

Week 8 - Research Chat:
Computational Linguistics for
Social Meaning
and Social Impact

Rob Voigt

Sorry for delay in
responding to Midterms!

What I Do

Use computational linguistic techniques
to analyze the linguistic mechanisms
of social meaning and social conflict



Relatively language-internal



Connections between language
and the “real world”

Content warning:
Only a few examples, but
analysis of race + gender biases,
derogatory language about immigrants,
mass shooting events

Policing

Procedural Justice

Idea that the justice system should strive for not only *equitable outcomes*, but also an *equitable process* (including interpersonal treatment)

Key Components:

fairness in the processes

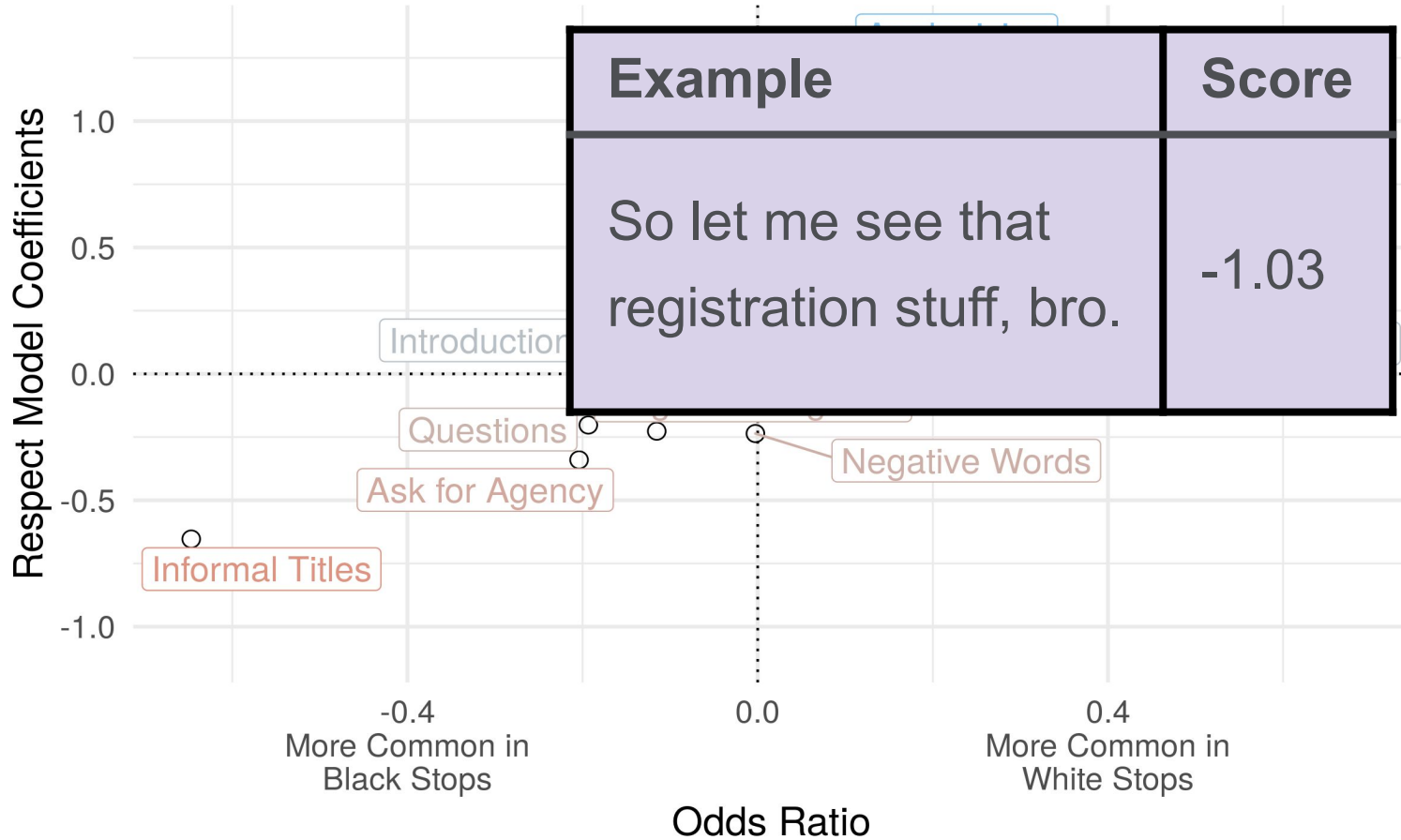
transparency in actions

opportunities for **voice**

impartiality in decision making

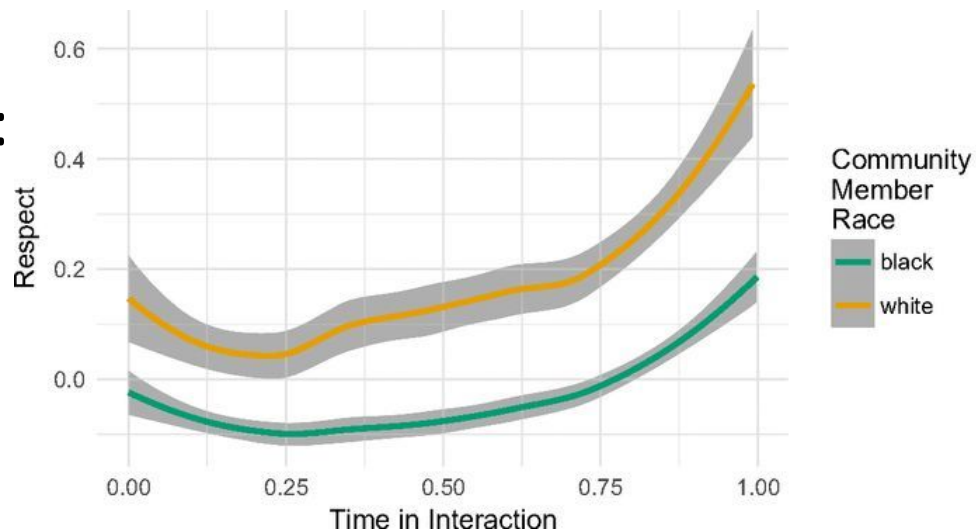
Police Respectfulness in BWC Footage

- Transcribed body camera footage of 1,000 traffic stops in Oakland, CA
- Collected human judgments of respectfulness on officer utterances
- Built a machine learning model of respect using features of linguistic politeness

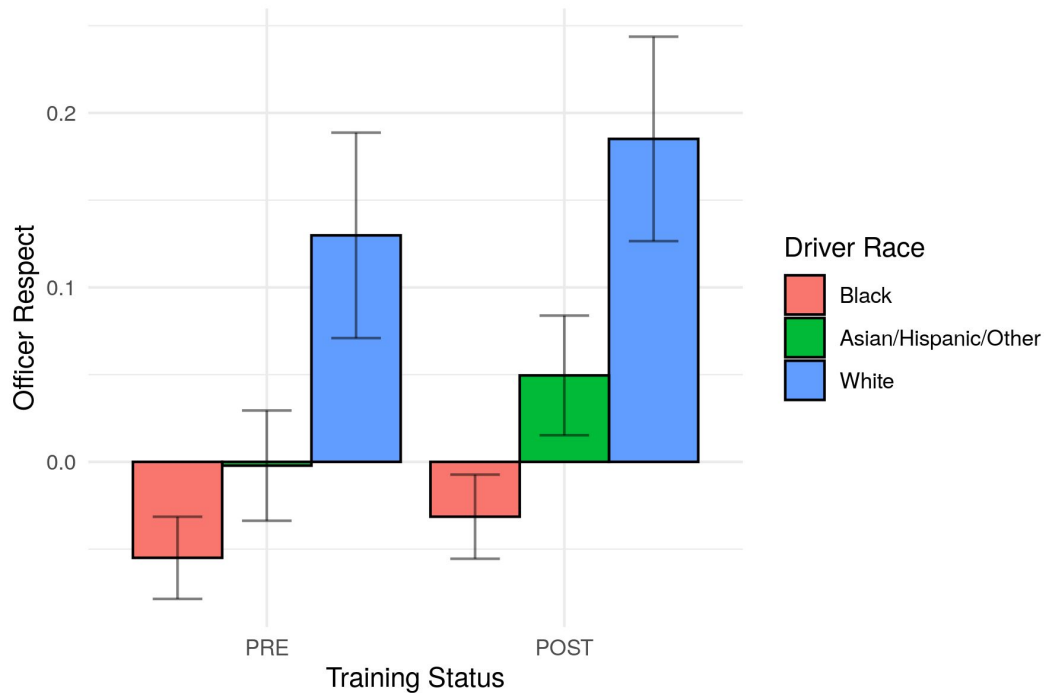


Findings

- Controlling for officer race, age, gender, stop severity, stop outcome, etc
- Consistent racial disparity: Officer language to white drivers was more respectful than to black drivers



