

THE DEMAND FOR NEWS: ACCURACY CONCERNS VERSUS BELIEF CONFIRMATION MOTIVES

Felix Chopra¹ Ingar Haaland² Christopher Roth³

¹University of Bonn

²Norwegian School of Economics

³University of Cologne

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Motivation

- Mounting empirical evidence documents that news outlets often report the news in a politically biased way (Gentzkow and Shapiro, 2010).
 - Increasing concerns about media bias contributing to political polarization.
- Economic models differ in their explanation for why media bias occurs in equilibrium.
 - Readers value accuracy but also have a preference for news that distort signals towards readers' prior beliefs (Mullainathan and Shleifer, 2005).
 - Readers only value accuracy but face quality uncertainty (Gentzkow and Shapiro, 2006).
- These two explanations often make predictions that are observationally equivalent.
 - Challenging to quantify the importance of different motives for reading news with naturally occurring data.

What we do

- We experimentally study the importance of accuracy concerns versus belief confirmation motives in driving the demand for news.
 - Pre-registered, large-scale experiments.
 - Measure people's demand for a real newsletter.
 - Exogenously vary whether a news outlet reports the news in a balanced or biased way.
- Discrete choice model to estimate the relative weight on accuracy concerns and belief confirmation motives.

What we find

- **Main finding:** People reduce their demand for biased news, but only if the bias is inconsistent with their own political beliefs.
 - Republicans decrease their demand for left-wing biased, but not right-wing biased news.
 - Democrats decrease their demand for right-wing biased, but not left-wing biased news.
- **Key take-away from the discrete choice model:** Accuracy concerns and belief confirmation motives have a similar quantitative importance for people's demand for news.

Contribution to the literature

Media bias and the demand for news

Allcott and Gentzkow (2017); Gentzkow and Shapiro (2006, 2010); Mullainathan and Shleifer (2005).

→ Estimate the relative importance of accuracy versus belief confirmation motives.

Information demand

Chopra et al. (2022); Faia et al. (2021); Falk and Zimmermann (2017); Fuster et al. (2020); Ganguly and Tasoff (2016); Golman et al. (2017); Nielsen (2020); Thaler (2019); Zimmermann (2015).

→ Evidence from an important setting: News consumption.

→ Natural outcome: Newsletter subscriptions.

Experimental samples

- We collected the data in collaboration with *Prolific*.
- We recruited more than 5,000 respondents who had voted for either Donald Trump or Joe Biden in the 2020 US presidential election.

▶ Summary statistics

Experiment 1: Right-wing bias

Pre-treatment beliefs about selective reporting

1. **Context.** “In February 2021, the CBO analyzed the consequences of the Democrats’ \$15 Minimum Wage Bill.”
2. **Political debate.** “When debating the \$15 Minimum Wage Bill, **Democrats** claimed that the bill would reduce poverty without reducing employment. **Republicans**, by contrast, claimed that the bill would fail to reduce poverty and reduce employment.”
3. **CBO report.** “In its published report, the CBO estimated that the bill would **lift 900,000 people out of poverty** and **reduce employment by 1.4 million jobs.**”
4. **Beliefs.** “After the CBO published its report, **The Boston Herald** published an article about the economic impact of the bill. If you had to guess, how do you think the article reported about the CBO findings?”
 - Right-wing bias** Only the employment statistic.
 - Left-wing bias** Only the poverty statistic.
 - No bias** Both statistics.

Treatment conditions: **No bias** versus **right-wing bias**

Treatment: No bias

The article, published in **The Boston Herald** on March 2, 2021, reported that the bill would reduce employment by 1.4 million jobs **and** that it would lift 900,000 people out of poverty.



Treatment: Right-wing bias

The article, published in **The Boston Herald** on February 26, 2021, reported that the bill would reduce employment by 1.4 million jobs **but not** that it would lift 900,000 people out of poverty.



Measuring demand for news

We would like to offer you the opportunity to sign up for our weekly newsletter.

Our **Weekly Economic Policy Newsletter** will cover the **top three articles about economic policy** published in **The Boston Herald**.

If you say "Yes" below, we will message you the newsletter on your Prolific account on a weekly basis over the next month.

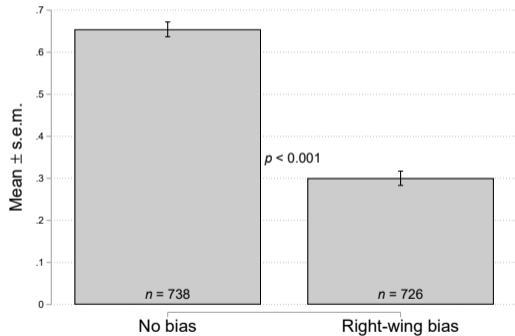
Would you like to subscribe to the newsletter?

