ASSESSING THE EFFECTS OF MOST-FAVORED NATION CLAUSES

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Abstract

Most-favored-nation (MFN) clauses and similar vertical restraints are frequently the object of legal and economic scrutiny. Typically, MFN clauses provide that one party to a contract will grant the other terms that are at least as favorable as those granted to any other party. MFNs are frequently found in industries with complex distribution chains. Some of the most prominent investigations into MFNs have occurred in industries that are characterized by two-sided markets, a particularly complex distribution process in which interactions between two distinct user groups are enabled or facilitated by an intermediary platform. Given the characteristics of two-sided markets, both the potential pro- and anticompetitive consequences of MFNs negotiated between suppliers and intermediary platform providers are even greater than those in traditional markets. This paper provides a discussion of the economic questions relevant to assessing whether a particular MFN has pro-competitive or anticompetitive consequences, noting some particular questions relevant to assessing the effects of an MFN in two-sided markets.

Assessing the Economic Effects of Most-Favored-Nation Clauses

by Martha Samuelson, Nikita Piankov, and Brian Ellman[1]

I. Introduction

The ability to set and compete on price is a defining characteristic of competition. As such, any restrictions on that ability drive concerns that consumers might be harmed in the form of higher prices, fewer choices, or less innovation. One form of restriction, often called most-favored-nation ("MFN") clauses, has frequently been subject to antitrust scrutiny.

Typically, MFN clauses provide that one party to a contract will grant terms to the other that are at least as favorable as those granted to any other party. Similar vertical restraints include anti-steering or non-discrimination clauses; these clauses provide that one party to a contract will not favor products offered by the other party's competitors. MFNs and MFN-like clauses can govern both price and non-price terms. MFNs are mainly found in markets for intermediate goods; they are often granted by a supplier to a powerful buyer in the middle of the supply chain, and guarantee the buyer that it will pay no more for a product or service than any other of that given supplier's customers. Such clauses may create efficiencies in the relationship between a supplier and an intermediary that would otherwise not exist – for example, by reducing the costs associated with constantly negotiating prices – and therefore provide pro-competitive benefits to consumers. However, they may also affect the supplier's price and output decisions with respect to all buyers, as well as entry at the buyer level of distribution, and could result in increased prices and enhanced market concentration. Such outcomes may ultimately harm consumers.

Some of the most prominent investigations into MFNs and similar restrictions have occurred in industries that are characterized by two-sided markets, in which interactions between two distinct user groups are enabled or facilitated by an intermediary platform and exhibit *cross-platform network effects* or *indirect network effects*. That is, users on one side of the market obtain value from interacting with users on the other side of the market, and that value is greater to both sides when there are more participants on the platform. Examples of two-sided markets include payment systems where merchants and consumers interact through credit cards; health care systems where providers and patients interact through insurance companies; e-content systems where content providers (e.g., publishers of electronic books or downloadable music) and end users interact through an Internet-based platform (e.g., Amazon or iTunes); and television systems where content providers (e.g., television networks) and consumers interact through cable television companies.

Because two-sided platforms are subject to network effects, the markets in which they operate tend to be highly concentrated (there are few competing platforms) and entry in the markets can be difficult. It is therefore unsurprising that MFNs in such industries have drawn the attention of competition authorities and have been subject to antitrust investigation. However, under these

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market conditions, the potential pro- and anticompetitive consequences of MFNs negotiated between suppliers and intermediary platform providers are potentially more complex than those in traditional markets and require careful examination.

This paper provides a discussion of the economic questions relevant to assessing whether a particular MFN has pro-competitive or anticompetitive consequences, noting some particular questions relevant to assessing the effects of an MFN in two-sided markets.

II. Possible Pro- and Anticompetitive Effects of MFNs

MFNs are neither inherently pro-competitive nor inherently anticompetitive; legal precedent mandates that MFNs be assessed under a rule-of-reason analysis.[2] Ultimately, a rule-of-reason analysis should determine whether the net effect of the MFN – considering all potential efficiencies and restraints on competition – benefits, harms, or has no effect on consumers.

