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Essays on Empirical Industrial Organization

My research concerns pricing and strategic interactions among firms, with a particular focus on the airline industry and online platforms. I use various empirical models to analyze the behavior of firms and the market structures.

In my job market paper, "*Prices, Profits, and Entry Decisions: The Effect of Southwest Airlines*", I study how Southwest Airlines—the largest low-cost carrier (LCC) by far— influences the pricing, profits, and entry decisions of its competitors. While much of the literature on Southwest only examines nonstop flights, I extend this body of scholarship to incorporate connecting flights using various methods and data. First, I assume that the entry of Southwest and the market structures are exogenous. Using a set of fixed effects models and panel data from 1993 to 2010, I find that incumbent carriers cut both connecting and nonstop prices when Southwest starts to operate on a route. Moreover, price drops are much larger for connecting flights than for nonstop flights. Second, I relax the exogeneity assumptions and allow entry and market structures to be endogenous. By estimating a static game of simultaneous entry, I find that Southwest has a very strong, negative impact on the payoff functions of its competitors. This impact is firm-specific. The profits of medium airlines and small low-cost carriers are more seriously impacted than those of larger airlines. Among the large airlines, Delta is influenced the most. When I break the entry down by product types, I find that the entry of a low-quality product affects opponents' profits less than the entry of a high-quality product does. If facing the same type of entry, the profit of a low-quality product is more seriously affected than that of a high-quality product. In this instance, a low-quality product is a connecting service and a high-quality product is a nonstop service. Finally, I perform counterfactual experiments to assess the extent to which the entry of Southwest influences the entry of other airlines. The counterfactuals are conducted by setting the competitive effects of Southwest equal to zero and then recomputing the new equilibria. I find that Southwest has a substantial impact on the entry decision of each competitor and on the equilibrium number of non-Southwest firms in the market.

My second paper, "*The Role of Reputation in Daily Deal Markets: The Case of Groupon*", addresses the question of whether business reputation moderates the sales and promotion results of daily deal coupons and, if so, then to what extent. Groupon is a leader in the daily deal market. It announces a large amount of online discount vouchers on a daily basis, most of which are offered by small and local businesses. Using a unique dataset scraped from Groupon, I show that business reputation, measured by the percentage of positive reviews, is positively associated with the sales of coupons. I then include reputation from external platforms, specifically the star ratings from Yelp and Google. I find that although these ratings are positively associated with coupon sales, the impact is much smaller compared to the impact of Groupon ratings. Next, I use the number of Yelp reviews that mention the keyword "Groupon" as a proxy of customer flows which are brought in by Groupon vouchers directly, and show that reputation is positively associated with the promotion results of coupons.