

A futuristic cityscape with glowing digital screens and people interacting with data. The scene is filled with people sitting on benches, looking at large digital displays and interacting with data. The background shows a city with tall buildings and a bright sun setting or rising, creating a warm, golden glow. The overall atmosphere is one of a high-tech, data-driven environment.

Discussion of “Sharing Models to Interpret Data”

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Utah Winter Organizational and Political Economics Conference
March 9, 2024

Why aren't these folks discussing this paper?



Gilat Levy and Ronny Razin, "The Drowning Out of Moderate Voices: A Maximum Likelihood Approach to Combining Forecasts," *Theoretical Economics*, 2020.

A quick summary

- **“Social learning mutes reactions to data because when individuals exchange models it allows them to better explain (or rationalize) past data.”**

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- A creative extension of Schwartzstein & Sunderam (AER 2021):
 - ▶ Previous paper considered **persuasion** setup in which **sender provides receiver with a model to explain past data** to convince her to take a desired action.
 - ▶ Present paper introduces **groups** which give agents **access to many models to explain past data**.
 - ▶ This yields a **tractable setup** to analyze a variety of organizational economics questions about group formation, meetings, leadership, echo chambers, news management, ...

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 - ▶ Present paper introduces **groups** which give agents **access to many models to explain past data**.
 - ▶ This yields a **tractable setup** to analyze a variety of organizational economics questions about group formation, meetings, leadership, echo chambers, news management, ...
- Some **critical assumptions** that make the setup work:
 - ▶ Differences in beliefs arise only from **how to interpret information** (i.e., models) rather than from which information is available.
 - ▶ Agents pick the available model that **best fits past data**.
 - ▶ All agents in a group have access to **all but only models of the group** and end up adopting **the same model**.

Do groups make things worse? Can you get ahead of the narrative?

WIRED SECURITY POLITICS GEAR BACKCHANNEL BUSINESS MORE SIGN IN SUBSCRIBE

THOM HENSON SECURITY JAN 20, 2023 10:00 AM

The Small but Mighty Danger of Echo Chamber Extremism

Research shows that relatively few people exist in perfectly sealed-off media bubbles—but they're still having an outsize impact on US politics.



Donald J. Trump
@realDonaldTrump

NOW ILLEGAL LEAKS FROM A CORRUPT & HIGHLY POLITICAL MANHATTAN DISTRICT ATTORNEYS OFFICE, WHICH HAS ALLOWED NEW RECORDS TO BE SET IN VIOLENT CRIME & WHOSE LEADER IS FUNDED BY GEORGE SOROS, INDICATE THAT, WITH NO CRIME BEING ABLE TO BE PROVEN, & BASED ON AN OLD & FULLY DEBUNKED (BY NUMEROUS OTHER PROSECUTORS!) FAIRYTALE, THE FAR & AWAY LEADING REPUBLICAN CANDIDATE & FORMER PRESIDENT OF THE UNITED STATES OF AMERICA, WILL BE ARRESTED ON TUESDAY OF NEXT WEEK. PROTEST, TAKE OUR NATION BACK!

March 18

TRUMP SAYS HE'LL BE ARRESTED
NY PROSECUTOR EYES CONTROVERSIAL INDICTMENT

FOX NEWS channel MY TWO CENTS

On Air March 19, 2023 · 12:30 · CLIP

Trump wanted to get ahead of the narrative on his arrest: Ben Domenech

Media frenzies over Trump saying he'll be arrested in Stormy Daniels case, with Fox News contributor Ben Domenech telling 'MediaBuzz' that the left is looking for 'one thing to hang him on.'

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... and my personal favorite research question: ***“Which take goes viral?”***

Results and Intuition

- Social learning (i.e., exchange of models) mutes every agent's reaction to the data. Every agent's final beliefs are in the set of initial beliefs within the network that are closest to the prior.
 - ▶ Group formation is based on original reaction to information. That's the only source of within-group variation.
 - ▶ Best-fitting model in the group is one that **moves the posterior the least away from the prior**. **Everybody** in the group adopts that model.
 - ▶ Exchanges of models increase the chances of hearing an interpretation that suggests the data are relatively consistent with a person's prior and hence there is little need to update.
 - ▶ In one big group there will actually be **no updating** at all.

