

March 3, 2011

FTR

Statement
Of
Anthem Blue Cross and Blue Shield

HB 6471 An Act Prohibiting Most Favored Nation Clauses In Health Care Provider Contracts

Anthem Blue Cross and Blue Shield (“Anthem”) *opposes* HB 6471 An Act Prohibiting Most Favored Nation Clauses In Health Care Provider Contracts and encourages the Insurance Committee to reject this bill. The compelling reasons in support of Anthem’s opposition are described below.

A. Legal Considerations Support Most Favored Nation Clauses

No federal or Connecticut court has ever concluded that most favored nation clauses, as a purchasing practice, are either illegal or automatically anticompetitive. To the contrary, virtually every court that has considered the effects of a most favored nation clause has found that it is a legitimate buying practice and makes sound economic sense. In fact, many courts have upheld the valid business reasons for having a most favored nation clause, explaining that such clauses are exactly the type of practice by buyers that the antitrust laws are intended to encourage since these clauses are designed to get the buyer price protection. The determination whether a particular most favored nation clause has an anticompetitive affect is fact specific, and can be adequately addressed under existing law. Consequently, not only is there no basis in law or fact to legislate against most favored nation clauses, but there already exists a legal framework within which the market affect of a particular clause can be assessed from an antitrust perspective.

This proposed bill represents an inappropriate use of the legislative process in the negotiations of a private contractual matter between sophisticated bargaining parties. The Legislature should exercise restraint and avoid interjecting itself into a private contractual negotiation.

B. Most Favored Nation Clauses Further Legitimate Business Purposes and Produce Pro-Consumer Benefits

Insurers and managed care organization that buy health care services have legitimate business reasons, just like any other buyer, to include most favored nation clauses in their health care provider contracts. A common type of most favored nation clause used in health care provider contracts is called an equal (or comparable) rate provision. An equal rate provision protects an insurer or managed care organization against price disadvantage if the provider offers a better discount, or price, to another payor; in such event, the insurer or managed care organization with an equal rate provision would likewise get the benefit of the better discount.

The equal rate provision is a prudent buying practice and produces real cost benefits and efficiencies for an insurer and its customers. For example, when an insurer negotiates with hospitals to obtain hospital services, the insurer is bargaining for the lowest possible cost of those services on behalf of its customers, both employer groups and members. An equal rate provision is a valuable cost-control device that can protect insurers from paying prices

that are over market rates. This cost protection also allows the insurer to enter into long-term provider contracts, thereby assuring network stability for the insurer's members. This price protection *directly and immediately benefits the insurer's self-funded employer groups*, which fund the cost of their employees' health care services. The price protection *also benefits the insurer's members* whose health benefit plan requires the member to pay a percentage of the price of their health care services (e.g., a coinsurance).

An equal rate provision can be advantageous for both the buyer (the insurer) and the seller (the provider). An equal rate provision enables an insurer to enter into long-term contracts for health care services since the equal rate provision ensures that the insurer will not be disadvantaged competitively with regard to the provider's price. Long-term contracts for health care services are beneficial to the consumer because they enable an insurer to control future costs, maintain stable provider networks for its members, and ensure that its members have participating providers readily accessible for the members' care. These long term contracts also benefit the seller of health care services (e.g., a hospital) because the seller is able to lock-in payment rate increases and assures a stable income stream.

As mentioned, most favored nation clauses are used by purchasers in many industries involving the sale of goods to ensure that the purchaser receives the lowest possible price. In fact, in the health care industry, hospitals commonly use most favored nation clauses when they purchase equipment, drugs and supplies. An insurer's use of a most favored nation clause is consistent with the use of such clauses by others in the health care industry, such as hospitals, as well as by purchasers in other industries.

C. There Is No Evidence That Justifies Interference With Freely Bargained Contracts

The health benefits market in Connecticut is a vibrant market with robust competition among many insurers, managed care organizations and third-party administrators. Most favored nation clauses have always been permitted, and there is no publicly available economic research that such provisions have produced any actual anticompetitive effects. In 2000, Dr. William Lynk, an economist, published an article which is the only published economic research to date on the effects of most favored nation clauses in health insurance contracts. This study titled "Some basics about most favored nation contracts in health care markets" is published in the Antitrust Bulletin/Summer 2000. The analysis and conclusions of this economic research study are extremely important for several reasons.

First, the article indicated that no empirical research had ever been done previously on the effects of most favored nation clauses in health care markets. This is critical because empirical economic evidence, not theory or assumptions, should be the basis for antitrust law and state law analysis of most favored nation clauses. As Dr. Lynk stated, "only factual investigation can determine whether in any actual market the balance of consumer benefits from MFNs [most favored nation clauses] is positive or negative." Dr. Lynk also explained that the relevant consideration is the effect on the average price paid by all consumers, not the effect on competitors.

Second, Dr. Lynk for the first time conducted an empirical study on most favored nation clauses in two markets and found that there were no anticompetitive effects. Rather, he found that the enrollment of the other plans increased and there were pro-competitive benefits because the most favored nation clauses caused a decrease in hospital prices.

In sum, the Lynk research study demonstrates that (i) there is no empirical economic evidence to date that most favored nation clauses in health insurance contracts produce anticompetitive effects; and, (ii) the only existing empirical evidence shows that most favored nation clauses are pro-competitive and beneficial, and are based on valid economic and business reasons. As a result, this economic research study concluded that “If there is one lesson that is warranted from this analysis, it is that across-the-board presumptions opposing MFNs are groundless.” To Anthem’s knowledge, no empirical economic analysis of most favored nation clauses in health insurance contracts has been conducted since 2000.

The opposition to the use of most favored nation clauses is fundamentally based on theories and assumptions, which, as Dr. Lynk’s economic research study pointed out, cannot be relied upon. There is no valid economic evidence to justify a prohibition against the use of most favored nation clauses, especially when their purpose is to reduce costs for consumers.

In conclusion, Anthem submits that the use of most favored nation clauses by insurers who purchase health care services is good for the consumer and good for the Connecticut health benefits market. It is a prudent and legitimate buying practice that is used by insurers for the benefit of their employer groups and members. Since there is no empirical economic evidence of any adverse affects from the use of these clauses, there is no valid legal or economic basis for the Legislature to interfere in the contract negotiations of buyers and sellers in the health care market. The proposal in HB 6471 to prohibit insurers and managed care organizations from including a most favored nation requirement in provider contracts would create bad law and bad health care policy in Connecticut. We therefore urge the Committee to vote against this bill.

Appendix B

Some basics about most favored nation contracts in health care markets

BY WILLIAM J. LYNK*

I. Introduction

A most favored nation (MFN) provision is a condition in a contract between a buyer and a seller, specifying that the buyer gets the benefit of the lowest price that the seller charges to other buyers. So if Smith, a seller, and Jones, a buyer, enter into a contract with an MFN provision under which Jones initially gets a price of \$10, and Smith later sells the same product to another buyer at a price of \$9, then Jones also gets the same lower \$9 price. Or, to rearrange the emphasis, Smith had better not offer the \$9 price to the other buyer unless he is prepared to cut his price to Jones as well.

MFN provisions affect prices, and so it is not surprising that their use has attracted the attention of the federal antitrust agencies. Their earliest litigated assault on this practice was 20 years

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ago, when in 1979 the Federal Trade Commission brought the *Ethyl* case against the sellers of gasoline additives.¹ The Commission found MFNs to be anticompetitive and enjoined their further use, but it was reversed soundly by the Second Circuit Court of Appeals.² Since then, virtually all MFN cases brought by the federal agencies have involved contracts in the health care industry, generally between providers of medical services (e.g., physicians, dentists, hospitals) and purchasers of those services (e.g., health insurers, including health maintenance organizations [HMOs]).³ In addition to the federal antitrust agencies' challenges to health care MFN contracts, the practice has been attacked frequently by private health care antitrust litigants, in which typically a health care purchaser with an MFN provision is sued by either a provider or a competing purchaser (usually a managed care payor such as an

¹ *In re Ethyl Corp.*, 101 FTC 425 (1983). A prior Justice Department investigation of MFNs in the electrical equipment industry ended in settlement with a consent decree; *U.S. v. General Electric Co.*, 1977-2 Trade Cas. (CCH) ¶61,660 (E.D. Pa. 1977) (consent decree).

² *E.I. du Pont de Nemours & Co. v. FTC*, 729 F.2d 128 (2d Cir. 1984).

³ "With the exception of *Ethyl*, the major antitrust challenges to MFN clauses have been in the context of the health care industry." Arnold Cellicker, *A Competitive Analysis of Most Favored Nations Clauses in Contracts Between Health Care Providers and Insurers*, 69 N.C. L. REV. 864, 868 (1991). *See, e.g.*, *United States v. Oregon Dental Service*, 1995-2 Trade Cas. (CCH) ¶71,062 (D. Or. 1995) (consent decree); *United States v. Delta Dental Plan of Arizona*, 1995-1 Trade Cas. (CCH) ¶71,048 (D. Ariz. 1995) (consent decree); *United States v. Vision Service Plan*, 1996-1 Trade Cas. (CCH) ¶71,404 (D.D.C. 1996) (consent decree); *RxCare of Tennessee*, Dkt. C-3664 (FTC June 10, 1996) (consent order); and *United States v. Delta Dental Plan of Rhode Island*, 943 F. Supp. 172 (D.R.I. 1996), 1997-2 Trade Cas. (CCH) ¶71,860 (D.R.I. 1997) (consent decree). *See also* *United States v. Medical Mutual of Ohio*, N.D. Ohio No. 1:98-CV-2172 (September 23, 1998), a proposed consent decree eliminating the use of MFNs by Medical Mutual, the largest commercial health care insurer in the Cleveland metropolitan area and until recently a Blue Cross plan, described in 75 *Antitrust & Trade Reg. Rep.* 374 (BNA) (October 1, 1998), and Erik F. Dyhrkopp & Andrew H. Kim, *Antitrust Enforcers Step Up Scrutiny of MFN Clauses*, NATIONAL L. J., July 5, 1999, at B7.

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HMO).⁴ When the providers sue, they typically complain that the prices that they must accept from the defendant purchaser are too low; when the competing purchasers sue, they typically complain that the prices that they must pay to providers are too high.

