

**Statement for the Federal Trade Commission**  
**Possible Anticompetitive Efforts to Restrict Competition on the Internet**  
**Auto Panel**

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*My remarks are based on research I have carried out with two coauthors, Florian Zettelmeyer of UC Berkeley and Jorge Silva-Risso of UCLA. However, this statement reflects my own opinions and does not necessarily represent the opinions of my coauthors.*

In this statement I will address the question of whether and how the Internet is increasing competition in the retail automobile industry. I will not directly discuss efforts to restrict competition in this area; however, the effects of such restrictions can be better evaluated once the impact of the Internet is well understood.

*Internet Referral Services and other auto websites*

In my research, I have primarily studied the effect of Internet Referral Services (IRS's). These are websites that take a consumer's contact information and a description of the car that she wants to buy. The website passes on this information to an auto dealer of the appropriate nameplate within their network. It is then the responsibility of the dealer to contact the customer (usually by phone but also by email) to discuss the details of the desired car and offer a price. The consumer is free to accept or decline this offer, or bargain further with the dealer. The service is free to consumers, while the participating dealers pay a fee for the stream of customers they receive. IRS web sites also typically contain information on automobiles that can help a consumer decide which vehicle she is interested in and evaluate aspects of one vehicle versus others.

There are many sites other than Internet Referral Services that inform consumers about cars and their attributes. Manufacturers have websites that describe the features of their different models, often give MSRP, and sometimes can help a consumer locate a nearby dealer. Enthusiast groups run websites such as audiworld.com where Audi enthusiasts swap information and opinions. Perhaps more important are the professional third-party informational websites such as Edmunds.com, consumerreports.com, and kellybluebook.com. These sites provide car data, unbiased reviews, and quite detailed pricing information. On some sites a consumer can get the dealer's invoice price, information on dealer incentives and holdback that is specific to a particular time and geographic location, and an estimate of "market price."

*The role of information*

General information about cars is useful to the new car buyer because a new car of a given model and trim is a homogeneous product. That is, a new, base model, VW Passat Wagon is exactly the same regardless of the dealership at which it is purchased. Therefore, a consumer has little reason to shop anywhere but the lowest-price dealership in terms of the product itself. Because a

new car is a very expensive durable good and driving to pick it up only occurs only once, consumers are willing to engage in search and are also willing to purchase at a dealership relatively distant from their home.

Having more detailed, specific information available at lower cost is likely to alter transaction prices in the auto market because auto prices in the U.S. are negotiated in bilateral exchanges between salesmen at dealerships and individual consumers. For example, if a consumer is aware of the wholesale cost of the car to the dealer, then it will be more difficult for the dealer to successfully bargain for a high price with that consumer relative to a consumer who is unaware of the cost of the car. A greater number of more informed consumers will likely lead to lower transaction prices on average. For this reason, we expect the informational aspects of the Internet alone to lower prices for consumers and increase consumer welfare.

### *Search costs*

Internet Referral Services, as noted above, perform a different function from more generalized websites in that they link a potential consumer to an appropriate dealer. One such website - and the one we focus on - is Autobytel.com. We focus on Autobytel.com not because this site is different in any important way from other online referral sites, but simply because they were willing to give us data and had a large market share of IRS referrals at the time (1999, 50%). We do not know if the results I discuss below are specific to Autobytel.com, or apply more generally to IRS's. The design of the referral process is as follows. Autobytel.com defines territories in which there are four or five dealers of a particular nameplate. One of these is chosen (and chooses) to be the Autobytel.com contract dealer, pays a subscription fee, and receives all the referrals generated within the territory. This effectively means that Autobytel.com aggregates demand across consumers in the territory and funnels it to specific dealers. The contract dealer could benefit in the following ways: a) he receives incremental volume if he is able to convert the leads into sales, and b) those sales may be particularly profitable if Internet consumers are relatively cheap to serve (no test drive, for example). Autobytel.com evaluates contract dealers based on their "close rate" or the percentage of leads that result in a sale. A dealer who is not performing may be replaced with a different dealer in that territory. Thus, if the stream of leads is valuable to the dealer, he has an incentive to quote low prices to Autobytel.com consumers. In addition, he may expect that these consumers are informed about the market price, so the returns to quoting a high price are small. The idea is that Autobytel.com quotes are "no-haggle," although this is not always true in practice.

Before Internet Referral Services, consumers had to visit or telephone dealerships to obtain a price quote on a specific car. Most typically, the consumer visited the dealership because it could be difficult to obtain a firm quote over the phone and be confident that the dealer did actually have the car in question. A visit to a dealership requires (possibly) finding childcare, driving to the dealership, listening to the salesperson describe the car and check inventory, and then engaging in bargaining. By using Autobytel.com, search costs become very low. Within seconds a consumer can request a price quote, and a day later receive it in the comfort of their home or office. A consumer can generate more than one price offer by using competitor Internet Referral Services (e.g. carpoint.com), individual dealer web pages, and by asking for a price quote from the dealership where she test drove the car.

The combination of a homogenous product and drastically lower search costs for Internet users lead us to expect intense price competition and low retail margins for these consumers. The main remaining sources of differentiation for dealerships are limited: location, service quality, and possibly financing. In addition to lowering search costs, Autobytel.com's system of demand aggregation and its ability to move market share may also lower prices for consumers who use the service.

