Martin Gaynor, Director, FTC Bureau of Economics:  
A Review of His Recent Economic Research

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Martin Gaynor joined the FTC as the Director of the Bureau of Economics on October 1, 2013, replacing Howard Shelanski, who left the FTC to lead the Office of Information and Regulatory Affairs. Dr. Gaynor is a professor of economics and public policy at Heinz College at Carnegie Mellon University, and an affiliate of Analysis Group. He has been a Research Associate at NBER since 1990 and chair of the governing board of the Health Care Cost Institute since 2011.

Since earning his Ph.D. in economics from Northwestern University, Dr. Gaynor has published over 60 journal articles, received numerous research grants, and provided public testimony on competition in the health care industry. He has also provided consulting services to the FTC and DOJ and worked on several antitrust cases in the health care industry.¹

Dr. Gaynor’s research is primarily in the health care area. His early work focused on how incentives for groups were derived and how they impact performance. His paper, Moral Hazard and Risk Spreading in Partnerships, won the Kenneth J. Arrow Award for the best published paper in health economics.² More recent work has emphasized competition in health care markets. Dr. Gaynor frequently co-authors papers with other economists, including Dr. Deborah Haas-Wilson (now at Smith College) and Dr. William B. Vogt (now at University of Georgia).

Dr. Gaynor is a careful, thoughtful researcher and applied econometrician. In his papers, he regularly makes use of statistical tools to address and control for identification issues that may affect the data and inference. His research generally relates to health care quality, uncertainty, and consolidation in the hospital industry. It is also common for him to consider social welfare rather than focusing solely on consumer welfare, a divergence from prevailing antitrust enforcement norms.

Given the quantity of research output, this review focuses on selected writings published since 2000 where the techniques, insights, or opinions are noteworthy or generalizable to a larger set of industries. The review begins with a paper that highlights Dr. Gaynor’s views on competition, economics, and antitrust enforcement. It continues with a review of seven other papers covering a broad spectrum of issues in health care and competition. Interested readers are encouraged to review his academic CV for more information on his other publications.

² Martin Gaynor & Paul J. Gertler, Moral Hazard and Risk Spreading in Medical Partnerships, 26 RAND J. Econ. 591 (1995).
Martin Gaynor, Why Don’t Courts Treat Hospitals Like Tanks for Liquefied Gases?
Some Reflections on Health Care Antitrust Enforcement

Prompted by the FTC’s and DOJ’s 2004 report on competition in health care, in this paper Dr. Gaynor comments on two issues that often arise in antitrust enforcement in health care markets. First, he considers why the FTC and DOJ have not been successful in recent antitrust enforcement litigation. Second, he considers whether the best alternative to enforcement is to grant antitrust exemptions to create countervailing power.

By Dr. Gaynor’s count, the agencies have had a poor record in enforcement litigation in the health care industry. They have lost six of the seven cases brought between 1993 and the publication of his article. Dr. Gaynor suggests the losses may be due to perceptions that health care is not a conventional product (e.g., storage tanks for liquefied gases), but rather something exceptional that therefore requires different treatment under the law. Dr. Gaynor takes no issue with those noting that the health care industry is different than others; indeed, nearly his entire body of work is dedicated to researching these “distinctive features.” But he does disagree with the argument that antitrust is incapable of dealing with these issues. For Dr. Gaynor, “Antitrust law is sufficiently general and flexible that it can be applied effectively to hospitals, as it is to a wide variety of other markets . . . .”

To counter the pervasive view that health care should be treated differently from other industries, Dr. Gaynor steps outside of the typical role of social scientist and into the role of an enforcer and litigator. He argues that “an important part of the prosecution of such cases is making convincing arguments about . . . the desirability of competition in health care markets in general . . . .” Or more simply, “It is not necessary to make the case that competition is socially optimal in health care. All that is necessary is to make the case that monopoly power is worse than the alternative.” With such a message, Dr. Gaynor suggests that the enforcement agencies may be able to succeed in convincing judges and juries that their arguments will benefit society.