The recent antipathy of the federal antitrust agencies toward the practice of MFN provisions in health care contracts is unmistakable. As the Department of Justice recently explained in urging the Pennsylvania insurance commission to disallow the use of an MFN provision:

[W]here sellers (hospitals) and buyers (health plans) negotiate price and a large buyer asks sellers for a guarantee of the best rate given to any other purchaser, anticompetitive results can occur. . . . [T]he cost to a hospital of granting a price concession . . . increases dramatically because this same price must be given to the larger buyer. . . . This reduces the incentive of a hospital to grant price concessions to [managed care plans] and thus helps the hospital negotiate a higher price with [managed care plans].⁵

The timing of this emerging enforcement posture in the 1990s is puzzling for at least three reasons. One is that this contractual feature is not a recent development; MFNs have been around for a long time. Second, the economic theory on MFNs is remarkably ambiguous in terms of its economic welfare implications; even analyses that fall generally into the anti-MFN camp usually note

⁴ For example, *Blue Cross & Blue Shield v. Michigan Association of Psychotherapy Clinics*, 1980-2 Trade Cas. (CCH) ¶63,351 (E.D. Mich. 1980); *Kitsap Physicians Service v. Washington Dental Service*, 671 F. Supp. 1267 (W.D. Wash. 1987); *Reazin v. Blue Cross & Blue Shield*, 663 F. Supp. 1360 (D. Kan. 1987), 899 F.2d 951 (10th Cir.); *Ocean State Physicians Health Plan v. Blue Cross & Blue Shield*, 692 F. Supp. 52 (D.R.I. 1988), 883 F.2d 1101 (1st Cir. 1989); *National Benefits Administrators v. Blue Cross & Blue Shield*, 1989-2 Trade Cas. (CCH) ¶68,831 (M.D. Ala. 1989), 907 F.2d 1143 (11th Cir. 1990); *Willamette Dental Group, P.C. v. Oregon Dental Service*, 882 P.2d 637 (Or. App. 1994); and *Blue Cross & Blue Shield v. Marshfield Clinic*, 65 F.3d 1406 (7th Cir. 1995).

⁵ Letter from Anne K. Bingaman, Assistant Attorney General, Antitrust Division, to Hon. Cynthia M. Maleski, Pennsylvania Insurance Commissioner (Sept. 7, 1993), concerning an MFN provision adopted by Blue Cross of Western Pennsylvania in its contracts with hospitals.

that there exist circumstances under which MFNs can be efficient and procompetitive, and vice versa for analyses that fall generally into the pro-MFN camp.⁶ And third, there is virtually no published empirical economic research on the actual, rather than theoretical, effects of MFNs on the health care markets in which they are used, empirical evidence that is ordinarily our guide to antitrust policy in circumstances in which theoretical predictions cut both ways.⁷

To recap quite lightly some of the insights from previous literature on the MFN issue, two themes seem to predominate. The principal anticompetitive theme is that MFNs are initiated by otherwise competitive sellers in a market because MFNs make it easier to detect secret deviations from explicit or implicit agreements on price.⁸ A related anticompetitive subtheme is that MFNs are initiated by dominant purchasers, because MFNs disadvantage any rivals who might otherwise dicker for a lower price than the

⁶ See, e.g., Steven C. Salop, *Practices That (Credibly) Facilitate Oligopoly Coordination*, in *New Developments in the Analysis of Market Structure* 265 (Joseph E. Stiglitz & G. Frank Mathewson eds., 1986); Celnicker, *supra* note 3; Joseph Kattan, *Beyond Facilitating Practices: Price Signaling and Price Protection Clauses in the New Antitrust Environment*, 63 *ANTITRUST L.J.* 133, 146-50 (1994); Anthony J. Dennis, *Most Favored Nations Clauses Under the Antitrust Laws*, 20 *U. DAYTON L. REV.* 1 (1995); Joseph Kattan & Scott A. Stempel, *Antitrust Enforcement and Most Favored Nations Clauses*, *ANTITRUST*, Summer 1996, at 20; and Jonathan B. Baker, *Vertical Restraints with Horizontal Consequences: Competitive Effects of "Most-Favored-Customer Clauses,"* 64 *ANTITRUST L.J.* 517 (1996).

⁷ Most of the empirical literature on MFNs concerns natural gas contracts; see Keith J. Crocker & Thomas P. Lyon, *What Do "Facilitating Practices" Facilitate? An Empirical Investigation of Most-Favored-Nation Clauses in Natural Gas Contracts*, 37 *J. L. & ECON.* 297 (1994); and David A. Butz, *Most-Favored Treatment Provisions as Nondiscrimination Guarantees*, 2 *INT'L J. ECON. BUS.* 65 (1995), and references cited therein.

⁸ Ironically, they do so by enlisting the unwitting assistance of the customer, who in a typical MFN arrangement has the right to audit the seller's records to guarantee that no other customer is getting a lower price.

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dominant purchaser's price (in which circumstance the MFN will also be applauded by sellers who hope to escape the competitive pressures associated with an environment of rampant discounting). The principal procompetitive or efficiency-related theme is that an MFN is one of many available features in supply contracts that, depending upon market characteristics, will permit some buyers and some sellers to achieve their competitive objectives more effectively.⁹ In this event MFNs will ordinarily receive mixed reviews from market participants: favorable from those who find them competitively useful, and unfavorable from their competitors who don't.

In this article I have several contributions to offer to the evolving antitrust attitude toward the use of MFN provisions in health care provider contracts. The first is to outline a simple economic model of the effects of MFNs on provider incentives to reduce price, a model that demonstrates why the apparent general intuition—that MFNs can be neither condemned nor commended by theory alone—is correct. The second is to examine empirically the actual effects of the adoption of MFN provisions that were incorporated into the provider contracts of two health care purchasers—Blue Cross plans in Rhode Island and in Philadelphia—an examination that may contribute to the empirical basis for antitrust judgment that has, so far, been scarce in this area of inquiry. And finally, I provide some statistics on the remarkable degree of price dispersion in health care markets, a fact that may help explain why MFNs can be economically efficient and attractive to cost-conscious health care purchasers.

II. Price discounting with and without MFNs

To telegraph one of the conclusions of this section, the net overall effect of MFNs on average market price is fundamentally ambiguous; economic theory provides no universally applicable proof that MFNs always raise price on balance, or always lower

⁹ Chief among those market characteristics is uncertainty over the distribution of prevailing or future market prices, a characteristic that I discuss at greater length in section III below.

price on balance.¹⁰ As a very broad generalization, hostile anti-trust verdicts on MFNs are generally grounded in hypotheses that sellers use them to help enforce explicit or tacit collusion by making price cuts more detectable and more expensive, or that purchasers use them to help prevent their competitors from buying inputs more cheaply. Conversely, benign verdicts on MFNs are typically grounded in hypotheses that they increase the efficiency of transacting through contract, by creating a means of structuring an enforceable agreement to guarantee low prices. It is for that reason that establishing even the direction—pro or con—of the competitive effects of an MFN in any actual market is an empirical question. In this section, I sketch out some of the basic mechanics of price discounting with MFNs to demonstrate intuitively why we need more than a theory to either denounce or endorse MFNs.

A. *When is a discount proposal profitable?*

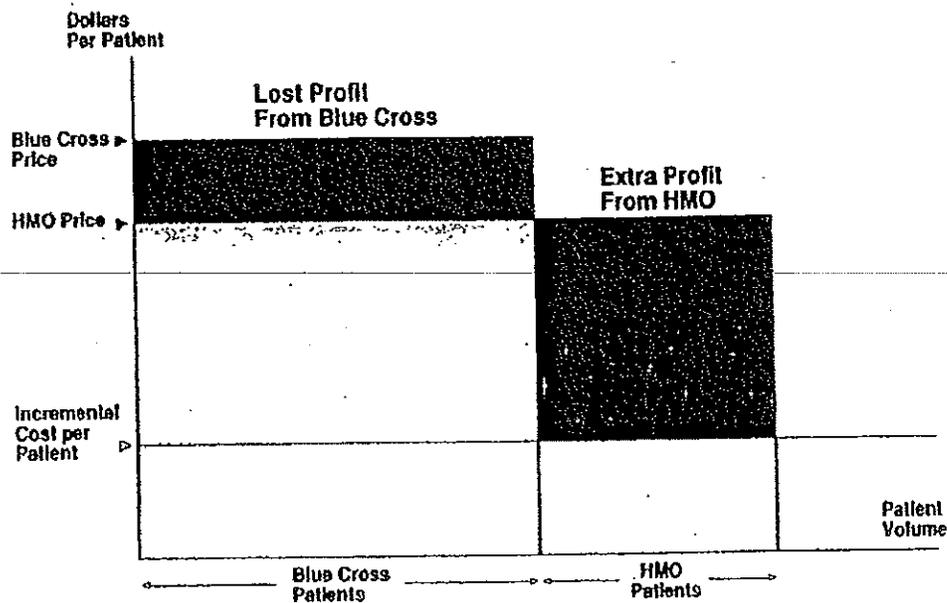
Assume that a hypothetical insurer—call it Blue Cross—contracts with all of the hospitals in its service area to purchase inpatient hospital services for its members. The contracts have MFN provisions of the sort described above; if any one hospital gives a lower price to another purchaser than it is currently giving to Blue Cross, then when this happens Blue Cross will get the same low (“discounted”) price.¹¹

¹⁰ This should not be surprising. It is well known in the economics literature that the welfare implications of price discrimination are ambiguous; depending on the elasticities of consumer demand and the structure of the price schedule, there can be circumstances under which price discrimination either increases or decreases consumer welfare. *See generally* LOUIS PHILIPS, *THE ECONOMICS OF PRICE DISCRIMINATION* (1983). Since MFNs affect the degree of price discrimination within a market, it is unremarkable that their welfare implications also are ambiguous.

¹¹ To keep this description manageably simple, I assume throughout that, in the absence of an MFN provision, hospitals would charge only two classes of prices to their private-pay patients. One is the hospital’s “standard” or undiscounted price, which all indemnity payors, including Blue Cross, pay. The other is an array of discounted prices that the hospi-

Figure 1 shows us how this arrangement looks to a hospital when it contemplates a discount proposal to an HMO. The hospital has a substantial volume of Blue Cross patients, as shown on the horizontal axis of the figure.¹² Blue Cross's contract provides for a price substantially in excess of the hospital's incremental cost per patient, so each Blue Cross patient provides a significant incremental profit. An HMO offers the hospital the usual pitch, under which the HMO, which currently does not deal with the hospital, will begin sending it a specified number of patients ("HMO patients" on the horizontal axis), but only if the hospital gives it a discounted "HMO price," which is below the price that the hospital charges Blue Cross. Although the proposed HMO price is discounted, it is still comfortably above the hospital's

Figure 1
The Arithmetic of Discounting With an MFN Contract



tal offers to HMOs, generally in return for the HMOs' promises of incremental patient volume.

¹² The hospital also has many patients covered by other payors, all of whom I omit from the graph for simplicity.

incremental cost, and so landing the deal would add to the hospital's bottom line.

But with an MFN, the hospital must balance the incremental gain from the HMO's business against the corresponding incremental loss of some of its Blue Cross revenues when it gives Blue Cross the same low price that it gives to the HMO. If the "extra HMO profit" rectangle is larger than the "lost Blue Cross profit" rectangle (as it is in figure 1) then the hospital offers the discounted price to the HMO and grants it to Blue Cross as well. Under other circumstances—a lower HMO price necessary to do the deal, lower HMO patient volume, or higher Blue Cross patient volume—the lost Blue Cross profit rectangle would swamp the extra HMO profit rectangle, and the hospital would decline to deal with the HMO.

