In the

# United States Court of Appeals

## For the Seventh Circuit

No. 16-2492

FEDERAL TRADE COMMISSION and STATE OF ILLINOIS,
*Plaintiffs-Appellants*,

*v.*

ADVOCATE HEALTH CARE NETWORK, et al.,
*Defendants-Appellees*.

Appeal from the United States District Court for the
Northern District of Illinois, Eastern Division.
No. 15 C 11473 — **Jorge L. Alonso**, *Judge*.

ARGUED AUGUST 19, 2016 — DECIDED OCTOBER 31, 2016

Before WOOD, *Chief Judge*, and BAUER and HAMILTON, *Circuit Judges*.

HAMILTON, *Circuit Judge*. This horizontal merger case under the Clayton Act depends on proper definition of geographic markets for hospitals. Defendants Advocate Health Care Network and NorthShore University HealthSystem both operate hospital networks in Chicago's northern suburbs. They propose to merge. Section 7 of the Clayton Act forbids asset acquisitions that may lessen competition in any "section

of the country." 15 U.S.C. § 18. The Federal Trade Commission and the State of Illinois sued in district court to enjoin the proposed Advocate-NorthShore merger while the Commission considers the issue through its ordinary but slower administrative process. See 15 U.S.C. § 53(b); 15 U.S.C. § 26; *Hawaii v. Standard Oil Co. of California*, 405 U.S. 251, 260–61 (1972).

To obtain an injunction, plaintiffs had to demonstrate a likelihood of success on the merits. 15 U.S.C. § 53(b); 15 U.S.C. § 26; *West Allis Memorial Hospital, Inc. v. Bowen*, 852 F.2d 251, 253 (7th Cir. 1988). To show that the merger may lessen competition, the Commission and Illinois had to identify a relevant geographic market where anticompetitive effects of the merger would be felt. See *United States v. Philadelphia National Bank*, 374 U.S. 321, 357 (1963); *Brown Shoe Co. v. United States*, 370 U.S. 294, 323 (1962). Plaintiffs relied on a method called the hypothetical monopolist test. That test asks what would happen if a single firm became the sole seller in a proposed region. If such a firm could profitably raise prices above competitive levels, that region is a relevant geographic market. *In re Southeastern Milk Antitrust Litig.*, 739 F.3d 262, 277–78 (6th Cir. 2014). The Commission's expert economist, Dr. Steven Tenn, chose an eleven-hospital candidate region and determined that it passed the hypothetical monopolist test.

The district court denied the motion for preliminary injunction. *Federal Trade Comm'n v. Advocate Health Care*, No. 15 C 11473, 2016 WL 3387163 (N.D. Ill. June 20, 2016). It found that the plaintiffs had not demonstrated a likelihood of success because they had not shown a relevant geographic market. *Id.* at *5. The plaintiffs appealed, and the district court stayed the merger pending appeal. That stay remains in place.

Even with the deference we give a district court's findings of fact, the district court's geographic market finding here was clearly erroneous. The court treated Dr. Tenn's analysis as if its logic were circular, but the hypothetical monopolist test instead uses an iterative process, first proposing a region and then using available data to test the likely results of a price increase in that region. Also, the evidence was not equivocal on two points central to the commercial reality of hospital competition in this market: most patients prefer to receive hospital care close to home, and insurers cannot market healthcare plans to employers with employees in Chicago's northern suburbs without including at least some of the merging hospitals in their networks. The district court rejected that evidence because of some patients' willingness to travel for hospital care. The court's analysis erred by overlooking the market power created by the remaining patients' preferences, something economists have called the "silent majority" fallacy.

Part I lays out the facts of the proposed merger, the relevant economics, and the district court proceedings. Part II-A discusses briefly the relevant product market, which is not disputed. Part II-B addresses the disputed issue of the relevant geographic market, looking at the issue first generally and then with respect to hospitals. Part III explains what we see as the errors in the district court's analysis of the geographic market: in Part III-A, mistaking the nature of the hypothetical monopolist test; in Part III-B, the role that academic medical centers play in markets for general acute care; in Part III-C, patients' preferences for convenient local hospitals; and in Part III-D, the "silent majority" fallacy.

I. *The Proposed Merger and the District Court Proceedings*

In the United States today, most hospital care is bought in two stages. In the first, which is highly price-sensitive, insurers and hospitals negotiate to determine whether the hospitals will be in the insurers' networks and how much the insurers will pay them. Gregory Vistnes, *Hospitals, Mergers, and Two-Stage Competition*, 67 Antitrust L.J. 671, 674–75 (2000). In the second stage, hospitals compete to attract patients, based primarily on non-price factors like convenience and reputation for quality. *Id.* at 677, 682. Concerns about potential misuse of market power resulting from a merger must take into account this two-stage process.

Chicago area providers of hospital care include defendant NorthShore University HealthSystem, which has four hospitals in Chicago's north suburbs. The area surrounding NorthShore's hospitals has roughly eight other hospitals. Two of those hospitals belong to defendant Advocate Health Care Network, which has a total of nine hospitals in the Chicago area. A map of Chicago area hospitals included in the record is an appendix to this opinion.

In September 2014, Advocate and NorthShore announced that they intended to merge. The Federal Trade Commission and the State of Illinois took action in December 2015 by filing a complaint in the Northern District of Illinois seeking a preliminary injunction against the merger. The court heard six days of evidence on that motion. Executives from several major insurers testified. Some of the details of their testimony are under seal, but they testified unequivocally that it would be difficult or impossible to market a network to employers in metropolitan Chicago that excludes both NorthShore and Advocate. Additional evidence shows that no health insurance

product has been successfully marketed to employers in Chicago without offering access to either NorthShore hospitals or Advocate hospitals.