Quantifying Police Training Impact



Used these findings to develop a training

Found overall increase in officer respect

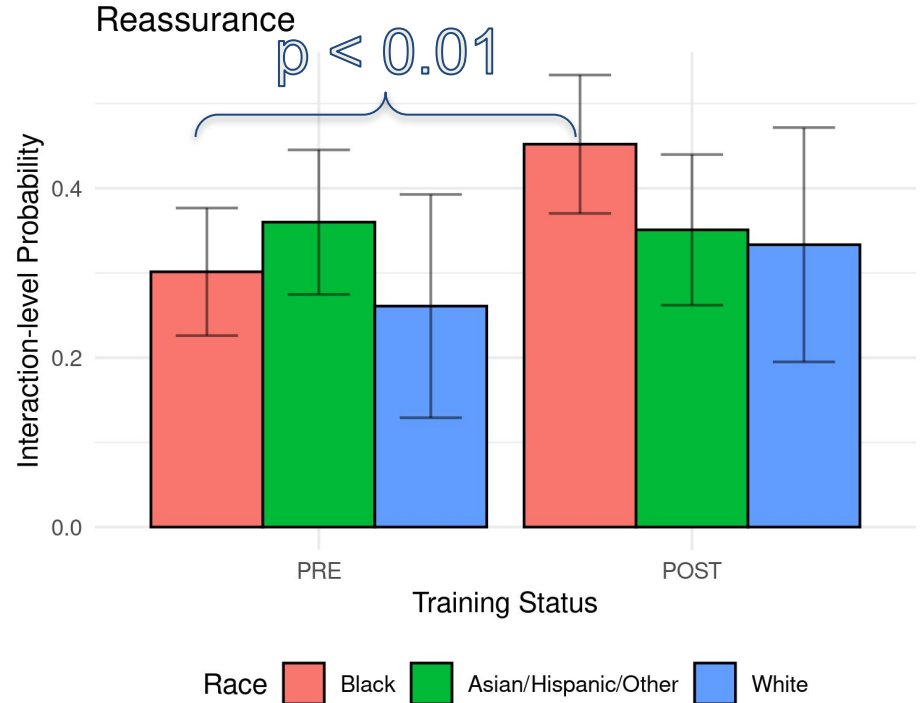
Broad racial disparity remains; but interesting feature-level differences

Specific Features: Reassurance

(no big deal, don't worry, it's okay, that's fine, etc.)

Significant increase for
Black drivers!

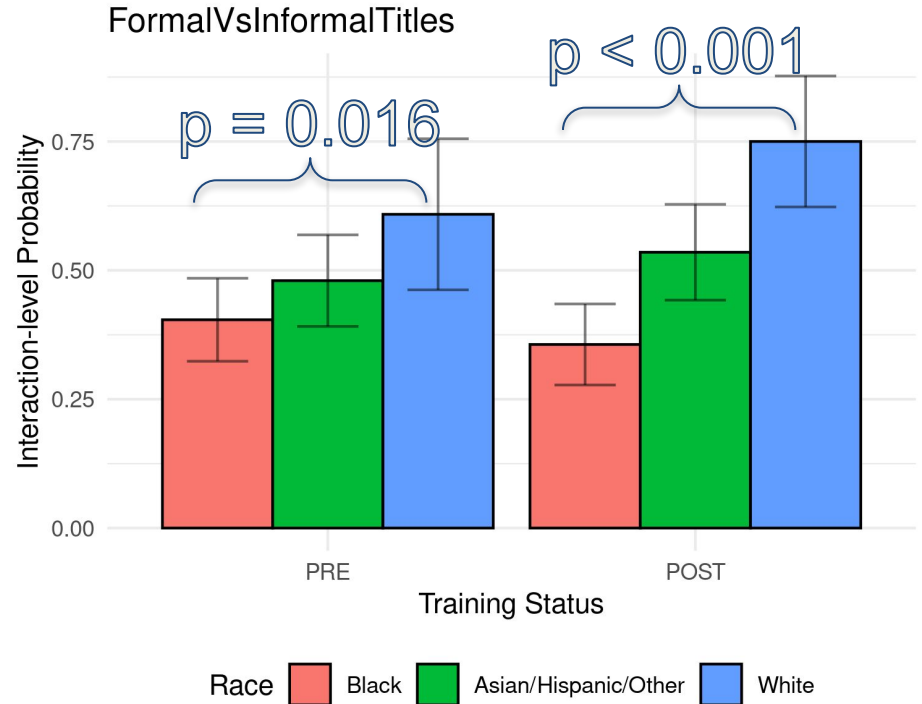
(no change for O/W)



