizontal health care mergers.³⁵ Now, economic evidence has begun to demonstrate the anti-competitive potential of cross-market mergers in health care, and the time has come again to consider adapting current understanding and interpretation of antitrust law.³⁶ This part describes how developments in economic evidence have historically altered antitrust analysis of horizontal and vertical mergers in health care.

Three federal laws protect competition in American markets: the Sherman Act,³⁷ the Clayton Act,³⁸ and the Federal Trade Commission Act.³⁹ Antitrust

29. See Robert A. Berenson et al., *Unchecked Provider Clout in California Foreshadows Challenges to Health Reform*, 29 HEALTH AFF. 699, 702 (2010); see also Berenson et al., *supra* note 3, at 976.

30. *Kimble v. Marvel Entm't LLC*, 135 S. Ct. 2401, 2412–13 (2015) (The U.S. Supreme Court stated that it has “felt relatively free to revise [its] legal analysis as economic understanding evolves and . . . to reverse antitrust precedents that misperceived a practice’s competitive consequences.”).

31. See discussion *infra* Sections II.A, II.C.

32. Cory S. Capps, *From Rockford to Joplin and Back Again: The Impact of Economics on Hospital Merger Enforcement*, 59 ANTITRUST BULL. 443, 447 (2014).

33. *Id.*

34. *Id.*

35. *Id.* at 444–46.

36. See e.g., Dafny, Ho & Lee, *supra* note 9, at 2; Lewis & Pflum, *supra* note 14, at 2–3.

37. 15 U.S.C. §§ 1–11 (2012).

38. 15 U.S.C. §§ 12–27 (2012); 29 U.S.C. §§ 52–53 (2012).

39. 15 U.S.C. §§ 41–45 (2012).

enforcers typically rely upon Section 7 of the Clayton Act to challenge mergers and acquisitions.⁴⁰ Section 7 of the Clayton Act prohibits acquisitions where the effect “may be substantially to lessen competition, or to tend to create a monopoly.”⁴¹ In 1950, Congress amended Section 7 to broaden its applicability from activities that lessen existing competition between the merging parties to those that lessen competition in any line of commerce.⁴² As a result, antitrust enforcers can enjoin any merger with “probable anticompetitive effect[s].”⁴³ However, antitrust enforcers’ views of which mergers have sufficient potential for anti-competitive effects to warrant a challenge have evolved over time in tandem with developments in economic evidence.

A. *Horizontal Merger Enforcement*

Antitrust enforcement tools for analyzing the potential impact of horizontal mergers are the most well developed because the economic models and evidence for the effects of horizontal mergers are similarly well developed. Horizontal mergers enhance market power by eliminating competition between the parties (“unilateral effects”), or combining assets and market share of former competitors and facilitating collusion (“coordinated effects”).⁴⁴ As noted above, antitrust review of horizontal mergers proceeds under Section 7 of the Clayton

40. David Narrow, *Antitrust Overview*, in CHRISTINE L. WHITE ET AL., ANTITRUST AND HEALTHCARE: A COMPREHENSIVE GUIDE, § 2-1(a)(2) (2013).

41. 15 U.S.C. § 18 (2012).

42. Clayton Act, ch. 1184, § 7, 64 Stat. 1125, 1125–26 (1950) (current version at 15 U.S.C. § 18 (2012)).

43. *Brown Shoe Co. v. United States*, 370 U.S. 294, 323 (1962); *accord* Fed. Trade Comm’n v. Proctor & Gamble Co., 386 U.S. 568, 577 (1967) (“All mergers are within the reach of § 7, and all must be tested by the same standard, whether they are classified as horizontal, vertical, conglomerate or other. As noted by the Commission, this merger is neither horizontal, vertical, nor conglomerate. Since the products of the acquired company are complementary to those of the acquiring company and may be produced with similar facilities, marketed through the same channels and in the same manner, and advertised by the same media, the Commission aptly called this acquisition a ‘product-extension merger.’”); *United States v. Falstaff Brewing Corp.*, 410 U.S. 526, 531 (1973) (citing Fed. Trade Comm’n v. Proctor & Gamble Co., 386 U.S. 568, 578–80 (1967) for the proposition that Section 7 “also bars certain acquisitions of a market competitor by a noncompetitor, such as a merger by an entrant who threatens to dominate the market or otherwise upset market conditions to the detriment of competition.”); *id.* at 556–58 (Marshall, J., concurring) (citing Fed. Trade Comm’n v. Proctor & Gamble Co., 386 U.S. 568, 577 (1967) and the 1950 amendment for the proposition that Section 7 could apply beyond the elimination of actual present competition). European antitrust law takes a similar position; an acquisition can be prohibited when it “creates or strengthens a dominant position as a result of which effective competition in the common market or in a substantial part of it would be significantly impeded.” Council Regulation (EC) No. 139/2004 of 20 January 2004 on the Control of Concentrations Between Undertakings, 2004 O.J. (L 24) 1, 3 (discussing Regulation (EEC) No. 4064/89 of December 21, 1989).

44. U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES 2 (Aug. 19, 2010), <https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf>.

Act.⁴⁵ Traditional horizontal merger analysis requires the enforcer to: (1) define the market, including the product and geographic market parameters and the barriers to entry,⁴⁶ (2) determine the market share based on revenues,⁴⁷ (3) determine the existing market concentration and the change in market concentration resulting from the merger via the Herfindahl-Hirschman Index (HHI),⁴⁸ (4) determine whether the merger will significantly increase concentration in the relevant market, giving rise to a presumption of anti-competitive effects,⁴⁹ and (5) consider the balance of pro- and anti-competitive effects of the merger,⁵⁰ including the potential for merger-specific efficiency gains,⁵¹ unilateral effects,⁵² coordinated effects,⁵³ and customer or supplier reactions.⁵⁴ Despite little doubt that horizontal mergers between direct competitors can harm competition, application of this traditional economic and antitrust analysis resulted in a wave of antitrust enforcement losses in hospital merger challenges followed by more than a decade-long hiatus in health care merger enforcement.⁵⁵

The wave of failed challenges by federal and state antitrust authorities to horizontal provider acquisitions led to the birth of new economic studies and analyses demonstrating how such horizontal provider mergers could lead to price increases, with no corresponding efficiencies, under a two-stage model of health care markets.⁵⁶ The two-stage model divides the competitive dynamic in health care markets into two stages: the first stage in which payors bargain with providers over inclusion in a payor's network on both price and non-price considerations, and the second stage in which patients pick providers primarily based on non-price considerations.⁵⁷ Because of the ubiquity of employer-based health coverage and managed care, large employers often sponsor their own

45. 15 U.S.C. § 18 (2012).

46. U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, *supra* note 44, at 7–8, 13.

47. *Id.* at 17.

