**Three Essays on Natural Resource Economics, Agricultural Policy, and Food Policy**

Dissertation Summary

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Chapter 1: Testing Rational but Inattentive Consumers’ Behavior in Residential Water Markets (Job-market Paper)

Behavioral economics literature suggests that consumers may be inattentive and tend to apply simplified heuristics for complicated choice problem. We test this hypothesis in the context of residential water consumption since water bill is inexpensive to attract much attention, but it is normally priced with complicated nonlinear pricing. To test this hypothesis, we propose a structural water demand model for rational but inattentive consumers. Our model is applied to an interesting residential water panel in Phoenix, AZ, in which consumers have no smart meters and are more likely to be inattentive. Compare to the Discrete / Continuous Choice (DCC) Model, which assumes consumers are fully rational, our model predicts better.

Chapter 2: Ethanol Mandate Externalities on Agricultural Land Use

The US government use mandate to promote biofuel for environmental concerns and fuel independence. Since the dominant biofuel is the corn ethanol, the mandate results in massive corn production, which causes externality on agricultural land use. This paper first study this externality through both extensive and intensive margin of agricultural land use. Our results show that the mandate leads to not only increasing corn land acreage and decreasing environmentally sensitive land acreage, but also increasing fertilizer and pesticide usage. These results indicate well-documented alarming environmental concerns related to carbon debts and potential pollution of underground water, respectively. For current U.S. biofuel policy, our results suggest that promoting second-generation of biofuel, produced mainly using agricultural and municipal wastes, may alleviate the externality on agricultural land use, thus mitigating environmental concerns as well. A land use decision model has been introduced to simulate the potential policy effect.

Chapter 3: Divestiture May Fail as a Merger Remedy: The Case of the U.S. Beer Industry

For mergers raises anticompetitive concerns, the justice department requires merger firms to divest assets to a third party to keep the market competitive. This paper study if divestiture mitigates merger effect in a recent beer industry merger. We first show theoretically the divestiture may fail in this case because the third party cannot act as an independent competitor, due to its capacity constraint. Hence, our theoretical model predicts higher market concentration and higher price level. Empirically, we found that there is an increase in the Herfindahl-Hirschman Index and in the segment price, using a “Pre-merger” vs. “Post-merger” comparison. We also found that the relative price of merger brands increases compared to their competitors not involved in the merger, using a “Difference-in-Difference” framework.