The court also heard testimony from several economic experts, including Dr. Tenn. He used the "hypothetical monopolist test" to identify the geographic market relevant to the case. That test asks whether a single firm controlling all output of a product within a given region would be able to raise prices profitably a bit above competitive levels. Economists and antitrust cognoscenti refer to such a price increase as a "SSNIP," a "small but significant [usually five percent] and non-transitory increase in price." U.S. Dep't of Justice & Federal Trade Comm'n, *Horizontal Merger Guidelines* 9 (2010). Dr. Tenn simulated the market's response to a price increase imposed by a monopolist controlling NorthShore's hospitals and the two nearby Advocate hospitals. He found that the monopolist could profitably impose the increase. He therefore concluded that the contiguous area including just those six party hospitals is a relevant geographic market.

Dr. Tenn also chose a larger candidate market to test, using three criteria. First, he distinguished between local hospitals and academic medical centers, which he rather inauspiciously called "destination hospitals."[1] Academic medical centers draw patients from across the Chicago area, including the northern suburbs, even though they are not in the northern suburbs. Dr. Tenn excluded those hospitals from his candi-

[1] Dr. Tenn's "destination hospital" category included four academic medical centers and two specialty hospitals. The parties focused on the academic medical centers, and so do we.

date market, reasoning that patients require insurers to provide them more local and convenient hospital options. Second, Dr. Tenn identified hospitals that had at least a two percent share of the admissions from the same areas the parties' hospitals drew from. Finally, he included only hospitals that drew from both Advocate's and NorthShore's service areas.

Those criteria produced an eleven-hospital candidate market: the six party hospitals and five other nearby hospitals, without any academic medical centers. Dr. Tenn simulated the response to a price increase by a hypothetical firm controlling those eleven hospitals. He again found that the price increase would be profitable. He therefore concluded that the area around the eleven hospitals is a relevant geographic market. The plaintiffs focused their arguments on the larger, eleven-hospital market both in the district court and on appeal; they and we refer to it as the North Shore Area.

To test how robust his results were, Dr. Tenn also tested another, larger market, selected using less restrictive criteria. He added hospitals that drew only one percent of admissions from either NorthShore *or* Advocate's service areas, indicating a fifteen-hospital market. That area included Presence St. Francis, a hospital close to NorthShore's Evanston hospital. Dr. Tenn concluded that the larger area also passed the hypothetical monopolist test.

As part of his simulations, Dr. Tenn calculated the percentage of patients at each of the North Shore Area hospitals who would turn to each of the other available hospitals if their first choice hospital were closed. For example, he determined that if Advocate's Lutheran General Hospital closed, 9.3 percent of its patients would likely go to NorthShore's Evanston Hospital instead. These measures are called diversion ratios. Dr.

Tenn calculated that for 48 percent of patients in the North Shore Area, both their first and second choice hospitals were inside the Commission's proposed market.

Once he identified the relevant geographic market, Dr. Tenn used the Herfindahl-Hirschman Index, a common method for assessing a transaction's competitive effects, to evaluate the merger's effects on the market's concentration. He found that for both the eleven-hospital proposed market and the fifteen-hospital market, the proposed Advocate-NorthShore merger would result in a presumptively unlawful increase in market concentration.

The defendants called their own experts, including economist Dr. Thomas McCarthy, who criticized the criteria Dr. Tenn used to select his candidate market. Dr. McCarthy argued that academic medical centers are substitutes for local hospitals because patients seek the same treatments at both hospital types. He also contended that the candidate market should include competitors to either Advocate or NorthShore, not just competitors to both. A competitor to either system, he reasoned, would also compete with and constrain the merged system.

The district court rejected Dr. Tenn's analysis, found that plaintiffs had not shown a likelihood of success on the merits, and denied an injunction. *Advocate Health Care*, 2016 WL 3387163, at *5. Its analysis focused on Dr. Tenn's candidate-market criteria and echoed Dr. McCarthy's criticisms of those criteria. *Id.* at *4–5. There was, the court said, no economic basis for distinguishing between academic medical centers and local hospitals and no reason to think a competitor had to constrain both Advocate and NorthShore to be in the geographic market. *Id.* The court also criticized Dr. Tenn's assumption

that patients generally insist on access to local hospitals, calling the evidence on that point "equivocal" and pointing to the 52 percent of patients whose second-choice hospitals were outside the proposed market. *Id.* at *4 n.4. At several points in the opinion, the court implied that Dr. Tenn's analysis was circular, saying that he "assume[d] the answer" to the geographic market question. *Id.* at *4–5.

We review the district court's legal determinations *de novo*, its factual findings for clear error, and its ultimate decision for abuse of discretion. *Federal Trade Comm'n v. Penn State Hershey Medical Center*, — F.3d —, No. 16-2365, 2016 WL 5389289, at *1–2 (3d Cir. Sept. 27, 2016) (reversing denial of injunction to stop hospital merger); *Abbott Laboratories v. Mead Johnson & Co.*, 971 F.2d 6, 12–13 (7th Cir. 1992) (describing standard of review for preliminary injunction decisions generally); *Federal Trade Comm'n v. Elders Grain, Inc.*, 868 F.2d 901, 903–04 (7th Cir. 1989) (affirming Section 7 injunction).