B. What determines the size of the discount offer?

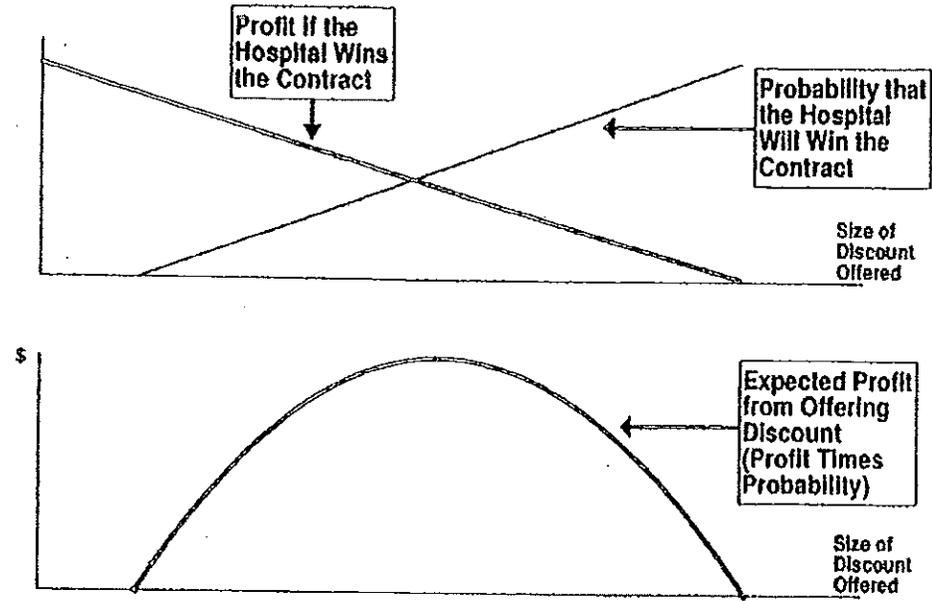
The size of the discount that is necessary to clinch the HMO's business is a key determinant of whether a deal is struck or not; the smaller the necessary discount (that is, the higher the HMO price), the likelier that the figure 1 "balance of rectangles" will favor granting a discount to the HMO. Figure 2 puts a little structure on the concept of determining the size of the discount that the hospital will offer in the absence of an MFN provision with Blue Cross.

Start with the upper panel of the figure. The horizontal axis reflects the percentage discount that a hospital might offer to an interested HMO; moving from left to right represents a greater discount (that is, a lower price) offer.¹³ As the proffered discount gets deeper, two things happen. The first is that the profitability of the HMO contract—if the hospital wins it—declines.¹⁴ The second

¹³ At a discount of zero, the hospital offers the HMO the same price that Blue Cross pays.

¹⁴ At a zero discount, the HMO contract would be exactly as profitable, per patient, as the Blue Cross business. As the discount offer becomes deeper, profitability falls, eventually to zero.

Figure 2
The Profitability of Obtaining an HMO Contract by Offering Discounts:
No MFN



is that the probability that the hospital's offer will be attractive enough to actually win the HMO contract rises.

The profit from the contract *if* it is won, times the probability that the contract *will* be won, equals the expected profitability of the contract. Both of these factors vary with the level of the offered discount. That multiplicative function is shown in the lower panel of figure 2. Intuitively, expected profit is low at low discount levels because, although such a contract would be lucrative if won, the odds of actually winning it are slim. Conversely, the expected profit is also low at high discount levels because, although the odds of winning the contract are high, the profits from performing such a contract are low. The hospital finds its highest expected profit by offering the HMO an intermediate-level discount, one with an appreciable chance that the offer will be spurned but with appreciable profits realized if it is accepted.

C. How does an MFN affect the size of the discount offer?

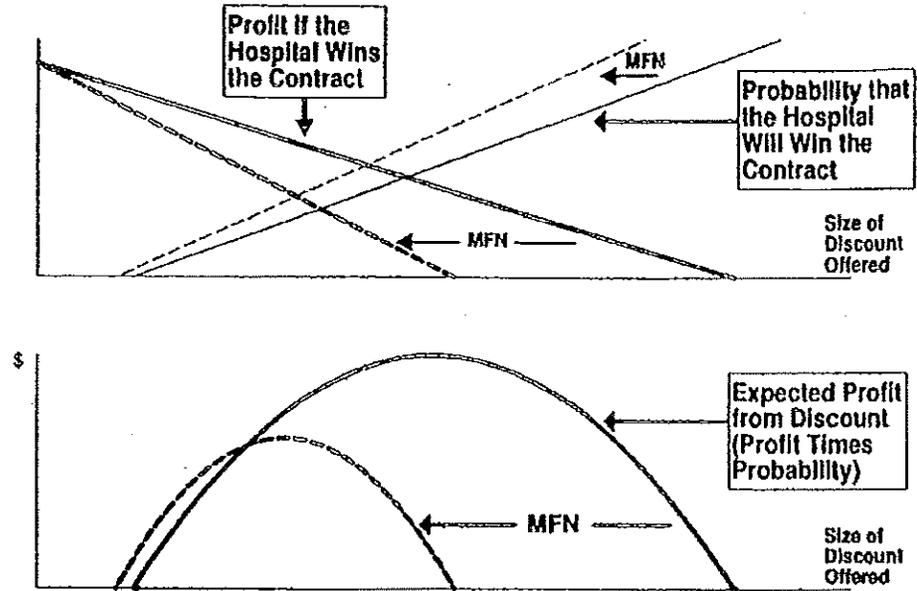
We now change the market environment of figure 2 by assuming that this hospital, and all or most of its competitors, has a contract with Blue Cross that contains an MFN provision. Figure 3 is structured like figure 2, and shows us how the MFN changes the expected profitability of offering discounts to HMOs. There are two MFN effects, shown in the upper panel. The first is that the MFN reduces the profitability of any HMO contract that the hospital wins, because the hospital's profit from the HMO contract is now offset by the "hit" that it takes from granting the same discount on its existing Blue Cross business.¹⁵ The second effect is that the MFN increases the hospital's probability of actually winning the contract at any given level of discount. The reason for this is that if the marketwide MFN feature reduces the profitability of a discounted HMO contract for *this* hospital, it also necessarily reduces the profitability of discounting to win the HMO's business for all of the hospital's *competitors*. This means that the distribution of competing hospitals' bids for the HMO's business will reflect lower levels of discounts (that is, higher prices), which in turn means that any particular level of discount that this hospital offers now has a higher chance of being good enough to win the HMO contract.

The bottom line (in the bottom panel) is that the expected-profitability-of-discount relationship shifts as a result of the MFN provision. There are three qualitative points about the effects of the MFN on the hospital's discount strategy that emerge from this simple theoretical model. First, the model implies that MFNs reduce the hospital's optimal discount offer to the HMO, which is to say that they reduce the spread between the HMO price and the Blue Cross price.¹⁶ Second, it implies that MFNs reduce the over-

¹⁵ Note that this effect is zero for an HMO discount of zero, because in that case no adjustment to the Blue Cross price is required. The MFN effect on foregone profits from Blue Cross business becomes greater as the HMO discount becomes greater, because the "foregone profit" rectangle in figure 1 becomes greater as the HMO price becomes lower.

¹⁶ Which we see because the expected profitability curve peaks at a lower level of discount with MFNs in place.

Figure 3
The Effect of an MFN Contract on the Expected Profitability of Discounting



all profitability to the hospital of engaging in HMO discounting at all.¹⁷ And third, although with MFNs the hospital's optimal profitability from discounting is lower, it is nevertheless positive; even with the MFN provision, discount offers to HMOs are still profitable, and will still be made.

D. Are MFNs procompetitive or anticompetitive?

In health care antitrust assessment we are ordinarily concerned with overall, marketwide effects, not with effects on HMOs considered in isolation from the rest of the market.¹⁸ On the one hand,

¹⁷ Which we see because the peak of the expected profitability curve is lower with MFNs.

¹⁸ "Viewing the managed care discounts in light of their impact on the welfare of consumers as a whole exposes them as illusory. Such selective price advantages are hardly the sort of benefit the antitrust laws

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we might expect smaller HMO discount offers with an MFN; but on the other hand, those discounts, although smaller, are now extended to a larger number of patients, because they are now extended to the Blue Cross patients as well as the HMO patients. The terms of the MFN tradeoff are these: we can have deeper discounts to a smaller number of patients without an MFN, or we can have shallower discounts to a greater number of patients with the MFN. If we adopt the aggregate dollar amount of discounting as an operational criterion of the marketwide effect on pricing conduct, then by that criterion MFNs are as capable of increasing aggregate discounting as reducing it.¹⁹

The simple analytic point of this derivation is that the question of MFN effects on aggregate discounting in the market is fundamentally empirical rather than wholly theoretical. Theory can tell us what effects to expect and to look for—for example, with MFNs we will see shallow discounts for the many, rather than deep discounts for the few—but only factual investigation can determine whether in any actual market the balance of consumer benefits from MFNs is positive or negative.

are designed to protect.” *Federal Trade Commission v. Butterworth Health Corp.*, 946 F.Supp. 1285, 1299 (W.D. Mich. 1996), *aff’d*, 121 F.3d 708 (6th Cir. 1997).

¹⁹ By aggregate dollar amount of discounting I mean the average per-patient discount (for those patients receiving a discount) multiplied by the number of patients receiving a discount. It is the effect of a practice on the average price paid in the market that is ordinarily the central antitrust criterion of consumer welfare effects, not the details of discounting by which that average price is arrived at. Therefore, acceptance of “aggregate discounting” as a practical welfare criterion implies acceptance of the untested assumption that high levels of discounting activity are associated empirically with low levels of average—discounted and undiscounted—price. Whether we accept that assumption or not, empirical examination of the aggregate extent of discounting has independent relevance in its own right, because discounting is the intermediating mechanism through which the MFN may potentially affect average market price.

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III. Some evidence to go with the theory

Compared to other topics in antitrust and industrial organization—the relationship between market structure and price, for example—there is very little published empirical research on the actual effects of MFN provisions, and virtually none that concerns health care markets, the one industry in which recent government and private attacks on this practice have so predominantly focused. I summarize here the available basic economic evidence on market effects in two recent challenges to Blue Cross MFN provisions, one in Rhode Island involving physicians and the other in Philadelphia involving hospitals.²⁰ The available evidence is limited to two instances of the introduction of MFNs in health care provider contracts, but the fact that each of them had enough “bite” to provoke litigation by competing health insurance plans suggests that they may be particularly instructive examples of the MFN phenomenon more generally.

