

Ad Delivery Algorithms: The Hidden Arbiters of Political Messaging

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NSF CNS-1955227, 1956435: SaTC: Frontiers: Collaborative: Protecting Personal Data Flow on the Internet

NSF CNS-1916020, 1916153: SaTC: Core: Medium: Collaborative: Understanding and mitigating the privacy and societal risks of advanced advertising targeting and tracking



Who decides which ads you see on Facebook?

Ever since the Cambridge Analytica scandal, micro-targeting of political ads has been a hot button topic. But are advertisers *fully* in control of who see their ads?

It turns out ad platforms retain significant power to influence who among the targeted users is exposed to each ad.

all Facebook users

Users **targeted** by the advertiser

Users who the platforms **shows** the ad to

Why does it matter?

We have previously shown that the platform's choice of users can be discriminatory along the lines of race and gender, despite an inclusive targeted audience.

A similar mechanism in the context of political ads leads to:

- **Filter bubbles** - users predominantly see the political ads they already agree with)
- **Price discrimination** – the platform charges different prices for showing messages to the same users at the same time, depending on the content of the message

How we measured it:

We run political ads (**without using the NSF grant on the ads!**) and used Facebook's ad insights APIs to collect data about ad delivery and pricing. We designed controlled experiments, carefully varying the ad's look, audience size, and ad topic, and observed how the ad delivery algorithm reacts under identical ad targeting.

Bernie Sanders' campaign is taking on Wall Street, the insurance companies, the drug companies, the military-industrial ...See more

