

My research combines a strong theoretical framework with rigorous empirical analysis to answer questions of real-world importance in the areas of food, land use, poverty and health. To address these topics, I incorporate structural modeling, behavioral decisions and empirical analysis to better understand the linkages between different aspects of land use, the food environment and relevant stakeholders. Below I delineate several current research projects. My vision for future research follows along two main pathways. First, I intend to continue assessing the market structure of local foods markets and characterize strategies for a successful and efficient system. Second, I would like to estimate and evaluate the impact of public policies to increase food access on environmental justice, health outcomes and consumer welfare.

While Cal Poly is a teaching-oriented university, I have maintained a strong research agenda, with papers in all levels of the research pipeline. *Competition in Local Foods Markets* uses a firm entry framework to assess the competitive behavior of local direct-marketing food establishments. As the number of direct-marketing farms increase in the U.S., with little change in sales, farmers are facing increasingly competitive markets. A national dataset of over 21,000 farms is used to identify locational attributes that are conducive to the establishment of direct marketing operations and assess competitive behavior. The Bresnahan and Reiss (1987,1990,1991) model of market demand, which links firm entry decisions to market size using reduced form profit functions, is applied to the local food environment. Results show that direct marketing establishments cease exerting market power upon entry of the third operation and that approximately 40-50% of U.S. counties could withstand additional entry. This manuscript has been received favorably by reviewers at the Journal of Agricultural and Resource Economics and has been revised and resubmitted.

I also have active projects that have resulted from collaborations with local stakeholder organizations. *Capitalization of Interconnected Active Transportation Infrastructure*, which is forthcoming in Landscape and Urban Planning, uses housing data to estimate the impact of connections between local amenities and active transportation infrastructure on the sales price of single family homes. The initial project was a cost benefit analysis for the Mid-Ohio Regional Planning Commission's proposed bike path expansions, and the results demonstrate that on-road bike paths that connect to bus stops decrease housing values, while on-road trails that link to local open space increase the value of proximate homes.

As a teacher-scholar I prioritize the inclusion of undergraduates into my research projects, and have found my mentorship activities both rewarding and productive. For the past three summers, I have served as an advisor for Cal Poly's Summer Undergraduate Research program, where I have strived to replicate the great experiences I had performing research with faculty members as an undergraduate. One such project, *Direct Marketing and the Food Safety Modernization Act (FSMA)*, resulted in a manuscript that is currently under consideration at Food Policy. This project entailed surveying direct-marketing farmers on their risk attitudes, perceptions of FSMA and preferences for different types of liability insurance. Direct-marketing offers benefits to both consumers and farmers, and policies such as Market Match, which doubles food assistance dollars redeemed at farmers markets, utilize direct marketing establishments as a method of increasing food access. However, due to the interactive nature of direct-marketing, producers also face unique liability concerns and costly regulatory policies. Nearly half of the survey respondents were not familiar with FSMA, despite its potential impact on their business, and the majority found it unnecessary, though few expected to make

significant changes to their operations in response to the legislation. In line with previous research, surveyed farmers were predominantly risk-averse, though this did not explain variation in their marketing or diversification decisions. This paper has been submitted to Food Policy.

I also have several papers currently in the pre-submission stage. *The Impact of Pollution Burden on Micro-Level Residential Sorting* uses the “Pollution Burden” level of a community, which is calculated by the California Office of Environmental Health Hazard Assessment as a weighted sum of 12 pollutants, to quantify the effect of overall pollution on a consumer’s location decision. Work is ongoing to model responses at the community level to changes in the provision of environmental amenities. *The Nature of Spatial Externalities in the Decision to Adopt Organic Production Systems* quantifies the impact of organic neighbors on a farmer’s decision to adopt organic practices and has potential implications for both industry members and policymakers. By combining the NASS Cropland Data Layer with taxlot maps and data on Oregon organic certifications it is possible to analyze the spatial and temporal growth of organic adoption, and thus assess the importance of neighbors on the adoption decision.

My job market paper, *Location Choice and Health Tradeoffs: A Micro-Level Analysis of Household Well-Being*, addresses the role of household location as an input into health production. Over the past decade U.S. obesity concerns have led to an emphasis on consuming fewer or healthier calories and exercising more. Each of these decisions can be thought of as an input to a health production function where health outcomes are a function of food intake, exercise, demographics and preferences. Many healthy inputs are directly tied to an individual’s location decision as food access and recreation opportunities are likely to vary widely across space. For policymakers, understanding the tradeoffs that households are willing to make in regards to their health, as revealed through residential location decisions, is an essential component of successful policy.

Tiebout (1956) famously observed that when households are deciding where to live they take into account the bundle of amenities provided by their neighborhood. This study uses revealed preference data on household location decisions to model homeowner preferences for healthy amenities as well as the tradeoffs made with respect to school quality using a structural model of location choice. Additionally, I account for potential endogeneity in food provision that results from linkages between household location choice, neighborhood demographics and local food offerings. This estimation strategy adopts the Epple and Sieg (1999) pure characteristics model (PCM) of household location choice that uses a CES specification for utility to model location choice in the Cleveland metro region.

The modeling framework employs a mixed discrete-continuous depiction of the choice set as households can choose continuous quantities of physical housing characteristics in each of a discrete number of residential communities. Households choose a neighborhood and thus a level of public goods, including health inputs and school quality, which is defined as an index of amenities provided by each community. Conditional on that location decision, a consumer also selects an optimal level of housing services given prevailing prices. Estimation proceeds using the simulated two-stage generalized method of moments estimator developed by Sieg et al. (2004).

Results suggest that households do have positive preferences for healthy neighborhood attributes, as both local food and park access led to a higher relative public good ranking and willingness to pay estimates. In fact, the willingness to pay for an additional local food

establishment is comparable in magnitude to a one standard deviation increase in school quality. Overall, I find clear evidence that households consider food access and health tradeoffs when making location choices, suggesting a large potential role for local and regional food policies to influence household behavior and health through location decisions.