Specific Features: Formal Titles

(sir/ma'am/Mr./Ms. vs bro/dude/man, etc.)

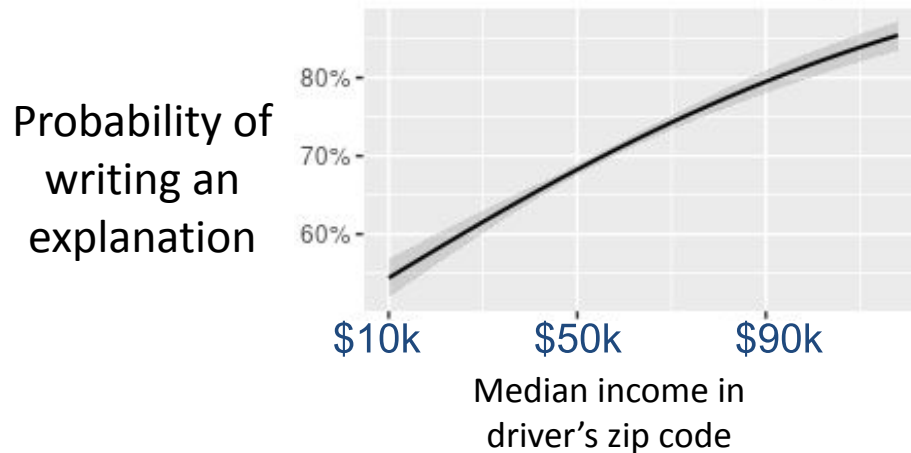
Disparity *increases*
in POST condition!
Reflects officer
reactions to training!
Doubling down on
prior strategies?



Law and the Courts

Narrative Explanations in Online Court

Online dispute resolution for traffic tickets -
Can it reduce courtroom biases?



But, preliminary results show writing actually hurts rather than helps!

So perhaps it's accidentally equalizing force.

Immigration

Immigrant Language Learning

Analyzed 1,000 immigrant oral histories from Ellis Island (people who arrived early 20th cent.)

Computational estimation of lexical and syntactic complexity; human ratings of accentedness

PD:	I'll	tell	you	why.	My	father	went	away	from	the	army.
AoA	2.79	4.26	4.35	3.97	2.72	4.11		5.07	4.44	3.98	7.15

MH:	And,	of	course,	at	that	time	the	Revolution	was	brewing.
AoA	4.57	4.55	7.34	4.04	5.53	5.16	3.98	10.00		9.06

Finding: refugees show higher levels of English attainment!

