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Competition in Durable Goods Markets: The Strategic Consequences of Leasing and Selling

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Abstract

In marketing durable goods, manufacturers use varying degrees of leasing and selling to consumers, e.g., cars, photocopiers, personal computers, airplanes, etc. The question that this raises is whether the distinction between leases and sales is simply one of price, or whether the proportion of leases and sales affects a firm's ability to compete in the market. In this paper we use two approaches to argue that leasing and selling create strategic consequences that extend beyond prices. First, we develop a stylized theoretical model that shows that the optimal proportion of leases and sales depends on the competitiveness of the market and on the inherent reliability of the firm's product. And second, we find support for the implications of our theoretical model with data from the automobile industry.

The U.S. automobile industry has seen a large increase in leasing over the last five years. However, the extent to which leasing has been embraced varies widely across manufacturers. For example, in 1993 the sport utility segment had the following lease percentages: Ford Explorer, 29%; Jeep Grand Cherokee, 24%; Toyota 4-Runner, 11%; and Chevrolet Blazer, 9%. In addition, manufacturers often vary lease percentages across models. For example, in 1993 Ford leased 22% of its Crown Victoria model, 35% of its Taurus model, and 42% of its Probe model. A popular argument for why we see these differences is that higher priced cars are leased more often because leasing makes them more "affordable." However, this rationale is not compelling in the face of our data. For example, the Ford Probe was priced significantly lower than the Crown Victoria and yet it was leased almost twice as often.

To develop a better understanding of why we observe differences in the proportion of leasing, we develop a two-period model of a duopoly in which each manufacturer chooses its optimal quantity and the fraction of units it wants to lease. We find that in equilibrium neither firm leases all its units—either they use a mix of leasing and selling or they use only selling. Our analysis suggests that the fraction of leased cars decreases as the manufacturers' products become more similar and the competition between them increases. The intuition for this result is that a higher fraction of leases puts the firm at a competitive disadvantage in the future. This occurs because, unlike firms that sell their product, firms that lease are at a price disadvantage.

Another important finding in this paper is that the extent of leasing chosen by a manufacturer depends on the reliability of its product. In particular, all else being equal, the lower a product's reliability, the lower its proportion of leases. Within the context of the automobile industry, this suggests that more expensive cars may be leased more often because they are of higher quality and not necessarily because they are more expensive.

Finally, we test the implications of our theoretical model with data from the U.S. automobile market. In particular, for 1993 model year cars, we develop a measure of reliability using data from *Consumer Reports*. In addition, we develop a measure of the extent of competition in each segment of the automobile market. We support our hypotheses by finding that the extent to which a car model is leased depends strongly on its predicted reliability and on the competitive intensity within the segment.

(Competition; Automobile; Lease; Durable Goods)