

The Internet and Auto Sales: Benefits and Barriers

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This paper discusses the economic effects of restrictions on automobile distribution. The particular focus is on the potential for significant savings for consumers through Internet assisted automobile sales and the role of recent extensions of auto distribution restrictions in inhibiting that Internet competition.

Auto purchases represent the second largest expenditure, after home purchases, for many consumers. Annual sales of new and used autos are approximately \$200 billion in the U.S. All states regulate the distribution of autos. Some of these state regulations—particularly those pertaining to franchise agreements between auto manufacturers and dealers—have been criticized as harmful to consumers. Several economic analyses assessed the impact of these laws and regulations in the 1980's, using data from the late 1970's and early 1980's when about half the states still had no restrictive franchise laws. Those studies concluded that the state restrictions increased auto prices between 4 and 10 percent.² All states now have some form of franchise restrictions on distribution. There have recently been moves to strengthen these laws in ways that inhibit Internet competition. According to the most conservative analyses of the impact of the Internet on auto prices, its use to aid the purchase of an auto can reduce the average auto price by 2 percent. Thus widespread use of the Internet could lead to savings for consumers of \$4 billion per year.³

¹The views in this paper are those of the author and do not necessarily reflect those of the Federal Trade Commission or any individual Commissioner.

²The only studies that challenged these findings were done at the request of the National Automobile Dealers Association (NADA). The original studies and the critiques are discussed below.

³See Public Workshop: Possible Anticompetitive Efforts to Restrict

There are two categories of state regulation of automobile distribution: administrative and franchise. Administrative regulations provide for the licensing of automobile dealers and define their responsibilities such as collecting taxes, processing vehicle titles, and verifying odometer readings. Franchise regulations pertain to the contractual relationship between automobile manufacturers and dealers. Economic analysis of franchise, and other vertical, relationships suggests that if it were possible to write contracts between manufacturers and dealers that completely specified actions to be taken in every possible contingency (*ex ante* complete contracts) then regulatory restrictions on the franchise relationship would not be necessary. Conversely, where *ex ante* complete contracts are not feasible, then some regulatory restrictions may be warranted in order to obtain a more efficient outcome. At the same time, dealers may have an incentive to augment incomplete contracts with regulatory restrictions in order to increase their market power.

The 1980's criticisms of state franchise regulation focused on provisions that restricted the ability of manufacturers to establish new dealerships near existing dealers. The criticisms of recent extensions of franchise law focus on provisions that ban direct sales from manufacturers; extend broker restrictions; extend existing restrictions to ancillary services such as financing; restrict the information manufacturers can provide consumers; and, restrict the performance of warranty work.⁴ Many of these extensions inhibit or prohibit Internet-related competition in autos.

Competition on the Internet
(www.ftc.gov/opp/ecommerce/anticompetitive/index.htm) (AWorkshop@)
transcript, October 8, page 31, Robert Gertner.

⁴See Workshop transcript, October 9, pages 429 and 449, Mark Cooper.

In the remainder of the paper, I discuss the types of regulation affecting the distribution of autos along with an economic model of the franchise relationship in which regulation may be efficient or inefficient; the arguments in support of the restrictions; the costs of restrictions on traditional forms of auto distribution; and, the potential savings from Internet assisted sales of autos and associated costs of emerging restrictions on Internet assisted auto distribution.

Franchise and distribution regulation

Most economic studies of auto franchise regulation and their effects have focused on laws that restrict the ability of manufacturers to establish new dealerships, such as Relevant Market Area (ARMA) laws. I begin with a discussion of an economic model of the franchise relationship between dealers and manufacturers that allows for the possibility of both efficient and inefficient regulation of the ability of manufacturers to set up new dealerships. The regulation in the model is intended to represent RMA laws.

Economic model with a role for regulation⁵

Suppose a dealer and a manufacturer, at the time the dealer entered a new territory, were able to write a contract specifying the conditions such as increased population under which another dealer would be added to the territory. They would consider the impact of the new dealer on both their profits and choose a level of population growth that would trigger the entry of a second dealer. Such contingent contracts are probably not feasible to write and enforce. Without a contract, the manufacturer will only consider a second dealer's impact on his own profits and thus may introduce the second dealer much earlier than the first dealer would have agreed to.

