

RESEARCH AND TEACHING STATEMENT

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1 Research

Innovation and creativity are crucial for the success and survival of organizations. As a result, “stimulating innovation, creativity and enabling entrepreneurship” is a top priority for management and widely regarded as the “greatest challenge” facing organizations according to CEO surveys.¹ Outside organizations innovation plays an equally critical role as the most important engine of economic growth. My research focuses on what drives and hinders innovation, both inside (Section 1.1) and outside organizations (Section 1.2). More broadly and beyond innovation, I study how incentives are affected by social interactions and more realistic assumptions about human motives and behavior (Section 1.3).

My research contributes to several fields including the economics of innovation, organizational economics, and industrial organization. Drawing on insights from these disparate fields my work often combines methodological approaches, including economic theory, lab and field experiments, and empirical analysis of observational data. Figure 1 graphically summarizes how the papers discussed in this statement are connected to each other and how my research agenda has evolved over time. My research in the next years will continue to focus on the intersection of these three fields.

1.1 Incentives for Innovation in Organizations

A fundamental question for the success of organizations is how to best stimulate innovation. [Ederer & Manso \(Management Science 2013\)](#) resolves a long-standing debate between economics and psychology on whether performance-based financial incentives encourage or inhibit innovation. The paper provides the first clean causal evidence that the combination of tolerance for early failure and long-term rewards leads to more exploration and innovation. Standard pay-for-performance can fail badly in situations that require creativity and innovative thinking, but properly designed incentive plans lead to better innovation outcomes. Specifically, in a newly designed controlled laboratory experiment, subjects under an incentive scheme that tolerates early failure and rewards long-term success explore more

¹CEO Challenge 2004: Perspectives and Analysis, The Conference Board, Report 1353.

and are more likely to discover a novel business strategy than subjects under fixed-wage or standard pay-for-performance incentive schemes. In addition, we show that the threat of termination can undermine incentives for innovation, whereas golden parachutes can alleviate these innovation-reducing effects. [Ederer \(2018\)](#) extends the theoretical and experimental results to social learning settings in which several innovators explore new research avenues in parallel, and shows that optimal incentives for innovation should reward long-term *group* success. Finally, [Ederer & Manso \(Handbook of Law, Innovation, and Growth 2011\)](#) documents that the same principles gleaned from these papers also apply to bankruptcy protection, labor laws, corporate takeover provisions, and CEO compensation.

These papers have also influenced the next generation of innovation researchers as they feature in PhD and MBA courses at NYU, MIT, Northwestern, HBS, Berkeley, Stanford, Toronto, and many other institutions. The laboratory experiment itself is widely used for teaching undergraduates, MBAs, and executives and has been adopted to study innovation in numerous research papers. As a result of Ederer & Manso (2013)'s impact on subsequent work on innovation incentives we were honored to receive 2018 INFORMS TIME Award for the most influential paper in innovation in the last 5 years .

But explicit monetary incentives are not the only way to stimulate innovation in organizations. [Campbell, Ederer & Spinnewijn \(AEJ Microeconomics 2014\)](#) takes the design of payment schemes as given and instead focuses on how social learning between R&D workers in established firms (or founders in entrepreneurial startups) can spur the discovery of innovation. However, it can also create impediments for knowledge flow. The paper's theoretical analysis provides a cautionary tale for full peer observability in innovative organizations because doing so excessively blunts the incentives to generate new discoveries. The desire to maintain another team member's motivation to search for a new innovation leads to a reluctance to share information and impedes social learning. Both freeriding on effort provision and insufficient information sharing between workers can inefficiently delay project implementation. Setting deadlines for project completion can alleviate these problems. The optimal deadline depends on the degree of peer observability and trades off between these two forces—maintaining innovation incentives while avoiding delays. However, with an optimally designed deadline full peer observability of discoveries is strictly worse than private performance observability.