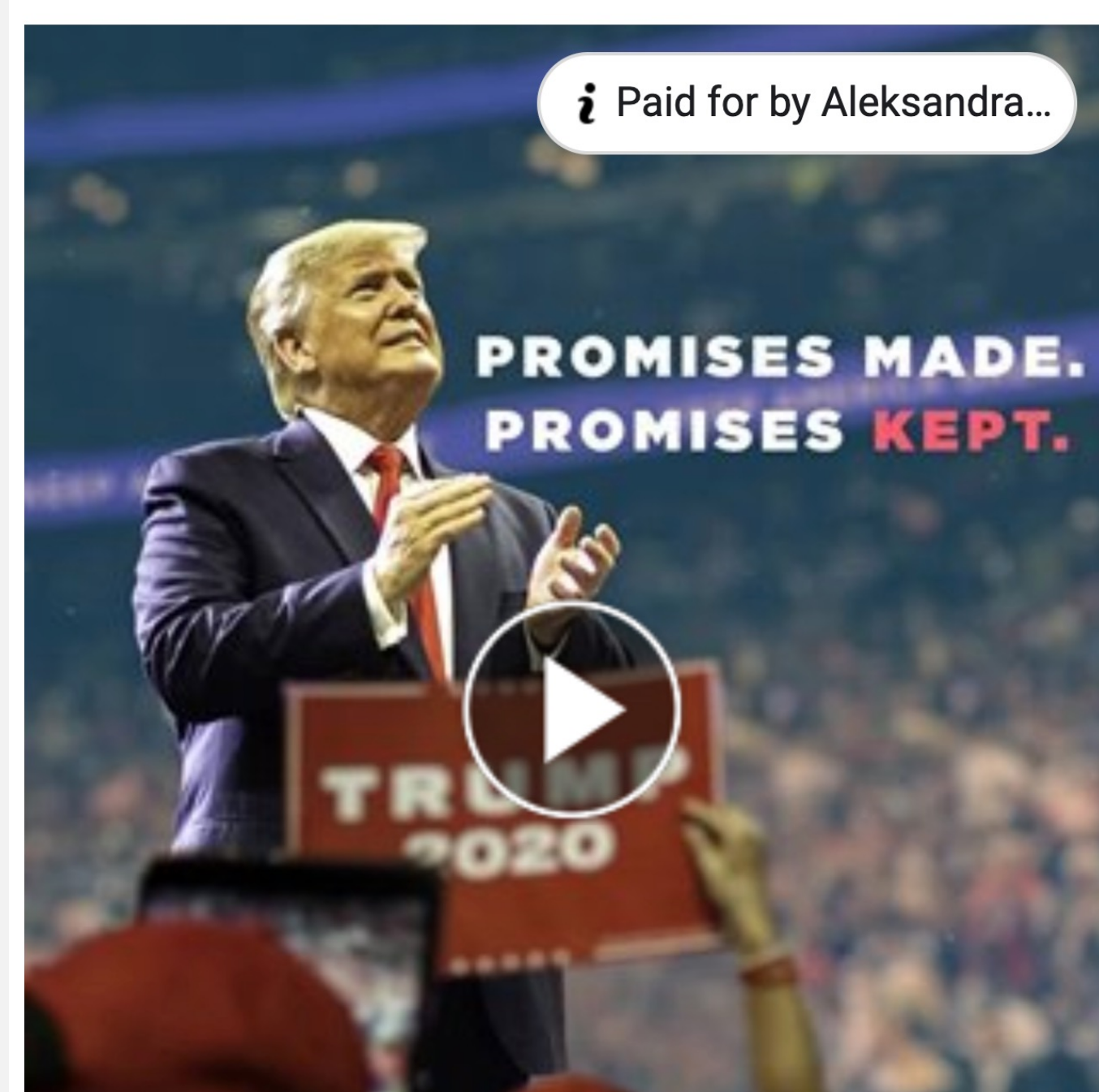


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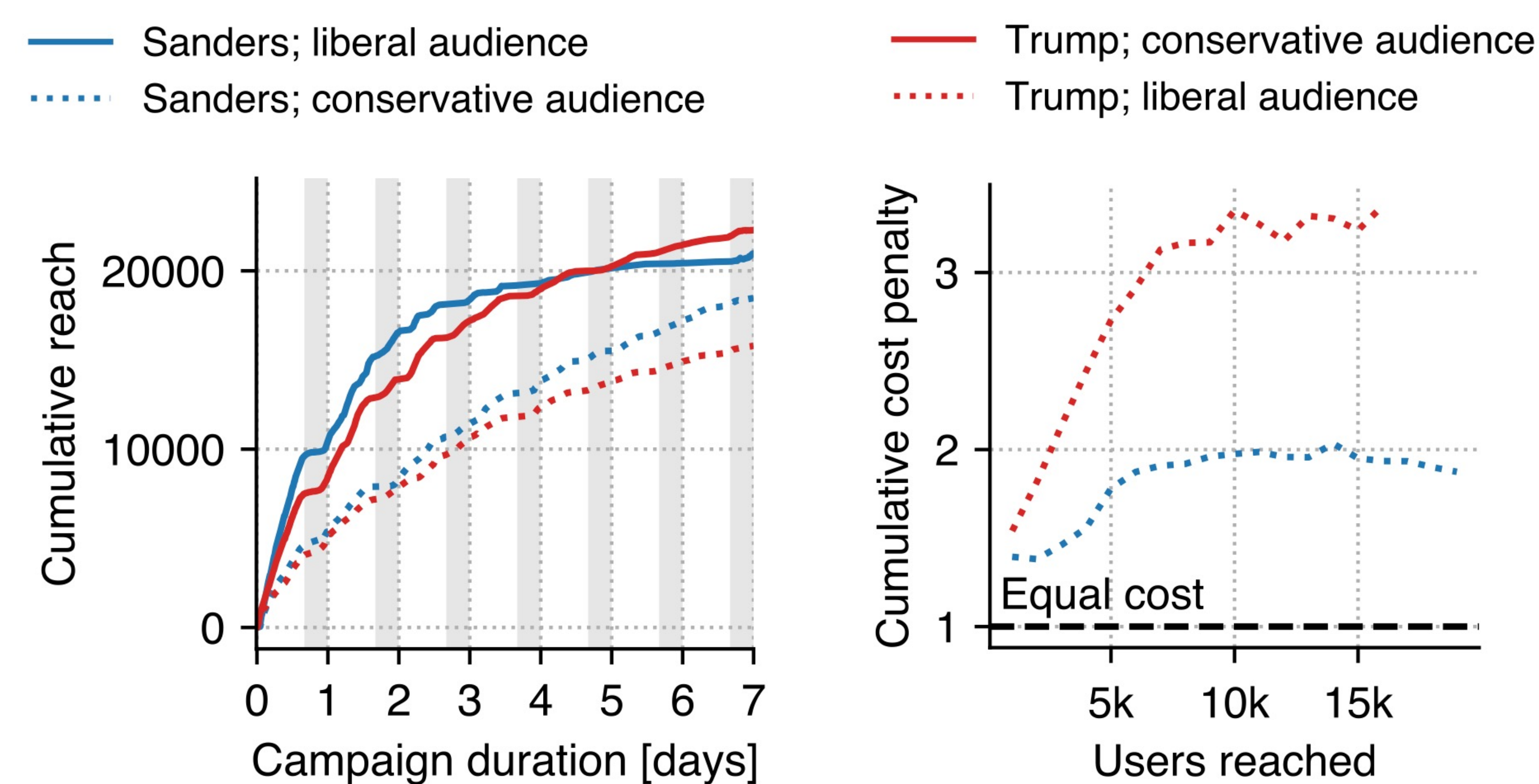
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Despite inclusive targeting ads are delivered to people who agree with the message

We always ran two ads in parallel, targeting the same groups of liberal and conservative users with both. We find that the Trump ads were delivered mostly to conservatives, and Sanders ads predominantly to liberals.