48. *Id.* at 18–19.

49. *Id.* at 3.

50. *Id.* at 29–31.

51. Merger-specific efficiency gains include cost savings, quality improvements, and other pro-competitive effects. U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, *supra* note 44, at 29–30.

52. Unilateral effects examine whether the merged firm would have the ability to increase prices or reduce output on its own. *Id.* at 20.

53. Coordinated effects examine whether the merger would facilitate future collusion among market participants. *Id.* at 25.

54. *Id.* at 14; LAWRENCE A. SULLIVAN ET AL., *THE LAW OF ANTITRUST, AN INTEGRATED HANDBOOK* 509 (3d ed. 2016).

55. Capps, *supra* note 32, at 444.

56. *See, e.g., id.* at 444–48, 460; *see also, e.g.,* Steven Tenn, *The Price Effects of Hospital Mergers: A Case Study of the Sutter-Summit Transaction*, 18 INT'L J. ECON. BUS. 65, 71–72, 79 (2011).

57. *See, e.g.,* Gregory Vistnes, *Hospitals, Mergers, and Two-Stage Competition*, 67 ANTITRUST L.J. 671, 673 (2000).

health plans by creating or contracting with a network of providers to offer health care services to employees.⁵⁸

The first stage does not ignore the preferences of the individual consumer. Employers need their health plans to have provider networks robust enough for their employees to have options for obtaining services from providers close to where they live.⁵⁹ By shifting the focus of competitive impact from consumers to health plans, the two-stage model illustrates how acquisitions enable health care providers to gain leverage in their negotiations with insurers by negotiating on an all-or-nothing basis, such that if the insurer does not accept the terms set by the provider system, the system will prevent any of its providers from participating in the insurer's network. All-or-nothing negotiations threaten to create holes in the insurer's provider network, and a new acquisition threatens the creation of an even larger hole thereby increasing the hospital system's negotiating position and market power. Further, the acquisition leaves fewer options for insurers to turn to if the acquiring entity raises its prices post-acquisition.⁶⁰

A number of economic studies have demonstrated a clear relationship between horizontal hospital consolidation and increased prices. In a 2012 review of the literature, Martin Gaynor and Robert Town concluded that "increases in hospital market concentration lead to increases in the price of hospital care."⁶¹ Studies found that hospital mergers in concentrated markets experienced significant price increases in excess of twenty percent compared to non-merging control hospitals.⁶² Additional studies from this time period further suggested that hospital concentration can lead to reductions in quality.⁶³ Gaynor and

58. See Paul Fronstin, *Self-Insured Health Plans: Recent Trends by Firm Size*, EMP. BENEFIT RES. INST. NOTES (Emp. Benefit Research Inst., Washington, D.C.), July 2016, at 2.

59. See, e.g., Fed. Trade Comm'n v. Penn State Hershey Med. Ctr., 838 F.3d 327, 341–42 (3d Cir. 2016); see also United States v. Anthem, Inc., 236 F. Supp. 3d 171, 196, 204, 223 (D.D.C. 2017), *aff'd*, 855 F.3d 345 (D.C. Cir. 2017).

60. See, e.g., Cory Capps et al., *Competition and Market Power in Option Demand Markets*, 34 RAND J. ECON. 737, 757, 760 (2003).

61. MARTIN GAYNOR & ROBERT TOWN, ROBERT WOOD JOHNSON FOUND., THE IMPACT OF HOSPITAL CONSOLIDATION—UPDATE 1 (June 2012), https://www.rwjf.org/content/dam/farm/reports/issue_briefs/2012/rwjf73261.

62. *Id.* at 2 (reporting that "[m]erging hospitals had 40% higher prices than non-merging hospitals") (citing Leemore Dafny, *Estimation and Identification of Merger Effects: An Application to Hospital Mergers*, 52 J.L. & ECON. 523, 544 (2009)); see also Deborah Haas-Wilson & Christopher Garmon, *Hospital Mergers and Competitive Effects: Two Retrospective Analyses*, 18 INT'L J. ECON. BUS. 17, 27–30 (2011); Tenn, *supra* note 56, at 76 (finding that following the merger of Summit and Sutter in California, Summit raised its prices 28.4% to 44.2% compared to the control).

63. WILLIAM B. VOGT & ROBERT TOWN, ROBERT WOOD JOHNSON FOUND., HOW HAS HOSPITAL CONSOLIDATION AFFECTED THE PRICE AND QUALITY OF HOSPITAL CARE? 9 (Feb. 2006), https://www.rwjf.org/content/dam/farm/reports/issue_briefs/2006/rwjf12056/subassets/rwjf12056_1; GAYNOR & TOWN, *supra* note 61, at 4–5.

Town's synthesis of the literature in 2012 confirmed earlier studies from the 1990s and early 2000s providing evidence that hospital consolidation significantly raised prices.⁶⁴

From this body of research, economists developed a new set of analytical tools for assessing competition in health care markets.⁶⁵ Based on the two-stage model of health care markets, economists developed a means to model and empirically measure the leverage gained by providers over insurers following horizontal provider acquisitions.⁶⁶ These analytical tools—willingness-to-pay (WTP) analysis, hospital merger simulation, and diversion analysis—provided a clearer understanding of how health care entities bargain, negotiate, and compete.⁶⁷ The shift in focus from the consumer to the impact of the merger on the health plan's ability to negotiate with entities for inclusion in its network greatly contributed to the agencies' ability to more effectively enforce antitrust laws in those markets.⁶⁸ The use of these models to analyze provider mergers between direct competitors supported a series of decisions barring horizontal provider mergers from federal appellate courts in the Third,⁶⁹ Sixth,⁷⁰ Seventh,⁷¹ and Ninth Circuits.⁷²

B. Vertical Merger Enforcement

Vertical merger analysis has also gained much from the shift in viewpoint from analyzing the impact of the merger on the health care consumer to the impact on the ability of a payor to negotiate with the merged entity for network inclusion. Unlike horizontal mergers, vertical mergers occur between entities that do not directly compete with one another.⁷³ Instead, they provide different

64. GAYNOR & TOWN, *supra* note 61, at 1–2.

65. Capps, *supra* note 32, at 446.

66. *See, e.g.*, Capps et al., *supra* note 60, at 760.

67. *See, e.g.*, Capps, *supra* note 32, at 446.

68. *See id.* at 446–47.

69. Fed. Trade Comm'n v. Penn State Hershey Med. Ctr., 838 F.3d 327, 339–43, 340 n.3, 353 (3d Cir. 2016); Brief of Amicus Curiae Economics Professors in Support of Plaintiffs/Appellants at 9–10, Fed. Trade Comm'n v. Penn State Hershey Med. Ctr., 838 F.3d 327 (3d Cir. 2016) (No. 16-2365), 2016 WL 3251948, at *3.

