Jian Sun

Contact Information

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Education:

Ph.D. in Financial Economics, MIT Sloan School of Management, 2022
Advisors: Ian Ball, Hui Chen (chair), Andrey Malenko and Haoxiang Zhu

M.S. Economic Theory and Econometrics, Toulouse School of Economics, 2016
B.S. Economics and B.S. Mathematics (double major), Tsinghua University, 2014

Research Interests:

Technological Innovation in Finance; Corporate Finance Theory; Information Economics and Information Design

Teaching Assistant:

2019-2020	Foundations of Modern Finance (MFin), Prof. Leonid Kogan and Prof. Jiang Wang, MIT
2019-2021	Investment Management (MBA and MFin), Prof. Matthew Rothman, MIT
2020	Foundations of Modern Finance I (MicroMaster), Prof. Leonid Kogan and Prof. Jiang Wang, MIT

Research Assistant:

2019	RA to Prof. Hui Chen, MIT Sloan School of Management
2018	RA to Prof. Haoxiang Zhu, MIT Sloan School of Management
2017	RA to Prof. Andrey Malenko, MIT Sloan School of Management
2015summer	RA to Prof. Patrick Bolton and Prof. Neng Wang, Columbia Business School

Referee Services:

Management Science

Honors, Scholarships, and Fellowships:

2016–2022	MIT Sloan PhD Fellowship
2020	AFA PhD Student Travel Grant
2015	Academic Excellence Scholarship, Toulouse School of Economics
2012	Comprehensive First Prize Scholarship, Tsinghua University
2009	Gold Medal, Chinese Physics Olympiad (CPhO)

Research Papers:

Algorithmic Transparency (Job Market Paper)

Abstract: I study the optimal algorithmic disclosure in a lending market where lenders use a predictive algorithm to mitigate adverse selection. The predictive algorithm is unobservable to borrowers and uses a manipulable borrower feature as input. A regulator maximizes market efficiency by disclosing information about the statistical properties of variables embedded in the predictive algorithm to borrowers. Under the optimal disclosure policy, the posterior belief consists of two disjoint regions in which the borrower feature is more relevant and less relevant in predicting borrower quality, respectively. The optimal disclosure policy differentiates posterior lending market equilibria by the equilibrium data manipulation levels. Equilibria with more data manipulation hurt market efficiency, but

also discourage lenders' use of the borrower feature. Equilibria with less data manipulation benefit from that and generate more efficient market outcomes. Unconditionally, the borrower feature is used less intensively under optimal disclosure. This information design problem can be reduced to a one-dimensional maximization problem by imposing a mild distributional assumption on manipulation cost. As an extension, I also discuss the joint design of algorithmic disclosure and costly verification.

Learning from Manipulable Signals, with Mehmet Ekmekci, Leandro Gorno, Lucas Maestri, Dong Wei
R&R at American Economic Review
Abstract: We study a dynamic stopping game between a principal and an agent. The agent is privately informed about his type. The principal learns about the agent's type from a noisy performance measure, which can be manipulated by the agent via a costly and hidden action. We fully characterize the unique Markov equilibrium of this game. We find that terminations/market crashes are often preceded by a spike in (expected) performance. Our model also predicts that, due to endogenous signal manipulation, too much transparency can inhibit learning. As the players get arbitrarily patient, the principal elicits no useful information from the observed signal.

From Market Making to Matchmaking: Does Bank Regulation Harm Market Liquidity? with Gideon Saar, Ron Yang and Haoxiang Zhu
R&R at Review of Financial Studies
Abstract: Post-crisis bank regulations raised market-making costs for bank-affiliated dealers. We show that this can, somewhat surprisingly, improve overall investor welfare and reduce average transaction costs despite the increased cost of immediacy. Bank dealers in OTC markets optimize between two parallel trading mechanisms: market making and matchmaking. Bank regulations that increase market-making costs change the market structure by intensifying competitive pressure from non-bank dealers and incentivizing bank dealers to shift their business toward matchmaking. Thus, post-crisis bank regulations have the (unintended) benefit of replacing costly bank balance sheets with a more efficient form of financial intermediation.

A Dynamic Delegated Investment Model of SPAC, with Dan Luo
Abstract: We study SPACs in a continuous-time delegated investment model. Our model is built upon three unique features of SPACs: the sponsor and the investor are only partially aligned, a SPAC has a short time horizon, and the investor has the final control over investment approval. Due to the misalignment in incentive, the sponsor has an increasing incentive to propose unprofitable projects to the investor; in response, the investor exerts more stringent screening based on her information. Although the screening helps curb the sponsor's moral hazard, it also dampens the disciplining effect of partial alignment in incentive. When the investor's information is sufficiently noisy, the second effect dominates, and having the investor make the investment approval decision reduces everyone's welfare. This adverse effect is more pronounced if entrepreneurs' strategic choice of SPAC or the sponsor's strategic choice of effort is considered. We find that introducing public assessment and making the investor's control right contingent on it may benefit both parties. We also explore whether a SPAC should be allowed to continue after the current project is disapproved by the investor.

Reputation Concerns Under At-Will Employment, with Dong Wei
Abstract: We study a continuous-time model of long-run employment relationship with fixed wage and at-will firing; that is, termination of the relationship is non-contractible. Depending on his type, the worker either always works hard, or can freely choose his effort level. The firm does not know the worker's type and the monitoring is imperfect. We show that, in the unique Markov equilibrium, as the worker's reputation worsens, his job becomes less secure and the strategic worker works harder. We further demonstrate that the relationship between average productivity and job insecurity is U-shaped, which is consistent with typical findings in the organizational psychology.

<u>Presentations:</u>

Trans-Atlantic Doctoral Conference; International Conference on Game Theory; MIT Sloan.

<u>References:</u>

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