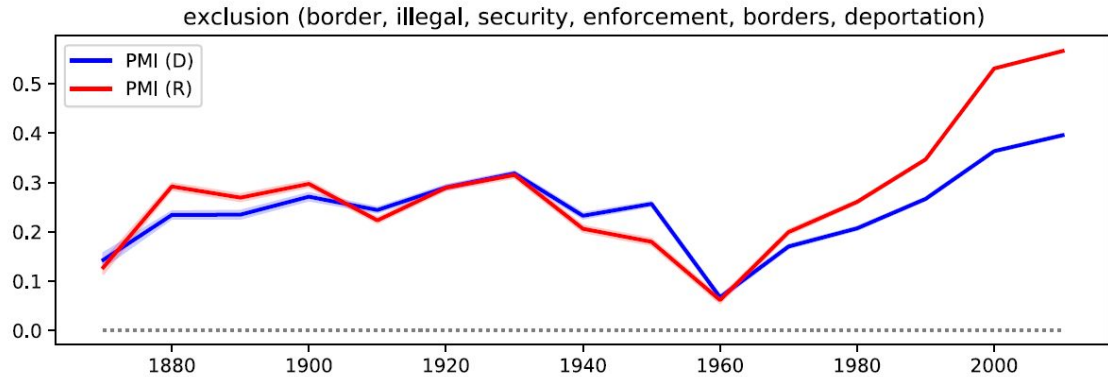
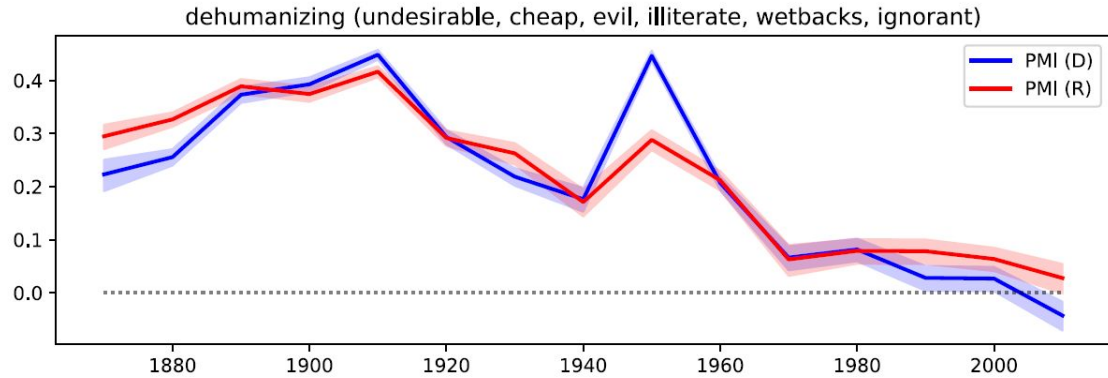
Changing Discourses on Immigration

(in Congressional speeches,
1880 to the present)

Decline in explicit
dehumanization over time

... but a corresponding
increase in discourses of
legal exclusion

(particularly amongst Republicans)



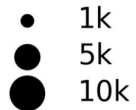
Social Media

Polarization on Twitter in Reactions to Mass Shootings

What other events do you bring up as context?

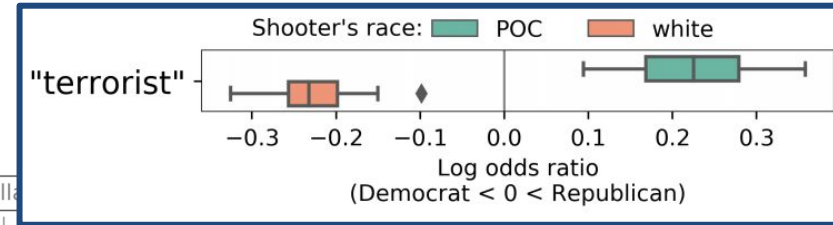
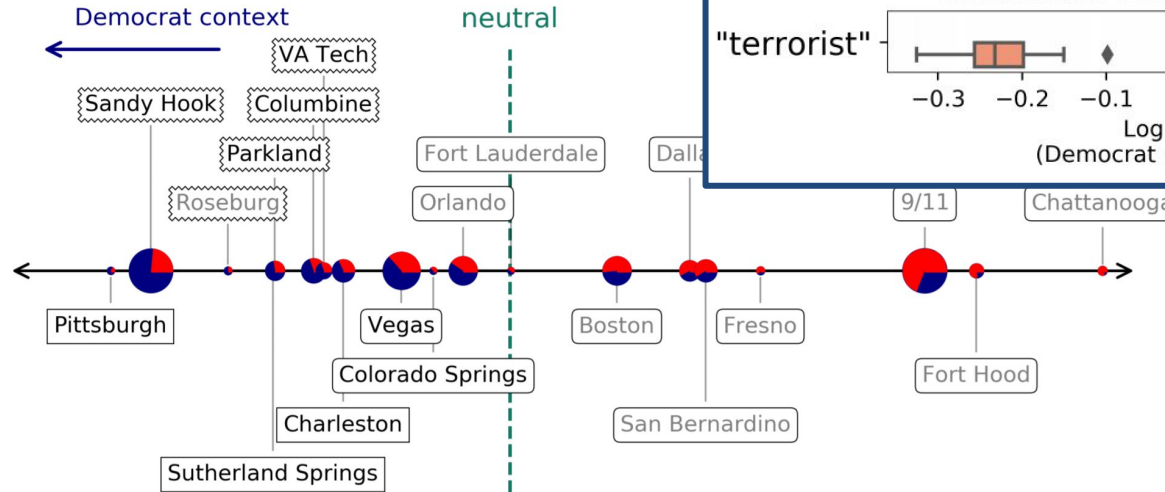
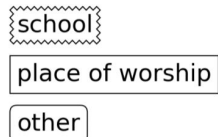
Who is a terrorist?

