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We find that, while prior beliefs are often inconsistent with accurate scientific evidence, providing this evidence shifts beliefs towards greater accuracy.
Crucially, belief updating is largely independent of the political alignment of the media source conveying the information. This suggests that credible evidence can overcome partisan divides.

Scientific Evidence and Belief Updating in Polarized Media Environments

Marco Bertoni* Paolo Falco† Luigi Guiso‡ Tullio Jappelli§

Roberto Nisticò¶

April 2026

Abstract

We use a large-scale survey experiment in Italy to study how citizens update their beliefs about the effects of highly salient and politically contested policy reforms when exposed to scientific evidence. We find that while prior beliefs are often inconsistent with accurate scientific evidence, providing this evidence shifts beliefs towards accuracy. Crucially, belief updating is largely independent of the political alignment of media source conveying the information. This suggests that credible evidence can overcome partisan divides.

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*University of Padova. Email: marco.bertoni@unipd.it.

†University of Copenhagen. Email: paolo.falco@econ.ku.dk.

‡EIEF. Email: luigi.guiso@eief.it.

§University of Naples Federico II and CSEF. Email: tullio.jappelli@unina.it.

¶University of Naples Federico II and CSEF. Email: roberto.nistico@unina.it.

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1 Introduction

Citizens' beliefs about what public policies achieve shape support for reforms, willingness to comply with rules, and the accountability of democratic governments. Yet most citizens do not observe policy impacts directly: they learn about the effects of policy actions primarily through news media that differ sharply in ideological orientation and in the narratives they promote (Gentzkow and Shapiro, 2006, 2010). In ideologically segmented media environments, citizens may hold substantial and persistent misperceptions about policy impacts even when high-quality empirical evidence exists and is widely available (Flynn et al., 2017; Nyhan, 2020).

The problem is not only that misinformation can be abundant, but also that the same piece of evidence can be perceived differently depending on who delivers it. If individuals discount scientifically grounded evidence when it is conveyed by a politically identifiable, ideologically "out-group" source, then evidence-based policy debates may fail precisely where they matter most: on politically contested, high-salience reforms. If instead credible scientific evidence tends to be processed as informative—independent of partisan source cues—then even polarized media systems may permit learning about policy effectiveness, leaving room for communication strategies that reduce misperceptions rather than entrench them, as suggested by work on misinformation and selective exposure (Allcott and Gentzkow, 2017; Gentzkow and Shapiro, 2011).

A large body of literature in political economy studies how media markets shape the content citizens receive and how media content affects political and economic behavior. On the supply side, news producers face incentives to tailor coverage to audiences and advertisers, with competitive pressures that need not deliver accuracy when readers value confirmatory narratives; see Mullainathan and Shleifer (2005) and Gentzkow and Shapiro (2010). On the persuasion side, causal evidence shows that ideologically identifiable outlets can shift political behavior: the entry of a partisan cable channel affects voting (DellaVigna and Kaplan, 2007), ideological positioning in cable news can generate persuasion and polarization (Martin and Yurukoglu, 2017), and endorsements by newspapers can influence voter choices when citizens account for perceived credibility (Chiang and Knight, 2011). Related work documents the broader importance of media exposure for learning and persuasion (Gerber et al., 2009; Druckman et al., 2013; Hill, 2017) and the possibility that online information environments amplify distortions (Allcott and Gentzkow, 2017).

At the same time, a growing literature studies corrections, fact-checks, and the persistence of misinformation in political settings (Barrera et al., 2020; Guess and Coppock, 2020). Economists have also used survey experiments to study how information about economic facts and mechanisms shapes views about redistribution and

policy, highlighting both systematic biases and incomplete updating (Cruces et al., 2013; Kuziemko et al., 2015); see also Stantcheva (2021). Finally, in specific domains, researchers examine what citizens believe about effects of salient reforms—such as pensions, immigration, universal basic income, and climate-related policies—and how information can move attitudes (Boeri and Tabellini, 2012; Haaland and Roth, 2020; Facchini et al., 2022; Boeri et al., 2024; Thomas et al., 2023). What seems to be missing is causal evidence on whether *exposure to credible scientific estimates of policy impacts* causes updates of individuals' beliefs, and whether such updates are distorted by the political alignment between individuals and the media source conveying that evidence.