MFNs between suppliers and intermediaries may have multiple pro-competitive benefits to consumers:

> An MFN may directly lower prices charged by a supplier. In markets where the supplier is able to keep secret the prices it charges to different buyers, it is possible that a small buyer may be in a better position than the largest buyer to secure the lowest price. For example, a supplier may be willing to charge a lower price to a small buyer to fill a marginal amount of excess capacity and maximize its profits. If the supplier's prices and costs were not known to the largest buyer, the buyer may not be able to benefit from the lowest price. An MFN may ensure the largest buyer's access to the lowest price and reduce or eliminate any economic rents the supplier may have otherwise been able to keep. That is, if the supplier's profit-maximizing option would be to offer both buyers a lower price in exchange for the added output, the MFN would help mitigate problems associated with asymmetric information regarding the supplier's costs and would result in a lower average market price. In this instance, the MFN is an instrument of buyer power.
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> An MFN may reduce bargaining costs. The costs associated with constantly negotiating prices can be significant. The supplier's costs are ultimately subsumed in prices paid by intermediaries, and the intermediaries' costs are subsumed in prices paid by consumers. The presence of an MFN reduces the need for constant negotiations, thereby reducing associated costs and creating efficiencies.
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> These potential efficiencies can be particularly significant in markets where the supplier's costs are subject to constant change and/or where many products are offered with short or varying life cycles. To maximize its comparative advantage in the downstream market and protect its brand, a large buyer will want to make sure that it is continually getting the lowest possible price for a set of products or services relative to the prices paid by its competitors. Therefore, in negotiating the price with the supplier, the large buyer will expend resources to determine its competitors' costs and assess the upstream supply

[2] See, e.g., Dennis, Anthony J., "Most Favored Nation Contract Clauses Under the Antitrust Laws," 20 U. Dayton L. Rev. 821 (1995).

function; it will engage in numerous and perhaps continuous product-specific negotiations with the supplier. An MFN abrogates the need to expend such resources. In competitive industries, the efficiencies attributable to the MFN would be passed on to the customer in the form of lower prices.

In two-sided markets, the intermediary platform facilitates transactions between potentially large groups of suppliers and consumers, thereby creating the potential for efficiencies and pro-competitive benefits. Because the coordinating role of the intermediary platform is so central to interactions between users on both sides of the market, the potential pro-competitive effects of an MFN may be amplified.

MFNs may provide brand protection or otherwise enhance the value of the platform. In two-sided markets, the structural integrity of the platform is paramount. Platform intermediaries develop a pricing structure to maximize the value of the platform, balancing the demands for the platform of the two sides of the market. Without such a balance, the transactions that occur and the products that are sold on the platform may not exist. As such, platform intermediaries seek to protect the integrity and the intrinsic value of the system.

Brand reputation is a particularly important factor in the intrinsic value of intermediary platforms and, as a result, the value to platform users. The payment card industry provides an instructive example. The brand and reputation of a payment card network attracts both consumers and merchants; both sides of the market have expectations regarding and extract value from the performance and reliability of the payment network. However, users are able to affect the value of the network. For example, a payment brand may be damaged if merchants charge different fees to customers based on their choice of payment brands at the point of sale. The consumer's exposure to different and unpredictable terms at the point of sale may reduce the value of a particular payment brand (or even numerous payment brands). The decline in the brand value may decrease the size of the network (e.g., the reduced value drives fewer consumers to use the card, which then reduces merchants' incentives to accept the brand), which would, in turn, hurt the consumers. To protect its value, the network may impose restrictions on users, such as those on a merchant's ability to steer customers toward or away from particular payment mechanisms at the point of sale. The consistent treatment of different payment mechanisms – in other words, the inclusion of an anti-steering or MFN clause in the contract between the merchant and the payment card brand – may support the integrity of the platform and maintain its ability to balance the demand of the two sides of the market.

MFNs may also provide other, non-price-related benefits to consumers. By reducing the need for constant negotiations, for instance, an MFN may decrease the likelihood that negotiations between a supplier and intermediary will fail, a scenario that could result in service interruption to end users. This can be seen in the recent dispute between satellite television provider, DirecTV, and television content provider, Sunbeam Television Corp. The two sides failed to reach an agreement on prices, and, as a result, 200,000 DirecTV

customers did not receive certain channels.[3] Another recent example is the dispute between a large pharmacy chain, Walgreen Co, and a pharmacy benefit manager, Express Scripts: As a result of their inability to come to an agreement, Walgreens left Express Scripts' pharmacy network, and Express Scripts' customers were no longer able to fill prescriptions at Walgreen stores.[4] While this consequence is not unique to two-sided markets, the benefits associated with preventing barriers to transactions are particularly substantial to the intermediary platform and its users.