II. *Relevant Antitrust Markets*

Section 7 of the Clayton Act makes it unlawful to "acquire … the assets of another person … where in any line of commerce … in any section of the country, the effect of such acquisition may be substantially to lessen competition… ." 15 U.S.C. § 18. The Act "deal[s] with probabilities," not "absolute certainties." *Ekco Products Co. v. Federal Trade Comm'n*, 347 F.2d 745, 752 (7th Cir. 1965); accord, *Brown Shoe*, 370 U.S. at 323 ("Congress used the words 'may be substantially to lessen competition' … to indicate that its concern was with probabilities, not certainties."). "All that is necessary is that the merger create an appreciable danger of such consequences in the future." *Hospital Corp. of America v. Federal Trade Comm'n*, 807

F.2d 1381, 1389 (7th Cir. 1986). "[D]oubts are to be resolved against the transaction." *Elders Grain, Inc.*, 868 F.2d at 906.

To show a Section 7 violation, the Commission must identify the relevant "line of commerce" and "section of the country." See *United States v. E.I. du Pont de Nemours & Co.*, 353 U.S. 586, 593 (1957) ("Determination of the relevant market is a necessary predicate to a finding of a violation of the Clayton Act."). In other words, it must identify the relevant product and geographic markets. *Brown Shoe*, 370 U.S. at 324 ("The 'area of effective competition' must be determined by reference to a product market (the 'line of commerce') and a geographic market (the 'section of the country').").

A. *The Product Market*

Product markets usually include the product at issue and its substitutes, the other products that are reasonably interchangeable with it. *Brown Shoe*, 370 U.S. at 325. But products can also be "clustered" together if the "'cluster' is itself an object of consumer demand." *Green Country Food Market, Inc. v. Bottling Group, LLC*, 371 F.3d 1275, 1284–85 (10th Cir. 2004) (emphasis omitted) (affirming finding that branded beverages are not a cluster market); accord, *Philadelphia National Bank*, 374 U.S. at 356 (approving a "cluster of products … denoted by the term 'commercial banking'"); *Federal Trade Comm'n v. Staples, Inc.*, — F. Supp. 3d —, 2016 WL 2899222, at *8 (D.D.C. May 17, 2016) ("it is possible to cluster consumable office supplies into one market for analytical convenience"); *United States v. Hughes Tool Co.*, 415 F. Supp. 637, 640–41 (C.D. Cal. 1976).

As in many other hospital merger cases, the parties here agree that the product market here is just such a cluster: inpatient general acute care services—specifically, those services sold to commercial health plans and their members. See *Penn State Hershey*, — F.3d at —, 2016 WL 5389289, at *5 (parties stipulated); *Federal Trade Comm'n v. Tenet Health Care Corp.*, 186 F.3d 1045, 1051–52 (8th Cir. 1999) (same); *Federal Trade Comm'n v. Freeman Hospital*, 69 F.3d 260, 268 (8th Cir. 1995) (same). That market is a cluster of medical services and procedures that require admission to a hospital, such as abdominal surgeries, childbirth, treatment of serious infections, and some emergency care.

B. *The Geographic Market*

The dispute here is about the relevant geographic market. The relevant geographic market is "where … the effect of the merger on competition will be direct and immediate." *Philadelphia National Bank*, 374 U.S. at 357. It must include the "sellers or producers who have the … 'ability to deprive each other of significant levels of business.'" *Rebel Oil Co. v. Atlantic Richfield Co.*, 51 F.3d 1421, 1434 (9th Cir. 1995), quoting *Thurman Industries, Inc. v. Pay 'N Pak Stores, Inc.*, 875 F.2d 1369, 1374 (9th Cir. 1989). "Congress prescribed a pragmatic, factual approach to the definition of the relevant market and not a formal, legalistic one." *Brown Shoe*, 370 U.S. at 336. The market must "'correspond to the commercial realities' of the industry." *Id.*, quoting *American Crystal Sugar Co. v. Cuban-American Sugar Co.*, 152 F. Supp. 387, 398 (S.D.N.Y. 1957); see also *42nd Parallel North v. E Street Denim Co.*, 286 F.3d 401, 406 (7th Cir. 2002) (evaluating geographic market with "sensible awareness of commercial reality").

1. *Geographic Markets in General*

Since at least 1982, the Commission has used the "hypothetical monopolist test" to identify relevant geographic markets. Gregory J. Werden, *The 1982 Merger Guidelines and the Ascent of the Hypothetical Monopolist Paradigm*, 71 Antitrust L.J. 253, 253 (2003). That test asks what would happen if a single firm became the only seller in a candidate geographic region. *Federal Trade Comm'n v. Whole Foods Market, Inc.*, 548 F.3d 1028, 1038 (D.C. Cir. 2008). If that hypothetical monopolist could profitably raise prices above competitive levels, the region is a relevant geographic market. Kenneth G. Elzinga & Anthony W. Swisher, *Limits of the Elzinga-Hogarty Test in Hospital Mergers: The Evanston Case*, 18 Int'l J. of Economics of Business 133, 136 (2011). But if customers would defeat the attempted price increase by buying from outside the region, it is not a relevant market; the test should be rerun using a larger candidate region. *Saint Alphonsus Medical Center-Nampa Inc. v. Saint Luke's Health System, Ltd.*, 778 F.3d 775, 784 (9th Cir. 2015); *In re Southeastern Milk Antitrust Litig.*, 739 F.3d 262, 277–78 (6th Cir. 2014). This process is iterative, meaning it should be repeated with ever-larger candidates until it identifies a relevant geographic market. *Southeastern Milk*, 739 F.3d at 278.

That market can be as large as the globe, if for example the buyers and sellers are sophisticated merchants and transportation costs and other barriers are low. See *United States v. Eastman Kodak Co.*, 63 F.3d 95, 98, 104 (2d Cir. 1995) (using worldwide market for photographic film); *United States v. H&R Block, Inc.*, 833 F. Supp. 2d 36, 50 n.7 (D.D.C. 2011) (describing stipulated worldwide geographic market in tax preparation software provided on the Internet); see also *Brown Shoe*, 370 U.S. at 337 ("[A]lthough the geographic market in

some instances may encompass the entire Nation, under other circumstances it may be as small as a single metropolitan area.").