70. ProMedica Health Sys., Inc. v. Fed. Trade Comm'n, 749 F.3d 559, 571–72 (6th Cir. 2014) (relying on insurer testimony as to the two-stage market).

71. Fed. Trade Comm'n v. Advocate Health Care Network, 841 F.3d 460, 465–66, 468, 470, 476 (7th Cir. 2016); Brief of Amicus Curiae Submitted by Thirty-Three Economists in Support of the FTC and State of Illinois at 8, Fed. Trade Comm'n v. Advocate Health Care Network, 841 F.3d 460 (7th Cir. 2016) (No. 16-2492), 2016 WL 3996861, at *6–9, *11–12, *16–17.

72. Saint Alphonsus Med. Ctr.-Nampa Inc. v. St. Luke's Health Sys., Ltd., 778 F.3d 775, 784 & n.10, 785, 793 (9th Cir. 2015); Brief of Amicus Curiae Economics Professors in Support of Plaintiffs/Appellees at 6, Saint Alphonsus Med. Ctr.-Nampa Inc. v. St. Luke's Health Sys., Ltd., 778 F.3d 775 (9th Cir. 2015) (No. 14-35173), 2014 WL 4312204, at *6.

73. WHITE ET AL., *supra* note 40, at § 3-6.

but complementary elements of an economic supply chain.⁷⁴ While hospitals and physician groups are not in a classically vertical relationship, in that hospitals do not purchase services from physicians, physicians supply a crucial component of hospital services, and a clear relationship exists between the two entities.⁷⁵ Hospitals provide facilities free of charge for physicians to treat their patients, and physicians refer their patients to hospitals.⁷⁶

The traditional view among antitrust enforcers is that vertical mergers can promote competition (or at least be competitively neutral) because “arrangements of integrated providers can provide tremendous procompetitive benefits.”⁷⁷ Under optimal conditions, vertical integration should improve product and pricing efficiency by lowering transaction costs, promoting quality enhancement, eliminating overhead and redundancies, and improving coordination.⁷⁸

However, the relationship between the hospital and the physician group also has the potential to increase the market power of the merged entity vis-a-vis the payor trying to build a network for its health plan, which can drive up health care costs.⁷⁹ Vertical mergers can threaten competition if the merger enhances the merged entity’s ability to foreclose competitors, engage in collusion, evade rate regulation, or raise competitors’ costs in upstream or downstream markets.⁸⁰ Health services research in recent years supports this notion by demonstrating that hospital acquisitions of physician groups are associated with price increases for both the hospitals and the physicians, rather than efficiency gains.⁸¹ These

74. *Id.*

75. Thomas L. Greaney & Douglas Ross, *Navigating Through the Fog of Vertical Merger Law: A Guide to Counselling Hospital-Physician Consolidation Under the Clayton Act*, 91 WASH. L. REV. 199, 206–07 (2016).

76. *Id.* at 206.

77. WHITE ET AL., *supra* note 40, at § 3-6 (quoting Christine A. Varney, Comm’r, Fed. Trade Comm’n, Remarks Before the Health Care Antitrust Forum, Chicago, Illinois (May 2, 1995)).

78. See Martin Gaynor, *Is Vertical Integration Anticompetitive? Definitely Maybe (But That’s Not Final)*, 25 J. HEALTH ECON. 175, 177 (2006); see also Roger D. Blair & D. Daniel Sokol, *Quality-Enhancing Merger Efficiencies*, 100 IOWA L. REV. 1969, 1983–84 (2015).

79. See Esther Gal-Or, *The Profitability of Vertical Mergers Between Hospitals and Physician Practices*, 18 J. HEALTH ECON. 623, 629 (1999).

80. SULLIVAN ET AL., *supra* note 54, at 549, 552–53.

81. See, e.g., Laurence C. Baker et al., *Vertical Integration: Hospital Ownership of Physician Practices is Associated with Higher Prices and Spending*, 33 HEALTH AFF. 756, 762 (2014) (finding hospital ownership of physicians is associated with higher hospital prices and spending); James C. Robinson & Kelly Miller, *Total Expenditures per Patient in Hospital-Owned and Physician-Owned Physician Organizations in California*, 312 JAMA 1663, 1668 (2014) (finding hospital-owned physician organizations had ten to twenty percent higher total expenditures per patient than physician-owned organizations); Cory Capps et al., *The Effect of Hospital Acquisitions of Physician Practices on Prices and Spending* 3 (Inst. for Policy Res., Nw. U., Working Paper No. WP-15-02, Feb. 2015) (finding that vertical integration was associated with a 13.7% increase in physician prices); Hannah T. Neprash et al., *Association of Financial Integration Between*

studies provided evidence that the price increases driven by hospital-physician mergers were due to the enhanced market power of the integrated provider entity when negotiating with payors.⁸²

While the agencies are aware that vertical mergers can harm competition, how to evaluate the competitive effect of a vertical health care merger remains largely uncertain, especially in light of the potential for pro-competitive efficiencies and the need to balance those against potential anti-competitive harms.⁸³ As a result, vertical mergers in health care have rarely been challenged directly. In *Saint Alphonsus Medical Center-Nampa Inc. v. St. Luke's Health System, Ltd.*, the Ninth Circuit prohibited the acquisition of Saltzer, the largest and most prestigious group of primary care physicians in Nampa, Idaho, solely on horizontal grounds (the merger of Saltzer with the hospital's existing physician group), rather than addressing the potential harms raised by the vertical aspects of the merger.⁸⁴ While antitrust agencies have not yet brought a pre-merger challenge to a vertical health care merger, they have imposed behavioral conditions on vertical mergers in exchange for allowing such mergers to proceed.⁸⁵ Through these actions, enforcers have acknowledged that vertical mergers in health care between entities that do not compete in the same product market can result in anti-competitive harm as a result of increased negotiating power with payors. This development is significant because it further opens the door to the possibility that cross-market mergers of entities with related products that do not compete in the same product or geographic market could harm competition.

Physicians and Hospitals with Commercial Health Care Prices, 175 JAMA INTERNAL MED. 1932, 1936 (2015) (finding that metropolitan statistical areas with increases in physician-hospital integration experienced median price increases of seventy-five dollars).

82. See Capps et al., *supra* note 81, at 3, 5–7, 36 (finding that physician price increases following acquisition by hospitals were greater as the size of the acquiring hospital's market share increased, perhaps due to increase in willingness to pay for the integrated entity's services); Robinson & Miller, *supra* note 81, at 1668 (noting that the larger the market share of the hospital-owner, the greater the increase in per-patient expenditures due to hospital-physician integration); Neprash et al., *supra* note 81, at 1937 (noting that commercial price differences were greater than price differences for Medicare, suggesting that the price increases were the result of enhanced market power of integrated providers, not just the fact that Medicare policy paid higher prices for outpatient services provided by physicians acquired by hospitals).