Despite these potential benefits, there remain concerns that an MFN could have anticompetitive consequences. For example, regulators and academics have argued that MFNs could enhance price rigidity, facilitate collusion to fix prices, and serve as a significant barrier to entry and reduce competition. In essence, an MFN can have anticompetitive effects if it causes the market price for a product or service to increase relative to what it would have been but for the MFN, or otherwise reduces the benefits of competition. Such consequences may be amplified in two-sided markets. In particular, the presence of network effects and economies of scale in a two-sided market serve as a natural barrier to entry; an MFN granted to one intermediary platform may increase those barriers and all but preclude competitors' ability to discipline the platform's prices. The potential for anticompetitive effects from an MFN is intrinsically tied to the characteristics of the industry and the supply chain, as well as the preeminent dynamics of competition.

III. Approaches to Assessing the Economic Effects of MFNs

From an economic perspective, a proper assessment of the competitive effects of an MFN has at least two parts: an analysis of the *structure* of the MFN and the relevant market(s); and an analysis of the price and non-price *effects* of the MFN.

The structural analysis centers on understanding the characteristics of the industry and the dynamics of competition throughout the supply chain, as well as the purpose and intent of the MFN. As noted above, industries with complex distribution chains appear particularly likely to realize pro-competitive efficiencies but also may have high barriers to entry. Market participants and entry conditions at each level of the distribution chain must be evaluated.

By analyzing the empirical effects of the MFN, economists can better understand how the MFN may have affected the competitive landscape, now and over time (e.g., the entry and exit of competitors or the rate of innovation). Ultimately, such analyses can help to determine whether the net effect of the MFN is beneficial or harmful to consumers.

IV. A Guide to the Structural Analysis

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[3] See, for example, Diaz, Johnny, "Fee Fight May Sideline Super Bowl Fans," *The Boston Globe*, January 18, 2012, available at http://www.boston.com/business/technology/articles/2012/01/18/super_bowl_may_be_blacked_out_for_directv_customers_amid_fee_dispute_with_whdh_and_other_tv_stations/.

[4] See, for example, Wohl, Jessica, "Walgreen Starts to Move On Without Express Scripts," *Reuters*, January 9, 2012, available at http://www.reuters.com/article/2012/01/09/us-walgreen-chicago-idUSTRE80824720120109.

The structural analysis might include an assessment of the nature of upstream and downstream competition; the standard determinants of prices between suppliers and intermediaries, and between intermediaries and end consumers; the specific design, restraints, and terms of the MFN; which party or parties benefit from the MFN (e.g., the party requesting the MFN, the party agreeing to it, other market participants; or some combination); the presence or absence of a coordinated program of MFNs; and how the products covered by the MFN relate to downstream products.

The structural analysis should consider the following observation: In general, suppliers are concerned with maximizing their profits by optimizing price and output; intermediaries are concerned primarily with *relative prices* (i.e., the price level paid by one intermediary vis-à-vis the prices paid by its competitors, and the price levels for downstream products charged by one intermediary vis-à-vis the prices charged by its competitors and prices of other substitutes).[5] The introduction of an MFN may or may not have an effect on the price levels or relative prices that would have existed in the but-for world.[6] It is therefore important to assess how an MFN may affect prices and output in the upstream market,[7] and how it may affect prices and competition in the downstream market.

a. Assessing the Upstream Market

From an economic perspective, MFNs will only be found in contracts between suppliers and buyers where both parties have some degree of market power. Suppose that a buyer is requesting an MFN from a supplier, guaranteeing that the supplier will provide its goods or services at prices no higher than it charges to other customers.[8] In this instance, the supplier must have some degree of market power, giving it the ability to charge different prices to different customers.[9] The buyer must also have some market power, enabling it to extract the MFN from the supplier. In a market for final goods, one of the parties is individual consumers.

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5 As a result of their position in the supply chain, intermediary platforms are able to pass prices charged by suppliers on to consumers. Consumers that make their purchasing decisions (or decisions to participate on a given platform) based on price will opt for the lowest-cost alternative that satisfies their demand. Therefore, an intermediary's competitive positioning downstream is generally a function of the relative prices paid to suppliers. For example, if an intermediary pays $10 to a supplier and its competitors pay $12, it is in a better competitive position downstream than if all intermediaries were paying the same lower price level (e.g., $9) to the supplier.

6 As described above, an MFN can introduce efficiencies that affect indirect costs (e.g., costs associated with constant negotiations between the supplier and the intermediary).