Retail markets, on the other hand, are often small, especially when customers are motivated by convenience. *Philadelphia National Bank*, 374 U.S. at 358 ("In banking, as in most service industries, convenience of location is essential to effective competition. Individuals and corporations … find it impractical to conduct their banking business at a distance. The factor of inconvenience localizes banking competition… .") (footnote and citation omitted). (Still, there are limits. See *42nd Parallel North*, 286 F.3d at 406 (rejecting as "absurdly small" a proposed market for retail designer jeans and t-shirts comprising only the "central business district" of Highland Park, Illinois).)

The hypothetical monopolist test focuses on "the area of *effective* competition" between firms. See *E. I. du Pont*, 353 U.S. at 593 (emphasis added), quoting *Standard Oil Co. of California v. United States*, 337 U.S. 293, 299 n.5 (1949). A geographic market does not need to include all of the firm's competitors; it needs to include the competitors that would "substantially constrain [the firm's] price-increasing ability." *AD/SAT, a Division of Skylight, Inc. v. Associated Press*, 181 F.3d 216, 228 (2d Cir. 1999) (citation omitted); *Rebel Oil*, 51 F.3d at 1434 ("[A] 'market' is the group of sellers or producers who have the 'actual or potential ability to deprive each other of significant levels of business.'") (citation omitted).

An alternative approach to relevant geographic markets is the Elzinga-Hogarty test. See Elzinga & Swisher, *supra*, 18 Int'l J. of Economics of Business at 136 (comparing Elzinga-Hogarty test and the hypothetical monopolist test). Devised in

the 1970s from studies of coal and beer markets, the test uses product or customer movement to define geographic markets. Cory S. Capps, *From Rockford to Joplin and Back Again: The Impact of Economics on Hospital Merger Enforcement*, 59 Antitrust Bull. 443, 450 (2014); Kenneth G. Elzinga & Thomas F. Hogarty, *The Problem of Geographic Market Delineation in Antimerger Suits*, 18 Antitrust Bull. 45, 73–74 (1973); Cory S. Capps et al., *The Silent Majority Fallacy of the Elzinga-Hogarty Criteria: A Critique and New Approach to Analyzing Hospital Mergers* 1 (Nat'l Bureau of Econ. Research, Working Paper No. 8216, 2001). A geographic market passes the Elzinga-Hogarty test if few customers enter or leave the area. Elzinga & Hogarty, *supra*, 18 Antitrust Bull. at 73–74.

Put more formally, a market passes the Elzinga-Hogarty test if both: (1) a high level of sales (usually 75 or 90 percent) is to buyers located in the market; and (2) a similarly high percentage of buyers located in the market buys within it. *Id.*; Kenneth G. Elzinga & Thomas F. Hogarty, *The Problem of Geographic Market Delineation Revisited: The Case of Coal*, 23 Antitrust Bull. 1, 2 (1978); *Federal Trade Comm'n v. Butterworth Health Corp.*, 946 F. Supp. 1285, 1292 (W.D. Mich. 1996), *aff'd mem.*, 121 F.3d 708 (6th Cir. 1997). The test treats pre-merger customer movement as a proxy for likely post-merger changes in customer movement. Elzinga & Swisher, *supra*, 18 Int'l J. of Economics of Business at 136. It assumes that if some customers currently buy from firms outside the area, others would also switch to avoid a price increase within the area. *Id.* at 136–37. That assumption holds, however, only if the customers who currently buy from firms outside the area are similar to those who do not. Capps et al., *supra*, at 1.

2. *Geographic Markets for Hospitals*

Markets for hospital services have three notable features. First, because most patients prefer to go to nearby hospitals, there are often only a few hospitals in a geographic market. See *United States v. Rockford Memorial Corp.*, 898 F.2d 1278, 1284–85 (7th Cir. 1990) (approving six-hospital market in part because "for the most part hospital services are local"); *Evanston Northwestern Healthcare Corp.*, F.T.C. No. 9315, 2007 WL 2286195, at *2, *66 (Aug. 6, 2007) (finding that three merged hospitals used market power to increase prices); Steven Tenn, *The Price Effects of Hospital Mergers: A Case Study of the Sutter-Summit Transaction*, 18 Int'l J. of Economics of Business 65, 66, 79 (2011) (plaintiffs' expert showing a possibly anticompetitive price increase following a two-hospital merger); *Saint Alphonsus*, 778 F.3d at 781, 784 (geographic market included primary care physician services in Nampa, Idaho, without extending to Boise, 20 miles away); Capps et al., *supra*, at 11 (explaining that its analysis "implies that the average patient is highly averse to travel"); cf. *Philadelphia National Bank*, 374 U.S. at 358 ("The factor of inconvenience localizes [retail] banking competition as effectively as high transportation costs in other industries."). This case's record reflects that preference: in the Commission's proposed market, 80 percent of patients drove to the hospital of their choice in 20 minutes or less.