⁵Frank Mathewson and Ralph Winter, "The Economic Effects of Automobile Dealer Regulation," *Annales d'Economie et de Statistique*, July-December, 1989.

This is called the pure hold-up problem. (Of course, if the first dealer could unilaterally determine when a second dealer entered, he would choose to wait longer than the manufacturer would have agreed to.) When manufacturers are holding-up their dealers, potential dealer-entrants will be deterred and prices will be higher (in the long run) than would be the case if dealers and manufacturers could effectively contract on future entry.

But notice that the pure hold-up problem does not capture the fact that a manufacturer will be in the market long enough to need additional dealers in that geographic area or an adjacent one. A new dealer will only be willing to pay a franchise fee commensurate with his expected profits; therefore, a manufacturer who has been observed holding-up one dealer will not be able to make as profitable a deal in future negotiations. Where manufacturers' reputations are important in maintaining the ability to attract effective dealers, such as in areas with expected high population growth rates, the manufacturer's incentives are closely aligned with his existing set of dealers.

If a manufacturer's reputation is not very important, perhaps because additional dealers are not expected to be needed, dealers have a legitimate reason for pursuing RMA laws that allow them to challenge (through a legal process) the introduction of additional dealers in their geographic region. But dealers also have an incentive to request these laws simply in order to protect themselves from competing dealerships and develop market power as population and demand increase at a cost to consumers and manufacturers. If population growth rates are low in a region, and reputation effects have little constraining impact on manufacturers, then dealers are likely pursuing RMA laws for legitimate purposes. Conversely, where population growth rates are high and reputation effects are strong, dealers are likely pursuing RMA laws in order to protect their market power and ability to raise prices in a growing market.

A well-designed empirical analysis of RMA laws found that they were significantly more likely to be introduced in areas (and times) with the highest expected population growth.⁶ This leads to

⁶Frank Mathewson and Ralph Winter, "The Economic Effects of

the conclusion that the RMA laws appear to be enacted to protect or enhance dealers' market power instead of to protect them from manufacturers.

At the time of this study, the RMA laws were in effect in about half the states; more than forty of the states now have RMA laws. There are also similar laws restricting the ability of manufacturers to establish and re-establish franchise dealers in most states.⁷

Prohibitions that inhibit or prohibit Internet competition

Many states have long had laws prohibiting direct sales to consumers by manufacturers or brokers. As Internet commerce became more prevalent, auto dealers began to bring pressure on states to aggressively enforce these laws and to enact additional ones. Some of the new laws explicitly bar auto sales through the Internet. Texas was the first state to enact such a law, and was followed quickly by Oklahoma and Arkansas. Others, such as those prohibiting anyone but dealers from posting prices on the Internet, severely hamper Internet competition. Other new laws, and more aggressive enforcement of old ones, tend to make Internet competition less efficient and more costly than it would otherwise be.

Automobile Dealer Regulation, @ *Annales d'Economie et de Statistique*, July-December, 1989.

⁷An Analysis of the Economic Implications of Manufacturer Owned Vehicle Dealerships, @ Virginia Department of Motor Vehicles and the Virginia Motor Vehicle Dealer Board, 1999.

For example, some states prohibit per transaction fees for entities that provide referrals or match buyers and sellers. These restrictions appear to have been originally intended to prohibit auto brokers and unlicensed dealers. Online referral firms operate in states with these laws by charging flat monthly fees to dealers for being included on their referral list. Flat monthly fees can be adjusted to mimic per referral fees (ex post). However, some states have augmented these laws with provisions that require the flat monthly fees to be identical for all dealers in a given locality C a zip code, for example. These latter restrictions can be quite inefficient. A Mercedes dealership on a prime location would pay the same fee as a Hyundai dealer on an out-of-the way street. Therefore the referral service has an incentive to ration referrals, particularly the more valuable ones. This enforced pricing policy also makes the referral affiliation less attractive to the low cost dealers selling less expensive cars since they would have to pay the average value of referrals. As a consequence, referral services operating under these restrictions will under-serve consumers demanding less expensive automobiles.

Arguments made in support of restrictions

There are three main categories of arguments in support of auto distribution restrictions: first, the dealers need protection from manufacturers; second, the dealers provide services that consumers need and that cannot be provided by other mechanisms; and third, traditional retailers will suffer from free-riding because consumers will use them for test drives before purchasing on-line.