83. See Greaney & Ross, *supra* note 75, at 201–02.

84. *Saint Alphonsus Medical Ctr.-Nampa Inc. v. St. Luke's Health Sys., Ltd.*, 778 F.3d 775, 781–82, 792–93 (9th Cir. 2015).

85. See Amended Final Order at 2, *Penn. v. Geisinger Health Sys. Found.*, No 1:13 CV-02647-YK (M.D. Pa. Nov. 1, 2013); Final Order at 6–18, *Penn. v. Urology of Cent. Penn., Inc.*, No. 1:11-cv-01625-JEJ (M.D. Pa. Aug. 31, 2011).

C. Cross-Market Merger Enforcement

Like horizontal and vertical merger enforcement, antitrust enforcement of cross-market mergers should evolve alongside current understanding of the economic and market forces. If economic theory and empirical evidence supported a claim that cross-market health care mergers could harm competition, U.S. antitrust precedents would allow enforcement agencies to challenge a particular cross-market merger that threatened harm to competition. As noted above, Section 7 of the Clayton Act prohibits all mergers or other combinations of entities where the effect “may be substantially to lessen competition, or to tend to create a monopoly.”⁸⁶ Merger analysis turns on whether the consolidation is likely to harm competition by enhancing the opportunity for collusion or enabling the resulting entity to exercise market power through increasing prices, restraining output, or stifling innovation.⁸⁷

One mechanism by which cross-market mergers can harm both consumers and competition is through anti-competitive tying. Tying arrangements occur when the seller of multiple goods and services conditions the sale of one good or service (“the tying product”) on the purchase of another good or service (“the tied product”).⁸⁸ The essence of an antitrust tying claim is that the seller is using its market power in the tying product market to influence sales in the tied product market.⁸⁹ In a cross-market merger, in which a hospital system acquires another hospital in a different geographic market, the potential for tying arises when the newly merged entity then negotiates with insurance companies on an all-or-nothing basis, such that an insurer must include all of the hospital system’s providers in its network or none at all. Large, multi-hospital systems often include hospitals or provider organizations that are “must have” entities, such that an insurer could not build a successful network without them.⁹⁰ Must-have providers generate significant market power for their health systems, which can extend to all other providers within the system via contracting.⁹¹ For instance, large hospital systems that engage in “all-or-nothing” contracting have reportedly added anti-tiering provisions to their contracts with payors to prevent the payor from accepting all system providers at inflated rates and then developing tiered benefit packages that incentivize plan participants to select

86. 15 U.S.C. § 18 (2012).

87. U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES 2 (Aug. 19, 2010), <https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf>.

88. WHITE ET AL., *supra* note 40, at § 9-2(c).

89. *Id.*

90. See Robert A. Berenson et al., *The Growing Power of Some Providers to Win Steep Payment Increases from Insurers Suggests Policy Remedies May Be Needed*, 31 HEALTH AFF. 973, 973 (2012).

91. See *id.* at 973, 978.

lower priced alternatives.⁹² The possibility of anti-competitive tying exists when a health system spans several geographic and product markets and contracts with insurers or customers that also span those markets.⁹³

While tying claims are most frequently brought under Sherman Act Section 1 which prohibits contracts “in restraint of trade,”⁹⁴ the probable anti-competitive effects resulting from tying can justify a merger challenge under the Clayton Act Section 7.⁹⁵ Section 7 does not require proof of anti-competitive behavior but rather permits courts to predict the likely competitive impact of a proposed merger or acquisition based on past conduct, present facts, and economic modeling. Courts only require evidence of a probable future adverse impact on competition.⁹⁶ Therefore, if economic theory and research support a claim that a cross-market merger posed a substantial threat to competition, the agencies would have the legal basis to bring a pre-merger challenge.

III. THE THEORETICAL AND EMPIRICAL BASES FOR CONSIDERING THE ANTI-COMPETITIVE POTENTIAL OF CROSS-MARKET MERGERS IN HEALTH CARE

Traditionally, antitrust challenges to cross-market mergers were not viable, regardless of whether the case law would permit such a challenge, because of the paucity of economic theory and empirical data to support the notion that cross-market mergers could be anti-competitive. This state of affairs, however, is ripe for review.

Recent breakthroughs in health economics offer both theoretical and empirical descriptions of how cross-market acquisitions in health care can increase prices when a common insurer or common customer purchases products or services supplied by both entities.⁹⁷ First, Vistnes and Sarafidis modeled how a hospital system can, as a theoretical matter, increase prices after acquiring providers in a different geographic market.⁹⁸ In 2016, Dafny, Ho, and Lee expanded upon Vistnes and Sarafidis’ model and findings from Ho and Lee’s earlier research,⁹⁹ demonstrating that the merger of hospitals in different

92. Glenn A. Melnick & Katya Fonkych, *Hospital Prices Increase in California, Especially Among Hospitals in the Largest Multi-Hospital Systems*, 53 INQUIRY 1, 5 (2016).

93. As Part II discusses, anti-competitive tying is not the only mechanism through which a cross-market merger could harm competition, but it currently is the best understood one. *See infra* Part II.

94. 15 U.S.C. § 1 (2012).

95. *Id.* at § 18.

96. *Brown Shoe Co. v. United States*, 370 U.S. 294, 323 (1962); Peter C. Carstensen, *The Philadelphia National Bank Presumption: Merger Analysis in an Unpredictable World*, 80 ANTITRUST L.J. 219, 239–40 (2015).

97. *See, e.g.*, Vistnes & Sarafidis, *supra* note 10, at 260; Dafny, Ho & Lee, *supra* note 9, at 29.

98. Vistnes & Sarafidis, *supra* note 10, at 293.

99. Kate Ho & Robin S. Lee, *Insurer Competition in Healthcare Markets* (Nat’l Bureau of Econ. Res. Working Paper No. 19401, 2013), <http://www.nber.org/papers/w19401.pdf>.

geographic markets could influence insurer reimbursement rates if those insurers had customers (employers) who employed workers in both markets.¹⁰⁰ Dafny, Ho, and Lee theorized that cross-market health care mergers could have anti-competitive effects if the health care system and the acquired provider: (1) bargained with common insurers for network inclusion; and/or (2) had customers in common, i.e., firms with employees in both markets.¹⁰¹ The anti-competitive potential results from the ability of the newly merged entity to sell (or refuse to sell) both the products in ways that increase the utility of (or disutility of not) having both products beyond the sum of their independent utilities.¹⁰² In many respects, this resembles anti-competitive tying. Additional studies by Matthew Lewis and Kevin Pflum, and Glenn Melnick and Katya Fonkych also provide empirical evidence that cross-market mergers can be anti-competitive.¹⁰³