We bridge this gap by studying belief updating about the effects of major public policies when individuals are exposed to genuine scientific evidence, while randomly varying the political alignment of the media outlet said to report that evidence. We conduct a large-scale survey experiment on a representative sample of the Italian population and focus on four highly salient and politically contested policy domains: early retirement (Quota 100), immigration policy (Decreto Flussi), employment protection (Jobs Act), and a guaranteed minimum income scheme (Reddito di Cittadinanza). For each policy, respondents are randomly assigned to different experimental conditions. In the control condition, respondents receive no scientific evidence about policy impacts. In the treatment conditions, respondents are shown the same piece of real and non-deceptive scientific evidence on policy impacts, which has been cited in the public debate. The informational content is held constant across treatments, while the media source reporting the scientific evidence varies: left-leaning newspaper, right-leaning newspaper, or by multiple outlets without specifying which (a neutral attribution). Holding the informational content fixed while varying only the attributed source enables a clean test of whether partisan source cues affect how individuals weight identical scientific evidence. Finally, we elicit respondents' perceptions of media reliability and political positioning and measure respondent-outlet ideological alignment, allowing us to relate belief updating to perceived source credibility and alignment.

Our results can be summarized in four main findings. First, misperceptions about the effects of major public policies are widespread: prior beliefs frequently diverge from well-established empirical evidence, and many respondents report substantial confidence in their priors. Second, providing scientific evidence raises the share of respondents holding evidence-consistent beliefs across all four policy domains. Third, and most importantly for the central question of this paper, belief updating is largely independent of the political alignment of the attributed media source. Individuals revise beliefs in response to scientific evidence even when it is said to be reported by a politically misaligned outlet, and differences in updating between aligned and

misaligned sources are small and statistically negligible. Fourth, we find that while respondents perceive systematic differences in the reliability and ideological positioning of newspapers, these perceived differences do not translate into differential weighting of identical scientific evidence: in our setting, the informational content embedded in externally grounded research dominates partisan source cues. Together, these patterns suggest that credible scientific evidence can correct policy misperceptions in mass publics. Partisan media branding need not constitute a major barrier to belief updating—at least when the source is a mainstream outlet and the evidence is explicitly framed presented as scientific.

Our first contribution is to the economics of political information and misperception by documenting how citizens update beliefs about the effectiveness of concrete, high-salience policies when presented with credible scientific evidence on causal impacts. Economists have made substantial progress in measuring persuasive media effects and the equilibrium supply of news (Gentzkow and Shapiro, 2006, 2010; Mullainathan and Shleifer, 2005; DellaVigna and Gentzkow, 2010; DellaVigna and Kaplan, 2007; Martin and Yurukoglu, 2017). Related work studies how citizens learn about political facts and policy-relevant information in experimental settings (Hill, 2017; Nyhan and Reifler, 2010; Guess and Coppock, 2020), while survey experiments document biased perceptions about economic facts and the channels through which information can shift beliefs and, in some cases, policy preferences (Cruces et al., 2013; Kuziemko et al., 2015; Stantcheva, 2021). Our focus is different: we study beliefs about the direction of policy impacts themselves, rather than only knowledge of statistics or general attitudes. Moreover, we ask whether credible evidence changes beliefs in policy domains that are both economically important and politically contested, complementing work that examines information and attitudes in specific contexts such as pensions, immigration, universal basic income, and climate policy (Boeri and Tabellini, 2012; Haaland and Roth, 2020; Facchini et al., 2022; Boeri et al., 2024; Thomas et al., 2023). By implementing a common experimental structure across four distinct reforms in a representative sample, we provide a comparative benchmark for the prevalence of misperceptions, the scope for correction through scientific evidence, and the extent to which confidence in priors coexists with substantial factual disagreement.

Our second contribution is to clarify the role of partisan source cues in belief updating when the informational content is objective and externally validated. A prominent account of political cognition emphasizes that individuals process information in a motivated manner—seeking consistency with prior political views and discounting opposing evidence (Taber and Lodge, 2006; Lenz, 2009). Empirically, corrections and counter-attitudinal information often have heterogeneous effects, and learning can be limited when recipients question the credibility or intent of the mes-