Second, patients vary in their hospital preferences. Getting an appendectomy is not like buying a beer; one Pabst Blue Ribbon or Hoegaarden may be as good as another, no matter where they are bought. For surgery patients, who their surgeon will be matters, the hospital's reputation matters, and the hospital's location matters. Different patients value these

(and other) factors differently. Capps et al., *supra*, at 12 ("The high degree of heterogeneity in the taste for hospital attributes and in willingness to travel highlights the key point that hospitals offer a differentiated product to a segmented market."). For example, some patients will be willing to travel to see a particular specialist. See Elzinga & Swisher, *supra*, 18 Int'l J. of Economics of Business at 137–38 (giving a similar example). Others will not. That means that, as Dr. Elzinga himself has explained, the Elzinga-Hogarty test will often overestimate the size of hospital markets. *Id.* at 137.[2] The test assumes that if some patients presently travel for care, more would do so to avoid a price increase, making an increase unprofitable. *Id.* But in fact, often a "silent majority" of patients will not travel, enabling anticompetitive price increases. *Id.* The economic literature began describing this problem—termed the "silent majority fallacy"—as early as 2001. Capps et al., *supra*, at 1.

Finally, consumers do not directly pay the full cost of hospital care. Instead, insurance companies cover most hospital costs. Elzinga & Swisher, *supra*, at 138. Insurance thus splits hospital competition into two stages: one in which hospitals compete to be included in insurers' networks, and a second in which hospitals compete to attract patients. *Saint Alphonsus*, 778 F.3d at 784 & n.10; Vistnes, *supra*, 67 Antitrust L. J. at 672. Insured patients are usually not sensitive to retail hospital prices, while insurers respond to both prices and patient preferences. *Id*. at 677, 680 (explaining that the credibility of an insurer's threat to drop a hospital from its network depends on the importance of the hospital to the plan's enrollees);

[2] Dr. Elzinga is part of a group of economists who submitted a helpful *amicus* brief in this case.

Capps, *supra*, 59 Antitrust Bull. at 454–55 (observing that under most health insurance designs, the patient's and the physician's incentive to consider price is "either very small or nil"); *Penn State Hershey*, — F.3d at —, 2016 WL 5389289, at *8 (explaining that insurers "feel the impact of price increases" and that patient behavior "affects the relative bargaining positions of insurers and hospitals as they negotiate rates").

The geographic market question is therefore most directly about "the 'likely response of insurers,'" not patients, to a price increase. *Saint Alphonsus*, 778 F.3d at 784, quoting *Saint Alphonsus Medical Center-Nampa, Inc. v. Saint Luke's Health System, Ltd.*, 2014 WL 407446, at *7 (D. Idaho Jan. 24, 2014). This complication is sometimes termed the "payer problem." Elzinga & Swisher, *supra*, 18 Int'l J. of Economics of Business at 138.

The Commission and the judiciary have responded to the academy's evolving understanding of hospital markets. In the 1990s, they relied heavily on the Elzinga-Hogarty test. See, e.g., *United States v. Mercy Health Services*, 902 F. Supp. 968, 977 (N.D. Iowa 1995) (noting government's reliance on Elzinga-Hogarty), *vacated*, 107 F.3d 632 (8th Cir. 1997); *Rockford Memorial*, 898 F.2d at 1284–85 (approving a hospital geographic market defined by where the defendants' patients came from); see also Capps, *supra*, 59 Antitrust Bull. at 455 ("courts in the 1990s relied heavily on analyses of patient inflows and outflows"). The Eighth Circuit briefly resisted that trend. In *Freeman Hospital*, the court rejected the Commission's proposed geographic market, which relied on the Elzinga-Hogarty test. 69 F.3d at 264–65, 268. The Commission's evidence, it reasoned, did not address the "crucial question," which was not where customers currently go but where they "could

practicably go" in response to a price increase. *Id.* at 270–71. Four years later, the Eighth Circuit embraced the test, rejecting another Commission-proposed market in part because "over twenty-two percent of people … already use hospitals outside the … proposed market." *Tenet Health Care*, 186 F.3d at 1053.

That reliance produced relatively large geographic markets in hospital merger cases. The Commission's proposed market in *Freeman Hospital*, for example, covered a 27-mile radius around Joplin, Missouri. 69 F.3d at 268. In *Butterworth Health*, 946 F. Supp. at 1291, the Commission proposed a market covering Grand Rapids, Michigan and the 30 miles surrounding that city. *Tenet Health* rejected as too narrow a market 100 miles across in Missouri. 186 F.3d at 1052–53. And *Mercy Health* relied on patient movement to argue that hospitals 70 to 100 miles away from the defendant hospitals were viable competitors. 902 F. Supp. at 971–72, 979–80. By way of comparison, in this case, 80 percent of patients in NorthShore's service area drive 20 minutes or less (and 15 miles or less) to reach their hospital of choice.

As economists have identified the limits of the Elzinga-Hogarty test, courts and the Commission have begun to adjust their approaches to the problem. In *Evanston Northwestern*, the Commission heard testimony from Dr. Elzinga about those limits and concluded that patient movement was at best "one potentially very rough benchmark," to be used "in the context of evaluating other types of evidence." 2007 WL 2286195, at *66; see also *Penn State Hershey*, — F.3d at —, 2016 WL 5389289, at *6–7, *18 (reversing denial of preliminary injunction, in part because district court relied on elements of Elzinga-Hogarty test).

That adjustment is necessary. If the analysis uses geographic markets that are too large, consumers will be harmed because the likely anticompetitive effects of hospital mergers will be understated. *Penn State Hershey*, — F.3d at —, 2016 WL 5389289, at *6 ("empirical research demonstrated that utilizing patient flow data to determine the relevant geographic market resulted in overbroad markets with respect to hospitals"); *Evanston Northwestern*, 2007 WL 2286195, at *65–66 (finding persuasive Dr. Elzinga's testimony that "application of the [Elzinga-Hogarty] test to patient flow data would identify overly broad geographic markets"); see also Cory Capps & David Dranove, *Hospital Consolidation and Negotiated PPO Prices*, 23 Health Affairs 175, 179 (2004) ("most consolidating hospitals raise prices by more than the median price increase in their markets"); Leemore S. Dafny, *Estimation and Identification of Merger Effects: An Application to Hospital Mergers* 26 (Nat'l Bureau of Econ. Research, Working Paper No. 11673, 2005) ("there is conclusive evidence that mergers of independent hospitals can lead to large increases in area prices"); Martin Gaynor & Robert Town, *The Impact of Hospital Consolidation – Update*, Technical Report (Robert Wood Johnson Foundation/The Synthesis Project, Princeton, N.J.), June 2012, at 2 ("Hospital mergers in concentrated markets generally lead to significant price increases.").