I examine below three observable market characteristics that are relevant to the introduction of these MFN provisions. One is the growth rate of the discount-seeking HMOs. The adoption of the MFN should have improved Blue Cross’s competitive position, and worsened the HMOs’ position, each relative to the other. This is not exactly shocking; competitors (like Blue Cross) generally don’t take competitive initiatives of any sort in which they hope to worsen their position. Thus it is plausible to suspect that even in instances where MFNs do not injure competition itself—that is, do not increase average market price or reduce total market output—they may still have the potential to injure one category of competitors (the discount-seeking HMOs). The second inquiry that I make with data available for the *QualMed* case (though not available for *Ocean State*) is the effect of the MFN on

²⁰ *Ocean State Physicians Health Plan, Inc. v. Blue Cross & Blue Shield of R.I.*, 692 F. Supp. 52 (D.R.I. 1988), 883 F.2d 1101 (1st Cir. 1989) (physicians); and *Petition and Complaint of Health Systems International and QualMed Plans for Health of Pennsylvania regarding: Independence Blue Cross Filing No. 1-P-92 and Subsequent Blue Cross Hospital Contracts*, Dkt. No. M95-06-024 (Insurance Commissioner of the Commonwealth of Pennsylvania) (June 13, 1995) (hospitals).

hospital pricing, specifically on the average level of net price (that is, after all discounts). It is this effect on consumers generally, and not the effect on the HMO competitors particularly, that is the pertinent test of antitrust injury from MFNs. I also examine in that inquiry both the degree to which net price is discounted from list price (an indirect indicator of hospital pricing conduct) and also the level of hospital profitability (an indirect indicator of the effects of hospital pricing). And finally, I examine (again for the *QualMed* market) some characteristics of hospital pricing that may help explain the reasons for Blue Cross's adoption of the MFN provision.

A. *The MFN effect on HMO enrollment*

The contention that Blue Cross MFNs injured the entire class of HMO health care purchasers was central both in *Ocean State* (which appears to be the most cited litigated case on MFN issues) and in *QualMed*. I will not rehash here the fact finding in *Ocean State*, since there is no shortage of law review articles that handle that task ably.²¹ The essential, simplified fact relevant to my purposes is that Blue Cross-Blue Shield of Rhode Island (BCRI), despite the possession of monopoly power in Rhode Island health care financing (which BCRI conceded at trial), was concerned with rising competition from the Ocean State HMO. Upon investigation, BCRI discovered that it was effectively paying more for the services of Rhode Island physicians than the upstart Ocean State HMO was. In response, BCRI in 1986 initiated (among other things, including starting its own HMO) an MFN provision in its physician service contracts. Ocean State sued, claiming antitrust injury, but BCRI prevailed. The Blue Cross MFN provision survived intact.

The relevant stylized facts are roughly similar in *QualMed*. Independence Blue Cross (IBC), which services the greater Philadelphia metropolitan area, added an MFN provision to its

²¹ For a starting point, see Anthony J. Dennis, *Potential Anticompetitive Effects of Most Favored Nation Contract Clauses in Managed Care and Health Insurance Contracts*, 4 ANNALS HEALTH L. 401 (1995), and the references cited therein.

hospital contracts effective as of mid-1992, which required each contracting hospital to offer IBC a price as low as the lowest price that the hospital gave to any other nongovernment payor. In response, the Justice Department in 1993 opened "a civil investigation . . . to assess the competitive effects of IBC's [MFN provision] and to determine whether it violates the federal antitrust laws."²² The Justice Department eventually dropped its investigation, but only because the issue would likely be exempt from federal antitrust scrutiny under the state-action doctrine, and suggested on its way out that the state insurance commission should be the agency to investigate "whether [IBC's MFN] has, in fact, reduced health-care costs" based upon "information now available . . . about the policy's actual effects."²³ Also in response, QualMed, one of the potentially adversely affected HMOs, brought an action against IBC through the Pennsylvania Insurance Commission, which had the legal authority to enjoin the MFN provision. That case was eventually resolved through a 1998 settlement agreement between IBC and the Insurance Commission.

Although the simple economic model sketched in the previous section is ambiguous with respect to consumer injury, it does imply that the MFN should have injured the competitive position of HMOs. Based upon theory alone, we might well predict that both of these Blue Cross MFNs would have stopped the HMO movement cold. After all, if HMOs offer subscribers only a limited panel of health care providers, yet have no provider discounts

²² Letter from Steven Kramer, Attorney, Antitrust Division, to Hon. Cynthia M. Maleski, Pennsylvania Insurance Commissioner (May 5, 1994). This investigation of Blue Cross contracting practices in eastern Pennsylvania was conducted in parallel with the overlapping similar investigation in western Pennsylvania, *supra* note 5. Both of these Blue Cross plans were reported in the general press to have had high enough shares of their respective service areas' health insurance business to raise competitive concerns with the Antitrust Division: A share of 70% for Blue Cross of Western Pennsylvania, and over 50% for IBC. Marc Metzger, *Blue Cross Practice Eyed*, PHILADELPHIA DAILY NEWS (P.M. ed.), Sept. 15, 1993, at B21.

²³ Kramer, *supra* note 22.

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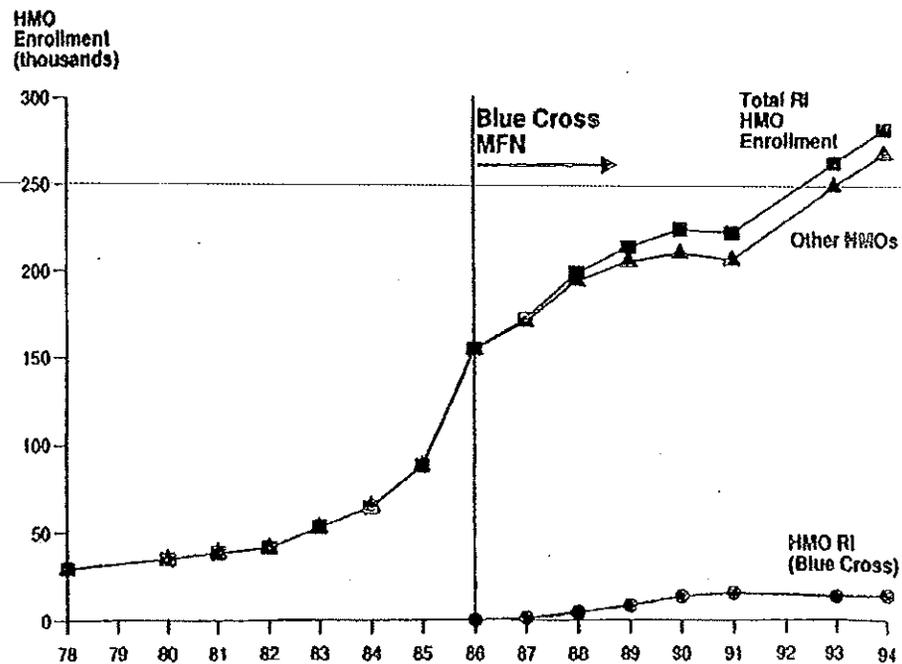
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to be passed along in the form of offsetting lower health insurance premiums, how could HMOs possibly offer a product that consumers would choose over conventional (Blue Cross) health insurance? As one antitrust expert put the facts in *Ocean State*:

The impact of Blue Cross's MFN clause was immediate. . . . When the dust settled . . . , competing health and dental plans were left bleeding and wounded on the floor.²⁴

With a description like that, it's hard to resist an autopsy of the casualties. Figure 4 provides a look at the HMO enrollment statistics that are relevant to *Ocean State*, and figure 5 does the same for *QualMed*; the underlying data are summarized in table 1.

Figure 4
The Growth of HMO Enrollment in Rhode Island Before and After the Blue Cross MFN

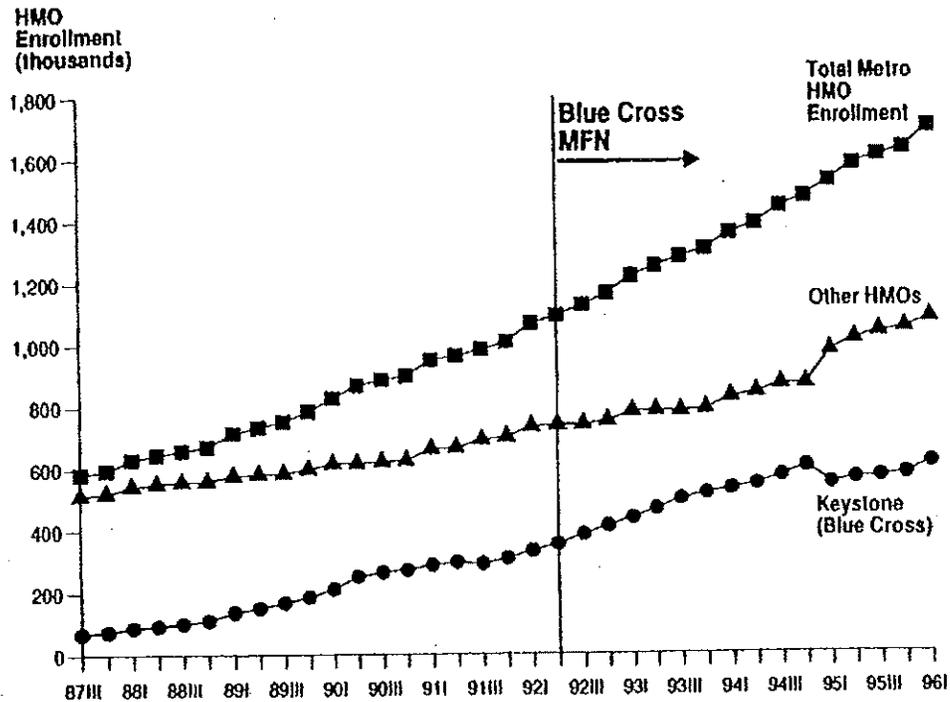


NOTE: HMO RI offered by Blue Cross-Blue Shield. Harvard Community RI members not broken out prior to 1/1/91. Some periods interpolated.

SOURCE: See table 1.

²⁴ Dennis, *supra* note 21, at 409 (footnote omitted).

Figure 5
 The Growth of HMO Enrollment in the Philadelphia Metro Area Before and After the Blue Cross MFN



SOURCE: See table 1.

The figures and table reflect the published statistics on Rhode Island (*Ocean State*) and Philadelphia metropolitan area (*Qual-Med*) enrollment in HMOs both before and after Blue Cross initiated its physician MFN provision. These data speak fairly plainly, and what they say is that there is no indication that the Blue Cross MFN provision halted the HMOs' long-run growth within the MFN-affected areas.²⁵ In a period of fairly stable areawide popu-

²⁵ A study of similar but less-recent Rhode Island HMO data observed that "[t]hese data make it difficult to conclude that the actions undertaken by [BCRI] seriously injured Ocean State," inferring that "[t]he existence of Ocean State allowed [BCRI] to pinpoint those physicians who were willing to accept lower fees. By reducing reimbursement to these physicians, [BCRI] was able to lower physician input costs. . . . [A] policy that can reduce input costs should be encouraged from a public policy viewpoint." Lawrence G. Goldberg & Warren Greenberg, *The*

lation, in each case HMOs added more enrollment in the years following the inception of the Blue Cross MFN than they had in the corresponding number of years prior to it.²⁶ Based on these data, it's hard to see (with the benefit of hindsight) what the competitive concern was.