To understand the joint utility loss, imagine that you must choose a health plan for your family, and you care most about a network that covers both your kids' pediatrician and your cardiologist. A plan that includes both is the most desirable, a plan that includes one or the other has slightly less value, but you will not accept a plan that includes neither. A plan that includes both the pediatrician and the cardiologist would provide the most utility, whereas a plan with neither would have even less utility than the sum of the utility lost in plans that lacked either the pediatrician or the cardiologist. Dafny, Ho, and Lee call this the "common customer effect."¹⁰⁴

The common customer effect is experienced by large employers and insurance companies that must negotiate reimbursement rates with merging health care providers. Employers with employees working across numerous geographic markets seek plans with networks that provide the greatest value across all markets. To these employers, the overall provider bundle or network is the product, such that they consider whether one provider bundle is substitutable for another rather than any particular provider in one geographic market.¹⁰⁵ As a result, insurers have incentives to build networks that include key providers for employers even when they are not in the same geographic

100. Dafny, Ho & Lee, *supra* note 9, at 2–3.

101. *Id.* at 5–6.

102. *See id.* at 5.

103. Lewis & Pflum, *supra* note 14, at 603–04; Melnick & Fonkych, *supra* note 92, at 6.

104. Dafny, Ho & Lee, *supra* note 9, at 9–11. Dafny, Ho, and Lee also hypothesized that the same theory would also apply when there are no common customers but instead common insurers—the common insurer effect. *Id.* at 12. In this scenario, cross-market mergers could enable a hospital system to recoup revenues lost due to political or legislative constraints in one market (caps on increases) by acquiring a hospital in a non-constrained market, and then increasing rates in the non-constrained hospital and requiring all insurers to include both hospitals in their networks. *Id.* at 12, 14.

105. *See id.* at 2.

market. Similar to the example above, an acquisition linking two hospitals in distinct geographic markets together for negotiating purposes could make the loss of both hospitals from the network greater than the sum of the losses of each hospital independently in the absence of the acquisition.¹⁰⁶ This effect can manifest through health plan premiums as the health plan must either raise premiums to accommodate the increased provider costs from the merged entity or lower premiums to account for the holes in the network and compromise health plan profits.¹⁰⁷ As a result, for example, a large health care system in Northern California with market power in one or more counties could require insurers, such as Aetna or Blue Shield, to include newly-acquired providers in Central and Southern California in their networks at increased prices. The newly-acquired providers could raise prices by taking advantage of the bargaining leverage of the acquiring health care system, which stems from the threat of more significant network holes if the system leaves a provider network en masse.¹⁰⁸ Importantly, the common customer effect results from a change in the parties' bargaining options, not from increased negotiating skill, which opens the door to antitrust enforcement.¹⁰⁹

Over time, aspects of this theory have been borne out both theoretically and empirically. To test their hypotheses, Dafny, Ho, and Lee examined two distinct samples of acute care hospital mergers over the period of 1996 to 2010 and the price trajectories after those mergers for three groups of hospitals: "(i) hospitals acquiring a new system member in the same state but not the same narrow geographic market ('adjacent treatment hospitals'); (ii) hospitals acquiring a new system member out of state ('non-adjacent treatment hospitals'); and (iii) hospitals that are not members of 'target' (i.e., acquired) or acquiring systems."¹¹⁰ Dafny, Ho, and Lee found that a merger between hospitals in different geographic regions within the same state with common customers or common insurers led to significant price increases of seven to ten percent compared with control hospitals that were not part of a merger.¹¹¹ The authors observed this price effect in "bystander" hospitals, which were part of the

106. *See id.* at 4.

107. Argue & Stein, *supra* note 11, at 28; *see also* Dafny, Ho & Lee, *supra* note 9, at 36. Interestingly, the economists appear to differ on the underlying mechanism resulting in the ability of cross-market mergers to compromise health plan profits. Dafny, Ho, and Lee argue that it results from a "change in parties' outside options (or threat points) when bargaining." *Id.* at 4. Lewis and Pflum contend that the increase in bargaining power results from system membership either via all-or-nothing bargaining or altering the bargaining power of a particular hospital in the system. *See* Lewis & Pflum, *supra* note 14, at 602. Regardless of the mechanism, the ability to create network holes and demand higher reimbursements remains.

108. *See* Dafny, Ho & Lee, *supra* note 9, at 6, 12.

109. *See id.* at 4.

110. *Id.* at 3.

111. *Id.*

merging system, but not the “crown jewel” motivating the acquisitions.¹¹² The closer in geographic proximity the merging parties were to each other, the larger the price effects.¹¹³ The price effects of the cross-market health care mergers provide empirical evidence that the health system’s market power increases when it adds more providers due to the ability to tie (or “pull through”) the system’s acquired providers to its strongest “must-have” providers when bargaining with health plans. Correspondingly, increasing the number of preferred providers in a system increases the number and significance of network holes the merged health system can threaten if the health plan does not accept the health system’s higher prices.

Dafny, Ho, and Lee’s seminal study is not an outlier. An earlier study by Lewis and Pflum estimated that health care systems can raise prices more for an acquired provider in a different geographic market than a comparable hospital does when it acquires a close competitor within the same market.¹¹⁴ In other words, Lewis and Pflum found that cross-market provider acquisitions in some instances could lead to greater price increases and thus be more anti-competitive than even horizontal provider acquisitions involving direct competitors. Lewis and Pflum then released a second study further evaluating the price effects from cross-market acquisitions, which found that “prices at hospitals acquired by out-of-market systems increased by about 17% more than unacquired, stand-alone hospitals.”¹¹⁵

Furthermore, Melnick and Fonkych, in their study of hospital prices in California, found that “the market power effects of large hospital systems do not necessarily require consolidation between local competitors.”¹¹⁶ Their study revealed that many of the hospitals in California’s largest systems do not substantially overlap with other system hospitals in terms of product and geographic markets.¹¹⁷ The authors concluded that “hospitals in large hospital

112. Dafny, Ho & Lee, *supra* note 9, at 17.

113. *Id.* at 3, 25. This study also theorized that due to the double-marginalization problem, the health care system’s acquisition of a provider in a new geographic market might allow it to retain profits that it would otherwise cede to insurers and thereby raise prices. *See id.* at 12–13.

114. Lewis & Pflum, *supra* note 19, at 244, 246; *see id.* at 248–57 (modeling based on the auction model used for horizontal provider mergers to value access to hospitals on an estimate of the cost function for multi-product firms in general and hospitals, and on bargaining models, in turn, based on the assumption that insurers try to get nearly every hospital into their networks); *id.* at 257 (using data from sources such as the American Hospital Association and the California Office of Statewide Health Planning and Development); *id.* at 266 (“Our results also indicate that, in addition to improving their bargaining position by increasing concentration within a local patient market, system hospitals have significantly higher bargaining power and extract roughly 30 percent more of the surplus generated by the hospital-[insurer] relationship than comparable nonsystem hospitals.”).