senger (Nyhan and Reifler, 2010; Guess and Coppock, 2020). In economics, related mechanisms are formalized through confirmatory bias and the demand for belief-consistent narratives: Rabin and Schrag Rabin and Schrag (1999) and Benabou and Tirole Bénabou and Tirole (2016) provide canonical frameworks, while persuasion models and evidence emphasize the central role of credibility and incentives (DellaVigna and Gentzkow, 2010; Mullainathan and Shleifer, 2005). Our experiment provides a direct test of these ideas in the domain of policy impacts: we hold the scientific evidence fixed and vary only the politically identifiable source attributed to that evidence, allowing us to study whether identical information receives different weights depending on alignment. The finding that updating is largely invariant to source alignment implies that the informational content in credible scientific evidence can dominate partisan source cues, at least in a setting where respondents perceive mainstream outlets as sufficiently credible and where evidence is framed as originating from external research rather than from partisan commentary. This refines the scope conditions for motivated reasoning in policy learning and helps distinguish cases in which polarized media environments necessarily generate divergent beliefs from cases in which credible evidence can still produce convergence.

Our third contribution is to the political economy of media and evidence communication by providing a policy-relevant benchmark for when polarized media environments hinder the public's ability to learn from research. On the one hand, ideological segregation and selective exposure can generate distinct informational diets (Gentzkow and Shapiro, 2011), and recent work highlights how misinformation and "alternative facts" can spread and remain persuasive even when fact-checks are available (Allcott and Gentzkow, 2017; Barrera et al., 2020). These patterns raise the concern that even well-identified empirical findings may fail to improve public understanding when they travel through partisan media channels. On the other hand, classic perspectives in economics emphasize that media can facilitate voter learning by lowering information acquisition costs and aggregating evidence (Gentzkow and Shapiro, 2006; DellaVigna and Gentzkow, 2010). By embedding real, non-deceptive scientific evidence into a survey experiment and manipulating only whether that evidence is said to be reported by left-leaning, right-leaning, or neutral outlets, we offer a clean decomposition of "content" versus "messenger" in policy learning—one that cannot be obtained from observational exposure measures. The results suggest that when evidence is salient, clearly linked to concrete outcomes, and presented as scientific, partisan branding of mainstream media may not be the primary barrier to correcting misperceptions about policy impacts. More broadly, our findings inform how economists and policymakers should think about communicating evaluated policy effects: the credibility of the underlying evidence and the clarity of its implications may matter at least as much as matching the messenger to the audience.

The paper is organized as follows. Section 2 develops a simple conceptual framework of belief updating. Section 3 describes the data and experimental design. Section 4 presents the empirical findings. Section 5 concludes.

2 Conceptual framework

We present a simple framework to organize the analysis of belief updating in the presence of heterogeneous evidence sources. The framework is deliberately parsimonious and is not meant to provide a full theory of media persuasion, but rather to clarify the role of scientific evidence and source cues in shaping beliefs about policy impacts. Let b_i^0 denote individual i's prior belief about the true policy impact θ, with

$$b_i^0 \sim \mathcal{N}(\mu_i^0, \sigma_i^2), \tag{1}$$

where σ_i^2 captures the individual's subjective uncertainty. Individuals are exposed to a signal conveying scientific evidence about θ,

$$s_j = \theta + \varepsilon_j, \tag{2}$$

where $\varepsilon_j \sim \mathcal{N}(0, \sigma_j^2)$ and j indexes the evidence source. Sources differ in perceived reliability, summarized by σ_j^2, which may depend on their political alignment with the individual. Under Bayesian updating, posterior beliefs satisfy

$$\mu_i^{post} = \frac{\mu_i^0/\sigma_i^2 + s_j/\sigma_j^2}{1/\sigma_i^2 + 1/\sigma_j^2}, \quad \sigma_i^{post^2} = \frac{1}{\frac{1}{\sigma_i^2} + \frac{1}{\sigma_j^2}}. \tag{3}$$

Belief updating is stronger when the signal is perceived as more precise (lower σ_j^2) or when prior uncertainty is high.

This framework delivers a test for perceived media bias in updating. If the perceived precision of the signal depends on political alignment, then signals attributed to politically aligned sources are treated as more reliable than identical signals attributed to misaligned sources. In this case, belief updating should be systematically stronger when scientific evidence is conveyed by aligned media outlets. By contrast, if individuals treat scientific evidence as informative independently of partisan cues - either because the evidence is salient, credible, or policy-relevant - then updating should occur regardless of source alignment.

Our experiment is designed to distinguish between these predictions. We hold the informational content of the signal fixed and randomly vary only the attributed media source. This allows us to test whether belief updating reflects differential

weighting of identical evidence based on partisan source cues, or whether scientific evidence affects beliefs largely independently of the messenger.