Table I

Total HMO Enrollment Before and After the Blue Cross MFN: State of Rhode Island (*Ocean State*), 1978–1994 and Philadelphia Metropolitan Area (*QualMed*); 1987 III–1996 I

<i>HMO enrollment prior to MFN</i>	<i>HMO enrollment at adoption of MFN</i>	<i>HMO enrollment after MFN</i>	<i>Average annual enrollment growth</i>	
			<i>Prior period</i>	<i>Subsequent period</i>
RHODE ISLAND				
29,419 (1978)	154,184 (1986)	279,466 (1994)	15,596	15,660
PHILADELPHIA METRO AREA				
582,785 (1987 III)	1,093,686 (1992 II)	1,694,391 (1996 I)	107,558	160,188

NOTES: Rhode Island: Enrollment figures are for mid-year. Harvard Community RI members not broken out prior to 1991.

Philadelphia Metro: Metro Area enrollment calculated as the sum of Keystone (KHPE, DVHMO, and Vista), Aetna (Aetna C&E and Freedom), U.S. Healthcare (USHC Philadelphia), CIGNA, Greater Atlantic/QualMed, Health Partners, Oaktree/Oxford, and Prucare of Philadelphia (plus several others with negligible enrollment). Includes Medicare and Medicaid. Excludes PPOs, and POS plans (except CIGNA).

SOURCES: Rhode Island: Interstudy publications (1978–1990); GHAA directories (1991–1994); and RI DBR Enrollment Reports (HCHP 6/30/94).

Philadelphia Metro: Pa. Dept. Health, HMO Quarterly Reports (1987 III through 1996 I).

Response of the Dominant Firm to Competition: The Ocean State Case, 20 HEALTH CARE MGMT. REV. 65, 73 (1995).

²⁶ The first-quarter 1995 shift of enrollment away from Keystone (IBC's HMO) that we see in figure 5 was the result of Keystone's sale of its Medicare HMO business to a competing HMO.

The demonstration in figures 4 and 5 does not, of course, translate automatically to the facts of MFNs in operation elsewhere. Different cases will have different facts, and those facts may lead to different competitive conclusions. Nevertheless, the lesson that *Ocean State* and *QualMed* teaches is that theoretical predictions about the actual magnitude of any competitor injury—much less of any competitive injury—are not worth much unless they are informed by empirical evidence.

B. The MFN effect on hospital prices, discounts, and profitability

As I noted earlier, an adverse MFN effect on the relative competitive position of HMOs is not sufficient, by itself, to imply competitive injury, in the usual sense of injury to consumer welfare. We expect the MFN to reduce the price paid by the purchaser employing the MFN, and to increase at least some prices paid by other purchasers; it is the net effect on average price, aggregated over all of the affected purchasers, that is the ultimate economic test of consumer injury or benefit. Although data are lacking on the Rhode Island physicians' fees that would be relevant to an examination of *Ocean State*, I have assembled and analyzed a large body of data on hospital financial and operating characteristics in the Philadelphia metropolitan area for the 7 years (1989–1995) straddling the 1992 introduction of the MFN provision in IBC's hospital contracts.²⁷ These data allow us to test for consumer welfare effects in *QualMed*.

IBC negotiated new MFN-inclusive contracts with its participating hospitals, made effective as of approximately mid-1992. Thus the pre-1992 period reflects the market environment that motivated IBC to adopt the MFN, and the post-1992 period reflects any effects of the MFN on hospital pricing and discounting. In this section I spell out what we would expect to see if, as

²⁷ These data were obtained from HCIA, a major health care data vendor, and are derived from the Medicare Cost Reports that virtually all hospitals submit annually to the U.S. Health Care Financing Administration. My initial investigation of these data was undertaken at the invitation of counsel for IBC, who had requested an independent economic analysis and assessment of the IBC MFN provision.

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claimed by QualMed and suspected by the Justice Department, IBC's MFN had a competitively adverse effect on the market at large, and then report my analysis of the data that are relevant to each of these hypothesized effects.

Assume as a hypothesis that the IBC MFN had an adverse effect on consumer welfare: specifically, that on balance the predominant effect of the MFN was to cause hospitals to raise their prices to IBC's competitors, more so on balance than to lower their prices to IBC. If this were so, what would we expect to see in consequence as evidence of this competitively adverse effect? The chief empirical implications of the hypothesized competitive injury conjecture are that, after the MFN is initiated:

1. The average net price for hospital services should rise;
2. The average discount (of net prices relative to list prices) should shrink; and
3. The average profitability of hospital operations should grow, thanks to less intense price discounting.

I present below descriptive summaries of the data that are relevant to each of these implications, followed by a more extensive statistical analysis of the same data. My empirical analysis is based upon 7 years of annual data (1989-1995) for essentially all acute-care inpatient hospitals in the Philadelphia metropolitan area.²⁸ The relevant underlying data are summarized in table 2.

1. NET HOSPITAL PRICES BEFORE AND AFTER THE MFN If the effect of the MFN were to elevate average net hospital prices, after all discounts, and if all other relevant factors were stable (in either their levels or trends), then we would expect average net revenue per inpatient admission to rise, relative to any existing trend, after 1992.²⁹ But as we see in figure 6, the affected hospitals' average

²⁸ The principal exclusions from this definition are a number of long-term psychiatric and rehabilitation hospitals, and hospitals not reporting for some or all of the 1989-1995 period. This results in 50 hospitals for which I have data for all 7 years. The Philadelphia metro area consists of five counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia.

²⁹ Net inpatient price must be approximated. I calculate net inpatient revenue as net patient revenue (from both outpatients and inpatients),

Table 2
Philadelphia Area Hospital Data Summary
1989-1995

Variable	Mean (standard deviation)		
	1989	1992	1995
Net inpatient price per admission	\$7,606 (2,589)	\$7,929 (2,966)	\$7,062 (2,868)
Percentage discount, net from gross	44.14% (8.54)	52.79% (6.11)	58.21% (7.83)
Operating revenue, percent of operating cost	97.32% (9.52)	101.94% (6.00)	102.05% (5.72)
Inpatient admissions	10,184 (6,008)	10,680 (6,028)	10,710 (6,429)
Inpatient days	67,270 (43,024)	69,302 (43,448)	55,386 (36,895)
Casemix severity index	1.30 (.20)	1.35 (.23)	1.39 (.25)
FTEs per patient	6.42 (1.83)	6.75 (1.80)	8.18 (2.62)
Percent nursing home beds	1.35% (3.47)	1.16% (3.51)	5.69% (11.58)
Percent Medicare days	49.55% (13.04)	52.47% (12.46)	52.52% (12.33)
Percent Medicaid days	12.45% (12.91)	13.34% (12.66)	13.40% (11.23)
Percent private-pay days	38.00% (10.27)	34.19% (9.95)	34.08% (11.02)

NOTE: N = 350 (50 hospitals, 7 years).
Prices deflated to 1995 dollars (Medical Care Component of Consumer Price Index).

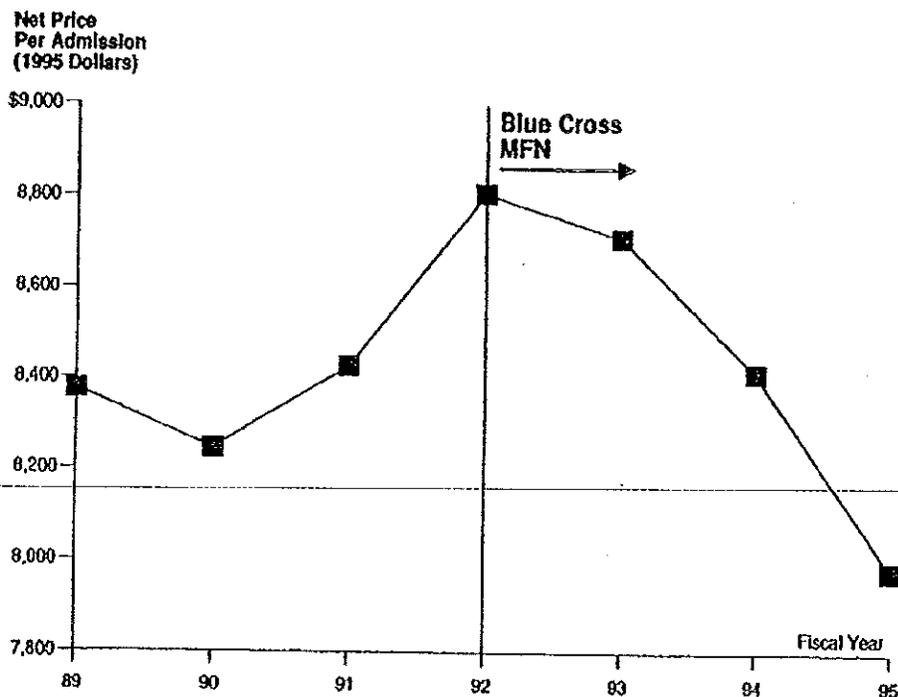
SOURCE: HCIA; AMERICAN HOSPITAL ASSOCIATION, AHA GUIDE (1990-1996); ECONOMIC REPORT OF THE PRESIDENT (1996).

times the ratio of gross inpatient charges divided by the sum of gross inpatient and outpatient charges. Dividing through by patient admissions gives us average net price per inpatient admission. For purposes of analysis, I then deflate these revenues by converting all of them to 1995 dollars using the medical care component of the Consumer Price Index; ECONOMIC REPORT OF THE PRESIDENT (1996), at table B 56.

net inpatient price had been rising slightly in the years leading up to the adoption of the MFN in 1992. After the MFN was initiated, the average price declined, not increased, contrary to the competitive injury conjecture.

Figure 6

Net Price per Inpatient Admission for Philadelphia Area Hospitals Before and After the Blue Cross MFN



SOURCE: See table 2.

If any adverse market price effects of IBC's MFN exist and are important, we would expect them to leave some visible tracks in the pertinent data on net price. No such tracks are apparent, and so the competitive injury conjecture gets no support in this area of investigation.

2. DISCOUNTS FROM LIST PRICE BEFORE AND AFTER THE MFN A subsidiary implication of the Justice Department's and QualMed's antitrust concerns is that the introduction of IBC's MFN should have brought with it a shrinkage of the overall discount. This we

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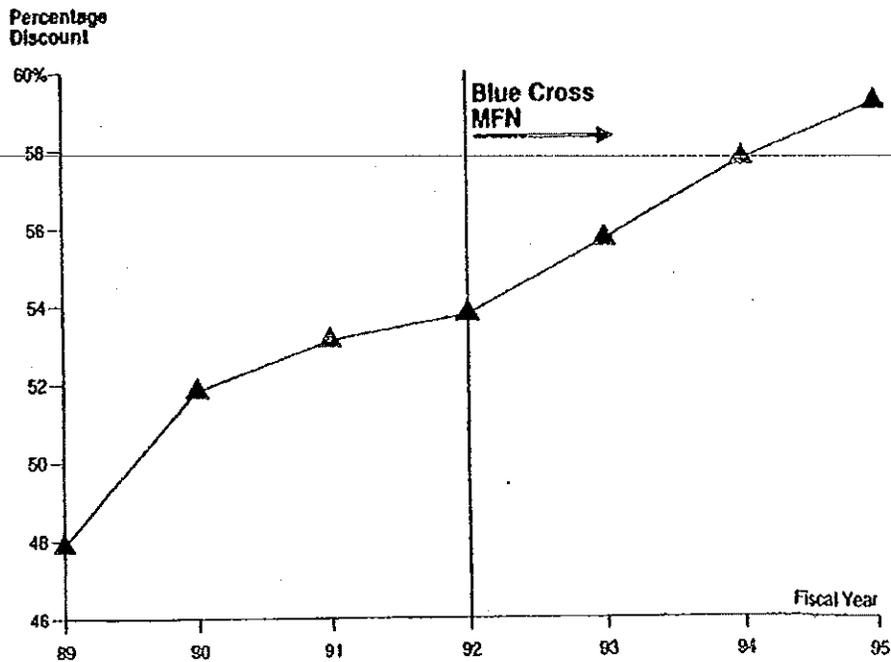
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can observe by measuring the overall average percentage discount, which is calculated as the percentage by which net patient revenue (based on net prices received after all discounts) is less than gross patient revenue (based on list prices charged before any discounts). The chronology of the average percentage discount is recorded in figure 7.