In addition to explicit incentives and social learning, a third channel through which peers'

decisions (e.g., researchers in the same organization choosing R&D approaches) affect each other is through social influence. [Bursztyn, Ederer, Ferman & Yuchtman \(Econometrica 2014\)](#) is the first paper to separately identify and empirically quantify social learning and social utility. Before this paper, all of the large literature on peer effects focused on distinguishing between causal and correlational peer influence, but pinning down the exact channel of the causal peer effect remained elusive. When a worker adopts a new technology or purchases a new asset, her peers may also want to do the same, both because they learn from her choice (“social learning”) and because her technology adoption or possession of the asset directly affects others’ utility (“social utility”). In a field experiment conducted with a financial brokerage, we randomize over (i) possession of an asset and (ii) information about the peer’s revealed preference for an asset to estimate large effects of social learning and social utility. Social learning effects vary with the degree of financial sophistication of peers. Social utility effects are consistent with “keeping up with the Joneses” preferences. These results shed light on the mechanisms underlying herding behavior in financial markets and suggest how to use peer observability in structuring incentives for new technology adoption in organizations. Because of its innovative experimental design, the paper was a finalist for the 2015 Exeter Prize for Experimental and Behavioral Economics and features in MBA and PhD courses at MIT, Berkeley, Toronto, Chicago, and Rochester.

1.2 Incentives for Innovation outside Organizations

Whereas much of my earlier work analyzes incentives for innovation inside organizations, more recently my research focuses on incentives for innovation outside organizations and how these incentives are shaped by competition between firms. After decades of neglect and existence out of the limelight of public interest, antitrust and competition policy are once again at the forefront of political debate. Herbert Hovenkamp, a leading antitrust law scholar, argues that “for large parts of its history antitrust law has worked so as to undermine innovation competition by protecting too much.” Indeed, critics accuse antitrust economics of focusing excessively on price and quantity effects and neglecting the central role that antitrust should play for innovation. My research on killer acquisitions and common ownership directly addresses these shortcomings.

[Cunningham, Ederer & Ma \(Journal of Political Economy 2021\)](#) highlights the strong disincentives for innovation that can arise from product market competition. The

threat of future competition creates incentives to acquire and even *terminate* innovation. Such “killer acquisitions” arise from an incumbent’s desire to prevent the profit cannibalization of existing products that overlap with the target’s innovation. Our theoretical analysis shows that such killer acquisitions can occur quite frequently. They are particularly prevalent and harmful when the target’s innovation is a substitute for the acquirer’s products and the acquirer faces little existing or future competition. We provide empirical evidence for this phenomenon from 35,000+ pharmaceutical drug projects. We show that acquired drug projects are less likely to be developed when the acquired project overlaps with the acquirer’s product portfolio and when the acquirer has strong incentives to protect profits due to weak existing and future competition. Killer acquisitions are quite common (50 per year) and often intentionally avoid antitrust scrutiny. The paper won several prizes (e.g., Satterthwaite Healthcare Prize, WFA Corporate Finance Best Paper Prize, AoM Sumantra Ghoshal Award, AdC Competition Policy Award, Lanzillotti Antitrust Prize) in fields as diverse as health economics, competitive strategy, antitrust, and corporate finance. Its results have been widely cited in the White House Executive Order on Promoting Competition, U.S. Congressional antitrust reports, EU competition policy, and antitrust lawsuits against big tech companies. It has already become a staple of MBA and PhD courses around the world.

Even without outright mergers & acquisitions the corporate incentives to improve firm productivity (e.g., through non-disruptive process innovation) are influenced by ownership arrangements, especially when large shareholders hold stakes in multiple firms that compete in the same product market—a phenomenon called common ownership. Such common ownership “has stimulated a major rethinking of antitrust enforcement” (Hemphill & Kahan 2020) because it may severely blunt product market competition. But until [Antón, Ederer, Giné & Schmalz \(2020\)](#) no paper could provide a theoretical foundation or empirical evidence for a plausible mechanism linking common ownership and reduced product market competition. By combining canonical models from organizational economics, innovation economics, industrial organization, and corporate governance we show that common owners optimally choose to be passive in their governance choices. This allows managers to “enjoy the quiet life” and leads to lower firm productivity and softer product market competition. Consistent with existing empirical evidence, firm-level variation in common ownership causes variation in managerial incentives and productivity *across firms* and *intra-industry cross-market* variation in prices, market shares, concentration, and output—all without communication between

shareholders and firms, coordination between firms, knowledge of shareholders' incentives, or market-specific interventions by top managers. The organizational structure of multiproduct firms and the passivity of common owners determine whether higher prices under common ownership result from higher costs or from higher markups. We empirically document that managerial incentives are less performance-sensitive in firms with more common ownership and that common ownership is a first-order determinant of managerial incentives. The paper won a number of academic research awards (SIOE Oliver Williamson Award, IEAF-FEF Prize) and has received substantial academic, policy (e.g., DOJ, FTC, OECD, and EU Competition Commission), and corporate attention (e.g., BlackRock and ICI dedicating resources to discredit academic research).

