

Research Statement

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I am a microeconomic theorist who focuses on applying game theoretic concepts to a broad range of settings including political economy, behavioral economics, and finance. My specific research interests are in applications of learning and signaling.

My job market paper, “Dynamic Political Investigations: Obstruction and the Optimal Timing of Accusations” (joint with Ephraim Shimko) is about the incentives of a political candidate’s opposition to encourage or curtail voter learning about the candidate prior to an election. We consider a candidate running for office who is under investigation for alleged wrongdoing and can obstruct the course of that investigation. We use this framework to analyze the strategic decision of the opposition, who chooses when to level an accusation against the candidate. We focus on how obstruction affects this choice, and as a result voter learning. We identify a novel channel affecting the opposition’s timing decision: when the opposition is uncertain about voter preferences, their position in the race vis-a-vis the candidate as well as the credibility of the accusation endow the opposition with risk preferences. If the opposition is sufficiently far ahead in the race, or their accusation is more credible, they are risk averse and thus want to curtail voter learning which spreads the voters’ posterior beliefs over the candidate’s guilt. Hence the opposition releases the accusation close to the election as an October Surprise. This prevents voters from learning the results of a long investigation. When the opposition is behind in the race, or has a non-credible accusation, they are risk loving and as a result, release accusations early in order to facilitate voter learning.

We then identify two different channels through which obstruction, which slows the arrival of evidence confirming the candidate’s guilt, damages voters’ ability to learn and thus their welfare. Obstruction makes an investigation less informative about the candidate, and as obstruction increases, the opposition has a greater incentive to release accusations close to the election. This prevents an investigation from starting. This is because increased obstruction lowers the chances of the candidate getting caught which is the ‘up-side swing’ the opposition hopes for when releasing evidence early. Thus October Surprises become more prevalent.

Because obstruction is damaging to voter learning and welfare, we consider policies aimed at

reducing obstruction. We show that obstruction decreases and voters are able to learn more, when investigations are allowed to continue past Election Day. Finally, we find that offering candidates plea bargaining deals which let guilty candidate's who admit to wrongdoing immediately incur lower penalties, only facilitates voter learning when the investigator wishes to investigate past Election Day and the accusation is sufficiently credible.

My second project, "A Multi-Agent Model of Misspecified Learning with Overconfidence" (joint with Cuimin Ba) applies learning to a behavioral framework where agents have misspecified beliefs. The paper examines how two overconfident agents learn about their environment in the long run when their effort choices distort the learning processes. In order to justify their worse than expected performance, overconfidence causes agents to underestimate either a common fundamental, such as the underlying quality of their project, or their counterpart's ability. We show that in many settings, each agent's actions which stem from their misspecified beliefs generate informational externalities for the other agent. When informational externalities are positive, the agents' learning processes are mutually-reinforcing: as one agent best responds to his own overconfidence, he causes the other agent to reach a more distorted belief about the environment and take more extreme actions, generating a positive feedback loop. The opposite pattern, mutually-limiting learning, arises when informational externalities are negative. We then prove that under certain conditions, agents' beliefs and effort choices converge to a steady state Berk-Nash equilibrium. Finally, we demonstrate that the mislearning stemming from effort distortions of the other agent can lead to a Pareto improvement in welfare which is not the case in the single agent environment.

I also have work at the intersection of contract theory and finance. My paper "Purchase Order Financing: A Signaling Approach" considers a firm with low collateral attempting to secure financing from a venture capitalist who is uncertain about the future demand for the firm's product. The firm can create purchase order agreements – that is, agreements with interested customers to purchase the finished product from the firm. The venture capitalist then uses these purchase order agreements as a signal of the firm's demand when deciding whether or not to fund the firm. I find that in the separating equilibrium, firms with high levels of customer demand write purchase order agreements which reflect the full extent of their demand. This demonstrates their potential profitability and commits them to higher levels of effort. Firms with less demand 'shade down' the level of demand written into their purchase order agreements in order to avoid penalties should they fail at production. In essence these smaller firms give up some credibility and opportunity for larger loans in order to maintain more flexibility in the production process.