Another of Dr. Gaynor’s concerns is the pursuit of countervailing market power based on the claim that it is possible to offset the effect of anticompetitive behavior by granting the victims an antitrust exemption. In health care, the argument frequently occurs when physicians seek an antitrust exemption so they may collectively bargain in response to the claimed monopsony power of health insurers. Dr. Gaynor disagrees, and argues for the enforcement of antitrust laws: “The

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5 Gaynor, Liquefied Gases, supra note 3, at 499.
6 Id. at 501–02.
7 Id. at 502 (“It is also worth pointing out that, although health care has some distinctive features (differentiated product, uncertainty, information asymmetries, entry and exit barriers, etc.), these are features that are present in many other industries as well. The fact that they are present in health care in a unique combination and degree does not bestow special antitrust status on health care.” (second parenthetical omitted)).
8 Id. at 500.
9 Id. at 502.
10 Id. at 504.
11 Dr. Gaynor is skeptical that there is monopsony power. Id. at 508 (“As I have already indicated, it is far from obvious that there is a monopsony problem . . . .”).
best response to market power on one side of a market is to remove it. If health insurers possess market power as buyers of physician services in some markets, then enforcement agencies should prosecute them.”12 This is because the economic evidence shows bilateral market power is generally not socially desirable.13

Dr. Gaynor’s spirited defense of antitrust enforcement in health care is reminiscent of statements made by his predecessor, Howard Shelanski, in the context of technology industries—existing antitrust laws are sufficient for enforcement in all industries.14 In that sense, there may be continuity in approach at the Bureau of Economics.


Moral hazard—a problem that arises when someone does not bear the costs of risks or actions he or she takes—is a recurring theme in Dr. Gaynor’s research. This is due, in part, to the ubiquity of moral hazard in health care markets. Consumers generally pay a fraction of the cost of their care, with an insurance company paying for the difference. Because the full cost of treatment is not borne by the consumer, “insured individuals will consume medical services past the point at which the marginal utility of an additional service is equal to its marginal cost . . . .”16

Some have used the distorting effects of moral hazard to suggest that models of perfect competition do not provide an appropriate benchmark with which to evaluate competition in health care industries. They go on to suggest that conventional antitrust enforcement cannot rightly be applied to the health care industry. Dr. Gaynor and his co-authors take issue with this assertion. They extend a standard model of insurance to show that “moral hazard in medical markets is not, per se, an argument for prices higher than marginal costs in the medical market; thus it is not an argument for laxity in antitrust enforcement or for blockading entry in medical markets.”17

**Martin Gaynor & William B. Vogt, Competition Among Hospitals**

Some have argued that the absence of a profit incentive causes not-for-profit hospitals to respond differently to market power than would for-profit hospitals. This is because they are “motivated by community interest rather than by profit.”19 A merger of not-for-profit hospitals, it is argued, would not result in harm to consumers even if it would result in the ability to raise prices. Courts faced with this claim have had mixed views. Some have argued that not-for-profit hospitals are “above

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12 Id. at 507.
13 Id.
16 Id. at 993.
17 Id. at 1001.
19 Id. at 765.
collusion” while others have noted “no one has shown that [not-for-profit status] makes the enterprise unwilling to cooperate in reducing competition . . . .”

Drs. Gaynor and Vogt try to shed light on this debate by simulating the price effects of a merger when the merging firms are either both for-profit or both not-for-profit. Specifically, they simulate the effects of the 1997 merger between Tenet Healthcare Corp and OrNda Healthcorp—two for-profit national hospital corporations—in San Luis Obispo County, California, an area where the FTC expressed concern that the merger would likely result in market power. Their analysis begins with a theoretical model that “suggests that the principal behavioral difference between for-profit and not-for-profit firms is that not-for-profit firms behave like for-profit firms with different cost functions . . . .” The difference is directly tied to the not-for-profit firms’ interest in the good of the community. They then use patient discharge data to econometrically estimate the price elasticities used in their merger simulation.

Their simulation predicts that an unconditional merger between Tenet and OrNda would have yielded price increases of as much as 53 percent. With the divestiture of one hospital, their simulation predicts that prices would be roughly equivalent to what they were, pre-merger. But their most interesting result is apparent when they simulate the merger as if Tenet and OrNda were not-for-profit hospitals. Their simulation predicts that, without a divestiture, the not-for-profit merger would yield roughly the same price effects as would a for-profit merger. That is, a merger of not-for-profit hospitals would be just as detrimental to consumers as would be a merger of for-profit hospitals. Dr. Gaynor’s research thus concludes that enforcement agencies should apply the same rigorous approach to not-for-profit mergers as they would to for-profit mergers.