For example, in 2001 the Northern District of California refused to enjoin a hospital merger, relying in part on patient movement data. *California v. Sutter Health System*, 130 F. Supp. 2d 1109, 1131–32, 1137 (N.D. Cal. 2001). In 2011, a follow-up study found that the cheaper of the two hospitals raised its prices by 29 to 72 percent, much more than a control group had. Tenn, *supra*, 18 Int'l J. of Economics of Business at 75–76. Other merger case studies produced similar results. See

Aileen Thompson, *The Effect of Hospital Mergers on Inpatient Prices: A Case Study of the New Hanover-Cape Fear Transaction*, 18 Int'l J. of Economics of Business 91, 99 (2001) (finding that, following a hospital merger, two insurers experienced substantial price increases, one a large decrease, and one a normal price change); Michael G. Vita & Seth Sacher, *The Competitive Effects of Not-For-Profit Hospital Mergers: A Case Study*, 49 J. of Industrial Economics 63, 65, 82 (2001) (finding that after a merger, both the merged entity and its remaining competitor raised prices).

NorthShore's own history makes the point. NorthShore was created in 2000 by a smaller merger between Evanston Northwestern Healthcare Corporation and Highland Park Hospital, involving just three hospitals. *Evanston Northwestern*, 2007 WL 2286195, at *2; see also *Messner v. Northshore University HealthSystem*, 669 F.3d 802, 809 (7th Cir. 2012). Four years later, the Federal Trade Commission challenged the merger alleging a violation of Section 7. NorthShore "substantially and immediately raised its prices after the merger." *Evanston Northwestern*, 2007 WL 2286195, at *53. NorthShore's own expert found price increases of nine to ten percent above price increases of a control group of hospitals. *Id.* at *21, *54. After a hearing before an administrative law judge and an appeal to the Commission, the Commission found that the merger violated the Clayton Act. *Id.* at *4, *76.[3]

[3] The Commission found, however, that by then the merged parties were too entwined to order divestiture. *Id*. at *78. The Commission instead ordered the merged entity to use two independent teams to negotiate with insurers, one for each of the pre-merger hospital systems. *Id*. at *79.

## III. *Analysis*

We review the district court's decision in this case in light of this history. As noted, we review the court's legal determinations *de novo*, its factual findings for clear error, and its ultimate decision for abuse of discretion. *Penn State Hershey*, — F.3d at —, 2016 WL 5389289, at *2; *Abbott Laboratories*, 971 F.2d at 12–13. We find that the district court made clear factual errors. Its central error was its misunderstanding of the hypothetical monopolist test: it overlooked the test's results and mistook the test's iterations for logical circularity. Even if the court's focus on the candidate market had been correct, its criticisms were mistaken in three ways. It incorrectly found that Dr. Tenn lacked a basis for distinguishing local hospitals from academic medical centers. It erroneously determined that the evidence about patient preferences for local hospitals was "equivocal." Finally, its analysis fell prey to a version of the silent majority fallacy.

### A. *The Hypothetical Monopolist Test*

As explained above, the hypothetical monopolist test is an iterative analysis. The analyst proposes a candidate market, simulates a monopolization of that market, then adjusts the candidate market and reruns the simulation as necessary. The district court criticized Dr. Tenn's candidate market but did not mention his results. The court did not explain why it thought that a narrow candidate market would produce incorrect results. Nor do the hospitals. We have not found support for that assumption. The economic literature explains that if a candidate market is too narrow, the test will show as much, and further iterations will broaden the market until it is big enough. See Elzinga & Swisher, *supra*, 18 Int'l J. of Economics of Business at 136.

The district court seems to have mistaken those iterations for circularity. It criticized Dr. Tenn's candidate market for "assum[ing] the answer" to the market definition question. *Advocate Health Care*, 2016 WL 3387163, at *4–5. But in fact, the candidate market offers a hypothetical answer to that question; the hypothetical monopolist analysis then tests the hypothesis and adjusts the market definition if the results require it. That is not circular reasoning.

B. *Academic Medical Centers*

When Dr. Tenn proposed a candidate market, he excluded what he called "destination hospitals," which are hospitals—primarily academic medical centers—that attract patients at long distances from throughout the Chicago metropolitan area. The district court criticized that classification, saying it had no "economic basis." *Advocate Health Care*, 2016 WL 3387163, at *4. The record belies that assessment: the witnesses consistently used the term "academic medical center" and recognized that demand for those few hospitals differs from demand for general acute care hospitals like these parties' hospitals, which draw patients from much smaller geographic areas.

For example, one insurance executive explained that some insured patients will "travel … for a higher level of care potentially at an Academic Medical Center." NorthShore's CEO also distinguished between academic medical centers and community hospitals, explaining that the former provide both "basic" and "complex" services. Other witnesses agreed. Another insurance executive explained that individual consumers want their insurance network to include "[their] physician, [their] community hospital, and maybe potential access to an academic medical center." An executive of one academic

medical center differentiated between "community hospitals" and "an Academic Medical Center" in terms of the complexity of the services provided. Another insurance executive explained that NorthShore and Advocate hospitals were not academic medical centers. That testimony provides an obvious and sound basis for distinguishing between academic medical centers and other hospitals like those operated by Advocate and NorthShore.