The first argument, that dealers need protection from manufacturers, appears to be inconsistent with the economic evidence and theories of franchise and other vertical relationships. The potential actions that dealers request protection from C such as setting up too many dealerships C are actions that economic theory suggests manufacturers have no incentive to take when reputations are sufficiently important. Manufacturers have a strong incentive to have healthy retailers who are well-motivated to provide information, service, and assistance to customers. Beales and Muris⁸ explicitly

⁸J. Howard Beales III and Timothy J. Muris, *The Foundations of*

looked at this argument for franchise regulation and found no empirical support for it.

The second argument is that dealers provide services to consumers that cannot be provided effectively except by dealers. Some of the cited services include⁹: a "make ready" service in which a newly delivered car is checked and readied for driving; a convenient place to have vehicles serviced; and, assistance in processing vehicle titles and registrations. Given that many similar services, such as annual state inspections, are provided effectively by a wide range of other businesses, it seems implausible that others could not also provide many of the services now provided by dealers. More to the point, no one—not even the most ardent supporters of Internet commerce—is predicting the demise of dealers. Many consumers will continue to prefer purchasing automobiles in the traditional manner. (Note this argument is related to the third one.)

The third argument, that retailers will suffer from free-riding behavior, is consistent with economic understanding of these markets. Free-riding refers to a situation in which some information or service needs to be provided before, or along with, the sale of the associated item. Free-riding almost certainly already occurs: a consumer might test drive at an expensive downtown dealership during a lunch break and then drive out to the far suburbs and a cheaper dealership to purchase a car on the weekend. Internet sales would likely increase the prevalence of free-riding. There are several points to keep in mind when evaluating the potential seriousness of this issue.

Franchise Regulation: Issues and Evidence, *Journal of Corporate Finance* 2, 1995.

⁹See Workshop comments filed by the National Automobile Dealers Association and Bill Wolters of the Texas Automobile Dealers Association.

First of all, manufacturers have a strong interest in solving free-riding problems that may arise whether or not Internet sales are involved. When free-riding is prevalent, those retailers who are providing disproportionate amounts of the service relative to their sales will not have an incentive to continue providing the service or information. When the services are not widely available, sales of the product will fall relative to a market with no free-riding. Therefore, the manufacturer is motivated through profit seeking to ensure that its retailers do not suffer from free-riding. A recent economic analysis of free-riding and Internet sales (of DVD players, fragrances, and appliances) finds that, indeed, manufacturers do take steps to solve the free-rider problem.¹⁰ In one example, an appliance manufacturer awarded a sales commission to the brick and mortar retailer located nearest the buyer when an online sale was made. Also, none of the manufacturers in their study who were selling online undercut their retailers in price. There is no reason to expect that automobile manufacturers are less capable of solving free-rider problems related to test drives and other services provided by dealers.¹¹

Second, free-riding can go both ways. Consumers can use the Internet to obtain information about new autos and even solicit price offers from referral and buying services but then go to the nearest dealership to purchase the vehicle. On net, it is not obvious whether the Internet services or traditional dealers are the most affected by free-riding. However, it may be easier for a manufacturer to compensate an Internet seller for its services than a traditional dealer. The Internet dealer's service provision is observable on its website and involves mostly a fixed cost whereas the traditional

¹⁰Dennis W. Carlton and Judith A. Chevalier, "Free Riding and Sales Strategies for the Internet," *Journal of Industrial Economics*, 49(4), December 2001.

¹¹It is also worth noting that many, or most, purchasers of automobiles over eBay did not test drive the (used) vehicles beforehand. It may be that test drives are less important than generally believed.

dealer's provision is less easily observable and involves variable costs.¹²

¹²See Workshop comments of Judith Chevalier.

In summary, free-riding is a legitimate concern. However, there is no reason to conclude that state imposed restrictions on Internet sales are the appropriate response. Economic theory and empirical analyses of markets where free-riding is expected to be a problem indicate that there are private responses, perhaps contractual, between manufacturers and their retailers that can solve whatever free-riding problems arise.