115. Lewis & Pflum, *supra* note 14, at 579.

116. Melnick & Fonkych, *supra* note 92, at 6.

117. *Id.*

systems, by tying their hospitals together, are able to achieve market power over prices beyond any local market advantages.”¹¹⁸ While these findings advance understanding of the economic underpinnings of the U.S. health care system, whether antitrust enforcers can use these findings to address the anti-competitive effects of cross-market acquisitions by health care systems remains a legal question for enforcers and courts to resolve.

IV. THE POTENTIAL FOR CROSS-MARKET ANTITRUST ENFORCEMENT

Even with new economic evidence suggesting that cross-market mergers have the potential to harm competition in health care markets and a legal foundation for bringing a claim, bringing a successful cross-market merger challenge is easier said than done. Several economic and legal hurdles remain. First, some skepticism in academic and enforcement circles remains about whether cross-market mergers can be anti-competitive.¹¹⁹ Second, an antitrust enforcer seeking to challenge a cross-market merger must convince her colleagues that the proposed merger presents a significantly higher risk to competition than other potential health care merger challenges as to warrant use of scarce agency resources on a case with a less clearly trodden path through litigation. Third, while the Clayton Act provides a legal basis to challenge a cross-market merger,¹²⁰ successfully litigating the suit will require the development of new economic and legal analytic frameworks and tools for analyzing the potential impact of a cross-market merger to the provider system’s ability to negotiate prices with insurers and employers. As economists continue to conduct research on cross-market mergers and develop models to determine their potential impact, the legal academy and antitrust enforcers should similarly evaluate this research to determine whether and how a cross-market merger challenge should be brought. As economists, lawyers, and academics develop the economic and legal tools needed to build a strong cross-market merger challenge and overcome the third hurdle, the first two hurdles should diminish substantially. As the economic analysis increasingly demonstrates the anti-competitive potential of certain cross-market mergers, skepticism will diminish, and the relative importance of bringing a challenge will increase. The rest of this section highlights areas for further consideration, research, and analysis.

118. *Id.* The authors noted that their study did not control for quality, technological, and financial differences between the hospitals in large systems and other hospitals, but their study did include quality differences at the end, which had a minimal effect on price differences. *Id.*

119. *See, e.g.,* Argue & Stein, *supra* note 11, at 25.

120. *See supra* Section I.C.

A. *Reframing Traditional Merger Analysis*

Typically, in hospital mergers, courts examine the impact of the merger in terms of its impact on the relevant product and geographic markets.¹²¹ For instance, the acquisition of an additional hospital by a large, multi-hospital system could be analyzed in terms of its impact on the price for acute care services (the product market) in Marin County, California (the geographic market). However, the analysis should shift when analyzing cross-market mergers, as the merging entities do not compete in the same product and geographic markets. Instead, antitrust enforcers should consider analyzing the merger based on the potential direct effect it might have on the value of the bundle of services offered by the hospital system to insurers for inclusion in their network. For the Common Customer or Common Insurer, what matters is the market leverage gained by the merged health care entity in terms of negotiating reimbursement rates and network inclusion. How much does the addition of the entity being acquired increase the bargaining position of the acquiring system when negotiating with insurers and employers? Just as the value of adding an additional player to a basketball team depends on the player's skills, who else is on the team, and the existing team chemistry, the value of adding a provider to an existing system will depend not only on the value of the entity being acquired itself, but also on the value of the other individual entities in the acquiring system and the overarching value of the entire post-merger entity. To determine the impact on market power and competition, antitrust enforcers should develop a means to determine the value of a particular acquisition to an entire system—to show the relative value of the target entity in the market (its market power) and then how much value it adds to the system given the other entities in the system, and the cumulative loss experienced by an insurer or employer from not having any of those entities in its network.

Developing such a valuation mechanism will be challenging and must factor in an array of conditions. For instance, state network adequacy laws can significantly affect the value of a particular acquisition to a health system and should be factored into any analysis.¹²² Relatedly, the status of an entity as a “must have” provider, one that is essential to a network, can strongly affect the

121. *E.g.*, WHITE ET AL., *supra* note 40, at 67–68.

122. Network adequacy laws regulate health plans' ability to provide enrollees with timely and reasonably close access to a sufficient number of in-network primary care and specialty physicians, and hospital and other health care services included under the terms of the contract. *See, e.g.*, Ashley Noble, *Insurance Carriers and Access to Health Care Providers: Network Adequacy*, NAT'L CONF. ST. LEGISLATURES (Nov. 13, 2015), <http://www.ncsl.org/research/health/insurance-carriers-and-access-to-healthcare-providers-network-adequacy.aspx> (last visited Nov. 26, 2017). More stringent network adequacy requirements mean that the value of any essential provider or group of physicians will increase if they cannot be excluded from the insurer's network under the state requirements. *See, e.g., id.*

market power of the acquiring merged health system.¹²³ Furthermore, the value analysis should be able to model the value of a particular acquisition in two alternate conditions: (1) in the instance that the merged system engages in all-or-nothing bargaining and (2) in the instance that the merged system allows insurers and employers to contract for services from its subsidiary entities individually. In sum, the value analysis will require economic modeling that accounts for both the complexities in cross-market mergers as well as the legally relevant variables in any particular case.

B. Model Insurer Willingness to Pay in Cross-Market Mergers

Successful merger challenges typically require economic modeling to predict the impact of the merger on the relevant market. Historically, most research examining the impact of provider consolidation on health care prices focused on traditional horizontal mergers.¹²⁴ Initially, these studies examined the relationship between prices and market concentration, usually measured by the HHI.¹²⁵ More recent studies utilized structural models that account for the fact that provider reimbursement rates often result from complex negotiations between providers (hospitals or hospitals systems) and managed care organizations.¹²⁶ These structural models value the market power of a particular

123. Morgan A. Muir et al., *Clarifying Costs: Can Increased Price Transparency Reduce Healthcare Spending?* 4 WM. & MARY POL'Y REV. 319, 329, 353 (2013).

124. E.g., Lewis & Pflum, *supra* note 14, at 579–80; *see also, e.g.*, David Dranove et al., *Price and Concentration in Hospital Markets: The Switch from Patient-Driven to Payer-Driven Competition*, J.L. & ECON. 179, 180–81 (1993); William J. Lynk, *The Creation of Economic Efficiencies in Hospital Mergers*, 14 J. HEALTH ECON. 507, 507–09 (1995); David Dranove & Richard Ludwick, *Competition and Pricing by Nonprofit Hospitals: A Reassessment of Lynk's Analysis*, 18 J. HEALTH ECON. 87, 87–88 (1995); Alison Evans Cuellar & Paul J. Gertler, *How the Expansion of Hospital Systems Has Affected Consumers*, 24 HEALTH AFF. 213, 213–15 (2005); Glenn Melnick & Emmett Keeler, *The Effects of Multi-Hospital Systems on Hospital Prices*, 26 J. HEALTH ECON. 400, 401 (2007).