No of tweets



Shooter's race
white
person of color

Location



Academia

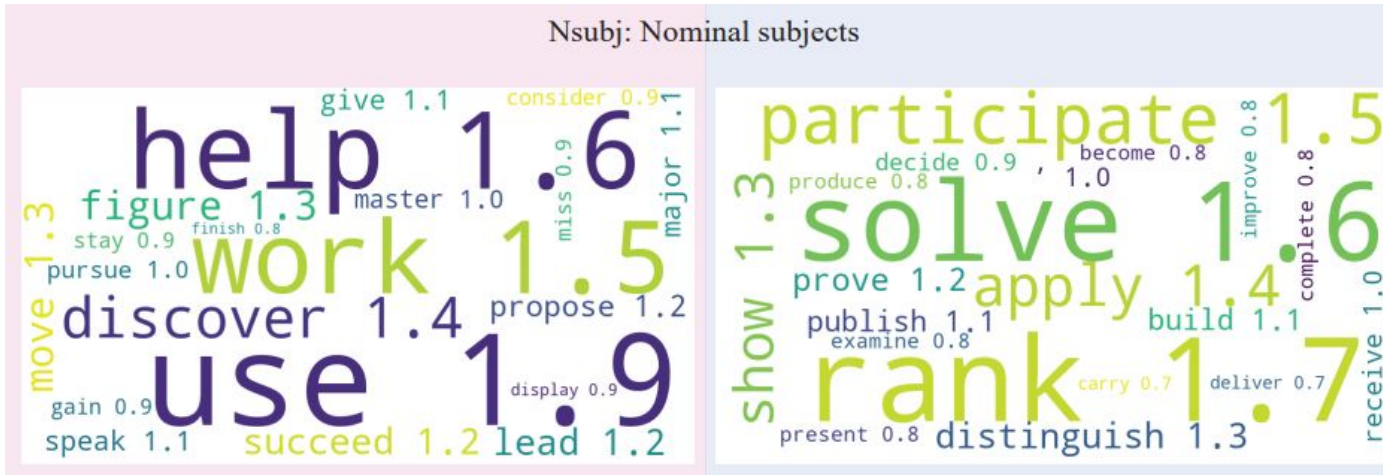
Gender Disparities in (Econ) Letters of Recommendation

(with Natasha!)

Verbs that applicants were described as doing

Women

Men



Social meaning and social impact?

Language is the medium of our social world:

linguists have unique skills

(some of which you're learning in this class!)

to understand social problems

and contribute to social good!



Collaborators

Nick Camp, Vinodkumar Prabhakaran,
Will Hamilton, Rebecca Hetey, Camilla Griffiths,
David Jurgens, Hazel Rose Markus, MarYam Hamedani,
Amedeo Tumolillo, Amrita Maitreyi, Dan Jurafsky,
Jennifer Eberhardt, Ran Abramitzky, Leah Boustan,
Peter Catron, Dylan Connor, Dallas Card,
Julia Mendelsohn, Rob Podesva, Penny Eckert,
Serina Chang, Qile Chen, Natasha Ahuja,
Lori Beaman, Chris Becker, Dorottya Demszky, Nikhil Garg,
James Zou, Matthew Gentzkow, Jesse Shapiro,
JJ Prescott, Tali Rabinovich, and Orna Einy