The data show no sign whatsoever of any post-MFN shrinkage in the overall discount level; there is *more* discounting, not less, after IBC introduces its MFN. More to the point; there is no post-MFN break in the continuous trend toward more discounting over time. Here too, the competitive injury conjecture receives no support from the data on overall discounting activity.

3. HOSPITAL PROFITABILITY BEFORE AND AFTER THE MFN The final empirical implication that I draw from the antitrust theory behind

Figure 7
Discounts as a Percentage of Gross Charges for Philadelphia Area Hospitals Before and After the Blue Cross MFN



SOURCE: See table 2.

Fiscal Year
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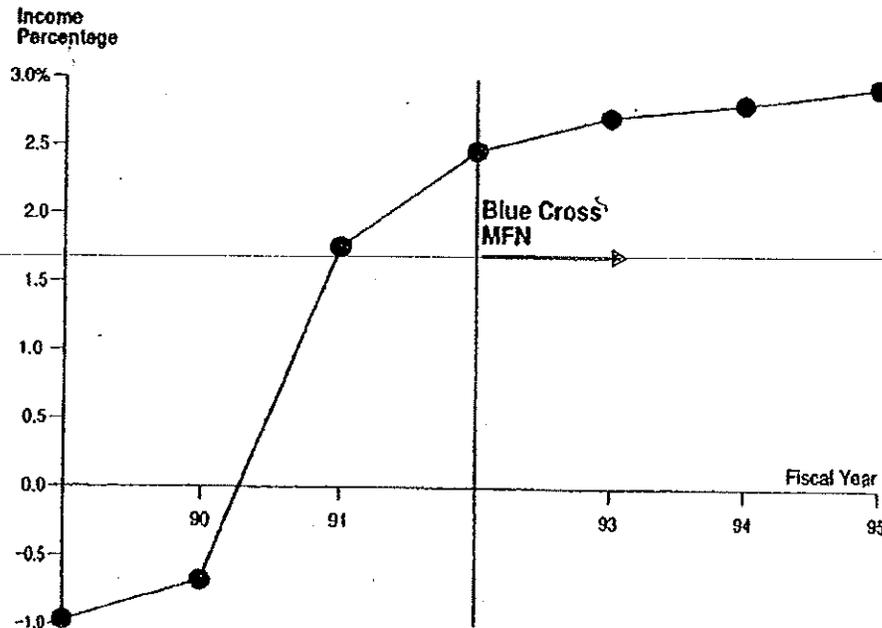
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QualMed is that, if IBC's MFN discouraged aggressive "dog-eat-dog" hospital price discounting, and as a result the MFN cooled the intensity of competition in the hospital services market, then hospital profitability should have been buoyed as a consequential result.³⁰ We can study that proposition by examining hospital profitability, measured by operating income expressed as a percentage of operating revenue.

Figure 8 tells the story, and it is not favorable to the competitive injury conjecture. There is no sign of a significant upturn, rel-

Figure 8
Operating Income as a Percentage of Operating Revenue for Philadelphia Area Hospitals Before and After the Blue Cross MFN



SOURCE: See table 2.

³⁰ As noted earlier, much of the theory under which MFNs can have anticompetitive effects characterizes MFNs as contractual features that are fostered by the sellers (here, the hospitals), rather than the buyers, as a way to prop up explicit or implicit price collusion by making secret price discounts easier to detect.

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ative to the pre-MFN upward trend, in hospital profitability after the introduction of the MFN. Profitability grew sharply (from an obviously abnormally low base) before the MFN, but after the adoption of the MFN the growth of profitability flattens out at a level of less than three percent of revenues. This finding is not consistent with a substantial post-1992 reduction in competitive price pressure. Here as before, the facts on hospital profitability fail to provide support for the competitive injury conjecture about adverse market effects of MFNs.

4. STATISTICAL ANALYSIS OF HOSPITAL PRICES, DISCOUNTS, AND PROFITABILITY I recognize that more is going on in this hospital market than just the MFN. Suppose that the effect of the MFN under study here was actually to elevate average net hospital prices, but that coincidentally at the same time there were other independent market factors that changed after 1992 in a way that would tend to reduce prices. If so, then such a confounding price-reducing event might offset and thus mask a hypothetical price-increasing effect of the MFN. The same possibility is true for a hypothetical MFN-induced reduction in the overall level of price discounting, or a hypothetical MFN-induced elevation of hospital profitability.

The usual approach to ruling out other potential causes is to identify at least the most important of those causes, and control for their effects on the variable of interest through multivariate regression analysis. This is my approach here. We have three variables of interest: (1) net price per inpatient admission, (2) discount of net price relative to list price, and (3) hospital profitability. I estimate an economic model under which each of these dependent variables is potentially influenced by several important explanatory variables. Those explanatory variables include:

The overall scale of the hospital's operations (measured on two dimensions: the number of admissions, and the number of patient days);

The severity of medical treatment for the mix of patients that the hospital admits;

The amount of labor that the hospital applies to patient care, measured by full-time-equivalent employees per patient;

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The fraction of the hospital's total beds that is devoted to long-term nursing care rather than short-term acute care; and

The fractions of the hospital's inpatient census that are reimbursed under Medicare and under Medicaid.

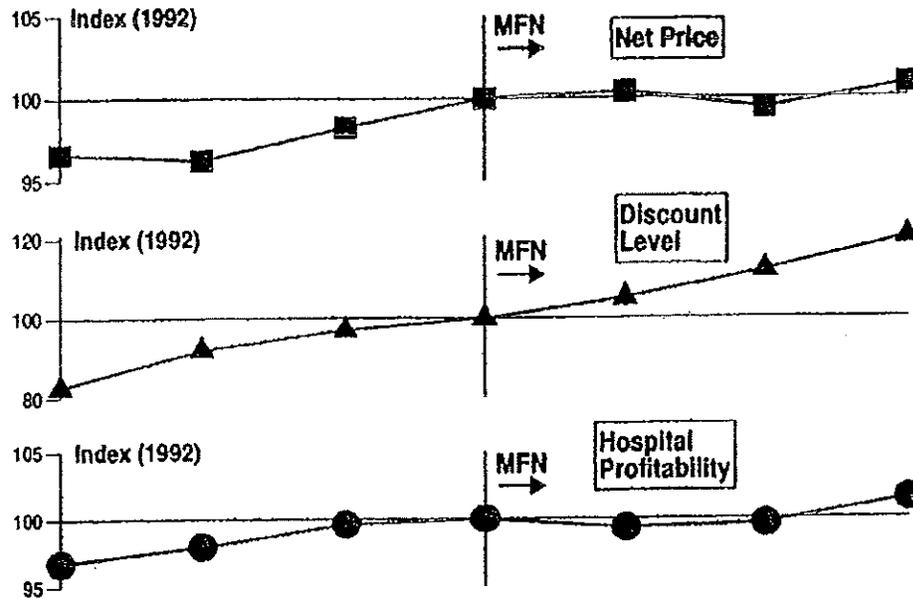
Those are the observable explanatory factors that, having controlled for their effects, we may then rule out as potential alternative causes of any remaining rise or fall in our variables of interest after the MFN begins to affect them.³¹

Finally, to estimate the MFN effect, the model also includes six "year variables" that measure any remaining differences in the dependent variables in each of the three pre-MFN years (1989–1991) and the three post-MFN years (1993–1995), each year relative to the transition year 1992. The interpretive sense of these year variables is that, if there are no important omitted or unobserved explanatory variables that change materially over time in ways that are strongly correlated with any MFN effect, then the pattern of the post-MFN year differences, relative to the pattern of the pre-MFN year differences, captures the effects of the adoption of the MFN.

The details of this statistical analysis are described in the appendix, and the results are summarized in appendix tables A.1 and A.2. The pertinent time patterns of the year variable effects on hospital net price, overall discount level, and hospital profitability are summarized in figure 9. Each variable in the figure—

³¹ Each of these seven explanatory variables is observable, and varies from hospital to hospital within each year and from year to year within each hospital. In addition to these variables, my empirical model also includes binary "hospital fixed-effect" variables, one variable for each hospital. This empirical approach—called a "fixed-effects model"—accounts for differences across hospitals that are common to the entire time period but are not accounted for by the explanatory variables that my model includes explicitly. Illustrative examples of such unobserved influences on (say) net price might include a hospital's teaching (or nonteaching) status; its outstanding (or abysmal) reputation; its location in a safe (or crime-infested) neighborhood; and the excellence (or mediocrity) of the doctors on its staff. The fixed-effect formulation implicitly accounts for across-hospital variation in all of this, and leaves the explicitly measured variables to explain variation over time for each hospital.

Figure 9
 Price, Discount Level, and Profitability, Net of Effects of Explanatory Variables (Percentage of 1992 Level)



NOTE: Deviations from 1992 index calculated from table A.1 coefficients of year variables.

SOURCE: See figures 6–8 and table A.1.

price, discount, and profitability—is indexed; that is, each year effect is shown as the percentage by which the variable of interest deviates from its 1992 level.³² To the extent that the inferences that we might draw from figures 6–8 are qualified by concerns that those movements in price, discounting, and profitability might be influenced by extraneous, non-MFN causal factors, figure 9 addresses, and for the most part obviates, those concerns. The central results survive the statistical analysis: controlling for other causal factors (1) net price, which had been rising prior to

³² Mechanically, the differences from the base year 1992 in each year of figure 9's plots equal the estimated coefficients of the year variables in table A.1's regression estimates, exponentiated to percentage differences. I also estimated the same model with the hospital fixed-effect variables omitted; the results of those estimates are slightly less favorable to the hypothesis of competitive injury than are the results reported here.

the MFN, is held in check after the MFN; (2) discount levels, which had been rising prior to the MFN, continue to rise after the MFN; and (3) hospital profitability, which had been rising prior to the MFN, is roughly stable after the MFN. In other words, the data analyzed here provide no support for the MFN competitive injury conjecture, and are if anything more consistent with a pro-competitive assessment.