Martin Gaynor, Competition and Quality in Health Care Markets. What Do We Know? What Don’t We Know?

Dr. Gaynor often discusses health care quality in his research. This is, in part, because “the effect of health care quality on an individual’s well-being can be very great, and often will be more important than the quality of other goods or services.” The presence of insurance may also increase the importance of quality since consumers do not bear the full expense of their decisions. In this paper, Dr. Gaynor reviews the theoretical and empirical literature exploring how quality changes in response to changes in the competitive landscape. His exploration is prompted in part because “[t]he courts and the antitrust enforcement agencies have not dealt with quality in a uniform manner . . . .”

Because health care quality is viewed as a differentiated product, Dr. Gaynor reviews the literature covering both horizontal and vertical differentiation. As foretold by its title, the paper is a sum-
Economic theory does not provide an unambiguous answer to the question of whether competition is welfare enhancing in markets with product differentiation. Nevertheless, Dr. Gaynor concludes that the presumption that competition improves quality in health care markets should not be overturned and that antitrust analysis should include changes in quality. This is especially true in the United States, which relies on markets for health care delivery and financing. But even in Europe, where financing is centralized, competition policy is relevant to assuring quality is not adversely affected.

Throughout the paper Dr. Gaynor refers to “welfare” as the measure of competitive impact. He uses the term in the economic sense (social welfare), rather than the antitrust sense (consumer welfare). As a result, recommendations for antitrust enforcement (and their economic justifications) are not clearly stated. That said, it is clear from this and other writings that Dr. Gaynor believes both quality and price can be affected by competition, and antitrust enforcement should consider both.

Several of Dr. Gaynor’s papers consider changes to the UK health care system meant to improve hospital operations. In 1997 the UK government began to reverse the policy of favoring competition between geographically close hospitals by consolidating operations. The amount of consolidation in the industry was non-trivial. During the ten-year period analyzed, the median hospital market went from seven to five hospitals and an average of 20 mergers occurred each year. The logic behind the merger wave was to replace the boards of failing hospitals with those of more successful ones. In so doing, the policy was intended to inspire more efficient administration through reductions in management and back office costs. This emphasis of “cooperation over competition” is interesting, given the presumption (at least among antitrust practitioners) that competition can facilitate quality improvements in health care. In this paper, Dr. Gaynor and his coauthors investigate whether or not state initiated efforts to improve quality by eliminating competition can also be successful.

Estimating the effect of the consolidation on quality is not a straightforward task, especially since low quality is one reason for consolidation in the first place. This “selection bias” makes it unclear whether observed differences in quality are due to the policy of consolidation or due to some unobserved characteristic of the hospitals chosen to merge. Choice of an appropriate benchmark is important to disentangle these two effects. Had hospitals been randomly chosen to merge it would be possible for all unmerged hospitals to be used as the benchmark or control group. In this case, mergers were not chosen randomly. To deal with this problem, the authors use a subset of unmerged hospitals to serve as a benchmark based upon a “propensity score”

27 Id. at 32.
28 Martin Gaynor, Mauro Laudicella & Carol Propper, Can Governments Do It Better? Merger Mania and Hospital Outcomes in the English NHS.
29 Id. at 528, 530.
30 It was not to reduce clinical costs or to explicitly achieve economies of scale.
31 The authors note that “while the case for a merger is made by the Department of Health on the grounds of performance, whether a merger actually takes place or not can be affected by national politics.” Gaynor et al., Merger Mania, supra note 29, at 530.
designed to measure similarity to the merged hospitals. Propensity score matching is a statistical technique often used by applied economists to aid causal inference.

As noted above, the argument behind consolidation was that it would reduce hospital size, save administrative costs, and improve hospital efficiency. The regression results in the paper indicate only one of the three was actually achieved:

[We] find that whilst the effect of merger was to shrink the combined size of the merged hospitals, other than this reduction in size and associated fall in activity, the merger does not appear to have brought benefits. Labour productivity does not appear to have risen, the merger has not stemmed the increases in size of deficits and there are no indications of an increase in quality (in fact there is one indicator of a fall in measures of clinical care).32

Even so, hospitals have appeared to change some of their operations post-merger. For example, the authors observed staff composition changes such that there is an “increase in the share of staff who are not permanent employees of the hospital.”33 Overall, the authors find that the policy has achieved little more than reducing the number of hospital admissions and changing the employment status of staff.

