

Essays on Price Discrimination, Information Sharing and R&D Return

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1 Posted Price and Hagglng in the Used Car Market (*Job Market Paper*)

Though hagglng has been the conventional way for auto retailers to sell their cars, the last two decades have witnessed the systematic adoption of no-haggle prices by many large dealerships, including the largest used car dealership, Carmax. This paper develops a structural empirical model to estimate dealers' profits under posted price and hagglng and investigate the conditions leading to the heterogenous choices of pricing policies that we observe. The model incorporates a simple class of bargaining mechanisms into the standard BLP model. With the extension, the paper is able to estimate the product-level demand system using data with only list prices and estimate the discounts achieved in hagglng. The counterfactual experiments based on the estimates yield a few interesting findings. First, dealers using posted price would see their profits increase only slightly if they hagglng, whereas the hagglng dealers' profits would drop significantly if they switched to posting prices. Second, the market power enjoyed by the non-hagglng dealerships through vertical differentiation and carrying large number of models is a major factor contributing to the variation in the relative performance of posted price and hagglng.

2 Information Sharing in the Insurance Market

It has been observed that, through information brokers, insurance companies voluntarily share their private information about customer risk types with each other. This fact is puzzling because such information sharing tends to intensify competition between the insurers as any informational advantage is reduced. The existing explanations of this phenomenon attributes it to some form of direct benefits, such as efficiency gains, that is brought about by exchanging information. This paper proposes a novel explanation for such voluntary information sharing among firms. The basic idea is the following. With the information about customers' risk types shared among a group of firms, these firms would later be expected to charge their customers the marginal costs of serving them. Whereas if a firm kept its customers' risk types private, its customers would expect to be charged the competing offers obtainable from other insurers. But such competing offers would be higher than the cost of serving the low-risk customers because the insurer's customers' risk types are not shared. Expecting such a hold-up problem, low-risk customers would be less likely to choose an insurer not committed to share information. Therefore the insurer would be penalized by the customer adverse selection induced by its decision to not share information. This force causes all insurers to voluntarily share their private customer information in equilibrium as long as the cost of sharing such information is not too high.

3 R&D Return and R&D Spillovers in China (with Wei Li and Lixin Colin Xu), Submitted

This paper estimates the R&D return and R&D spillover effects in China's manufacturing sector by using panel data from a large survey conducted by the World Bank. The goal of the investigation is to assess R&D as an alternative source of sustainable growth for China when the growth driven by institutional reform eventually fades. The paper finds that the average annual return to R&D investment is about 40 percent, and the R&D spillover effects are very impressive in such industries like Chemical Fiber. The estimated R&D returns are robust to the potential endogeneity in R&D expenditure, and the estimated R&D spillover effects are robust to unobserved regional shocks.