Yes

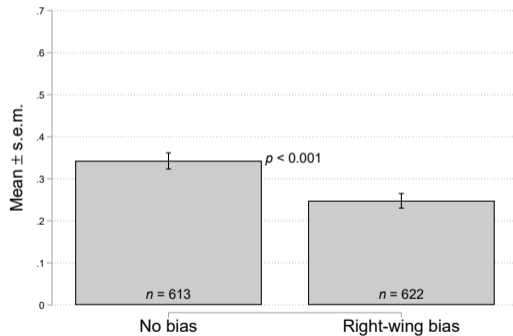
No

First stage: Beliefs about the **accuracy** of the newsletter

Biden voters

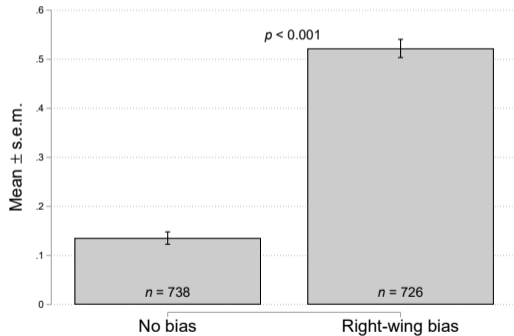


Trump voters

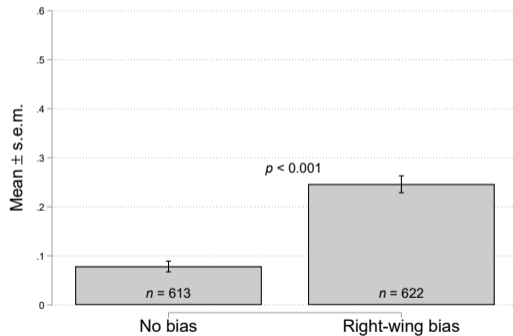


First stage: Beliefs about the **right-wing bias** of the newsletter

Biden voters

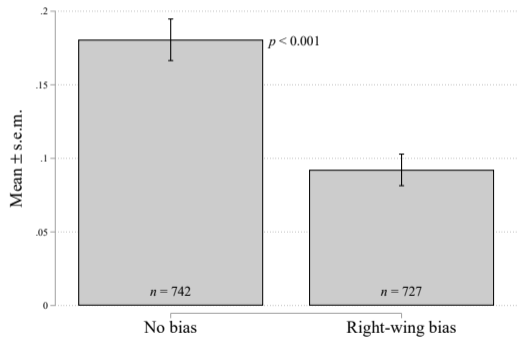


Trump voters



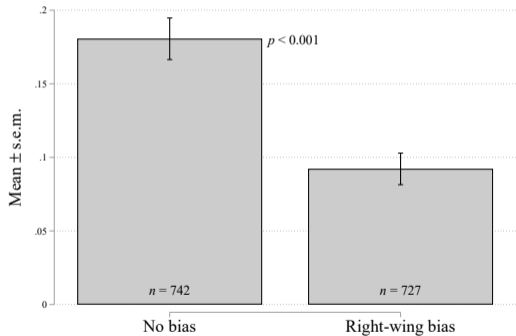
Main results: Demand for the newsletter

Biden voters

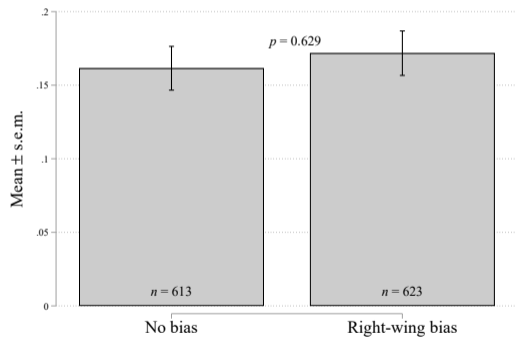


Main results: Demand for the newsletter

Biden voters



Trump voters



Experiment 2: Left-wing bias

Pre-treatment beliefs about selective reporting

1. **Context.** “In 2017, the CBO analyzed the consequences of the Republican Healthcare Plan to repeal and replace Obamacare.”
2. **Political debate.** “When debating the Republican Healthcare Plan, **Republicans** claimed that the plan would decrease the federal deficit without increasing the number of people without health coverage. **Democrats**, by contrast, claimed that the plan would fail to decrease the deficit and increase the number of people without health coverage.”
3. **CBO report.** “In its published report, the CBO estimated that the Republican Healthcare Plan would **decrease the deficit by over \$100 billion** and **leave over 20 million more people uninsured.**”
4. **Beliefs.** “After the CBO published its report, **The Boston Herald** published an article about the economic impact of the plan. If you had to guess, how do you think the article reported about the CBO findings?”