The research is interesting for several reasons. First, it is evidence that competition remains the more plausible (but by no means certain) mechanism through which hospital quality improves. Second, it provides a different type of merger retrospective than those usually performed. Retrospectives generally focus on a single merger. In contrast, this study considers all mergers that occurred over ten years. The empirically estimated effects are the average effects of consolidation across all hospitals, not just a single merger. Thus, the findings are more generalizable across the industry. Finally, it provides an example of Dr. Gaynor’s creative use of statistical tools to overcome data “imperfections.”

Asako S. Moriya, William B. Vogt & Martin Gaynor, Hospital Prices and Market Structure in the Hospital and Insurance Industries34

In this paper, Dr. Gaynor and his co-authors evaluate the effects of consolidation of health insurers and of hospitals on prices. Unlike other research on the topic, their paper considers the effect of both levels of consolidation rather than considering only one or the other. Their analysis “is best thought of as an empirical exploration of the idea that more concentrated markets [have] less price competition . . . . ”35

Their results indicate that insurer concentration has a greater impact in reducing prices for health services than hospital concentration does in increasing prices. Using point estimates from the regressions, they estimate the effects of two types of hypothetical merger: the “standard merger” (five firms to four) and “the typically challenged merger” (three firms to two). A merger of two out of three hospitals with similar starting market shares is estimated to yield hospital price increases of 1.5 percent, while a “standard” insurer merger is estimated to decrease hospital prices by approximately 6.7 percent. Similarly, a “typically challenged” hospital merger is estimated to increase prices by 4.2 percent while a “typically challenged” insurer merger is estimat-

32 Id. at 537.
33 Id. at 535.
35 Id. at 464.
ed to decrease prices by 18.7 percent. However, the results are not particularly stable, making their broader application limited. For example, excluding Georgia and Michigan from the data produces estimates that are much smaller and not substantially different between insurers and hospitals (e.g., for a “standard merger” the insurer and hospital effects are estimated as 0.67 percent and 0.08 percent, respectively). The estimates of hospital price effects are also not generally statistically significant.

This paper is noteworthy because of differences in the approach and assumptions made relative to Dr. Gaynor’s other published work. Generally speaking, Dr. Gaynor’s publications have tended to use a structural econometric approach—that is, a theoretical model is first established and then tested. This paper has no such explicit theoretical model and instead uses a “reduced form” approach. 36

The paper also uses HHI as a measure of market power. The emphasis on concentration in general and HHI in particular is interesting given the 2010 Horizontal Merger Guidelines, which downplay the effectiveness of HHI calculations as a “rigid screen to separate competitively benign mergers from anticompetitive ones,” 37 especially in the context of differentiated product markets like health care. 38 Even so, the paper does include some of the hallmarks of Dr. Gaynor’s other work, such as accounting for quality of care and taking a normative view that “it is necessary to consider not only [market concentration’s] effects on prices but also its effects on other aspects such as quality of care, the amount of consumer choice, biomedical innovation and provision of charity care to the poor.” 39

Jean Marie Abraham, Martin Gaynor & William B. Vogt, Entry and Competition in Local Hospital Markets

Some of Dr. Gaynor’s research has been influenced by the spate of U.S. hospital mergers that occurred between 1994 and 2000. Consolidation of this magnitude may have implications for both prices and quality and lead to consumer welfare loss, especially in the case of small markets where the resulting merger may lead to monopoly. Indeed, according to Dr. Gaynor, “This industry is [ ] one in which competition is a real issue . . . .” 41 In this paper, Dr. Gaynor and his co-authors build upon earlier research to estimate the competitive impact that each additional hospital may have on a market. They find that the largest change in competition occurs when a second or third hospital enters the market. They conclude that for the average market it is best to have no fewer than three hospitals.