7 The role of MFNs in facilitating oligopolistic coordination among suppliers has been studied previously. See, e.g., Salop, Steven C, "Practices that (Credibly) Facilitate Oligopoly Co-ordination," in J. Stiglitz and F. Mathewson, eds., *New Developments in the Analysis of Market Structure*, Cambridge: MIT Press, 1986, pp. 265-290.

8 The vertical restraint at issue in the investigation of Blue Cross Blue Shield ("BCBS") of Michigan is one example of such an MFN. BCBS is a "buyer" of hospital services, while a hospital is the "supplier" of those services. Another example of this relationship would be Comcast requesting an MFN from Disney, where Comcast is the buyer of TV programming and Disney is the supplier. The situation could be the opposite, with the supplier requesting an MFN from the buyer guaranteeing that the prices the buyer pays are no less than the buyer pays to any other suppliers. An example of such an MFN is an agreement between Sony (the seller) and a website that sells music online (the buyer).

9 If the supplier was not able to price discriminate, all buyers would be charged the same price for the product and, therefore, there would be no need for the MFN.

Consumers are unlikely to secure an MFN because they do not possess any degree of market power.[10] Therefore, as discussed above, we typically see these negotiated MFNs in markets for intermediate goods.

Another relevant aspect of the analysis, and a necessary condition for MFNs to be a competitive concern, is the pervasiveness of the MFNs relative to the total supply of a good or service. If a large buyer were to sign an MFN with a single supplier, it may not create any noticeable distortions in the market, as long as that supplier represents a relatively small portion of the total market supply of the good or service. Therefore, for the remainder of this discussion we will assume that the MFNs are signed between buyers and suppliers with some degree of market power and that, collectively, the relevant MFN agreements cover a significant portion of the total market supply of the good or service.[11]

The potential pro- and anticompetitive effects of an MFN are largely based on the degree to which the MFN may affect pricing and output decisions; decisions which are based on the characteristics of the market. Fundamental to any analysis of an MFN structure is an understanding of how suppliers sell products and determine the prices that are charged to different buyers. This includes both exogenous factors (e.g., the availability of substitutes to different market segments) and endogenous factors (e.g., seasonality of demand) that inform price and output decisions. In two-sided markets, the presence of network effects and suppliers' incentives to participate on a platform are important determinants of price and output. Therefore, they must inform the analysis of an MFN.

Let's consider two intermediary platforms in a market that are identical in every way, except that one has significantly more users than the other. Because suppliers' incentives to participate on a platform are correlated with the number of consumers who use the platform, one would expect that suppliers would be willing to pay more (or offer higher discounts) to the large intermediary platforms than to the other platform. That is, the large intermediary can exert buyer power over the supplier, causing it to reduce its prices. Therefore, in general, it is likely that a large intermediary platform would command the lowest prices offered by a supplier with or without the presence of an MFN.

A supplier's costs are typically not publicly available or otherwise known by the market. Even though the large intermediary would likely still achieve the lowest relative price, it is possible that constant negotiations and the active exertion of buyer power may be an important component in lowering upstream price levels (i.e., reducing supplier power and profits). While

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[10] We do observe MFN-like arrangements in some markets, where retailers guarantee customers that if another customer is charged a lower price, then customers who already purchased the product may get a refund for the price difference. For example, Apple has such a policy: see http://store.apple.com/us/open/salespolicies. However, these guarantees typically have short windows (Apple's policy allows for matching price credits within 14 days of purchase). Given the short window during which a credit to purchases is available, the retailer has only a minor disincentive from lowering prices. Moreover, these policies are voluntarily self-imposed and therefore do not likely present the same competitive concerns as the MFNs requested by large buyers (or sellers) that are the focus of this paper.

[11] For example, in the BCBS case, the issue is not that the insurer signed an MFN with a particular hospital, but the fact that such agreements were in place with the majority of economically significant hospitals, leading to concerns about market-wide impacts.

an MFN would minimize such costs, an example below demonstrates the potential adverse consequences of the MFN. To assess the net effect of an MFN, one must weigh the benefits associated with the efficiencies generated by the MFN against potentially higher prices achieved by the supplier.

In the real world, different intermediaries are not the same; if we relax the assumption that the intermediary platforms are identical except for their relative sizes, an MFN may have a more nuanced effect on a supplier's price and output decisions. In particular, there may be specific characteristics of the consumers who use the smaller platform that are relatively more desirable to a supplier for a specific product or service.