Right-wing bias Only the deficit statistic.

Left-wing bias Only the statistic on the number uninsured.

No bias Both statistics.

Treatment conditions: **No bias** versus **left-wing bias**

Treatment: No bias

The Boston Herald article about the House Republican Healthcare Plan reported that the plan would leave over 20 million more people uninsured **and** that it would decrease the deficit by over \$100 billion.



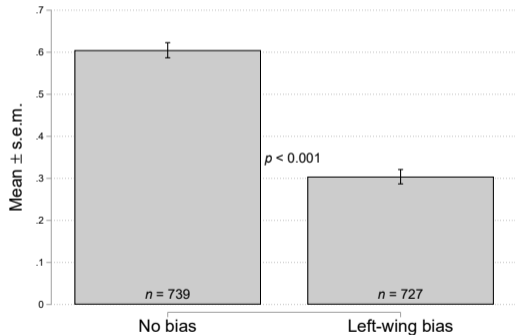
Treatment: Left-wing bias

The Boston Herald article about the Senate Republican Healthcare Plan reported that the plan would leave over 20 million more people uninsured **but not** that it would decrease the deficit by over \$100 billion.

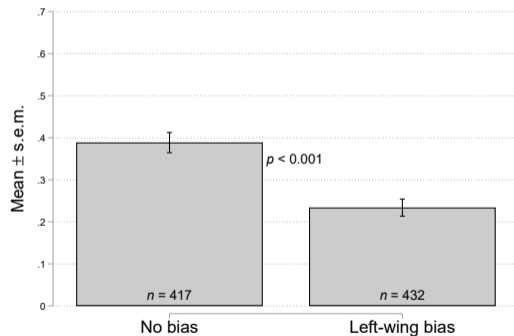


First stage: Beliefs about the **accuracy** of the newsletter

Biden voters

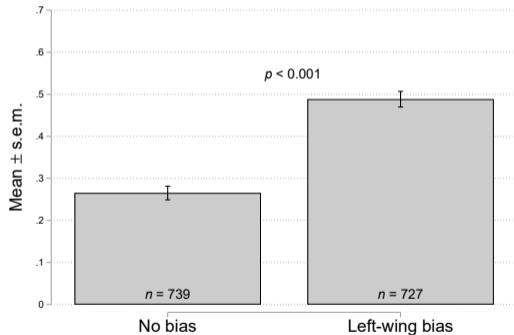


Trump voters

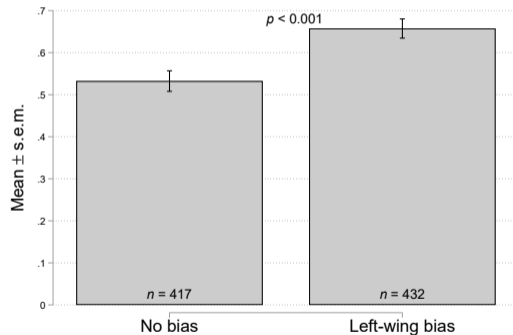


First stage: Beliefs about the **left-wing bias** of the newsletter

Biden voters

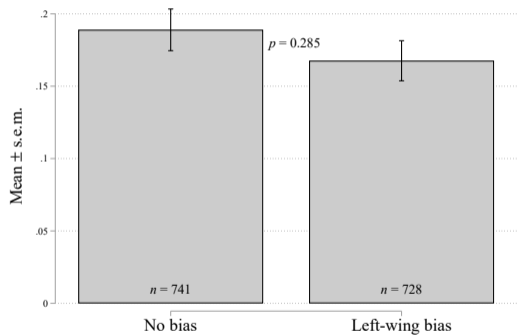


Trump voters



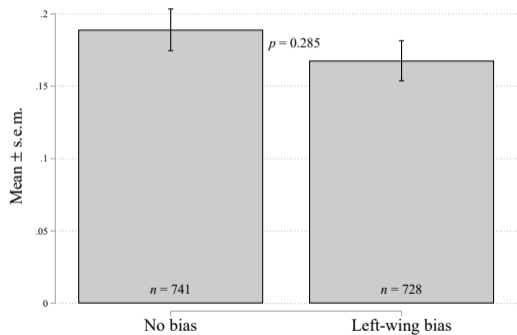
Main results: Demand for the newsletter

Biden voters

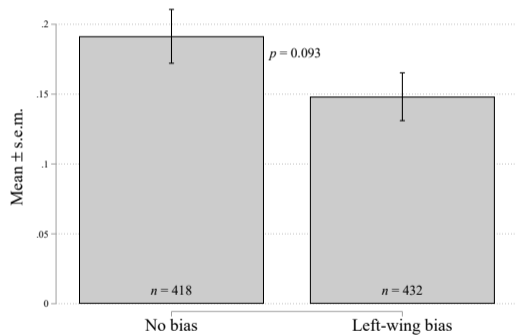


Main results: Demand for the newsletter

Biden voters



Trump voters



Regression

Accuracy concerns versus belief confirmation motives

- What is the **relative importance** of accuracy and belief confirmation motives?
 - Reduced-form evidence suggests the presence of both motives.
 - Relative importance unclear because of the differential first-stage effects on perceptions.
- **Discrete choice model**
 - Assume that the treatments affect news demand only through perceived accuracy and belief confirmation.
 - Assumption validated by a mechanism experiment where we elicit open-ended responses on how people interpreted the treatments. “Why do you think that The Boston Herald reported that...[?]”
 - Model combines information about differential first stages.
 - This holds for both Democrats and Republicans.

Table

Discrete choice model

Setup

- The agent subscribes to the newsletter ($y = 1$) if the utility u from subscribing to the newsletter exceeds the reservation utility r of his outside option (i.e., $u \geq r$).
- Following Mullainathan and Shleifer (2005), we assume that

$$u = \alpha\sigma + \beta b + \varepsilon \quad (1)$$

where

- σ : perceived **accuracy** of the newsletter (z-scored)
- b : perceived **belief confirmation** (recoded perceptions of political bias, z-scored)

→ Key parameter of interest: $\alpha / (\alpha + \beta)$ = relative weight of accuracy

Estimation

- We use Stata's `ivprobit` command to estimate equation (1)