36 Structural econometrics is an approach to statistical analysis wherein economic theory and formal statistical models are explicitly used to aid in model specification, data analysis, and interpretation of results. This is in contrast to reduced form models which are not as explicit in the underlying theory. Both approaches use economics to identify what factors influence a dependent variable (e.g., health care quality). However, because a structural model includes an explicit economic theory, the researcher is able to also describe the mechanisms through which the dependent variable is affected.


38 In earlier work, Gaynor has modeled the hospital industry as a horizontally differentiated product, especially with respect to quality of health care. See Gaynor, Competition and Quality, supra note 24.

39 Moriya, Vogt & Gaynor, Hospital Prices and Market Structure, supra note 34, at 476.


41 Gaynor, Competition and Quality, supra note 2, at 5.
To reach this conclusion they construct a measure of the marginal competitive effect each new hospital has on the market. To enter the market, it is assumed that each entering hospital must be able to achieve revenues sufficient to cover its variable costs. Incumbent hospitals must also earn enough to offset their variable costs or else they will exit the market. This implies that there is a minimum (threshold) level of revenues necessary to sustain a specific number of hospitals in the market. The authors estimate this threshold value on a per firm basis.

The threshold value is not particularly interesting in isolation. What is interesting is how the threshold changes when adding a second, third, fourth, etc. hospital. Dr. Gaynor and his co-authors indicate that a threshold value rising with the number of entrants is a sign that the market is getting more competitive. Intuitively, this is because “tougher competition shrinks profit margins and therefore requires a larger population to generate the variable profits necessary to cover entry costs.”

The hospital data used in their analysis shows that is indeed the case. They conclude that “on average, mergers which take local hospital markets to duopoly or monopoly likely cause significant harm to competition and consumers.” This means that the observed consolidation in the hospital industry may have harmed consumers, especially those in small markets where the mergers resulted in monopoly.

The analysis is also interesting from the perspective of antitrust enforcement because the methodology used may be widely applicable. First, the theoretical framework on which it is based has also been used to evaluate competition in broadcast radio markets and daily newspapers. It may also be possible to expand the framework to other industries with similar fact patterns, specifically those where merging firms have a national presence but local markets. Second, the data necessary to evaluate the model are usually publicly available. These two aspects mean the approach could have broad appeal in evaluating the competitive effects of proposed mergers. This method would not require data collected as part of a second request but would still be more rigorous than some screening tools being used (e.g., upward pricing pressure). Indeed, the authors optimistically state that “[t]his approach can be implemented for industries where there are good data available on quantity in addition to market structure. Such data are commonly available.”


Dr. Gaynor continues to investigate the litigation record of the DOJ and FTC in more recent work. He and his co-authors find the agencies’ poor performance is “due largely to the inability of the antitrust authorities to convincingly define a geographic market that supports their case. In the eight cases brought to the courts [between 1994 and 2005] the primary reason given for denying the government’s request in six of these cases centered on geographic market [definition].”

Abraham, Gaynor & Vogt, Entry and Competition, supra note 40, at 266.
Id. at 286.
44 In their conclusion the authors note that their data included “[t]hree out of the 11 hospital mergers cases that the U.S. antitrust enforcement agencies prosecuted from 1985–2004 . . . .” Id.
45 Id.
47 Id. at 246.
finding prompts Dr. Gaynor and his co-authors to explore the techniques used by the agencies to
define relevant markets and to test whether or not they yield reliable results against benchmarks.48
They find that the “ad hoc” techniques used by the agencies tend to overstate the size of geo-
graphic markets for hospitals and imply elasticities ranging between 2.4 and 3.4 times larger than
those calculated using their benchmark.49 The overstatement leads to the erroneous conclusion
that markets are more competitive than they are in fact. Therefore, reliance on these techniques
unnecessarily weakens the position of the agencies in court when mergers are challenged. This
weakness is especially detrimental in the hospital industry which “has seen more merger litigation
in recent years than in any other industry.”50

Since at least the 1982 Horizontal Merger Guidelines, the relevant geographic market has
been defined using the smallest group of products or firms for which there are no close substitu-
tes, thus allowing a hypothetical monopolist to profitably impose a small but significant and non-
transitory increase in price (SSNIP). “Though there are still differences in the implementation
aspect of market definition analysis, the basis for these disagreements is typically methodologi-
cal rather than the fundamental theoretical question of what defines a market. To this day the
SSNIP criterion continues to be the standard by which courts define antitrust markets.”51