[Antón, Ederer, Giné & Schmalz \(2021\)](#) combines the insights of the previous two papers and analyzes the effect of common ownership on innovation. Firms typically have inefficiently low incentives to innovate. This is because other firms benefit from innovative activity and the innovating firms do not capture the full surplus of their innovations. We theoretically and empirically show under which conditions common ownership of firms can mitigate this impediment to corporate innovation. Common ownership increases innovation when technological spillovers (as measured by firms' proximity in technology space) are sufficiently large relative to product market spillovers (as measured by proximity in product market space). Otherwise, the business-stealing effect of innovation dominates and common ownership reduces innovation. By studying innovation across a wide range of industries (rather than focusing on a specific industry, a particular mechanism, or on just price and quantity effects), these results inform the debate about the broader welfare impact of common ownership.²

1.3 Incentive Design and Social Interactions

The remainder of my research focuses on how incentive design is affected by social interactions and realistic assumptions about human behavior.

Related to my work on social learning inside organizations [Ederer & Pataconi \(Journal of Economic Behavior and Organization 2010\)](#) theoretically investigates the impact of social comparison in incentive design. When workers care about relative pay, tournament

²Quantifying the welfare and distributional effects of common ownership at the economy-wide level is the focus of [Ederer & Pellegrino \(2021\)](#).

incentives can be too strong and have to be muted to avoid promoting the most competitive rather than the most able individuals. However, monetary incentives are by no means the only feature of tournament design: feedback mechanisms are equally important. For example, without feedback, in an innovation race contestants may not know whether their innovation improves on already existing approaches. [Ederer \(Journal of Economics and Management Strategy 2010\)](#) shows under which conditions feedback has motivational effects in promotion or research contests. Although the paper is entirely theoretical its predictions have subsequently been investigated and confirmed in several empirical settings including high school and university students, furniture sales staff, computer retail sales outlets, and even World War II fighter pilots.

In contrast, [Ederer & Fehr \(2019\)](#) documents the dark side of performance feedback. In a controlled lab experiment motivational feedback creates incentives for contest designers to misreport performance to contestants. But because workers dislike being lied to, allowing discretionary feedback can have a deleterious impact on morale and tournament performance. However, lying aversion or a moral desire to keep promises may counteract these negative performance effects by forcing people to report truthfully and in a way that is consistent with their future actions—even in environments where contractual enforcement or reputational incentives are absent. [Ederer & Stremitzter \(Games and Economic Behavior 2017\)](#) provides the first causal evidence that guilt aversion leads to more promise-keeping and estimates a model of conditional guilt aversion that nests the previously contradictory findings of the gigantic literature on communication in experimental trust games as special cases. [Ederer & Schneider \(AEJ Microeconomics 2021\)](#) shows that such promises have a large, persistent effect even outside the confines of economic laboratories and even across economically meaningful time horizons of several weeks rather than the short minute-long time horizons commonly studied in laboratory experiments.

Finally, my research cautions against overly explicit incentive schemes (e.g., UK NHS hospital evaluations, U.S. law school rankings, sales agent compensation) because they can be gamed by the organizations or individuals who are being evaluated, especially when they have an informational advantage. [Ederer, Holden & Meyer \(RAND Journal of Economics 2018\)](#) theoretically shows that opaque incentives (i.e., incentives that make people uncertain about how exactly they will be rewarded) can effectively curb gaming, thereby proving a conjecture that dates back to Jeremy Bentham in 1830.