Assume, for example, that a hospital has 10 beds, and that its fixed costs are \$70 and the marginal cost of treating a patient is \$1. There is a large regional health insurance company that is willing to pay \$10 for each of its beneficiaries; however the beneficiaries of the large insurance company utilize only eight of the hospital's 10 beds. The hospital's profit is calculated accordingly:

$$\text{Profit} = (P - c)Q - F$$

where P is the per-patient price paid by the insurance company; c is the marginal cost of treating a patient; Q is the number of patients; and F is the hospital's fixed costs. In this example, the hospital would earn a profit of \$2 based on its contract with the large insurance company[12]:

$$\text{Profit} = (\$10 - \$1)8 - \$70 = \$2$$

Assume that there is also a small insurance provider that can fill the remaining two beds and wants to contract with the hospital, but is willing to pay only \$8 per patient.[13] In the absence of an MFN, the hospital would be able to increase its profits by signing the contract with the small provider because this price is above the marginal cost of treating an additional patient, while its fixed costs are spread out across more patients:

$$\begin{aligned}\text{Profit} &= (P_1 - c)Q_1 + (P_2 - c)Q_2 - F \\ &= (\$10 - \$1)8 + (\$8 - \$1)2 - \$70 = \$16\end{aligned}$$

However, in the presence of an MFN, if the hospital agreed to contract with the small provider at \$8 per patient, it would have to lower its price to the large provider:

$$\begin{aligned}\text{Profit} &= (P_1 - c)Q_1 + (P_2 - c)Q_2 - F \\ &= (\$8 - \$1)8 + (\$8 - \$1)2 - \$70 = \$0\end{aligned}$$

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[12] Note that the price paid by the large company is close to the minimum it could pay given the circumstances; the supplier would sustain losses with a price below \$9.75 at this utilization rate. Also note that, if the large provider's beneficiaries had utilized all of the hospital's capacity, the hospital would have been able to charge as low as \$8.20, while maintaining a \$2 profit. This would reflect the enhanced economies of scale and buyer power associated with a large intermediary.

[13] If the small insurance company was identical to the large insurance company except for its size, the supplier would have been able to set a price of \$10 to the small provider. In this example, the large company would have been able to negotiate a price as low as \$8, with the supplier maintaining a \$2 profit.

As such, in the presence of an MFN, the hospital would opt not to contract with the small provider because it is better off filling just eight beds through the large insurer ($2 > $0). This is, in principle, a suboptimal outcome that results in welfare loss to society: An economically profitable transaction does not take place, and $14 in economic value is potentially lost.[14]

An economic analysis of the effect of a real-world MFN will have to consider whether this potential loss of $14 is offset by other factors. Could the smaller insurer contract with another hospital and place its patients there? What are the transaction costs of regularly negotiating the hospital contract – costs that are avoided with the help of the MFN? If the smaller insurer went out of business, would the large insurer pick up additional patients and end up filling all 10 beds at the hospital anyway? Does the further increase in the buying power of the large insurer enable it to negotiate better prices and offer its customers a larger provider network?

Ultimately, the assessment of the factors that drive supply in the upstream market informs how and whether the supplier would adjust its price and output decisions in light of the specific terms of a given MFN. Critical factors include the supplier's costs and capacity considerations and the extent to which they are known or knowable by intermediary platforms, as well as the characteristics of the intermediary platforms. To assess the net effect of an MFN, one must weigh the efficiencies generated by the MFN against any offsetting effects on price and output.

b. Assessing the Downstream Market

In assessing the potential economic effect of an MFN on consumers, it is important to understand the bases of competition among intermediaries and the relationship between the products purchased from upstream suppliers and those sold to consumers.

Many intermediaries also serve as aggregators, who negotiate with numerous suppliers of various products and services and provide to consumers different bundles of products and services for a fee. For example, health insurance companies negotiate prices for health care products and services with hospitals, doctors, drug manufacturers, pharmacies, among others, and provide "health care coverage" to beneficiaries in exchange for a premium. Similarly, cable television companies negotiate with numerous content providers (e.g., television networks) and offer to consumers various subscription packages in exchange for a monthly fee. To assess the potential effect of an upstream MFN on downstream competition, one must consider the range of products that are covered under the MFN vis-à-vis the downstream product and determine how a change in price for upstream products covered by an MFN might affect intermediaries' ability to compete downstream.