IV. Price negotiations and MFNs in heterogenous markets

The preceding sections of my empirical analysis of MFN contracts have concentrated on *what* these contracts have done, either to health insurance market competitors or to hospital market competition. I now turn to a different question and ask *why* a health care purchaser might have initiated an MFN policy in the first place, if in the cases that I have examined it evidently was not to successfully injure competition. At the highest level of generality, the answer is simply that a purchaser of health care proposes an MFN in order to improve its profitability or its competitive position, relative to its rivals. But that level of generality, as noted earlier, does not tell us much about why an MFN is important to that objective.

Prior research has identified many purposes that might be served by MFNs, but one of the simplest of the benign explanations is that MFNs are a tool with which to deal with uncertainty and reduce risk. To illustrate, suppose that a buyer and a seller want to deal with each other through a long-term requirements contract rather than in spot transactions, for all the usual reasons. However, neither the buyer nor the seller knows what market conditions will be like in the future. Because of this uncertainty, the buyer is unwilling to commit now to a fixed price that may prove to be significantly above the prevailing spot price later. If the contractual relationship is valuable enough to the seller, then he can solve this information problem by offering the buyer an MFN provision. In this setup, the operative evidence of changed market conditions is the seller's own subsequent pricing to other buyers. If the market price falls, as reflected in the seller's own prices,

then the buyer gets the benefit of that development. With this reduction in risk, the buyer is more willing to enter into a mutually beneficial long-term contract with the seller.³³

That illustration concerned uncertainty between two parties over many time periods, but MFNs can also deal with uncertainty between many parties within a single time period. Again to illustrate, suppose that the buyer (e.g., Blue Cross) wants to buy a product from many sellers (e.g., hospitals)—rather than just from just one seller as in the previous example—but the sellers have substantially different costs and therefore may sell profitably at substantially different prices. In the first illustration, the buyer had intertemporal uncertainty about getting the best prices from a given seller over multiple years; here, the buyer has contemporaneous uncertainty about getting the best prices over multiple sellers in a given year. All of the parties, let us suppose, place some value on a contractual relationship, but the buyer has a concern about locking in a disadvantageous price. That concern may lead him to contract with fewer sellers than would be the case without this uncertainty. Here too MFNs can help overcome a barrier to contract. By pledging to grant to the contracting buyer the lowest prices at which they have in fact sold to other buyers, each of the sellers can provide the strongest evidence practicably available that their promise to the buyer of a low price is genuine. With this assurance, the buyer may enter into contracts that, without this credible “best price” guarantee, uncertainty might have prevented.

Thus MFNs are useful in situations where buyers don't know just how low the lowest available price actually is. One general manifestation of such market ignorance is the dispersion of prices within the market; a high degree of ignorance and a high degree of price dispersion go hand-in-hand.³⁴ To enlighten the price dis-

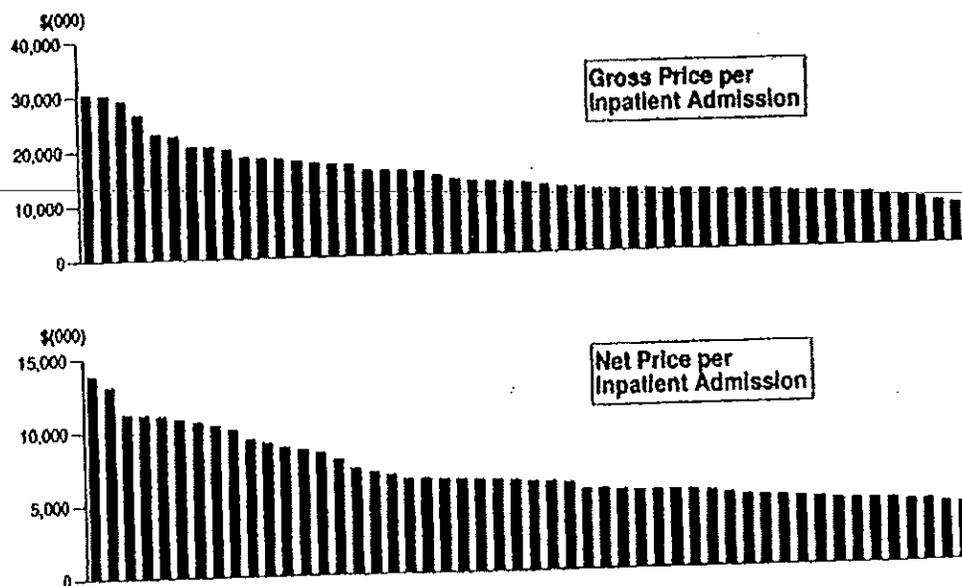
³³ Although it is not worth developing at length here, I note that had market risk been more the concern of the seller than of the buyer, the MFN clause could have been written in reverse, at least for a nonrequirements contract: for example, if the buyer later bought at a higher price from any other seller, then the seller with the MFN contract would receive the benefit of that higher price.

³⁴ See George J. Stigler, *The Economics of Information*, 69 J. POL. ECON. 213 (1961) and subsequent derivative research. For applications in

person issue empirically, I examine the distribution of Philadelphia metropolitan area hospitals' average list prices (that is, before any discounts) and average transaction prices (that is, net of all discounts). These are the prices that reflect the market environment within which IBC adopted its MFN provision in 1992.

List prices for Philadelphia metropolitan area hospital services have a huge degree of variation; see figure 10 (upper panel) for the 1992 average gross charge per inpatient admission, which ranges from a high of \$30,392 to a low of \$7262. Since it is the common wisdom that "nobody" pays list price, we might ask

Figure 10
Average Gross and Net Prices for Philadelphia Area Hospitals—1992



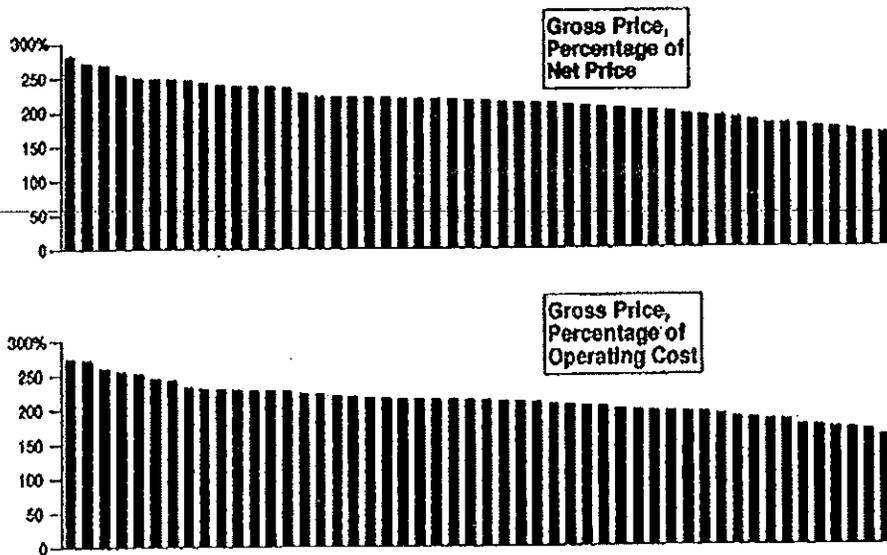
SOURCE: See table 2.

health care markets, see, e.g., Barry S. Eisenberg, *Information Exchange Among Competitors: The Issue of Relative Value Scales for Physicians' Services*, 23 *J. L. & ECON.* 441 (1980); William J. Lynk, *Physician Price Fixing Under the Sherman Act: An Indirect Test of the Maricopa Issues*, 7 *J. HEALTH ECON.* 95 (1988); and Martin Gaynor & Solomon W. Polachek, *Measuring Information in the Market: An Application to Physician Services*, 60 *S. ECON. J.* 815 (1994).

whether the “real” price—net price after discounts—has significantly less variability across hospitals than list price does. It doesn't: figure 10 (lower panel) shows us that the average net charge after all discounts has nearly as much dispersion as list price, ranging from a high of \$13,818 to a low of \$3912.³⁵ Thus we see tremendous price variability in both list and net prices.

In this environment, it is a problem for a purchaser of hospital services to figure out how low a price it can realistically negotiate with each of the individual hospitals in the area. A single, flat price won't work, because the metro area hospitals vary greatly in their list and net prices. If a “flat price” approach won't work, then maybe a “flat discount” approach would, in which the purchaser demands the same percentage discount from gross charges from all of the metro area hospitals. For this to result in a net

Figure 11
Gross Price Percentage Multiples for Philadelphia Area Hospitals—1992



SOURCE: See table 2.

³⁵ More formally, the coefficient of variation of the distribution of prices (i.e., the standard deviation expressed as a percentage of the mean) is 39.6% for list price, while for net price it is 37.4%.

price to the purchaser that is, say, the same as the average net price that the hospital receives from all other purchasers, it would have to be the case that all hospitals' nominal (i.e., list) prices are marked up by roughly the same percentage over their real (i.e., net) prices. But figure 11 (upper panel) reveals no market uniformity on that pricing characteristic; list price is marked up to anywhere from 281.5% of net price to 165.7% of net price, which is to say equivalently that net price is discounted from list price by anywhere from 64.5% to 39.6%.³⁶

As an alternative and more aggressive strategy, the purchaser might seek a single pricing formula that results in a discount from list price that achieves a net price roughly equal to the hospital's operating costs. For this to work, it would have to be true that all hospitals had roughly the same percentage markup of list price over operating costs.³⁷ But they don't; as we see in figure 11 (lower panel), list price is marked up to anywhere from 273.1% to 157.4% of operating cost. For a purchaser to attempt to negotiate a discount from list price that gave it a net price equal to each hospital's operating costs, those discounts would range from a high of 63.4% to a low of 36.5%. Based on both types of figure 11's markup percentages, a flat-discount approach would not be materially more effective than a flat-price approach would be.

We see from this high degree of observed pricing heterogeneity in the hospital market that a "one size fits all" approach to price negotiation won't work well. Moreover, these broad all-payer hospital-average price and markup statistics are too crude to be a particularly useful guide to specific private-pay price discounting possibilities, because every one of these figures reflects not only a hospital's HMO and other private-pay discounts but also substantial discounts forced upon it by Medicare and Medicaid, a burden that varies greatly from one hospital to another.

³⁶ The percentage price ratios shown in the figure are calculated as total gross patient revenues (inpatient plus outpatient) as a percentage of the corresponding net patient revenues.

³⁷ That markup percentage is defined for these purposes as total gross patient revenues as a percentage of total operating costs.