3 Data and Experimental Design

3.1 Data: Italian Survey of Consumer Expectations (ISCE)

Our analysis uses data from the Italian Survey of Consumer Expectations (ISCE) - see Guiso and Jappelli (2024). ISCE is a large-scale online quarterly rotating panel of Italian residents aged 18-75, that builds upon two international online, high-frequency surveys - the New York Federal Reserve Survey of Consumer Expectations, and the European Central Bank Consumer Expectation Survey. Similarly to what has been done in the Bank of Italy Survey of Household Income and Wealth (SHIW), the sample is based on a stratification of the Italian resident population according to area of residence, age group, gender, education, and employment status. Personal incentives for participation are combined with charity donations, and the average response rate (ratio of completed interviews to invitations) across waves is 34%, with variability across waves. Sample size is close to 5,000 observations, with marginal variation across waves. Starting from October 2023, ISCE has collected 10 waves of data so far, and the average retention rate (percentage of individuals interviewed in two consecutive waves) is around 80%. To maintain population representativeness the sample is refreshed at quarterly intervals.

ISCE collects data using the Computer Assisted Web Interviewing (CAWI) method, and is particularly well-suited for our analysis because it collects rich information on demographic variables, household resources (income and wealth components), expectations about individual and macroeconomic variables, as well as political preferences. In addition, the survey includes experimental modules to study beliefs and behaviors.[1]

3.2 Experimental design

The experimental module analyzed in this paper was fielded in May 2025 and includes all the 5,014 ISCE Wave 7 respondents. The experimental design was preregistered prior to data collection. The experiment studies belief updating about the effects of major public policies when individuals are exposed to scientific evidence. The experiment focuses on four highly salient policies implemented over the last two

[1]The survey has already been extensively used for policy-oriented experimental research, for instance, on willingness to pay for disaster prevention (Guiso and Jappelli, 2026), consumption responses to shocks (Guiso and Jappelli, 2025; Jappelli et al., 2026), energy policy, and health insurance—demonstrating its value as a tool for causal analysis of policy-relevant questions.

decades in Italy, and their impacts on economically relevant and politically contested outcomes.

The four policies we selected concern early retirement (Quota 100, enacted in 2019) and its impact on aggregate employment, migrant legalization (Decreto Flussi, introduced in 1998 and renewed annually) and its impact on migrants' crime, employment protection legislation (Jobs Act, enacted in 2015) and its impact on aggregate employment, and guaranteed minimum income (Reddito di Cittadinanza - RDC hereafter, introduced in 2019) and its impact on employed beneficiaries' labour supply. In the experimental module, respondents assess the direction of the effects of each of these policies - the outcome increased, stayed flat, decreased - as well as their confidence in the reported beliefs, using a continuous scale from 0 to 100.

Figure A1 in Appendix A documents the public salience of the four policies considered in our study by displaying the relative frequency of Google Trend news searches in Italy between January 2006 and January 2026 for the four policy names (Quota 100, Decreto Flussi, Jobs Act, and Reddito di Cittadinanza), benchmarked against the search term "politica" (politics). There are large spikes in news attention for each policy around key moments of introduction and implementation, indicating substantial public interest and media visibility.

The experiment exposes each respondent to all four policies, and for each policy, respondents are randomly assigned to one of four experimental conditions. In the control condition, respondents receive no scientific evidence about policy impacts. In the treatment conditions, respondents are shown the same piece of real and non-deceptive scientific evidence on policy impacts, which has been cited in the public debate. The informational content is held constant across treatments, while the media source reporting the scientific evidence varies, mentioning that: (i) the evidence is reported by several outlets without specifying any particular source, (ii) the evidence is reported by a left-leaning newspaper, or (iii) by a right-leaning newspaper. In the design, we generate variation across individuals in both the order of policy appearance and the evidence attached to each policy [2]

We assess the success of the randomization by comparing the observable characteristics of subjects assigned to the different groups using linear regression models where each characteristic is regressed on group dummies, using heteroskedasticity-robust standard errors. The results are reported in Figure A2 in Appendix A and report no systematic pattern of imbalance. A joint equality test across all covariates and groups, estimated with seemingly unrelated regression, fails to reject the null

[2]We do this by assigning individuals to one of sixteen treatment groups that differ in the order of policies and in the information attached to each policy. We focus on these sixteen combinations to keep survey logistics manageable while maintaining sufficient variation to identify the effects of interest (see Table Table A1 in Appendix A).

hypothesis with a p-value of 0.611, further supporting the internal validity of the design.

