CMD520

520 – A Spatial Model of Demand and Competition in the Canadian Fast Food Industry

Researcher: Timothy J. Richards - Arizona State University

Research Summary

Canadians spend over 30.0% of their weekly food budget on meals purchased from restaurants – and yet very little is known about consumer choices among restaurant meals and less is known of the strategic behavior of food service operators (Statistics Canada). Due to the widespread availability of supermarket scanner data, a number of recent studies consider various aspects of competitive behavior among food retailers. From the rationale underlying price promotions, or discounts (Pesendorfer, 2002) to the market effects of private label products (Chintagunta, Bonfrer and Song, 2002) at least one part of the food distribution system is relatively well understood. Whereas competition in the retail channel is largely horizontal, with slightly differentiated stores offering largely similar products, rivalry among restaurants is both vertical and spatial. Even within the quick-serve segment of food service, restaurants differ greatly in terms of their objective quality (vertical differentiation) and in the specific attributes consumers typically use to assess quality differences (spatial differentiation). Understanding the competitive structure of the food service industry and the nature of consumer demand for food-away-from-home is critically important given the role that economists and nutritionists alike have ascribed to it in contributing to the "obesity epidemic" (Cutler, Glaeser and Shapiro, 2003). The objective of this research, therefore, is to gain a better understanding of how quality competition among food service outlets, specifically fast food vendors, affects the prices Canadian consumers pay for a significant part of their monthly food bill.

Significance of Research

The proposed research is consistent with each of the Consumer and Market Demand Network objectives. First, synthesizing the mixed logit and distance metric approaches in a structural model of fast food demand and supply is an innovative way of modeling both consumer demand and firm behavior. When choosing among differentiated products, consumers make discrete choices of individual restaurants and menu items – a decision process that is not amenable to traditional demand systems estimation. Second, the approach we propose will indeed yield a quantitative assessment of the factors that drive individual consumers' fast food choices. Because the CREST data contain a full range of demographic identifiers, the proposed research will provide information on not only how price and product attributes influence consumer behavior, but how different consumers respond to prices and attributes in different ways. This approach will also provide opportunity for qualitative interpretations as well as we will be able to

test a number of hypotheses regarding the direction or "sign" of the marginal impact of each variable in the model. Finally, health policy officials will be able to use the results of the model to form new insights into how to modify either individual or firm conduct in order to achieve better nutritional outcomes. For example, if fast food purchasers are found to demand high-fat menu items inelastically, then a "fat tax" will clearly not be an effective policy tool to limit fat intake. On the other hand, if firms appear to tacitly agree to price high-fat foods below marginal cost (ie., prices of high-fat foods are strategic complements) in an attempt to create a large cohort of addicted consumers, then regulators may consider adopting cost-plus pricing regulations on potentially harmful foods. Consumers will benefit from these regulations not only through the incentives to change their own behavior, but also in their role as taxpayers who finance the national health care system.