Abstracts of Dissertation

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The Impact of Fuel Efficiency Improvements on the Driving Behavior of NYC Taxi Drivers

Fuel efficiency has improved because of environmental policies and high gas prices. In most cases, increased vehicle usage is associated with negative outcomes because of potentially increasing emissions. In the New York City (NYC) taxi industry, however, increased vehicle usage corresponds to increased supply, which is meaningful because of limited the numbers of permissions and the fixed fare system. I estimate the impact of fuel efficiency improvement on the driving behaviors of NYC taxi drivers by using fixed effects models. Three types of taxi driver decisions are considered: customer search distance, number of working hours, and shift participation. The results show that fuel efficiency improvement stimulates NYC taxi operators to drive further distances when searching for customers, and drivers of hybrids are more responsive to changes in gas prices. Drivers, however, do not work longer shifts when operating high efficiency vehicles; moreover the probabilities of using high or low efficiency vehicles are similar, although increases in gas prices lead to more use of hybrids.

Stay at Home: The Impact of Air Pollution on Korean Baseball Attendance

People tend to avoid pollution to protect their health and pollution decreases economic productivity. So, high levels of air pollution can cause people to avoid outdoor activities. This paper analyzes the impact of air pollution on Korean baseball attendance. Especially, particulate matters are focused in estimation. The results show that the levels of PM are not effective on attendance but the stage bad of PM is effective. When the stage bad of PM 2.5 is occurred, it reduces roughly 8% of attendance. This amount is similar with the impact of raining. The impact of other pollutions and the PM level in previous days are estimated but there are not significant results.

Spatial and Two-sector competition of the Korean small retail store

Self-employment accounts for a notable portion of Korean economics--but also a portion that is weak. For this reason, Koreans believe that policies are needed to protect the self-employed. Since franchised self-employed stores takes a lot of portion, a minimum distance policy, which restricts a new entrance of same franchised store, has been the most widely requested. To understand the impact of such a policy, I set up a structural model of the entry game in small retail stores in Seoul. To allow for the existence of two types of stores, franchise convenience and traditional, I apply Mazzeo's (2002) approach. Based on the estimated results, the simulation is conducted to calculate the different numbers of stores with and without an existing minimum distance policy. Simulation results show that this policy increases 15 traditional stores by decreasing 9 convenience stores in average. However, new cooperate grocery stores can eliminate impact of the minimum distance policy.