The evidence we report is drawn from academic studies or reports produced by well-established, non-partisan research institutions. To avoid deception, we restrict attention to scientific studies or reports that have been mentioned in the media and reported by at least one left-leaning and one right-leaning newspaper. We list the relevant sources and newspaper articles reporting them in Table A2 in Appendix A.

The experimental treatments rely on evidence drawn from well-identified empirical contributions and institutional reports focusing on each policy considered in our design. For early retirement (Quota 100), we draw on evidence from the *Osservatorio Statistico dei Consulenti del Lavoro*, which provides detailed empirical assessments of the policy impacts.[3] For migrant regularization policy (Decreto Flussi), the evidence is based on Pinotti (2017), which exploits quasi-experimental variation in legal status to estimate the causal impact of regularization on criminal activity among immigrants.[4] For employment protection legislation (Jobs Act), we rely on the empirical analysis by Boeri and Garibaldi (2019), which evaluates the labor market effects of the reform using administrative data.[5] Finally, for the guaranteed minimum income program (Reddito di Cittadinanza), we rely on evidence reported in the Annual Report of the Italian Social Security Institute (INPS), which provides descriptive and administrative-data-based analyses of beneficiaries' labor market behavior.[6]

We classify beliefs as evidence-consistent when respondents' answers align with the direction implied by the underlying empirical findings. Specifically, for early retirement (Quota 100), the selected evidence indicates that the policy generated net employment losses, as not all retirees were replaced by younger workers. For immigration policy (Decreto Flussi), the article we use shows that regularization reduced crime among immigrants who gained legal work status. For employment protection (Jobs Act), the evidence we report indicates that the reduction in employment protection increased both hirings and layoffs. As the former flow was larger than the latter, employment rose. For RDC, the available evidence reports no reduction in labor supply among individuals who were employed prior to receiving the benefit.

We here report an example of the experimental framework, focusing on the migrants' legalization policy - Decreto Flussi. The other ones are reported in Appendix B. In the treatments with source attribution, we refer to *La Repubblica*, which is

[3]For Quota 100, similar evidence is reported by the Bank of Italy and INPS. Bertoni and Brunello (2021) and Boeri et al. (2022) show limited substitution toward younger workers for another Italian pension reform.

[4]This evidence is consistent with other work documenting the effects of legal status on the criminal activity of previously undocumented migrants, such as Mastrobuoni and Pinotti (2015) and Fasani (2018).

[5]Another empirical evaluation of the Jobs Act finding consistent results is Sestito and Viviano (2018).

[6]Further research investigating the RDC and documenting no decline in labor supply among employed beneficiaries includes Dachille et al. (2025) and Maitino et al. (2024).

generally perceived as a left-leaning newspaper, and *Il Giornale*, which is commonly regarded as right-leaning. The experimental module opens as follows:

We will now ask you some questions about a few policies implemented in Italy in recent years.

For the *Decreto Flussi*, respondents then view the following statement:

Let's talk about the "Decreto Flussi". The "Decreto Flussi" sets a maximum quota of legal work permits for foreign workers, assigned each year on a "first come, first served" basis. Applications are accepted until the quota is reached. After its introduction, a debate emerged on its impact in regulating labor immigration and on the crime rate among immigrants.

Subjects in the control group are then asked to report beliefs right away, using the following survey questions:

***Q1**. In your opinion, how did legal status acquisition impact the crime rate among immigrants?*

- ***Increased**: legal immigrants commit more crimes than illegal ones.*
- ***Unchanged**: legal immigrants commit as many crimes as illegal ones.*
- ***Decreased**: legal immigrants commit fewer crimes than illegal ones.*

***Q2**. On a scale from 0 to 100, how sure are you of your response to Q1?*

Subjects in treated groups are instead prompted with the following statements, reporting neutral or media-framed evidence on the effects of the policy:

- *Cited by various news outlets, . . .*
- *Cited by **La Repubblica** and other news outlets, . . .*
- *Cited by **Il Giornale** and other news outlets, . . .*

. . . a study by Bocconi University estimated that the crime rate among legalized immigrants was halved compared to the crime rate among immigrants who were not legalized because the quota had already been reached.