In two-sided markets, the presence of network effects and economies of scale are important factors in assessing the nature of competition among intermediary platforms and the potential pro- and/or anticompetitive consequences of restraints on interactions among users of those platforms, such as MFNs.

[14] The hospital could have filled the two remaining beds, generating additional profit of $7 per bed.

Competition among platforms can occur on multiple dimensions, including for example the suppliers with which the platform has contracted, features of product bundles (e.g., the range of product offerings), service levels and accessory services, and price. Platforms may also seek to specialize in a particular user segment or type of product.

However, platform use (and market share) is notoriously "sticky" due to switching costs, brand loyalty, or simply as a result of the self-sustaining nature of two-sided markets. That is, as the benefits to platform users increase along with the number of users, the costs of switching from a large platform to a smaller platform are inherently high; the user would be forfeiting the intrinsic benefits associated with the large platform. As such, many industries characterized by two-sided markets tend to be concentrated, with a small number of competing intermediary platforms. The two-sided market feature of the industry may also represent a natural barrier to entry; a disruptive innovation that significantly changes the basis of competition may be necessary for a new entrant to effectively compete with existing large platforms.

An assessment of the effects of an MFN must consider the likelihood that market concentration and barriers to entry would exist in two-sided markets with or without the presence of an MFN. The critical questions therefore pertain to whether and the degree to which the MFN *increases* market concentration and barriers to entry, and whether the net effect of any such increases (considering all potential pro- and anticompetitive consequences) benefits or harms consumers.

V. A Guide to Analyzing the Empirical Effects of an MFN

A comprehensive assessment of an MFN will include an analysis of the *price effects* (i.e., the causal relationship between the MFN and prices observed in the market), as well as the *non-price effects* (i.e., the causal relationship between the MFN and other, non-price features of the competitive landscape).

a. Assessing Price Effects

In any MFN evaluation, the prices of the underlying goods are the most obvious object to study. Economists can use several approaches to estimate the price structure in the market but for the existence of the MFNs.

The simplest test of a price impact is the "before and after" analysis. Presuming data exist for a long-enough period before and after the MFN went into effect, economists can analyze if the clause resulted in elevated price levels. In such an assessment, it is necessary to control for other factors affecting the market besides the MFN, such as macroeconomic indicators (inflation, GDP growth, unemployment), changes in regulatory environment (e.g., the introduction of mandatory insurance), technological innovation affecting the market (e.g., the explosion in online commerce), and others.

Besides the effect on price levels, one can also look at the distribution of prices. In various MFN cases, allegations have been made that these agreements create price floors, which, in effect, should reduce the variation in prices. A reduction in price dispersion can be an indicator that the

agreement has, in fact, led to price stabilization in the industry – subject to controlling for the other economic factors described above.

Economists can also compare the price structure in the market in question to another similar market. For example, in the case of an MFN in the health care industry, a natural test of whether the MFN agreement has created an undesirable price structure is comparing hospital pricing in one region to that of a neighboring or similarly situated region. Analysts have to be careful in making such a comparison, however; the socioeconomic and regulatory conditions have to be similar enough for that other market to present a valid benchmark. However, the benefit of this method is that it may no longer be necessary to account for certain factors that change over time, such as inflation or innovation – they will be identical across the two markets. Similarly, the price dispersion can be compared in the target and benchmark markets, provided that the benchmark is found valid.

If no appropriate benchmark is available, economists can model the but-for scenario in which the MFN did not exist. This would involve constructing a model of the market in which all participants are assumed to maximize their own profits, subject to various constraints – including the MFN agreement. Once a reliable market model has been estimated, economists can remove one of the constraints on market participants (the MFN agreement) and analyze the choices market players would have in that world. The resulting expected price structure can be compared (both in terms of levels and variance) to the existing one.

While this last method is often more difficult to implement than the two benchmark-type methods above, it relies on many of the same inputs as the benchmark methods (what are the actual prices and costs? what is the regulatory environment?). Indeed, this method has been employed extensively by experts in litigation.

b. Assessing Non-Price Effects

In addition to price effects, economists should also evaluate the non-price effects of the MFN. While such effects are less obvious and more difficult to quantify, understanding them is essential to evaluating the overall impact of the MFN on the market and consumer welfare, and may be particularly relevant in two-sided markets.