C. *Patient Preference for Local Hospitals*

Before Dr. Tenn chose a candidate market, he determined that patients generally choose hospitals close to their homes. The district court called the evidence on that point "equivocal," citing testimony that workplace locations and outpatient relationships also influence patient choices. *Advocate Health Care*, 2016 WL 3387163, at *4. But most of the cited testimony addressed medical care broadly, not inpatient acute care specifically. For instance, one insurance executive testified that Chicago area consumers use "services" close to both their homes and their workplaces. Similarly, another witness explained that employees choose providers based on where they live, work, and have relationships with doctors, but that witness was speaking about "people ... consuming benefits" generally, not about hospital choice in particular.

When it came to hospital care, the evidence was not equivocal on Dr. Tenn's central point. As one insurance executive put it: "Typically [patients] seek [hospital] care in their own communities." The evidence on that point is strong, not equivocal. For example, 73 percent of patients living in plaintiffs' proposed market receive hospital care there. Eighty percent of those patients drive less than 20 minutes or 15 miles to their chosen hospital. Ninety-five percent of those patients

drive 30 miles or less—the north-to-south length of plaintiffs' proposed market—to reach a hospital. That evidence that many patients care about convenience is consistent with what we said in *Rockford Memorial*: "for the most part hospital services are local." 898 F.2d at 1285. That is consistent with retail markets generally, at least where the seller (hospital) and buyer (patient) must come face to face. See *Philadelphia National Bank*, 374 U.S. at 358.

D. *The Silent Majority Fallacy*

The insurance executives were unanimous on a second point: in the North Shore Area, an insurer's network must include either Advocate or NorthShore to offer a product marketable to employers. The record as a whole supports that testimony. There is no evidence that a network has succeeded with employers without one or the other of the merging parties in its network. (One company offers a network in the Chicago area without either of the merging parties, but that network's membership is overwhelmingly individuals rather than employers. And fewer than two percent of those individual members live near NorthShore's hospitals.) Cf. *Penn State Hershey*, — F.3d at —, 2016 WL 5389289, at *9 (noting that antitrust defendant in theory "may be able to demonstrate that enough patients would buy a health plan ... with no in-network hospital in the proposed geographic market," but not when an insurer that tried it "lost half of its membership").

The district court discounted that testimony, citing Dr. Tenn's diversion ratios, although it did not explain what it inferred from the ratios. *Advocate Health Care*, 2016 WL 3387163, at *4 n.4. We assume the court was referring to two of their features: the proportion (52 percent) of patients who, if their

first choice hospital were unavailable, would seek care outside the proposed market, and the proportion (7.2–29.2 percent) of patients who, if their first choice hospital were unavailable, would divert to Northwestern Memorial Hospital, an academic medical center outside Dr. Tenn's proposed market.[4]

If patients were the relevant buyers in this market, those numbers would be more compelling since diversion ratios indicate which hospitals patients consider substitutes. But as we have explained, insurers are the most relevant buyers. Insurers must consider both whether employers would offer their plans and whether employees would sign up for them. "[E]mployers generally try to provide all of their employees

---

[4] The hospitals understand the district court's use of diversion ratios differently. They argue that the court disregarded the insurer testimony because one insurance executive incorrectly identified customers' preferred hospitals. That executive viewed Advocate's Lutheran General Hospital as the main alternative to NorthShore's Evanston hospital, and saw Advocate Condell Medical Center as the primary alternative to NorthShore's Highland Park Hospital. The diversion ratios, the hospitals point out, indicate that Northwestern Memorial is the most common second choice for NorthShore's Evanston, and that Northwestern Lake Forest is the main alternative to NorthShore's Highland Park.

We do not believe that was the district court's reasoning. The court did not cite that testimony and was not addressing insurers' testimony about patient hospital choices—it was addressing insurers' testimony about plan marketability. *Advocate Health Care*, 2016 WL 3387163, at *4 n.4. The reasoning is unpersuasive in any case. One insurance witness's minor mistake about patient preferences for two hospitals is not a sufficient reason to disregard the overwhelming weight of the evidence showing: (1) the large proportion of patients who prefer hospitals close to their homes and (2) the resulting need for insurers to offer networks that include community hospitals close to their customers' homes.

at least one attractive option," and may not offer even a broadly appealing plan if it lacks services in a particular region. Vistnes, *supra*, 67 Antitrust L.J. at 678. As a result, measures of patient substitution like diversion ratios do not translate neatly into options for insurers. The district court erred in assuming they did.[5]

The hospitals correctly point out that, strictly speaking, that reasoning is not the same as the silent majority fallacy. The silent majority fallacy treats present travel as a proxy for post-merger travel, while diversion ratios predict likely post-merger travel more directly. But the district court's reasoning and the silent majority fallacy share a critical flaw: they focus on the patients who leave a proposed market instead of on hospitals' market power over the patients who remain, which means that the hospitals have market power over the insurers