- We use the treatment assignments across experiments as excluded instruments

Discrete choice model: Parameter estimates

	Parameter estimates:		
	(1) Full sample	(2) Biden voters	(3) Trump voters
Preference for accuracy (α)	0.241*** (0.076)	0.204** (0.085)	0.266 (0.190)
Preference for belief confirmation (β)	0.345*** (0.081)	0.374*** (0.091)	0.190 (0.160)
Implicit weight on accuracy ($\frac{\alpha}{\alpha+\beta}$)	0.412*** (0.111)	0.353*** (0.131)	0.583** (0.270)
N	5,014	2,930	2,084

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

→ **Main finding:** Both motives are approximately **equally important** drivers of the demand for news.

Additional mechanisms

Motives

- We collect data on people's motives for subscribing to the newsletter at the end of the main experiments.
- To get an unprompted response, we asked our respondents to answer an **open-ended question** on their motives for subscribing or not subscribing to the newsletter.
- Examine respondents' tendency to justify their decision by referring to the political bias of the newsletter.
- Use simple text analysis techniques.

Motives for subscription vs. non-subscription to the newsletter

	Mentions at least one synonym of:					
	Unbiased			Biased		
	(1)	(2)	(3)	(4)	(5)	(6)
Biased	-0.041** (0.016)	0.009* (0.005)	0.009* (0.005)	0.002 (0.015)	0.044*** (0.006)	0.044*** (0.006)
News demand			0.061*** (0.013)			0.026** (0.010)
Biased x News demand			-0.049*** (0.017)			-0.042** (0.016)
N	789	4,052	4,841	789	4,052	4,841
Sample	Subscriber	Non-subscriber	All	Subscriber	Non-subscriber	All
No bias treatment mean	0.078	0.017	0.028	0.046	0.019	0.024

- Similar results when using the methodology proposed by Gentzkow and Shapiro (2010) to identify phrases that are characteristic of responses to the open-ended questions.

Other mechanisms

These open-ended motives do not mention motives related to:

- Rational delegation
- Cognitive constraints
- Entertainment
- Diversification

Experimenter demand effects

- Use almost 5000 hand-coded responses based on participants' guesses about the study's purpose from an open-ended question, which we elicited in our main experiments.
 - "What do you think is this study's purpose?"
 - Employed a conservative coding scheme.
- Only 4.1% of our respondents correctly guess the study's purpose (i.e., how perceptions of bias shape people's news consumption).
- Re-run our main specifications for the subsample of respondents who did not correctly guess the study purpose.
 - results are virtually unchanged for this subsample for which demand effects are particularly unlikely to confound treatment effects.