Nevertheless, the variation in even these figures' aggregated statistics is highly suggestive of why an MFN provision would seem to a health care purchaser like a prudent approach to bargaining for the best price that it could realistically obtain. We see an immense spread within the metro area of hospitals' average list prices, net prices, markups of list price to net price, and markups of list price to operating cost. There is every reason to expect a roughly similar spread in the corresponding figures for specific purchasers' private-pay prices, but that measure cannot be teased out of the available data (which are averaged over all of the hospital's payors). Failing that, one available alternative in the effort to pay no more than must be paid is the focused price inquiry that is the defining element of an MFN provision.³⁸

A health care purchaser's objectives in this effort are no different than those of any other buyer who wants the best available prices from multiple sellers in a market where actual prices are confidential. By simple analogy, a consumer in the market for a new car faces much the same problem when canvassing multiple dealers offering multiple makes of cars. The buyer knows that ordinarily he should hold out for a purchase price less than list price, but knows also that if he insists on a price that is less than the dealer's actual cost he won't get an offer. Services like dealer cost guidebooks, and tactics like demanding to see the dealer's factory invoice, help somewhat; but because of practices like off-invoice factory rebates these resources are at best only a rough and upward-biased guide to the dealer's wholesale acquisition cost, and are no guide at all to the dealer's own costs of distributing the product. Under these circumstances, the best and most relevant guide that the price-conscious consumer could seek would be information on the lowest actual prices that these heterogeneous dealers have in fact accepted for their products. These are

³⁸ All of the relevant research of which I am aware (*see, e.g.*, note 34 *supra* and references cited therein) has confirmed that price heterogeneity is strikingly high in markets for health care services generally. It may be a promising speculation that, because of that fact, MFNs are more common in health care markets than in most other markets, and that that commonality is what explains the antitrust enforcement agencies' apparent focus on the health care industry when pursuing MFN investigations.

the lowest prices that are demonstrably not too low for a deal to be struck. This information is, of course, precisely analogous to the pricing information that health care purchasers seek through the mechanism of an MFN.

V. Conclusions

The applicable economic theory on MFNs assists us not by proving generalizations that must always be so, but rather by disproving false generalizations about that which cannot be generalized. Here, as in most of economic analysis, the role of economic theory is not to single-handedly prove a result. It is instead to point us more specifically to the relevant areas of factual or empirical investigation, and to guide our interpretation of the results of such investigations.

If there is one lesson that is warranted from this analysis, it is that across-the-board presumptions opposing MFNs are groundless. I suspect, but cannot prove with the cases that I have examined, that the opposite consumer welfare presumption is equally groundless. A corollary of this lesson is that any generalizations that eventually do emerge about the consumer welfare effects of MFNs will emerge only through a succession of empirical studies of their circumstances and consequences, studies that may employ a common theoretical framework but that apply that framework to divergent sets of facts. It may be that there are such generalizations to be discovered—for example, that purchaser-initiated MFNs are likelier than provider-initiated MFNs to have favorable consumer welfare effects—but hypotheses like these do not become empirical generalizations without empirical research.

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APPENDIX

My objective is to explain the variation that we see across hospitals and over time in (1) net hospital price per inpatient admission; (2) the overall hospital discount (average net price reduction, relative to list price); and (3) hospital operating profitability. To do so, I account for the following explanatory variables that potentially may have a causal influence on each of these three variables of interest:

1. the number of patients admitted;
2. the total number of days of inpatient care received by the admitted patients;
3. the casemix severity index, a measure of the severity of medical condition or treatment of the hospital's average Medicare patient;
4. the number of full-time-equivalent employees per patient, as a measure of quality or intensity of care;
5. the fraction of the hospital's beds that are devoted to long-term nursing care, rather than short-term acute care;
6. the fraction of the hospital's patient days that are provided to Medicare patients, and reimbursed at Medicare rates; and
7. the fraction of the hospital's patient days that are provided to Medicaid patients, and reimbursed at Medicaid rates.

As for the variables to be explained, (1) net price (that is, net inpatient revenue per inpatient admission) is deflated to 1995 dollars using the Medical Care Component of the CPI, and then converted to logarithms; (2) average discount is expressed as the difference between dollars of gross patient charges minus dollars of net patient revenues, divided by gross charges and then converted to logarithms; and (3) hospital profitability is measured by net operating revenues divided by operating costs, then converted to logarithms. As for the explanatory variables, the Medicare, Medicaid, and long-term beds percentages are expressed as fractions, and the other explanatory variables are converted to logarithms. In addition, I add binary "hospital fixed effect" variables to the model, one for each hospital, to capture the overall full-period effects of any hospital-specific factors that are not accounted

for by the explicitly included explanatory variables. Finally, I append to the explanatory model 6 year-specific binary indicator variables, one for each of the years 1989–1991 and 1993–1995. The pattern of these “year effects,” each relative to a baseline of 1992—the MFN transition year—is the measure of any detectable effect of the MFN in 1993–1995 relative to trends seen in 1989–1991.

Table A.1 reports the regression estimates of the parameters of my explanatory model, with the corresponding *t*-statistics in parentheses.¹ The results for most of the explanatory variables provide no surprises. The composition of hospital output—the number of admissions, given patient days, and the number of patient days, given admissions—has a significant effect on net price and degree of discounting, supporting the decision to include both output measures in the model.² Higher casemix severity of hospital output is reflected in a higher price, and less discounting, for that output. Higher labor intensity of patient care (more specifically, for my rough FTE proxy for it) has a positive effect on net price, with no statistically significant effect on discounting or profitability. The effect of the long-term-care bed proportion is economically negligible and statistically insignificant. Finally, as for payor composition, the Medicare patient proportion has, surprisingly, no effect on a hospital’s average net price in this model, but a strong positive effect on both the overall degree of discounting and the level of profitability. The Medicaid patient proportion has, as expected, large and significant negative effects on average net price and profitability, and a positive and significant effect on the degree of discounting.

¹ In samples of this size, *t*-statistics above roughly 2.0 are referred to as statistically significant by conventional standards (that is, a five-percent confidence level, two-tailed test).

² I note that the sum of the price coefficients on admissions (–.7762) and days (.7561) is –.0201, implying that an equiproportionate increase in both variables, all else equal, is associated with a very small decrease in net price. The same arithmetic implies that size has essentially no effect on the degree of discounting, and a positive association with profitability.

Table A.1

Regression Estimates of Net Price, Average Discount,
and Operating Profitability 1989-1995

Explanatory variable	Dependent variable		
	Net price	Average discount	Operating profitability
Log admissions	-.7762 (-9.62)	-.4125 (-4.17)	.0756 (1.18)
Log days	.7561 (9.52)	.4180 (4.29)	.0245 (.39)
Log case severity	.5171 (3.80)	-.4655 (-2.79)	.1557 (1.45)
Log FTE per patient	.1175 (2.55)	.0642 (1.14)	-.0481 (-1.32)
Nursing bed fraction	-.0088 (-.12)	.1089 (1.23)	-.0184 (-.32)
Medicare fraction	.0081 (.04)	.5326 (2.36)	.4455 (3.06)
Medicaid fraction	-.5258 (-3.24)	1.0260 (5.15)	-.3330 (-2.59)
1989 effect	-.0346 (-1.87)	-.1899 (-8.37)	-.0332 (-2.27)
1990 effect	-.0384 (-2.12)	-.0834 (-3.76)	-.0204 (-1.43)
1991 effect	-.0178 (-1.06)	-.0307 (-1.49)	-.0040 (-.30)
1993 effect	.0036 (.22)	.0484 (2.35)	-.0070 (-.52)
1994 effect	-.0062 (-.32)	.1120 (4.70)	-.0041 (-.26)
1995 effect	.0080 (.33)	.1832 (6.21)	.0143 (.75)
R ²	.954	.743	.441

NOTE: N = 350 (50 hospitals, 7 years). *T*-ratios in parentheses. Coefficients of 50 hospital fixed effect variables not reported. All revenues and costs converted to 1995 dollars.

SOURCE: See table 2.

Examining the estimated coefficients and significance levels of the year variables (which are all that we are ultimately really interested in here), we may say that prices, discounting, and hospital profitability had all risen by 1992, and that these increases were statistically significant relative to at least some of the pre-MFN years. After the introduction of the MFN, the level of discounting in subsequent years is greater than it had been in 1992, and the differences in discounting are all statistically significant. For both net price and hospital profitability, there were no statistically significant differences between the 1992 transition year and any of the subsequent post-MFN years.

Together, all of these variables, including the hospital fixed-effect variables, account for 95.4% of the total variation in hospital net inpatient price, 74.3% of the variation in overall average discount, and 44.1% of the variation in hospital profitability.

I have described the interpretation of the data in terms of comparing post-MFN trends to pre-MFN trends, and to carry that descriptive theme through to the empirical work I also estimate an explicit trend model. In lieu of the discrete pre-MFN and post-MFN year variables, the model now has a log-linear pre-MFN trend line from 1989 to 1992, joined to a post-MFN trend line from 1992 to 1995.³ The results from this pretrend and posttrend model are reported in table A.2.

These results confirm, with additional precision, the inferences that I drew from table A.1. There is a statistically significant growth trend of about 1.24% per year in real net hospital prices prior to the MFN; afterward there is essentially no trend in prices. There is statistically significant growth in the degree of discounting both before and also after the MFN; the differential between the two estimated rates of growth is not statistically significant.

³ Specifically, this is a regression on a 1989–1995 trend variable (trend = -3, -2, -1, 0, 1, 2, 3) plus a post-MFN trend differential variable (differential = 0, 0, 0, 0, 1, 2, 3). The net effect is a trend line with a kink (but not a discontinuous jump) at 1992. The *t*-ratios for the level of the post-MFN trend are calculated for the sum of the coefficients of the trend and the trend differential variables.

Table A.2
Regression Estimates of Net Price, Average Discount, and Operating Profitability

Explanatory variable	1989-1995		
	Net price	Average discount	Operating profitability
Log admissions	-.7724 (-9.82)	-.3809 (-3.90)	.0965 (1.55)
Log days	.7557 (9.83)	.3754 (3.93)	.0009 (.01)
Log case severity	.5188 (3.85)	-.4904 (-2.94)	.1506 (1.41)
Log FTE per patient	.1218 (2.68)	.0422 (.75)	-.0546 (-1.52)
Nursing bed fraction	-.0099 (-.14)	.1048 (1.17)	-.0222 (-.39)
Medicare fraction	.0108 (.06)	.3998 (1.81)	.3917 (2.79)
Medicaid fraction	-.5194 (-3.24)	.9484 (4.77)	-.3619 (-2.86)
Pre-MFN trend	.0124 (2.16)	.0612 (8.61)	.0102 (2.26)
Differential in trend	-.0100 (-.98)	-.0072 (-.57)	-.0083 (-1.03)
Post-MFN trend	.0024 (.32)	.0540 (5.83)	.0019 (.33)
R ²	.953	.735	.435

NOTE: N = 350 (50 hospitals, 7 years). T-ratios in parentheses. Coefficients of 50 hospital fixed effect variables not reported. All revenues and costs converted to 1995 dollars.

SOURCE: See table 2.

And finally, the trends in hospital profitability mirror those for price; positive and significant at about 1.02% per year prior to the MFN, and essentially flat afterward. Both here and in table A.1, there is no empirical support whatsoever for the proposition that

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the introduction of IBC's MFN injured competition in the affected market for hospital services. To the contrary, the increasing pace of discounting continued unabated, and the prior uptrends in hospital price and profitability were extinguished.