# Rajarshi Bhowal

Rice University Ph.D. Student

Phone: (979) 204-7415

Department of Economics Email: rajarshi.bhowal@rice.edu

### Research Fields

Empirical Industrial Organization, Health Economics, Applied Microeconomics

### Education

Ph.D. Economics, Rice University, Expected 2022

M.A. Economics, Delhi School of Economics, 2015

B.Sc. Economics, RKMR College, Calcutta University, 2013

## Teaching Experience

Teaching Assistant, Rice University, 2016-2021

- · Graduate Course: Statistics Camp for incoming Ph.D. students, Summer 2019
- · Undergraduate Course: Empirical Methods in Industrial Organization, Game Theory, Advanced Topics in Microeconometrics, Dynamic Modeling for Public Policy

# Research Experience and Employment

Research Assistant for Dr. J.V. Meenakshi, Center for Development Economics, Delhi School of Economics, 2015-2016

# Award, Honors, and Fellowships

Rice Graduate Student Fellowship, Rice University, 2016 - 2022

Krishna Raj Fellowship from Delhi School of Economics for independent research and fieldwork, 2014

National CAS Scholarship, Delhi University, 2013-2015

Professor Dhirendra Dutta Memorial Prize for Excellence in Academic Performance, RKMR College, 2014

Swami Lokeswarananda Award for Best All-round Performance, RKMR College, 2013

# Conference Participation

Southern Economic Association Annual Conference, Houston, November 2021

# Department Services

Graduate Economics Association Representative, Rice University, Fall 2019- Spring 2021

Rajarshi Bhowal

## Working Papers

# "Reallocating Bonus Payments Through Competition to Improve Medicare Advantage Plan Quality: A Dynamic Game Approach" (Job Market Paper)

This paper explores how competition among firms can be used to improve the quality of plan offerings in a managed care setting like Medicare Advantage through changes in the reimbursement policy. In a managed market, private firms provide government sponsored services at regulated prices and compete for subsidies. Our paper studies how firms offering Medicare Advantage plans compete in terms of quality and evaluates how the markets would evolve under a competitive bonus payment system rewarding them based on their relative quality performance in a local market. We introduce a dynamic discrete game model of firm quality investment choice and use it to estimate the cost of quality improvements. The estimated model is used to predict the market outcomes in terms of average plan quality under the alternative payment system by calculating the counterfactual equilibria and simulating the markets forward. Our results show that 65.25% of the counties improve under the new payment rule compared to their observed outcomes in the data, with underperforming counties improving more.

#### "Detecting Collusive Behavior in Ascending Price Auctions with Endogenous Entry"

Any exchange of private information or an agreement among participants regarding their behavior in an auction is prohibited by anti-trust laws. We introduce a method of empirically detecting the identities of such colluders under selective entry using the participation and bidding behavior of the potential bidders. This paper moves away from the assumption that only the ring leader is observed to participate in every auction, which is usually exploited to create the suspect group. We devise a two-step estimation process where the identity of the colluding members are identified from the identity of the participants, winners, and the value of the winning bid in an ascending price auction. This paper uses both the participation and winning probabilities of the bidders to create the suspect group and the identities of the colluders are detected using a pairwise comparison index.

## Research in Progress

Competition, Narrow Network, and Quality of Plan in Medicare Advantage

# Programming Skills

Python, Matlab, Stata, Julia

### References

Professor Jeremy Fox (Chair) Rice University Department of Economics email: jeremyfox@gmail.com Professor Xun Tang (Committee Member) Rice University Department of Economics email:xun.tang@rice.edu Professor Isabelle Perrigne (Committee Member) Rice University Department of Economics email:isabelle.perrigne@rice.edu

Professor Maura Coughlin Rice University Department of Economics email:maura.coughlin@rice.edu