Conclusion

Conclusion

- Both accuracy concerns and belief confirmation motives are important drivers of people's demand for news.
 - Discrete choice model suggests that the two motives have a **similar quantitative importance**.
- We provide empirical support for demand-side explanations of media bias.
 - E.g., behavioral models where media bias is the equilibrium outcome of firms catering to consumer preferences for like-minded news.
- Our results have implications for the regulation of media markets and for understanding the role of media in contributing to political polarization.
 - Under demand-side explanations, efforts to increase competition—such as limiting ownership concentration—tend to exacerbate media bias.

Survey Experiments in Political Economy

- Surveys are a versatile tool to inform theories and speak to important policy questions.
- Rich **toolkit** to measure beliefs, attention, motives as well as **revealed preference measures**.
- The most successful papers in this space...
 - directly speak to different classes of models (e.g. Burstyn, Egorov, Fiorin, AER, 2021 “From Extreme to Mainstream”)
 - leverage highly relevant field settings (e.g. Cantoni et al., 2019, “Protests as Strategic Games”, QJE)
 - Use the surveys to shed light on psychological mechanisms, e.g. image concerns, attentional foundations or other motives.

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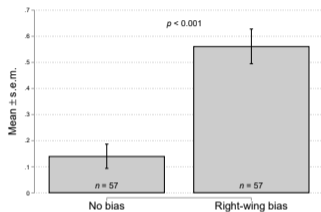
Regression results

	Experiment 1: Right-wing bias			Experiment 2: Left-wing bias		
	(1) Accuracy	(2) Left-wing bias	(3) Demand	(4) Accuracy	(5) Left-wing bias	(6) Demand
Panel A: Biden voters						
Bias treatment (a)	-0.903*** (0.057)	-0.849*** (0.061)	-0.086*** (0.017)	-0.720*** (0.055)	0.305*** (0.059)	-0.026 (0.019)
N	1,464	1,464	1,469	1,466	1,466	1,469
Z-scored	Yes	Yes	No	Yes	Yes	No
Controls	Yes	Yes	Yes	Yes	Yes	Yes
No bias treatment mean	0	0	0.181	0	0	0.189
<i>p</i> -value: Ex. 1 = Ex. 2	0.026	0.000	0.017	0.026	0.000	0.017
Panel B: Trump voters						
Bias treatment (b)	-0.165*** (0.056)	-0.490*** (0.063)	0.005 (0.020)	-0.542*** (0.072)	0.266*** (0.072)	-0.052** (0.024)
N	1,235	1,235	1,236	849	849	850
Z-scored	Yes	Yes	No	Yes	Yes	No
Controls	Yes	Yes	Yes	Yes	Yes	Yes
No bias treatment mean	0	0	0.162	0	0	0.191
<i>p</i> -value: Ex. 1 = Ex. 2	0.000	0.000	0.072	0.000	0.000	0.072
<i>p</i> -value: a = b	0.000	0.005	0.001	0.073	0.947	0.395

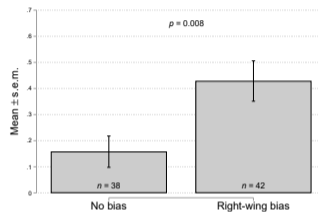
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Treatment effects on mentioning political bias in the open-ended responses

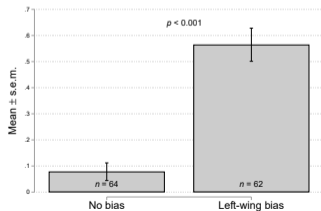
(a) Biden voters: Right-wing bias



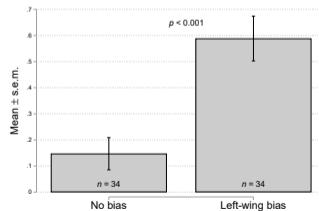
(b) Trump voters: Right-wing bias



(c) Biden voters: Left-wing bias



(d) Trump voters: Left-wing bias



Summary statistics

	(1) US pop.	(2) Exp 1	(3) Exp 2	(4) Exp 3	(5) Exp 4
Male	0.492	0.468	0.436	0.479	0.481
Age (years)	47.78	35.487	36.304	35.737	38.829
White	0.763	0.834	0.840	0.827	0.821
Employed	0.620	0.681	0.724	0.724	0.715
College	0.329	0.649	0.678	0.683	0.695
High income	0.482	0.443	0.429	0.461	0.446
Northeast	0.17	0.174	0.194	0.157	0.189
Midwest	0.21	0.231	0.235	0.206	0.204
South	0.38	0.389	0.398	0.412	0.396
West	0.24	0.206	0.173	0.224	0.211
Vote Trump	0.469	0.457	0.367	0.381	0.493
Observations		2,705	2,319	388	1,910