

Experimental Economics Effect on Industrial Organization

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Background

- Experimental economics and industrial organization (IO) intersect in studying firm behavior in markets.
- Collusion between firms can emerge under certain market conditions and lead to higher prices for consumers.
- Charles R. Plott & Mark Isaac examine how collusion forms and deteriorates in *“The Opportunity for Conspiracy in Restraint of Trade.”*
- James W. Friedman finds that firms may move toward collusive pricing even without direct communication in *“An Experimental Study in Oligopoly.”*
- Repeated interactions between firms can produce non-competitive market outcomes.
- Existing work focuses on specific experimental mechanisms in IO.
- Limited synthesis of how experiments shape IO theory overall.

Research Objectives

The purpose of this project is to infill these gaps. That is; to **synthesize the articles within the field to determine the overall impact of experimental methods and the way in which this has shaped the development and amendment of theory.** I do this by reading several major articles that exist at the cross section of experimental economics and IO. This allows me to understand what the answer to these questions are. The specific goals of this project have been outlined below.

1. Read different articles within industrial organization which use experimental methods and determine their impact and findings.
2. Evaluate how experimental methods reshape theoretical assumptions about firm behavior and market equilibrium.
3. Assess the impact that experiments have had on developing antitrust and regulatory policy.

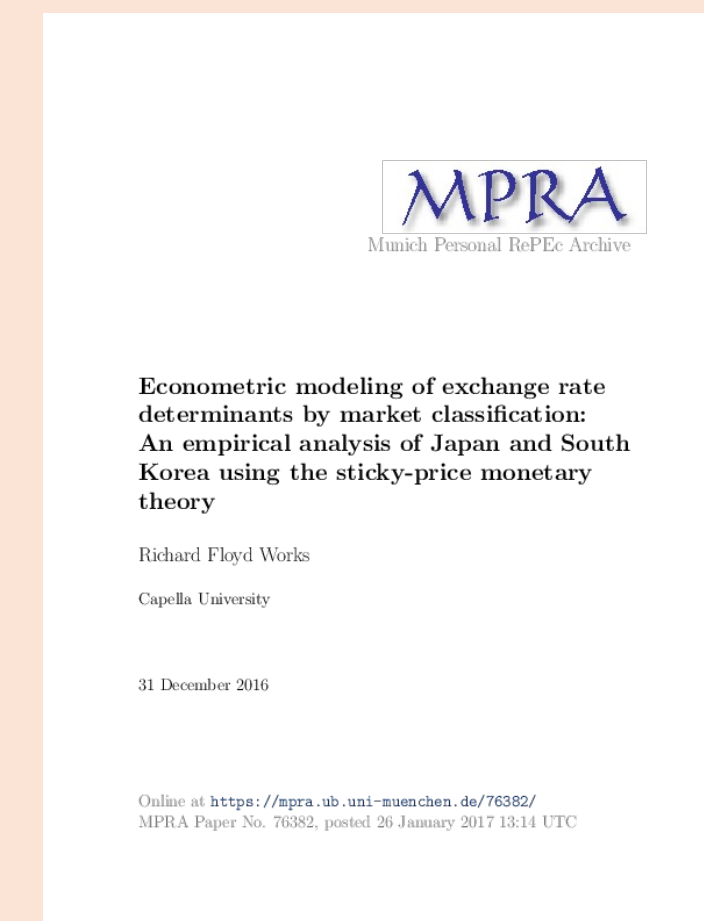
Major Journals



This is the journal in which the Plott and Isaac’s paper was published.



This is the journal in which Friedman’s paper was originally published.



This is the paper where a follow up to Friedman’s paper was published by Marie Goppelsröder

