CMD526

526 – Consumer reaction to health messages about fish consumption

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Research Summary

The purpose of the project is to evaluate how Canadian consumers reacted to conflicting health messages about fish consumption. Consumers hear that fish is a low-fat protein source high in omega-3 fatty acids, but in 2002 Health Canada advised against frequent consumption of species high in mercury, and in 2004 scientists reported that farmed salmon was high in PCB's. Medical experts expressed concern that people will over-react to the negative health messages, thus depriving themselves of dietary benefits in the midst of an obesity epidemic. Prospect theory suggests that consumers might weight negative health messages more heavily than positive messages. If consumers remember only part of the message (e.g., fish linked with mercury, but no distinction among species), health benefits might decline with no appreciable risk reduction. The results of the project will help in designing future public health advisories in similarly complex settings. Consumer reaction to the mercury and PCB messages is not obvious from casual observation of the scanner data to be used in the study. For example, salmon quantities grew during the 2001-2006, even after the 2004 PCB scare, but salmon prices dropped, and "wild salmon" products were introduced at low relative prices during 2004. A demand system will be estimated to isolate demand responses to health messages from response to price variation. Separate media indices for fish-related omega-3, mercury, and PCB coverage will appear in the demand system, allowing structural change tests. A directed graph analysis will complement the demand analysis with information about changes in dynamic causal relationships when negative health information emerged.

Significance of Research

Medical experts encourage people to eat fish because it tends to be low in fat, high in protein, and high in omega-3 fatty acids. Salmon is particularly high in omega-3 content. However, consumers also hear two negative health messages about fish. First, on May 29, 2002 Health Canada issued an advisory on mercury levels in fish. Canadians were instructed to limit consumption of certain fish (notably tuna, but not canned tuna) to one meal per week. Second, in January 2004, Science magazine published a study showing elevated levels of PCB's in farmed salmon. In a field experiment, Roosen et al. (2006) found the French consumers' memory of high-mercury fish species was flawed, and that mercury warnings led to weak reductions in total fish consumption, but not in the high-risk species. Consumers reacted more strongly to information about health risks than health benefits. The public health message was deemed ineffective due to its complexity. In the Canadian context, the message is even more complicated by the addition of the PCB scare. If consumers avoid fish unnecessarily, complicated health advisories may induce loss of dietary benefits. Conversely, if consumers fail to heed complicated health messages, they risk (in this case) toxin contamination. Food marketers and public health agencies routinely use complex health messages, and evaluations of consumer reaction are policy-relevant. Furthermore, most of the existing literature relied on choice experiments rather than actual food purchases in a market setting. The project uses supermarket scanned data and has an advantage of greater external validity. The project will benefit the CMD network because it addresses a policy-relevant issue connecting food consumption and health, and it analyses up-to-date Canadian data. No directly comparable pre-existing literature exists, yet the methods are feasible and there are no barriers to timely competition.