### *Implications for consumers (research results)*

Consistent with the above discussion, our research finds that buyers who use Autobytel.com pay a little bit over one percent less than other buyers. Since the average car purchased in our sample had a price of \$21,000, the price difference on average is about \$250. Notice, also that this amount is a much larger percentage of the typical gross margin on a car (\$1700 in our dataset). We are not able to identify consumers who use other Internet Referral Services or other informational sites on the Internet, which means that our tests compare a group that used Autobytel.com with a mixed group. This suggests our estimate is conservative.

Next, we investigate whether the consumers who choose to use Autobytel.com are different in some systematic way; perhaps they are consumers who are good at bargaining and would get a low price for their car regardless of what channel they use (physical or Internet). We estimate a selection model that controls for who uses Autobytel.com and estimate a causal effect of Autobytel.com that is bigger in magnitude, -1.9%. This means that, on average, a buyer of a \$21,000 car who used Autobytel.com paid almost \$400 less than she would have if she had not used the IRS. A consumer who did not use Autobytel.com and also did not purchase at a non-Autobytel.com affiliated dealer would pay about \$460 more. The increase in the estimated Autobytel.com coefficient indicates that Autobytel.com is not simply attracting good bargainers who would have paid a low price in any case; rather, the service is attracting people who are aware they do poorly in the traditional channel and have the most to gain from adopting the new "technology." If this new method of selling cars is attracting people who did poorly using traditional car-buying methods, and they are saving money by using it, by necessity it must be reducing dealer profits. Assuming that 3% of new car buyers used the service (as in our dataset), consumers saved over \$240 million in the year 1999 alone. This number would increase if users of other IRS's also paid lower prices for cars. Similarly, the consumer welfare gains would likely increase as the number of Internet users increases.

We also investigate the pricing of cars to minority consumers and women, and look at the effect of Internet Referral Services on the prices these groups pay. We find that African American and Hispanic consumers pay between 1.5% and 2% more for cars than white consumers, on average. However, those consumers who use Autobytel.com do not pay a minority premium, instead they pay the same price as an equivalent white consumer. We find a small offline female price premium, 0.5%, but we cannot get precise estimates for an Autobytel.com effect for women. These results suggest that minority consumers have the most to gain from using Internet Referral Services, since they avoid the minority premium we estimate and also gain the lower prices provided by Autobytel.com. (Consistent with this result, survey findings indicate that conditional on having Internet access, African Americans search more intensively online for a new car.) To

the extent that policy makers are particularly concerned about the welfare of these groups – groups with high search costs and less access to information – the total consumer welfare gain from Internet Referral Services should be increased.

### *Implications for dealers and manufacturers*

While dealers who affiliate with an Internet Referral Service may (or may not) gain, it is clear that dealers who do not affiliate will lose, since nothing has changed for them except that they serve fewer customers at their dealership. In the long run, the lower revenues experienced at these dealerships may cause exit, or may cause a dealership to rely on revenue from other sources such as repair and used car sales. Cars continue to become more durable, so the used car market is extremely important for dealership revenue and profitability. I expect that used car prices will also be (and may already have been) reduced by Internet commerce, but because used cars are a differentiated, rather than homogeneous, product, the changes will be slower. Until consumers can certify quality without physically seeing the car, they cannot make accurate price comparisons across cars, and price competition is not likely to be as strong as in the new car market.

Manufacturers may be affected if dealerships exit, although the effects could be positive or negative depending on the characteristics of the dealer network. If there are too many dealerships for historical reasons, manufacturers would gain from exit. If a manufacturer has the optimal number of dealers, it will be harmed by exit. Of equal concern may be the provision of services that were formerly associated with the sale of the product, but can now be separated. (See the testimony of Professor Chevalier for a general discussion of this point.) For example, a dealership in a convenient location may provide many test-drives to consumers who purchase elsewhere, perhaps from dealerships in less convenient locations where real estate costs are lower. Dealer exit could cause a decline in sales due to lack of convenient service locations. Manufacturers may have to think of alternative ways to provide these services.

### *Long run*

In the very long run, manufacturers will likely create systems that can build a car to order in a short amount of time. In such a world there is no need for negotiated prices because dealers will not hold significant inventories. Currently, by contrast, dealers hold a fixed supply of inventory and demand (tastes, income) shifts frequently, requiring them to adjust the market price via individual negotiation. In a world of make-to-order production, when demand for a particular car changes, supply can adjust also, thus allowing for prices that are more stable over time and across regions, and relatively constant within them. When prices do not vary across dealerships and are more transparent, there will be less need for consumers to use mechanisms such as group buying through an Internet Referral Service in order to avoid paying a high markup.

Research upon which these remarks are based:

The links listed below are to [www.ssrn.com](http://www.ssrn.com).

Papers are also available at [www.som.yale.edu/Faculty/fms8](http://www.som.yale.edu/Faculty/fms8) under papers:

*Internet Car Retailing*

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=245582](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=245582)

*Cowboys or Cowards: Why Are Internet Car Prices Lower?*

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=288601](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=288601)

*Consumer Information and Price Discrimination: Does the Internet Affect the Pricing of New Cars to Women and Minorities?*

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=288527](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=288527)