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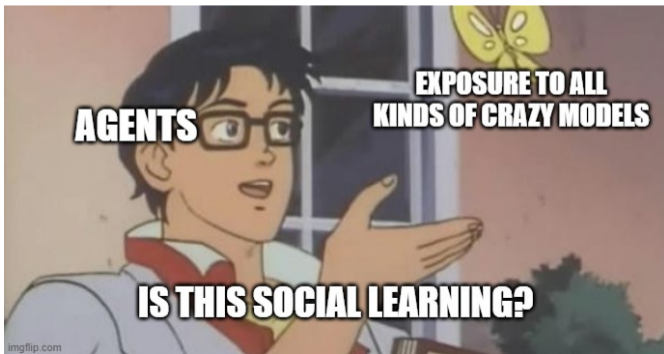
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 - ▶ In one big group there will actually be **no updating** at all.
- A plethora of results ... and surely more to come
 - ▶ Cross-group communication (i.e., exposure to other beliefs rather than models) **does not move beliefs very much**.
 - ▶ Spillovers across issues can generate **partisan economic bias**, but note recent critique by Mian et al (RESTAT 2023).
 - ▶ One can **control the narrative** by proposing a model before beliefs are hardened through social learning (i.e., free exchange of models).
 - ▶ Promoting action through "**propaganda**" or inaction through "**both-sidesism**"

Central Issue in Social Learning

- **Does social learning actually help agents? Do they learn the truth eventually?**
 - ▶ Generally yes ... with some caveats
 - ▶ But it seems to me that in this setup **social learning makes matters strictly worse**. The more models an agent is exposed to, the less the agent updates and ... so **never learns the truth?**
 - ▶ Regardless of the direction of the result it would be great to have **some discussion** of this.

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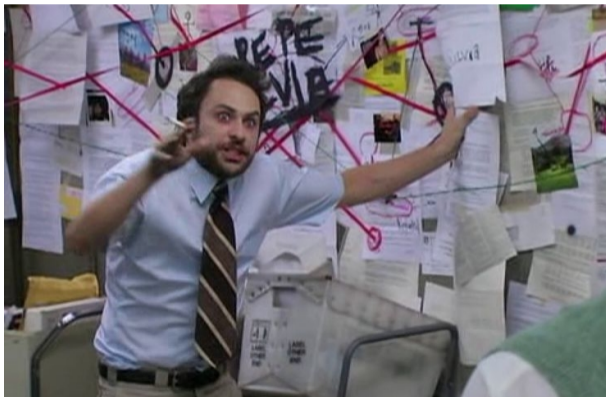


Social Learning and Conspiratorial Beliefs

- What types of beliefs do agents end up holding **after social learning**?
 - ▶ “Maximally conspiratorial” in the sense that “everything is connected.”
 - ▶ That seems to be true for **some groups with crazy folks** but **not for most people**.
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Not everybody is like Charlie in “It’s Always Sunny in Philadelphia”

Minor Comments

- Machinery depends heavily on **previous paper**.
 - ▶ A **simple (numerical) example for the single-agent case** like in the previous paper would be helpful given that it's not a totally established concept yet.
 - ▶ The example in the introduction is currently quite hard to follow because it only gives high-level intuition without explaining each step.
 - ▶ Make it easy for the reader and provide more transparency of execution.
- What are the **general results** and what results are **specific to the examples**?
 - ▶ Proposition 1 is about Example 1, Corollary 1 is about Example 2, Proposition 7 is about the leader-follower example, ...
 - ▶ Other propositions appear to be more general.
 - ▶ Find a way to clearly distinguish what is general and what is specific.
- Group size and within-group communication
 - ▶ Much of the elegance of the paper comes from the continuum of agents in each group ...
 - ▶ ... but that means, quite unrealistically, that each agent **hears and evaluates thousands of interpretations** and chooses the best-fitting one.

More Minor Comments

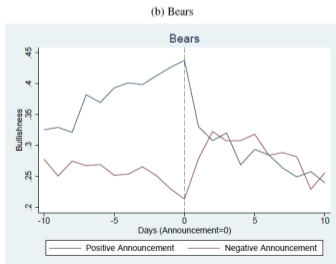
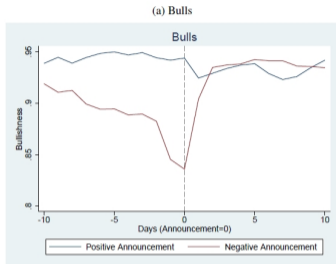
- Social learning without strategic behavior?
 - ▶ In this setup incentives of all agents are aligned: same preferences, no private costs, ...
 - ▶ But group members usually have different objectives and this may inhibit social learning (e.g., Campbell et al AEJ Micro 2014).
- Controlling the narrative can be useful ... but how useful?
 - ▶ Currently this is just a possibility result.
 - ▶ Using one of the examples and analyzing it under various parameters would give a sense of the magnitude.
- Groupthink
 - ▶ *“Groupthink is a phenomenon that occurs when a group of well-intentioned people makes irrational or non-optimal decisions spurred by the urge to conform.”*
 - ▶ This paper provides **another explanation for groupthink**, but it's not based on an explicit desire for conformity. **Groupthink may occur by design** depending on what the manager wants the group to do or believe.
 - ▶ See (and cite) Bénabou (RESTUD 2013).

Conclusion

- **Creative and thought-provoking paper**
 - ▶ A completely **fresh take** on social learning ...
 - ▶ ... with so many interesting applications!
- I encourage **everybody** with an interest in communication, persuasion, and coordination to read it.
 - ▶ There are so many other avenues that can be explored with this elegant framework.

But before you read it, Josh and Adi have to fix this ...

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Thank You!

References I