Methods

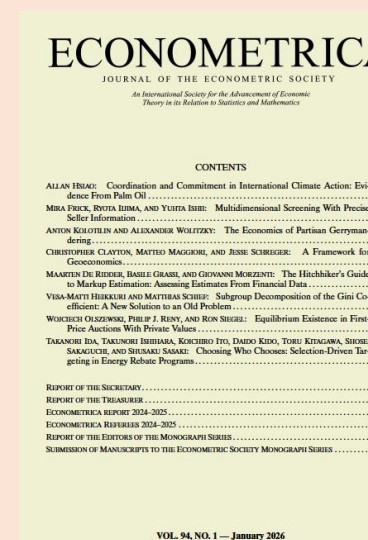
- Comparative literature review of experimental economics studies on collusion, entry deterrence, auctions, and oligopoly behavior
- The market variables examined across the studies include prices, output, profits, stability of collusion, and market organization
- The approach of reviewed studies had participants act as firms in simulated markets, monetary incentives used to mimic rational economic decision-making, and controlled laboratory settings allow observation of market outcomes
- I Completed the CITI Human Subjects Research certification, assisted with participant recruitment at the XS/FS Experimental Economics Lab, and observed IRB procedures.
- I synthesized findings across studies, identified recurring patterns in experimental market outcomes, and evaluated how results support or challenge traditional industrial organization theory



Sign up link for the XS/FS Lab human database

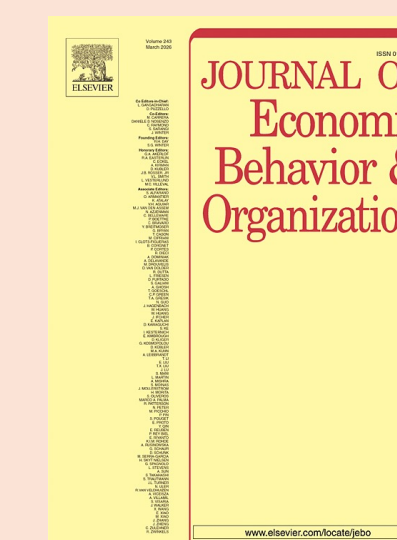
“An Experimental Study of Cooperative Duopoly” Friedman, 1964

- First major test of cooperative duopoly theory
- Tests whether repeated interaction leads to “supra-competitive pricing”
- Demonstrates cooperation can emerge under repeated play



“The Opportunity for Conspiracy in Restraint of Trade” Plott & Isaac 1981

- Moves beyond Friedman to determine conditions for collusion
- Introduces more structured institutional variation
- Examines stability and breakdown of cooperative outcomes



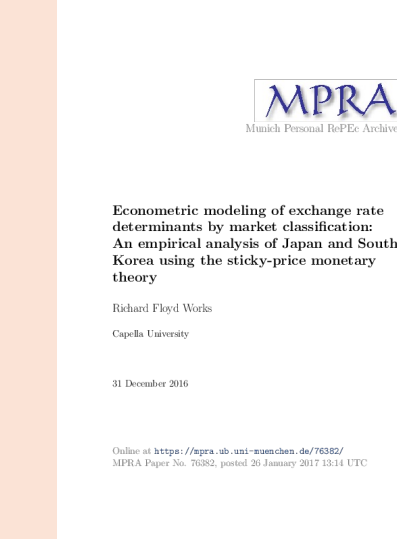
“The Effects of Market Organization on Conspiracies in Restraint of Trade” Isaac, Ramey, & Williams, 1984

- Systematically varies market organization
- Demonstrates industry structure strongly affects conspiracy success
- Links experimental design directly to antitrust policy



“Entry in Collusive Markets: An Experimental Study” Goppelsröder, 2009

- Introduces endogenous market entry
- Shows entry destabilizes cooperative outcomes
- Extends collusion analysis into dynamic market competition



Results

- Repeated firm interaction in duopoly markets often leads to prices above competitive equilibrium, indicating cooperative pricing behavior (Friedman, 1964).
- Structural market conditions like a small number of firms, limited competitive pressure, and information transparency tend to produce higher average prices and greater joint profits (Plott & Isaac, 1981).
- Market organization significantly affects the likelihood and stability of collusion, with certain institutional structures making coordination easier (Isaac, Ramey, & Williams, 1984).
- Entry of new firms into previously colluding markets reduces prices and destabilizes cooperative behavior, increasing competition (Goppelsröder, 2009).
- Overall, experimental evidence shows collusion can emerge under specific structural conditions, but it remains sensitive to market structure and competitive pressure.

Future Application

Researchers

- Refinement of collusion models
- Behavioral Extensions to industrial organization theory
- Dynamic entry experimentation
- Evaluation of market concentration effects

Policy Makers

- Antitrust merger evaluation
- Market concentration thresholds
- Regulation of communication channels
- Entry policy and barrier assessments

Works Cited



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