125. HHI is calculated as the sum of the squared market share of each entity or health system in a given market multiplied by 10,000. *Herfindahl-Hirschman Index*, U.S. DEP'T OF JUSTICE (July 29, 2015), <http://www.justice.gov/atr/herfindahl-hirschman-index> (last visited Oct. 13, 2017). For hospitals, market share is calculated as proportional share of inpatient admissions or patient days possessed by a hospital relative the rest of the market. *See* Lewis & Pflum, *supra* note 14, at 597. Typically, a market is considered “highly concentrated” if the HHI is greater than 2500, which means there are about four equal sized hospital owners in a given market. U.S. DEP'T OF JUSTICE, *supra*. A market is “moderately concentrated” if its HHI is between 1500 and 2500. *Id.*

126. E.g., Lewis & Pflum, *supra* note 14, at 579–80; *see also, e.g.*, John M. Brooks et al., *Hospital-Insurer Bargaining: An Empirical Investigation of Appendectomy Pricing*, 16 J. HEALTH ECON. 417, 418–19 (1997); Robert Town & Gregory Vistnes, *Hospital Competition in HMO Networks*, 20 J. HEALTH ECON. 733, 734 (2001); Capps et al., *supra* note 60, at 737–39; Katherine Ho, *Insurer-Provider Networks in the Medical Care Market*, 99 AM. ECON. REV. 393, 393 (Mar. 2009); Lewis & Pflum, *supra* note 19, at 245; Gautam Gowrisankaran et al., *Mergers when Prices Are Negotiated: Evidence from the Hospital Industry*, 105 AM. ECON. REV. 172, 173 (Jan. 2015).

provider organization based on a managed care enrollee's "willingness to pay," which evaluates how much more the enrollee would be willing to pay to have access to that hospital as opposed to going to the next best alternative for care.¹²⁷ These models have become widely adopted by antitrust authorities in evaluating the impact of potential hospital and health system mergers.¹²⁸

WTP analysis helps elucidate the two mechanisms by which hospital system formation can affect the negotiated price.¹²⁹ First, when hospitals merge into a system, they typically negotiate with insurers and managed care organizations on an all-or-nothing basis, such that the insurer must include all member hospitals into its networks or none at all.¹³⁰ When the merging hospitals are in a single geographic market, all-or-nothing bargaining means that enrollees cannot substitute one hospital for another in the system, thereby limiting their options. This makes the option value of having access to all hospitals in the system greater than the sum of the option values for having access to only one of the system hospitals if the other hospitals remained in the network.¹³¹ Second, membership in a health system can alter the bargaining power of a member hospital.¹³² This increase in bargaining power can result from system membership via improved information on prior contract negotiations and gained knowledge of agreements between the system and the insurer or employer regarding other providers in the system, and increased negotiating skill.¹³³

Both of these mechanisms can also affect price negotiations in cross-market mergers involving health systems. First, cross-market mergers can alter the bargaining position of the acquiring health system when negotiating with a large employer with employees in different markets or their insurer.¹³⁴ While individual enrollees will not view providers in different markets as substitutable, a large employer or an insurance company looking to build an attractive network for a large employer will highly value a health system with providers in all the markets where its employees live.¹³⁵ Second, the same potential benefits from improved information, negotiating skill, capital access, and knowledge of prior

127. See Lewis & Pflum, *supra* note 19, at 244.

128. *E.g.*, Fed. Trade Comm'n v. Advocate Health Care Network, 841 F.3d 460, 476 (7th Cir. 2016); Fed. Trade Comm'n v. Penn State Hershey Med. Ctr., 838 F.3d 327, 342, 353 (3d Cir. 2016); ProMedica Health Sys., Inc. v. Fed. Trade Comm'n, 749 F.3d 559, 567 (6th Cir. 2014); Fed. Trade Comm'n v. OSF Healthcare Sys., 852 F. Supp. 2d 1069, 1086 (N.D. Ill. 2012).

129. Matthew Lewis & Kevin Pflum, Hospital Systems and Bargaining Power: Evidence from Out-of-Market Acquisitions 7 (Aug. 25, 2014) (working paper), http://www.unc.edu/~mcmanusb/AppliedMicroSeminar/papers/Lewis_Pflum_hosp_bp.pdf.

130. *Id.*

131. *Id.*

132. *Id.* at 8.

133. *See id.*

134. See Vistnes & Sarafides, *supra* note 10, at 275; see also Dafny, Ho & Lee, *supra* note 9, at 2.

135. Lewis & Pflum, *supra* note 129, at 7–8.

and current contract terms can shift the bargaining power, and therefore the negotiated prices for newly-acquired member hospitals even if they are cross-market acquisitions.¹³⁶

Unfortunately, initial models of WTP, based on the impact of system inclusion on an individual consumer, do not capture the potential anti-competitive effects that may arise from cross-market mergers, as a particular consumer may not value the addition of providers in a different geographic area.¹³⁷ Existing studies and recent antitrust analysis “assume[] that bargaining power is fixed and that enrollee willingness to pay is derived only from local hospital and market characteristics.”¹³⁸ Under this assumption, the insurer’s WTP objective function is linear, and only mergers between hospitals that compete within the same geographic and product market can result in a price increase.¹³⁹ However, the research by Dafny, Ho, and Lee, and Lewis and Pflum cast doubt on the assumption that the insurer’s WTP for a particular provider is in fact linear. Instead, their data suggested that the insurer’s WTP objective function would be concave in this scenario, enabling both within-market and cross-market mergers between hospitals sharing a common customer to result in higher WTP by insurers and price increases.¹⁴⁰ The emerging economic evidence thus suggests that WTP analysis could be revised to encompass cross-market health care mergers by shifting from a fixed to a dynamic model of bargaining power that can encompass multiple markets.

Health economists working in this area should begin testing and validating the WTP models proposed by Dafny, Ho, and Lee, and determining whether the model applies to geographic cross-market hospital mergers, as well as health system acquisitions of physician groups. They should also try to incorporate legally relevant variables such as network adequacy laws and state insurance requirements. Further refining the economic models also offers the opportunity to develop potential limiting principles that will help identify anti-competitive cross-market mergers.

C. *Develop Limiting Principles*

Key limiting principles would delineate when cross-market acquisitions by provider systems should be proscribed under the antitrust laws as having likely anti-competitive effects. To trigger legal intervention and potential antitrust remedies, price increases must be due to abuses of market power, rather than quality improvements, better negotiating skills of the merged entity, greater

136. *See id.* at 8.