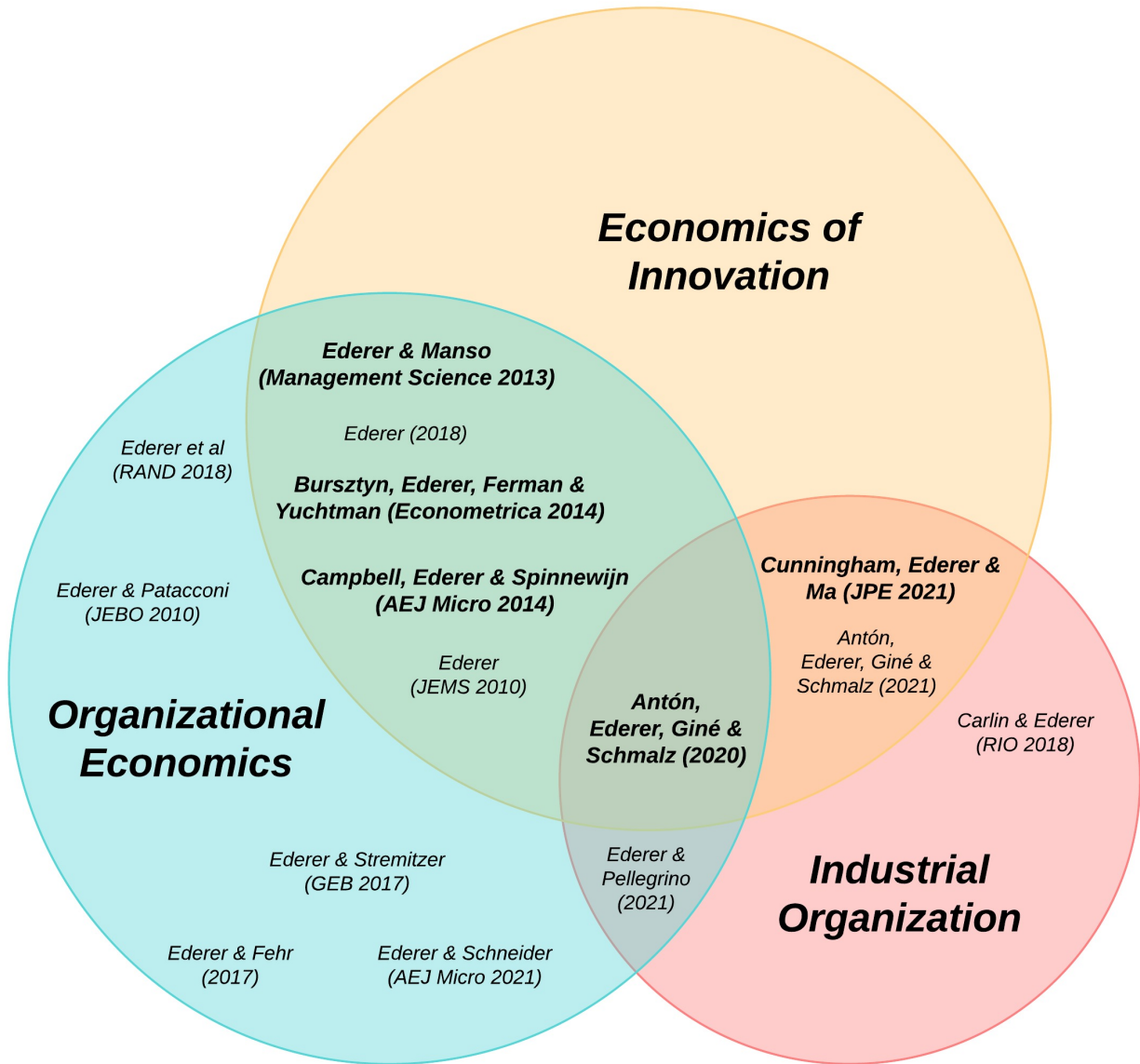


Figure 1: The figure graphically summarizes how the research papers discussed in this statement are connected to each other and how my research agenda has evolved over time. The five central papers of my [research agenda](#) are in **bold** font.

2 Teaching

Since arriving at Yale in 2013-14 I have taught courses in Behavioral Economics and Competitive Strategy. I won the Elective Teaching Award in 2013-14 and 2017-18. Due to Yale SOM policy which excludes past winners for the following three academic years, I was ineligible for any teaching award in all other years. I was chosen as one of the “Best 40 Business Professors Under 40” by Poets & Quants in 2017. My courses are ranked #1 and #2 as the most popular electives at Yale SOM by student enrolment. These courses draw on

my research expertise and feature insights from current research in organizational economics, industrial organization, entrepreneurship, and behavioral economics.

Teaching MBA students has significantly contributed to my research. My papers on killer acquisitions and common ownership originated from teaching sessions on entry deterrence, antitrust, and innovation management in my Competitive Strategy course. I will continue to explore synergies between my research and teaching in the future.

Finally, I have mentored several postdocs at Yale SOM, PhD students in the Yale economics department, and JD students at Yale Law School and co-authored papers with some of them (Frédéric Schneider and Weicheng Min).

(2,498 words)

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Total citations > 2,200 (as of August 2021)