Cost of existing restrictions on off-line sales

Mathewson and Winter¹³ develop a simple franchising model in which auto dealer franchise regulation can have positive or negative effects on consumer welfare. (The model is discussed in more detail in the previous section.) They focus on a type of regulation that gives a dealer the opportunity to challenge any manufacturer decision to introduce a new dealer. I.e., market area restrictions. Market area restriction regulation serves the public interest if it is protecting dealers (and consumers) from manufacturer hold-up. That is, from manufacturers who benefit in the short run by collecting fees from too many new dealers but leave dealers struggling, and perhaps exiting, in the long-run. This type of regulation serves private interests if it is enacted because dealers recognize that, with a growing population and demand, they can earn supra-competitive profits if they are able to forestall optimal entry of new dealers. Mathewson's and Winter's empirical analysis supports the private interest explanation for auto dealer regulation and estimates that the price elevating effect of regulation is between 7 and 10 percent.

¹³Frank Mathewson and Ralph Winter, "The Economic Effects of Automobile Dealer Regulation," *Annales d'Economie et de Statistique*, July-December, 1989; also available as Department of Economics and Institute for Policy Analysis Working Paper No 8907, University of Toronto, April 1989.

Rogers¹⁴ also tested the effect of state laws restricting the rights of manufacturers to introduce new dealers (RMA laws) using data on sales of nine Chevrolet models in local geographic markets. He estimated a demand and supply equation for each geographic area and Chevrolet model combination. The estimated elasticities yielded estimates of the impact on consumer welfare. His results suggest that the restrictions led to a (sales-weighted) average price increase of approximately 4 percent.

The Mathewson and Winter paper uses a superior modeling approach but uses aggregated (state level) data. Rogers has the advantage of proprietary, disaggregated data. There is no compelling reason to favor one set of results over another. The important thing is that both these studies, as well as two earlier empirical analyses¹⁵, find that the distribution restrictions increase the price of new automobiles. One study, undertaken by Wharton Econometric Forecasting Associates, Inc. (AWEFA@) at the request of the National Automobile Dealers Association (ANADA@)¹⁶ attempted to undermine the credibility of Rogers= (FTC) analysis. Mathios (FTC)¹⁷ responded to the WEFA comments and effectively showed, through new estimations, that Rogers= conclusions were unchanged by the re-specification.

¹⁴Robert P. Rogers, AThe Effect of State Entry Regulation on Retail Automobile Markets,@ Bureau of Economics Staff Report to the Federal Trade Commission, January 1986.

¹⁵ E.W. Eckard, Jr., AThe Effects of State Automobile Dealer Entry Regulation on New Car Prices,@ *Economic Inquiry* 24, 1985, and R.L. Smith, II, AFranchise Regulation: An Economic Analysis of State Restrictions on Automobile Distribution,@ *Journal of Law and Economics* 25, 1982.

¹⁶Wharton Econometric Forecasting Associates, Inc., *An Evaluation of the FTC=s Analysis of the Effects of RMA Laws on Auto Markets*, January 1987.

¹⁷Bureaus of Competition, Consumer Protection and Economics, Federal Trade Commission, AResponse to Wharton Econometric Forecasting Associates= Comments on the Bureau of Economics Study of Relevant Market Area Laws,@ in American Bar Association, Section of Antitrust Law, *Franchise Protection: Laws Against Termination and the Establishment of Additional Franchises*, 1990.

Potential savings through Internet sales and/or brokering of autos

The Internet offers a range of services for consumers who are purchasing automobiles C from Internet sites that provide information about cars to buying services that handle the entire negotiating and purchasing process. Consumers who take advantage of online automobile sales assistance can save an average of \$450 per car with the use of a referral service and up to \$1300 per car with the use of a buying service. In addition, consumers benefit because the use of the Internet reduces the amount of time required to purchase an automobile. The estimated dollar savings occur through lower search costs, increased consumer bargaining power, and increased competition among dealers.