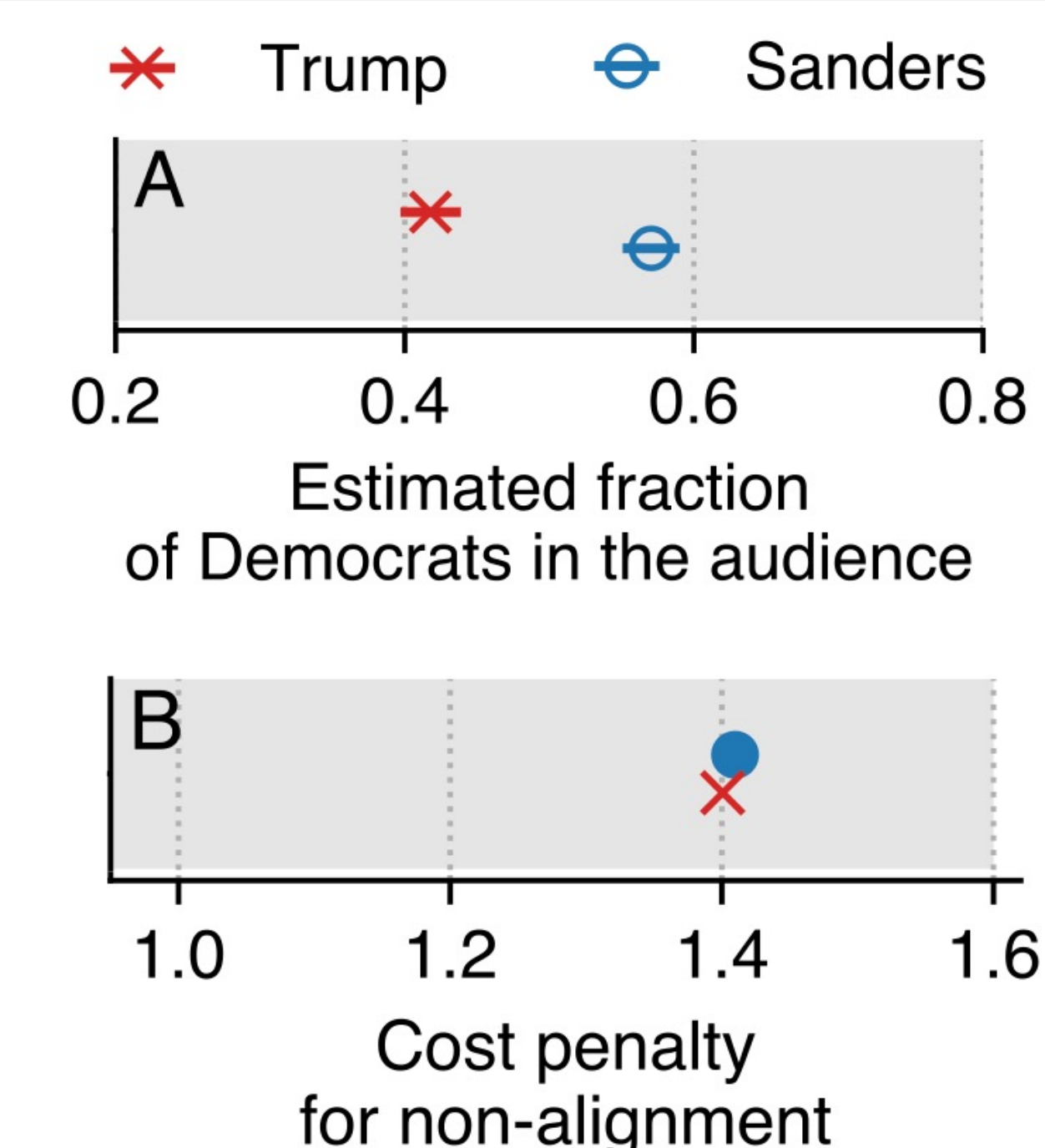
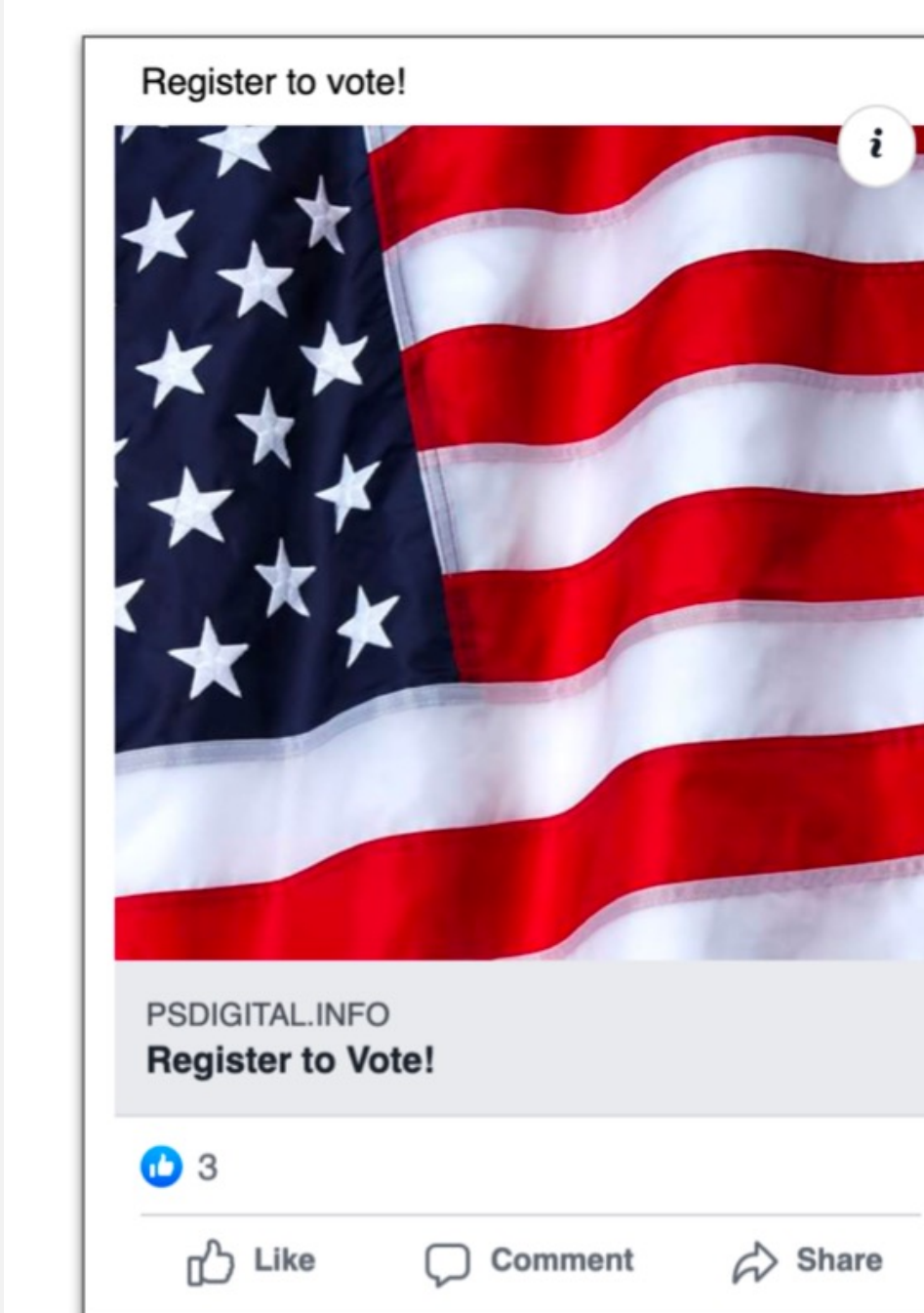
Campaigns pay a premium to reach non-aligned audiences

We also observe that showing an ad to a non-aligned user costs 2 to 3 times more than showing that same user an ad that they agree with.



These effects persists even if the content is implied, not visible to users

We find that delivery skews and price differences persist even when running ads that look the same to users. Having identical ad copies allows us to control for any user interactions that might impact delivery.



We set up our web server so that any traffic from actual users is redirected to fec.gov, while Facebook-internal IPs are either served a Sanders or a Trump page.

Conclusion

Facebook limits political advertisers' ability to reach audiences that do not share those advertisers' political views in ways that are significantly different from traditional broadcast media. Due to lack of transparency, we had to recover this information through black-box algorithm auditing.

Banning micro-targeting might limit some harms but it will give platforms even more power to shape the political discourse.