137. *See id.* at 2.

138. *Id.* at 8.

139. Dafny, Ho & Lee, *supra* note 9, at 8.

140. *Id.* at 5.

ability to bear risk, or other legitimate drivers of price.¹⁴¹ Health economists, legal academics, and antitrust enforcers should identify and test limiting principles to isolate acquisitions that are likely to have anti-competitive effects from those that are likely to have pro-competitive or neutral effects. Such limiting principles would provide important guidance to both antitrust enforcers and the health care community, and help avoid unnecessary costs and ineffectual results.¹⁴²

Several potential limiting principles have already arisen in economic research and case law. First, Dafny, Ho, and Lee's research suggests that there must be a common customer with employees or insureds that span the markets served by the merging entities.¹⁴³ Second, existing case law and economic research also recommend considering whether the acquiring entity had market power in one or more markets prior to the acquisition.¹⁴⁴ Researchers and

141. See SULLIVAN ET AL., *supra* note 54, at 30–31.

142. See Eric A. Posner, Fiona Scott Morton & E. Glen Weyl, *A Proposal to Limit the Anti-Competitive Power of Institutional Investors*, ANTITRUST L.J. (forthcoming) (manuscript at 9–10, 46–47) (advocating that hedge fund investment in oligopolistic industries be barred under Section 7 only if certain limiting principles are not present and noting that such principles are needed to avoid vast costs and uncertainty or ineffectual outcomes).

143. Dafny, Ho & Lee, *supra* note 9, at 5–6; see also Vistnes & Sarafidis, *supra* note 10, at 274–75, 282 (discussing bargaining in a post cross-market acquisition situation where common employers are involved that must offer plans covering all their employees at the same price, no matter where those employees live in a state).

144. See *United States v. Falstaff Brewing Corp.*, 410 U.S. 526, 558–59 (1973) (Marshall, J., concurring); U.S. DEP'T OF JUSTICE, ANTITRUST DIVISION SUBMISSION FOR OECD ROUNDTABLE ON PORTFOLIO EFFECTS IN CONGLOMERATE MERGERS 20 (2001), <https://www.justice.gov/sites/default/files/atr/legacy/2015/01/26/9550.pdf> (noting that any theory of competitive harm from tying in the General Electric-Honeywell merger depended on General Electric having market power in the market for large aircraft engines); Dafny, Ho & Lee, *supra* note 9, at 29 (“Prior researchers have shown that mergers of nearby, similar rivals can lead to increases in market power and higher prices. The existence of a common customer effect implies that market power may arise from combinations over even broader geographic areas and across product markets. This finding does not imply more expansive boundaries for mechanical calculations of market shares and ‘ΔHHI’ used to evaluate whether mergers are likely to be anticompetitive; rather, we believe it favors an emphasis on the ‘direct effects’ likely to arise from a merger, a concept promulgated in the 2010 Horizontal Merger Guidelines.”); Lewis & Pflum, *supra* note 129, at 3 (“Together the findings reveal that systems can have a significant impact on the market power of hospitals in ways that have not been studied or taken into consideration in recent antitrust analysis.”); *id.* at 37–38 (“Taken together, these findings indicate that there are important cross-market dependencies present in the market allowing hospitals to gain market power vis-à-vis MCOs in the price negotiation game by joining an out-of-market system.”); see also Einer Elhauge, *Rehabilitating Jefferson Parish: Why Ties Without a Substantial Foreclosure Share Should Not Be Per Se Legal*, 80 ANTITRUST L.J. 463, 505–06 (2016) (tying firm with market power in the tying market adversely impacts consumer welfare even if that tying conduct only impacts a non-trivial amount of sales in the tied product market); Christopher R. Leslie, *Tying Conspiracies*, 48 WM. & MARY L. REV. 2247, 2262 (2007) (explaining how tying conspiracies can allow firms with individually small market shares to exercise market power in the aggregate).

antitrust enforcers should consider whether designating a threshold of market power, such as thirty percent, would prove valuable to identifying cross-market acquisitions that substantially threaten competition, and are worthwhile to challenge. Dafny, Ho, and Lee do not suggest that a market share threshold is required for anti-competitive effects to be likely. However, antitrust enforcers may want to designate a market share threshold for practical purposes to help them identify the mergers that pose the most risk to competition. Third, due to state insurance laws that govern network adequacy, institute coverage mandates, and regulate insurance more generally, examining cross-market acquisitions of providers within the same state as the health care system may be a good starting point for analysis.¹⁴⁵ This is not to say that only same-state, cross-market mergers can be anti-competitive, but initially this restriction may help simplify the analysis. Interestingly, Dafny, Ho, and Lee found that the closer the hospitals were “in terms of drive time,” the more likely employers are to have employees living in both locations or commuting between them.¹⁴⁶ Disentangling the effects of driving distance from the effects of same-state acquisitions will prove very important in terms of limiting principles, as large employers often employ workers across state lines at distances that may be much smaller than the distance between merging entities in the same state. Antitrust enforcers, legal academics, and health economists should begin evaluating potential limiting principles to help develop the required legal framework for bringing a cross-market challenge.

CONCLUSION

As understanding of the forces that shape health care markets evolve, so should the ability to protect those markets from anti-competitive behaviors. Now that economic research has provided empirical and theoretical support for the claim that cross-market mergers have the potential to lead to increased market power and increased prices, the time has come for the antitrust community to begin to evaluate this claim. Health care consolidation is a leading driver of health care costs in the United States.¹⁴⁷ To develop effective health care reform, policymakers must have an understanding of all the ways that consolidation can influence market power and increase costs. Health economists, legal academics, and antitrust enforcers should begin examining this research to determine whether, under what circumstances, and how challenges to cross-market

145. See Vistnes & Sarafidis, *supra* note 10, at 292–93 (expressing doubt that the implications of the author’s modeling could apply to *interstate* cross-market acquisitions); *cf.* Fed. Trade Comm’n v. Sysco Corp., 113 F. Supp. 3d 1, 49 (D.D.C. 2015) (finding both a nationwide market for food broadline distribution based on the shared characteristics of a core group of customers as well as *intrastate* local markets for food broadline distribution for other customers based on driving time).

146. Dafny, Ho & Lee, *supra* note 9, at 26.

147. See, e.g., GAYNOR & TOWN, *supra* note 61, at 1.

mergers should be brought to promote and protect competition in health care. This article outlines the hurdles to bringing such a challenge and identifies potential limiting factors for consideration. Developing the legal and economic frameworks needed to bring an antitrust enforcement suit will take time and cooperation, and the antitrust community should begin addressing these concerns now, before the consolidation further harms U.S. health care markets and increases costs.