A concern is whether MFNs are associated with restricting entry (or forcing exit) of smaller competitors because the smaller competitors cannot get targeted discounts on their product portfolio. However, MFNs can also make it *easier* for small competitors to enter (or stay in) the market. For example, consider a small company competing in some local or niche market against a midsize company. If there is no MFN in this market, the midsize company may obtain better prices from suppliers than the small company and force the small company to exit (or not enter). However, if suppliers are bound by an MFN with a large buyer in this market, they may not be willing to provide any additional discounts to the midsize company, leaving it on equal footing with the small competitor.

Note that in the MFN world, consumers may appear to be worse off when the midsize company does not get a price discount. However, the discount may not necessarily benefit them: With

reduced competition (no small competitor present), the lower costs would not necessarily be passed on. Conversely, in the absence of price discounts but with increased competition (in the MFN world), consumers may benefit from lower final prices (lower margin of the intermediaries) and a better experience on non-price dimensions, such as quality and service.

The impact of the MFN on entry and exit decisions may be evaluated by analyzing the concentration in the market. Economists can employ methods similar to the ones used for price analysis: a before-and-after study, finding a contemporaneous benchmark, or performing structural economic modeling.

When analyzing the concentration of the market, it is important to note that increased concentration may, in fact, improve consumer welfare. While consumers may not get the benefit of aggressive price competition when fewer firms are present, that loss may be more than offset by the benefit of belonging to a large network. In health insurance, for example, consumers may enjoy a larger selection of hospitals and doctors that can treat them if they sign up with a large insurer.

MFN agreements can also affect innovation in the market. Even if it is determined that the MFN had a negative effect on prices and market concentration (fewer firms charging higher prices), it is still possible that the presence of an MFN increased the rate of innovation. Economists have studied the connection between market concentration and rate of innovation extensively and have identified a number of reasons why higher market concentration may, in fact, increase innovation. Joseph Schumpeter argued in 1942 that large firms have advantages in productive capacity, marketing, and financial flexibility that enable them to exploit new technologies at large scales. Technological progress has tangible benefits for consumers, whether it is the introduction of online payment and information portal by an insurer or introduction of high-definition programming by a cable network.

The rate of innovation is significantly more difficult to quantify within the context of a MFN-related litigation than the price and concentration factors. Even if it is quantifiable, it may not be straightforward to measure the economic benefits from innovation. Yet, these benefits may be tangible and should be considered in a serious evaluation of an MFN agreement.

And finally, MFN agreements allow the parties to reduce their negotiating costs. The MFN provides a safeguard against a major shift in market conditions (due to an economic cycle or a technological innovation) that would change the pricing structure in that market. When a buyer of a product or service receives an MFN from the seller, the buyer is willing to sign a long-term contract. Otherwise, that buyer might be concerned that three years into an eight-year supply contract, a dramatic change in prices would allow its competitors to obtain these products or services at substantially lower costs and render it non-competitive. Besides saving money and resources on the negotiating sessions themselves (for both the buyer and the seller), long-term contracts reduce the risk of supply interruptions for the consumers. For example, in recent years various cable and satellite networks went through blackout periods over disputes with content providers (e.g., DISH dropped Disney HD programming). Some of these disputes are unavoidable and negotiations will break down. However, having long-term contracts and the MFN protection limits the frequency with which such situations arise.

VI. Conclusion

MFNs and similar vertical restraints are typically found in contractual relationships between suppliers and powerful intermediaries in the chain of distribution of a product or service. Despite having potentially significant pro-competitive justifications, MFNs may have anticompetitive consequences that adversely affect consumers. Some of the most prominent investigations into MFNs have occurred in industries that are characterized by two-sided markets. In such markets, the intermediary platform facilitates transactions between suppliers and consumers, thereby creating the potential for efficiencies and pro-competitive benefits. Given the crucial role of the platform in coordinating transactions between suppliers and consumers and the network effects associated with platform use, the pro- and anticompetitive effects of an MFN are perhaps amplified in two-sided markets.

An analysis of the effect of an MFN must consider the bases of supply and demand throughout the supply chain, as well as the role and competitive positioning of the intermediaries. In particular, it is important to understand how an MFN might affect the supplier's profit-maximizing price and output decisions and how it might affect competition among intermediaries and market concentration in the short-and long-term. Ultimately, the competitive effect of an MFN is determined by weighing the ensuing efficiencies and other benefits against any negative price and non-price consequences of the MFN, by evaluating price levels, price dispersion, entry and exit, and product offerings over time.