Natacha Spitzer

Ph.D. Candidate in Economics, University of Pennsylvania

nspitzer@sas.upenn.edu · natachaspitzer.github.io

Citizenship: Canada, France, and United States

Perelman Center for Political Science and Economics, 133 S. 36th St., Philadelphia, PA 19104

Education

University of Pennsylvania 2021 – Present
Ph.D. in Economics, expected May 2027 (Advisor: George Mailath)

Paris School of Economics 2019 – 2021
Master of Analysis and Policy in Economics (Summa Cum Laude)

University of Rennes I 2016 – 2019
Bachelor of Economics and Management (Summa Cum Laude)

Exchange Program at the University of Rochester 2018 – 2019

Research Interests

Primary Field: Microeconomic Theory
Secondary Fields: Industrial Organization, Organizational Economics
Interests: Contract Theory, Information Economics, Experimentation and Learning, Repeated Games, Networks, Mechanism Design

Research

Contracting with Unknown Complementarity: Ratchets and Replacement Risk

Job Market Paper

Abstract: How do a firm and a worker contract while learning how productive their relationship is? A worker's effort simultaneously generates value for the firm and reveals information about the fit between the worker and his assignment. But the prospect of future wage adjustments and replacement distorts his incentives to experiment. I study these forces in a two-period principal–agent model with moral hazard, limited commitment, and limited liability. I first establish existence of a pure-strategy equilibrium and characterize the optimal spot contract: when there is a chance that effort is counterproductive, the agent may be rewarded following both sufficiently strong and sufficiently poor performance, as both are evidence of effort. After the first period, the principal decides whether to replace the agent and, conditional on retention, offers a new wage contract. A forward-looking agent therefore has an incentive to influence her belief, and because he captures limited-liability rents in each period, replacement is costly to him. This incentive decomposes into an *extensive* retention force and an *intensive* wage force, which acts as a ratchet when good news raises the bar for pay. Relative to a benchmark without belief manipulation, the retention force dominates when the parties are initially pessimistic about the fit, leading to over-experimentation, while the ratchet dominates when they are initially optimistic and effort is not too costly, leading to under-experimentation. Dynamic incentives thus raise experimentation and learning when the agent's job is at risk and lower it once it is secure.

Optimal Monitoring of AI Use with Reputation Concerns

Working Paper, with Mengjia Xia, under review

Abstract: How should managers monitor workers' use of AI when workers care about how they are perceived? A worker of privately known ability chooses between costly effort and an AI tool to complete a task, while an accuracy-seeking manager decides how often to monitor the worker at a cost. Using AI affects the worker's reputation through two channels. Its effect on the probability of success in the task depends on his ability, and, when he is monitored, his choice of technology itself becomes a signal of that ability. The

optimal policy is simple: either the manager does not monitor and everyone uses the tool, or she monitors just enough to sustain separation, in which high-ability workers exert effort and low-ability workers use the tool. Mandatory disclosure is never optimal, and optimal monitoring is non-monotonic in AI quality. Relative to the efficient benchmark, the optimal policy can induce both over- and under-adoption. The policy has the same shape whether effort and the tool are substitutes or complements. When monitoring can depend on the outcome, the optimal audit targets success when able workers are rare and failure when they are common.

On the Irrelevance of Networks in Repeated Games
Working Paper, under review

Abstract: When does the behavior that can be sustained in markets and societies depend on how their members are related? I study this question in environments with many bilateral repeated games, in which each player plays an identical game simultaneously with each of her opponents. Using a multimarket Cournot counterexample with symmetric firms and markets, I show that whether collusion can be sustained in all markets depends both on which firms interact and on what each firm observes about other markets. Observing other markets lets firms coordinate punishments harsher than any single market can sustain. I then develop a general framework and show that network structure is irrelevant whenever each player's minmax payoff is a static Nash equilibrium payoff, a condition I call *Optimality of Nash Reversion*. Under it, an action profile is sustainable between all pairs of opponents if and only if it is sustainable in the corresponding two-player game.

Selection in Networks with Imperfect Observability
Master's Thesis, Paris School of Economics (Advisor: Francis Bloch; Reader: Olivier Compte)

Abstract: I study ranking and selection in a network in which agents observe cardinal information about their neighbors that a social planner does not. Under perfect observability, the planner can construct an ex-post incentive compatible and efficient ranking if and only if each agent has at least two neighbors, and the sparsest such networks are graphs with cyclic components. Under imperfect observability, efficiency is lost in Bayesian equilibrium in triangles, but an approximately efficient mechanism exists when signals are precise; welfare under the optimal mechanism increases in signal precision and is higher in directed than in undirected triangles.

Presentations

Econometric Society World Congress (Seoul, 2025); NSF Network Science in Economics Conference (Stanford, 2025, poster); Pennsylvania Economic Theory Conference (Penn State, 2024 and 2025, posters); Advanced School in Economic Theory (Israel Institute for Advanced Studies, 2023, poster); Penn Micro Theory Lunch Seminar (2022–2026)

Organizing

Graduate Women in Economic Theory Conference, Yale University (co-organizer)	2026
Penn Micro Theory Lunch Seminar (organizer)	2024 – 2025
Penn Micro Theory Student Reading Group (organizer)	2023 – 2024

Other Research Experience

Research Assistant, Paris School of Economics 2019 – 2021
to Francis Bloch, Nicolas Jacquemet, Hillel Rapoport, and Akiko Suwa-Eisenmann

Research Intern, CNRS-CREM, University of Rennes I Summer 2019
Supervisor: Marie-Hélène Hubert

Teaching Experience

Instructor 2023 – Present
University of Pennsylvania

Game Theory	Summer 2025
Intermediate Microeconomics	Summer 2023

Teaching Assistant 2022 – Present
University of Pennsylvania

Introduction to Microeconomics, Dr. Anne Duchene	Fall 2026
Microeconomics for Managers, Wharton Executive MBA, Prof. Kent Smetters	Summer 2026
Behavioral Economics, Prof. Kevin He	Fall 2025
Microeconomics for Managers, Wharton Executive MBA, Prof. Kent Smetters	Summer 2025
Intermediate Microeconomics, Prof. George Mailath	Spring 2025
Industrial Organization, Prof. Aislinn Bohren	Fall 2024
Contract Theory, Prof. Steven Matthews	Spring 2024
Introduction to Microeconomics, Dr. Anne Duchene	Fall 2023
Mathematical Economics, Prof. Andrew Postlewaite	Spring 2023
Introduction to Microeconomics, Dr. Anne Duchene	Fall 2022

Teaching Certificate, CETLI 2026
University of Pennsylvania

Head Tutor of Microeconomics 2017 – 2018
University of Rennes I

Awards

Sidney Weintraub Memorial Prize in Economics, University of Pennsylvania	2025
Robert and Anita Summers Graduate Research Award in Economics, University of Pennsylvania	2025
Fontaine Fellowship, University of Pennsylvania	2021

Additional Skills

Programming Languages: Python, R, Stata, MATLAB, Mathematica, LaTeX
Languages: English (Native), French (Native)

References

George Mailath (Advisor), Department of Economics, University of Pennsylvania
gmailath@econ.upenn.edu

Kevin He, Department of Economics, University of Pennsylvania
hekevin@econ.upenn.edu

Rakesh Vohra, Department of Economics, University of Pennsylvania
rvohra@sas.upenn.edu

Kent Smetters (Teaching Reference), The Wharton School, University of Pennsylvania
smetters@wharton.upenn.edu