Search costs

With greater information about a product=s attributes and available prices, consumers are able to obtain a product at a lower price than with less information. But obtaining the information is costly C in terms of time or money or both. Therefore, consumers must trade off the cost of searching for product information against its value in obtaining a lower price. When information becomes more easily available to all, or most, consumers C when search costs fall C then overall prices fall as a result.¹⁸

¹⁸In the search theory model, a consumer has a cut-off price for each in a sequence of stores he plans to visit. If the observed price in the first store is lower than his first cut-off price, he will purchase the item. If not, he proceeds to the second store C and so on, until a purchase is made. The cut-off prices fall when search costs fall. Thus firms will find it more difficult to maintain sales at the previous prices and equilibrium prices will fall. See, for example, Peter Diamond, ASearch Theory,@ *The New Palgrave: Allocation, Information, and Markets*, ed. John Eatwell, Murray Milgate, Peter Newman, 1989.

The Internet has substantially lowered search costs C especially the cost of obtaining information about the attributes of various automobiles. Prior to the Internet, consumers obtained information on quality, features, and invoice prices from publications like Consumer Reports, Kelley Blue Book, and Edmunds. With the Internet, this type of information became freely and widely available to consumers C both from publishers of previous print publications and from the manufacturers themselves.¹⁹ This purely informational role of the Internet lowers search costs for consumers.²⁰ Not only is the information made available without charge to the consumer, the relevant information can be accumulated much more quickly than through publications. In addition, the Internet sites have better information than the print publications. For example, a consumer can get a suggested or estimated market price that is specific to an exact configuration of features, to his location (down to the zip code), and the date of the request.²¹ As a consequence of the lower cost and greater value of information available on the Internet, economic theory and evidence suggest that auto prices will decline and consumer welfare will increase.²²

¹⁹For instance, GM estimates that its informational site, GMBuyPower.com influences approximately 67,000 sales per month. General Motor=s written Workshop comments.

²⁰J.D. Power and Associates has estimated that 62 percent of consumers sought information on the Internet before purchasing a new car. That number is expected to increase to 75 percent this year. General Motor=s written Workshop comments.

²¹Workshop transcript, October 9, pages 404-405, Fiona Scott Morton.

²²Fiona Scott Morton=s written Workshop comments.

Information provided on the Internet regarding automobile attributes and even estimated market prices has not been inhibited and, as noted above, does lower search costs. On the other hand, specific information about prices at given dealers, or from manufacturers, is not easily available. Some of the state restrictions are directly aimed at keeping price information off the Internet. Economic theory suggests that wider availability of price information would further reduce both search costs and equilibrium prices. Support for the theory includes a recent empirical analysis of life insurance markets which found that the price of term life policies declined by 8 to 15 percent once prices became easily accessible on the Internet; the prices of other forms of life insurance, for which prices were not available on the Internet, did not fall.²³ There is no reason to expect that the availability of price information would not be similarly important for auto prices.

Bargaining power

The relation between search costs and prices applies to a wide variety of pricing situations, including those in which prices are posted as well as those in which prices are arrived at through a bargaining process. Virtually all new car prices are set through one-on-one negotiations between the buyer and a dealer. It turns out that the Internet C in its purely informational role as well as through Internet referral services C also helps lower prices by increasing the bargaining power of potential purchasers vis-à-vis sellers.

The outcome of a bilateral bargaining session is determined by: the price at which the buyer is indifferent between accepting a deal and walking away (his threat-point); similarly, the seller=s threat-point; relative bargaining strengths (intangible toughness, for example); and each party=s information or beliefs about the first three items. A successful bargaining session will result in a price somewhere between the two, perceived, threat-points.²⁴

²³Jeffrey R. Brown and Austan Goolsbee, ADoes the Internet Make Markets More Competitive? Evidence from the Life Insurance Industry,@ *Journal of Political Economy*, June, 2002.

²⁴A thorough treatment is given in Martin J. Osborne and Ariel

The purely informational role of the Internet gives the potential buyer significantly better information about the seller's threat point C and also about his own threat point through better information about prices he is likely to be able to obtain from another dealer. Thus a consumer who has obtained accurate information from the Internet enters negotiations with a dealer most likely knowing that both the dealer's and his own threat-point prices are lower than he would have believed otherwise.

Internet referral services lower search costs and increase bargaining power even more than purely informational sites. Referral services like Autobytel and Autoweb match a customer with an associated dealer in return for a referral fee from the auto dealer. Without a referral service, a consumer has to obtain a price quote by phone or in person C most commonly the latter C a time consuming process. With an Internet referral service, a consumer can request a price quote by e-mail from the comfort of home and receive it within a day by e-mail or fax. And the consumer can request price quotes from competing referral services.²⁵ Thus the referral services not only additionally lower search costs (by providing price quotes by e-mail or fax) but also provide better information that increases the buyer's bargaining power (by providing explicit outside offers, i.e., a known threat-point).

