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Fields of Concentration:

Primary: Applied Microeconomic Theory/Industrial Organization
Secondary: Econometrics

Desired Teaching:

1. Econometrics
2. Microeconomics
3. Industrial Organization

Comprehensive Examinations Completed:

2016 (Oral): Industrial Organization, Microeconomics
2015 (Written): Microeconomics, Macroeconomics

Dissertation Title: Essays in Network Economics

Committee:

Professor Steven Berry
Professor Larry Samuelson
Professor Edward Vytlačil

Expected Completion Date: May 2021

Degrees:

Ph.D., Economics, Yale University, 2021 (expected)
M.Phil., Economics, Yale University, 2017
M.A., Economics, Yale University, 2015
Master of Economics, University of Melbourne, 2013
Bachelor of Commerce (Hons), University of Melbourne, 2012
Diploma in Mathematical Science, University of Melbourne, 2011

Fellowships, Honors and Awards:

William Noall and Son Prize (Top student in faculty for undergraduate honours year, 2012)
Jean Polgaze Memorial Prize (Best undergraduate honours thesis in Economics, 2012)

Teaching Experience:

Fall 2019 Teaching Assistant to A. Prof. Nicholas Ryan, Introductory Metrics (Yale, U)
Spring 2019 Teaching Assistant to A. Prof. Cormac O’Dea, Introductory Micro. (Yale, U)
Fall 2018 Teaching Assistant to A. Prof. Nicholas Ryan, Introductory Metrics (Yale, U)
Spring 2017 Teaching Assistant to Prof. Evangelia Chalioti, Intermediate Micro. (Yale, U)
Fall 2016 Teaching Assistant to Prof. Steve Berry, Introductory Micro. (Yale, U)
Fall 2012 Teaching Assistant to Prof. Simon Loertscher, Micro. (Melbourne, U)

Research and Work Experience:

2013 Research Assistant to Prof. Simon Loertscher, University of Melbourne, Australia
2013 Research Assistant to Prof. Ian King, University of Melbourne, Australia
2012 Research Assistant/Intern to Dr. Chu Chi Meng, Clinical and Forensic Psychology
Branch, Ministry of Community, Youth & Sports, Singapore

Working Papers:

“Forming Firm-to-Firm Relationships under Upstream Economies of Scale and Downstream
Product Differentiation”, (Job Market Paper, November 2020)

“Non-parametrically Identifying Peer Effects when Correlated Effects are Present but
Exogenous Effects are Absent”, (November 2020)

Seminar and Conference Presentations:

Early Career Economists Conference, Monash University, 21st June 2018

Languages:

English (native), Mandarin (conversational).

References:

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Dissertation Abstracts

Forming Firm-to-Firm Relationships under Upstream Economies of Scale and Downstream Product Differentiation [Job Market Paper]

This paper studies how economies of scale and product differentiation affect manufacturer-supplier relationships. The question is motivated by the bailouts of General Motors and Chrysler during the Great Recession, and the likely presence of product differentiation and economies of scale in automobile and auto part markets, respectively. I analyse a model consisting of two manufacturers, each with pre-existing relationships to two separate suppliers. The model's sequence of play starts with an unrelated manufacturer-supplier pair deciding whether to invest in another, new relationship. Based on the resulting network of manufacturer-supplier relationships, a manufacturer's input price is determined by Nash bargaining if it's related to one supplier, and a first-price auction if otherwise. When manufacturers are horizontally differentiated, hold-up of investment by neighbor manufacturers causes manufacturer-supplier network connectivity to be too low. On the other hand, overinvestment in outside option relationships causes network connectivity to be inefficiently high. Shocks to individual manufacturers or suppliers have disproportionately large (small) welfare consequences vis-a-vis ex-ante market shares when the network is under (overly) connected compared to the socially optimal network.

This paper also estimates a micro-founded model of firm-to-firm relationship formation, using prices, quantities and product-supplier-level network data for 2008-16 U.S. automobiles. This was done to quantify distortions to auto manufacturers' and suppliers' relationship-forming incentives, stemming from inefficiencies highlighted by the theoretical model. The empirical model incorporates the original model's key elements – supplier-level economies of scale, downstream market product differentiation and relationship network contingent input pricing. Quantifying the aforementioned distortions requires understanding how each firm's costs varies with its output. Unfortunately, identifying the suppliers' cost curves is impeded by lack of data on input prices. To circumvent this difficulty, I assume manufacturers Nash bargain with suppliers they inherit from previous periods and exploit variation in these suppliers' quantities. This permits me to identify how incumbent automobile production costs vary with rival product quantities. I find that, on average, main suppliers of chassis, exterior and combined inputs experience significant economies of scale. Also, on average, manufacturers prefer ex-post to retain suppliers over forming relationships with newly chosen suppliers, absent rents from overinvesting in outside option relationships, or compensation from co-investing suppliers. In comparison, hold-up of relationship investment is less significant in affecting incentives to form relationships.

Non-parametrically Identifying Peer Effects when Correlated Effects are Present but Exogenous Effects are Absent

This paper explores possibilities for non-parametrically identifying peer effects. In my model, individuals' outcomes are an unknown function of expected peer outcomes and other individual-specific attributes. Unobserved heterogeneity in outcomes across individuals is captured by an additively separable individual-specific error. The error is mean dependent on peer group,

rendering expected peer outcome an endogenous covariate. Exogenous peer attributes are absent from the individuals' remaining covariates.

When the data is cross-sectional, I propose imposing a stringent but intuitive assumption on how individual outcomes depend on expected peer outcomes and remaining individual-specific attributes. Specifically, I assume one of the individual-specific characteristics indexes how strongly an individual interacts with his peers. If the index is zero, the individual is not directly affected by peer outcomes. Under this assumption, the model is identified, up to a normalization. When panel data is available, the assumption is not required, and the model is identified via a more traditional IV-based approach. The cross-sectional result leads to tests for whether or not peer effects estimates reflect forces associated with social interactions.