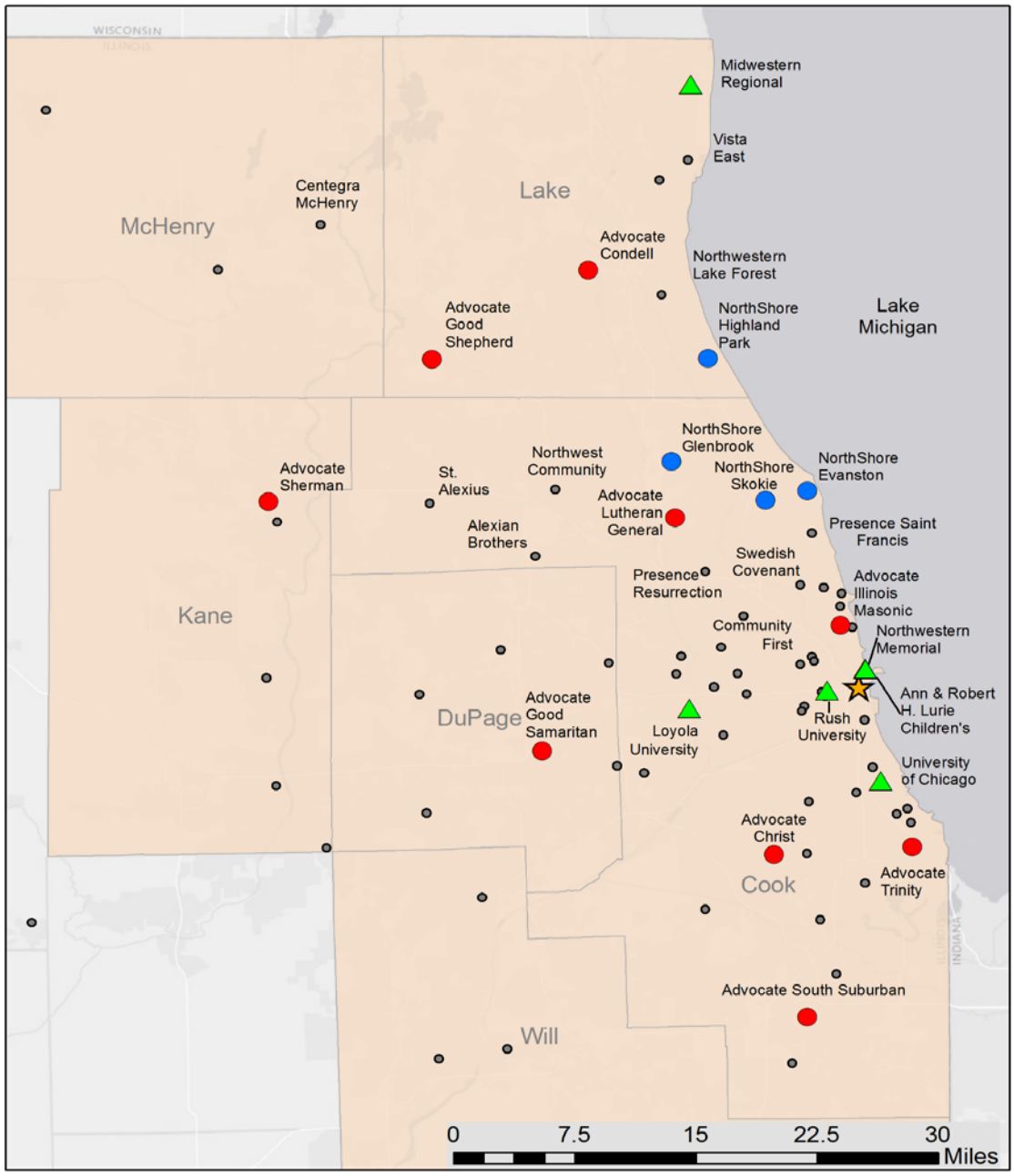
[5] The hospitals raise a related point on appeal, arguing that the diversion ratios indicate that Northwestern Memorial Hospital is the closest substitute for some NorthShore hospitals. They then point to the Merger Guidelines, which say that in general relevant markets should include a product's closest substitutes even if the market passes the hypothetical monopolist test without them. See U.S. Dep't of Justice & Federal Trade Comm'n, *supra*, *Horizontal Merger Guidelines* at 9. The hospitals' reliance on the diversion ratios, like the district court's, overlooks insurers' role in the marketplace. Even if we take the diversion ratios to mean that a sizable minority of patients consider Northwestern Memorial a close substitute, it does not follow that insurers could offer it as a sufficient substitute for a commercially viable insurance network. And in any event, the hospitals concede that even with Northwestern Memorial included in the market, the Herfindahl-Hirschman Index calculation still indicates that the merger is presumptively unlawful. The hospitals argue that if Northwestern should be included, so should the other academic medical centers. But there is no comparable evidence about those centers as close substitutes for the hospitals of the merging parties.

who need them to offer commercially viable products to customers who are reluctant to travel farther for general acute hospital care.

That flaw runs through the district court's decision. The court focused on identifying hospitals that compete with those in the Commission's proposed market. But the relevant geographic market does not include every competitor. It is the "area of *effective* competition," *E. I. du Pont*, 353 U.S. at 593 (emphasis added) (citation omitted), the place where the "effect of the merger on competition will be direct and immediate," *Philadelphia National Bank*, 374 U.S. at 357. It includes the competitors that discipline the merging hospitals' prices. *AD/SAT*, 181 F.3d at 228; *Rebel Oil*, 51 F.3d at 1434. The geographic market question asks in essence, how many hospitals can insurers convince most customers to drive past to save a few percent on their health insurance premiums? We should not be surprised if that number is very small. Plaintiffs have made a strong case that it is.

We REVERSE the district court's denial of a preliminary injunction and REMAND for further proceedings consistent with this opinion. The merger shall remain enjoined pending the district court's reconsideration of the preliminary injunction motion.

Figure 1: Advocate and NorthShore Hospitals in the Chicago Area




Advocate Hospital
Destination Hospital
Downtown Chicago
NorthShore Hospital
Other Hospital

Source: AHA Hospital Data