

EDUCATION	University of Washington, Seattle Ph.D. in Economics(expected) M.A. in Economics	Seattle, WA August 2025 December 2021
	Hokkaido University B.S. in Economics	Hokkaido, Japan March 2018
FIELDS	Primary: Industrial Organization Secondary: Applied Microeconomics, Applied Econometrics	
GRANTS AND AWARDS	Graduate Funding Program Scholarship, Japan Student Services Organization Senior Thesis Award, Hokkaido University Dean's List, Hokkaido University	2019-2022 2018 2017
TEACHING EXPERIENCE	Lead Teaching Assistant • Leading a team of 20 TAs, providing support for first-time TAs, and organizing classes to DEI (Diversity, Equity, and Inclusion) targeted formats. Teaching Assistant • ECON 200 (Principles of Microeconomics) • STAT 221 (Statistical Concepts And Methods For The Social Sciences)	Autumn 2023 - Spring 2024 Winter 2021 - Spring 2023 Autumn 2024 -
EMPLOYMENT	Roblox Corporation Full-time Intern, Data Scientist, Economics Team	San Mateo, CA 06/2023–09/2023
SOFTWARE SKILLS	R, Julia, Python, Stata, MySQL, MS Office, \LaTeX	
LANGUAGES	Japanese (native), English (full professional), Spanish (Basic)	
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Job Market Paper: Structural estimation of the static entry games where the data on non-entrants are unobservable

This research introduces a novel approach for estimating the structural parameters of demand, cost, and entry costs in a differentiated products model where product characteristics and input cost data are not observed for non-entrants. Traditional methods for entry game estimation rely on the product characteristics that are used as instruments to be observable for both entrants and non-entrants — a scenario that is uncommon in practice. I first provide an extension of the standard identification strategy that does not require such observability condition, but also demonstrate based on identification analysis as well as Monte-Carlo study that such an approach requires impractically large sample size.

To overcome this limitation, I use the instrument-free methods proposed by Byrne et al. (2022) and Imai et al. (2024), which allow estimation of the demand and cost function by addressing the endogeneity of price using entrants' cost data. Building upon this foundation, I extend their framework to incorporate entry-exit decisions. My findings indicate that that using both demand and cost data offers a more practical and effective estimation approach. I propose a data-augmented Markov Chain Monte Carlo (MCMC) estimation method and demonstrate through Monte Carlo simulations that this approach yields consistent estimates.

Furthermore, I apply the estimation techniques developed in this research to estimate the structural parameters of the Wisconsin nursing home market and discuss the social welfare implications of the Certificate of Need (CON) law. Counterfactual simulations reveal that abolishing the CON law would increase consumer and producer surplus by \$868 million and \$165 million, respectively, while government spending would rise by \$700 million. I also estimate important market structures, such as labor/capital elasticities, entry costs, and the difference in the distribution of service quality between entrants and non-entrants.

Analysis of worker skill distribution

In this paper, I construct an economic model of occupation and analyze occupational choice behavior that uses occupational information without applying the standard factor analysis or the PCA analysis. Given that O*NET lists over 500 skills for each occupation, researchers often employ PCA to reduce dimensionality, as seen in studies like Yamaguchi (2012). Typically, these skills are grouped into a few predetermined categories—such as “cognitive” or “manual”—and PCA is applied under the assumption that skills within each group share similar characteristics. However, we believe that the impact of this dimensionality reduction on research outcomes has not been thoroughly investigated. It is possible that the skills grouped together are heterogeneous, and thus, important information on the occupations may be lost.

So far, existing models of skills reduce the various skills into a limited number of skill categories. Instead, I follow the theory of industrial organization, where researchers place the products in a product space. That is, I place each of the skill on a multi-dimensional skill space, based on the closeness measure of each pair of skills. The closeness measure is based on the choice behavior of the workers. That is, we can identify whether the workers are indifferent between the two skill requirements or not, and that determines the similarity of the two skills.

Below, we look at the actual choice behavior of individuals with different characteristics, such as schooling, gender, age. The findings reveal that manual skills exhibit little heterogeneity, suggesting consistency within this category. In contrast, cognitive skills display significant variation, particularly across different genders. Additionally, the paper utilizes copula models to examine the distribution of skills and calculates the relationship between the correlation matrix and tail dependence using the t-copula. The results indicate a positive relationship between correlation and tail dependence, implying that competitive workers tend to possess multiple high-level skillsets, especially for similar skills.