²⁵Fiona Scott Morton's written Workshop comments.

Several very careful economic analyses have shown that online auto referral services save consumers around 2 percent (about \$450) off the price of a new car, even though the referral service is an additional layer in the supply chain.²⁶ These savings are derived from several sources: first, the referral service lowers a consumer's search costs; second, the referral service chooses to work with low-cost, efficient dealers; and third, the referral service effectively increases the consumer's bargaining power vis à vis the dealer (including the intangible toughness aspect of bargaining power). The economic analysis finds that this last effect is particularly beneficial to women and minorities, who pay, on average, a premium above white male consumers when they purchase a car in the traditional manner.²⁷

Increased direct competition

While the referral services leave all price discussion and negotiation to the dealers and consumers, companies like CarsDirect and CarOrder post prices of participating dealers on their web sites. This additionally lowers consumers' search costs and increases bargaining power. More importantly, it represents the first time dealers have been brought into direct competition with each other. CarsDirect and CarOrder, along with Amazon, offer online buying services. Instead of simply offering referrals and information, these buying services search for the lowest price and arrange the sale (and, in some cases, delivery). This business model still maintains the dealer in his traditional role, though with less bargaining power. Most states prohibit these online buying services from receiving cars directly from manufacturers. In order to be able to obtain direct shipments of autos some of the buying services are vertically

²⁶Fiona Scott Morton, Florian Zettelmeyer, and Jorge Silva Riso, "Internet Car Retailing," *The Journal of Industrial Economics*, December 2001, and "Consumer Information and Price Discrimination: Does the Internet Affect the Pricing of New Cars to Women and Minorities?" October 2001, and "Cowboys or Cowards: Why are Internet Car Prices Lower?" NBER, December 2001.

²⁷The authors do not find evidence of statistical discrimination in these off-line sales.

integrating C purchasing dealerships throughout the country. Estimates of the savings to consumers of online buying services range from around \$500 to \$1300 per car.²⁸

Projected additional savings

²⁸John E. Kwoka, Jr., AAutomobiles: The Old Economy Collides with the New,@ *Review of Industrial Organization* 19, 2001.

Many industry participants and analysts believe that a true build-to-order system is feasible within the near future. Such a system would work much the way Dell's online computer sales now work. A consumer lists preferences, a price is agreed upon, parts suppliers would be notified of any special needs, the automobile would be assembled to specification and delivered to the customer in approximately 10 days. The potential cost savings of build-to-order are substantial C there is a reduction in costly dealer infrastructure, virtual elimination of inventories, and elimination of the costs of over-production. It is estimated that the build-to-order system could save consumers \$1500 to \$2000 in addition to the savings from using an online buying service²⁹.

The Internet is already benefitting consumers by reducing consumer search costs, increasing their bargaining power, and increasing direct competition C leading to significant consumer savings of both time and money. The Internet also has the potential to reduce prices even more if cost-saving build-to-order systems are not impeded.

In recent years, newly introduced distribution restrictions have aimed at Internet related activities³⁰. Since all states now have some restrictions, empirical tests of the consumer impact of these restrictions are more difficult. However, the estimated price effect of Internet auto referral services alone (approximately two percent) provides a conservative measure of the potential magnitude of the costs imposed on consumers when Internet-related information and competition are impeded. Note that if these two percent savings were realized on all auto purchases this year, the total consumer savings would be around \$4 billion.

²⁹Kwoka.

³⁰See Alliance of Automobile Manufacturers written Workshop comments.

Conclusion

There are many long-standing state restrictions on the distribution of automobiles. Economic analyses of these restrictions and their effects find that the restrictions are inefficient and that they cost consumers between 4 and 10 percent higher prices on new cars. As Internet commerce developed states began to enact additional restrictions aimed specifically at Internet competition in automobile sales. Empirical analyses of the cost savings generated by Internet auto referral services alone indicate that state impediments to competition over the Internet can have an additional significant negative impact on consumer welfare.