The two quantitative methods used in almost all of the merger cases challenged between
1994 and 2005 to define a relevant market with respect to hospitals are Elzinga-Hogarty (EH) and
Critical Loss Analysis (CLA).52 Dr. Gaynor and co-authors criticize these methods because, the
authors claim, they lack sufficient economic justification,53 are subject to potential bias leading to
the definition of overly broad or narrow markets,54 and are often misused by practitioners.55 In
short, these ad hoc models “suffer from serious flaws . . . .”56 What is not known, and what the
authors seek to quantify, are the consequences of these flaws, including the magnitude of the
errors. To measure the magnitude of the flaws the authors use two structural models of the hos-
pital industry as benchmarks.57 The authors argue that the structural models provide suitable
benchmarks because they “both enable an approach to merger analysis that explicitly accounts
for price changes and are thus based more closely on the method set forth by the antitrust author-
ities in the merger guidelines.”58

Using data from California’s Office of Statewide Health Planning and Development the authors
estimate the relevant geographic markets under CLA and EH, and compare the results to the

48 Generally economists consider both relevant product and geographic markets. In this paper, the authors focus on geographic markets
because “In only one of the last eight cases brought by the government has failure to convincingly define a product market been a deci-
ding factor in a hospital merger case . . . .” Id. at 249.
49 Id. at 285.
50 Id. at 245.
51 Id. at 248 (parenthetical omitted).
52 Id. at 249, 251.
53 Id. at 252.
54 Id. at 253.
55 Id. at 254.
56 Id. at 244.
57 Gaynor & Vogt, Competition Among Hospitals, supra note 18 (which was based in part on Steven Berry, James Levinsohn & Ariel Pakes,
Differentiated Products from a Combination of Micro and Macro Data: The New Car Market, 112 J. POL. ECON. 68 (2004)) and Cory Capps,
58 Gaynor et al., Market Definition, supra note 46, at 256.
benchmarks. They find that using local markets as defined under CLA, the median number of hospitals is 16, and 13 for EH. Under the structural benchmark they find the median number of hospitals is 3. The estimated HHIs are also substantially different: 1,194, 1,499, and 3,814 for CLA, EH, and the benchmark, respectively. Using San Diego as an example for estimating price effects, the estimated own price elasticities under the structural benchmark imply a price increase resulting from a hypothetical merger between two hospital systems could be as much as 17.48 percent. This is in contrast to the predictions of the ad hoc measures, which found unilateral effects unlikely to occur.

Definition of a relevant market is an important piece of antitrust analysis and, historically, has been closely scrutinized by the courts. In the case of hospital mergers, that scrutiny has rarely resulted in success for U.S. enforcement agencies. Dr. Gaynor and his co-authors have found that the ad hoc market definition methods relied upon by the FTC and DOJ substantially underestimate concentration and thereby undermine their abilities to block mergers that will likely adversely affect competition. The authors’ results “illustrate the importance of economic modeling for defining markets” and show that a structural approach “should be emphasized when assessing the extent of market power in [hospitals] and other differentiated product industries.”

Conclusion

Dr. Gaynor appears to view the health care industry as one “with unique attributes,” but he also finds that “nothing about the specifics of the health care industry suggests that the unregulated use of market power in the industry is socially beneficial. As a consequence, the antitrust laws should be enforced here as in any other industry.” Similarly, Dr. Gaynor’s research, including techniques and conclusions, should not be viewed narrowly. Much of what he has done can be (and has been) applied to other industries beyond health care. As such, his rich research experience in the health care industry prepares him well to analyze all manner of industries and investigations arising during his tenure.

59 The authors distinguish between the effects of multi-hospital systems merging from those of individual hospitals merging. Hospital systems are assumed to collectively bargain which creates some problems in estimating a SSNIP. The HHIs and elasticities reported here are for multi-hospital systems. To learn more about the complications of multi-hospital systems and how those complications were resolved, see id. at 268, 279–84.

60 Id. at 269.

61 Id. at 284.


63 Gaynor et al., Market Definition, supra note 46, at 285.

64 Gaynor, Liquefied Gases, supra note 3, at 497.