They then reported beliefs using the same survey questions as the control group. The module finally asks all respondents the following two questions about their perceptions on the reliability and political alignment of the newspapers reporting the policy news:

Q3. *On a scale from 1 to 10, how reliable do you consider (that is, corresponding to real facts and data) the news reported by the following newspapers?*

Q4. *Thinking about the political opinions they express, where would you place the following newspapers?*

To ease the construction of individual/newspaper alignment, newspapers' political orientation is reported on the same scale used by respondents in the ISCE survey to report their own political alignment. The scale includes the following options: *Far left; Left; Centre-left; Centre; Centre-right; Right; Far right; No political orientation; Don't know*. Following sample considerations, in the analysis we aggregate responses in four categories i) *Far left, Left, Centre-left*; ii)*Centre*; iii) *Centre-right, Right, Far right*; iv) *No political orientation; Don't know*.

4 Results

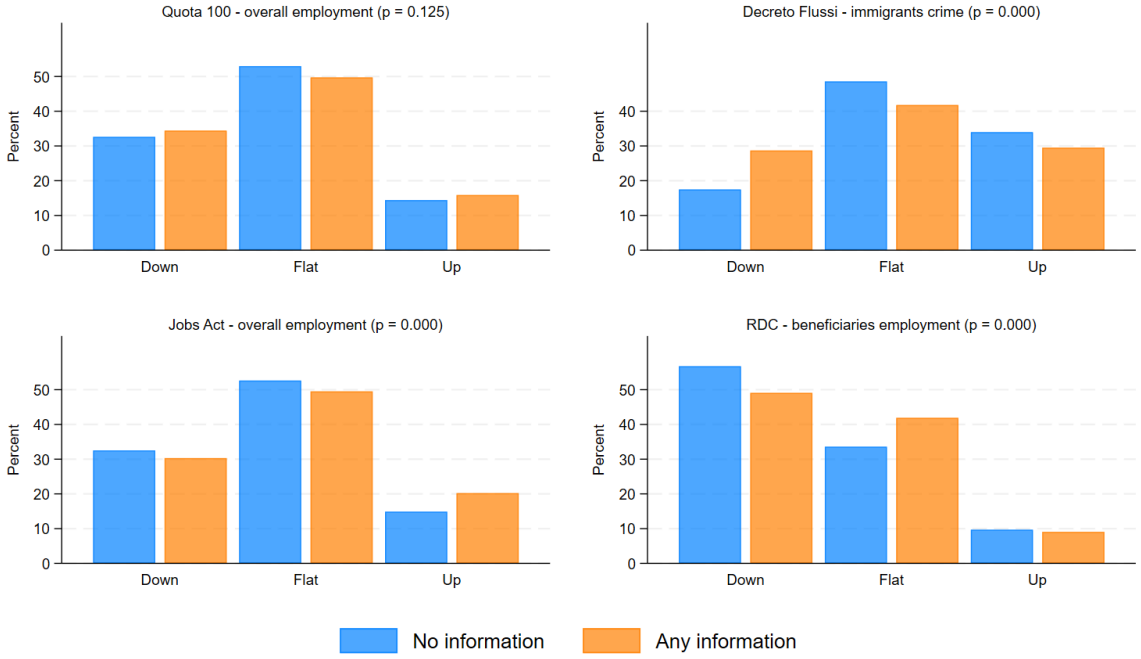
4.1 Misperceptions are widespread and firmly held

Figure 1 reports the share of respondents holding evidence-consistent beliefs across experimental conditions and policy, as defined in Section 3. We begin by focusing on the control condition, shown by the blue bars, in which respondents receive no scientific evidence.

The results highlight that evidence-consistent beliefs are not the modal outcome for any of the four policies. Specifically, only 32.6% of respondents believe Quota 100 decreased aggregate employment, 17.5% report that legal status acquisition leads immigrants to commit less crime, 14.9% report that lower employment protection increased aggregate employment, and 43.3% believe that minimum guaranteed income did not decrease beneficiaries' labour supply.[7]

[7]We also relate evidence-consistent beliefs with respondents characteristics observed in the survey using logit models. The observable characteristics we consider include age, gender, location, education, employment status, household income and wealth, and political orientation. It turns out that these observable characteristics can hardly predict whether individuals hold evidence-consistent beliefs, with an Area Under the Curve (an index of predictive reliability of binary classifiers that ranges between 0.5 and 1, with 0.8 being the lower bound for good predictive validity) below 0.64 for all policies. Marginally statistically significant coefficients are only detected for age, gender, and political orientation. These results hold even when we use different machine-learning methods based on cross-validation for model selection.

Figure 1: Belief distributions and updating in response to scientific evidence



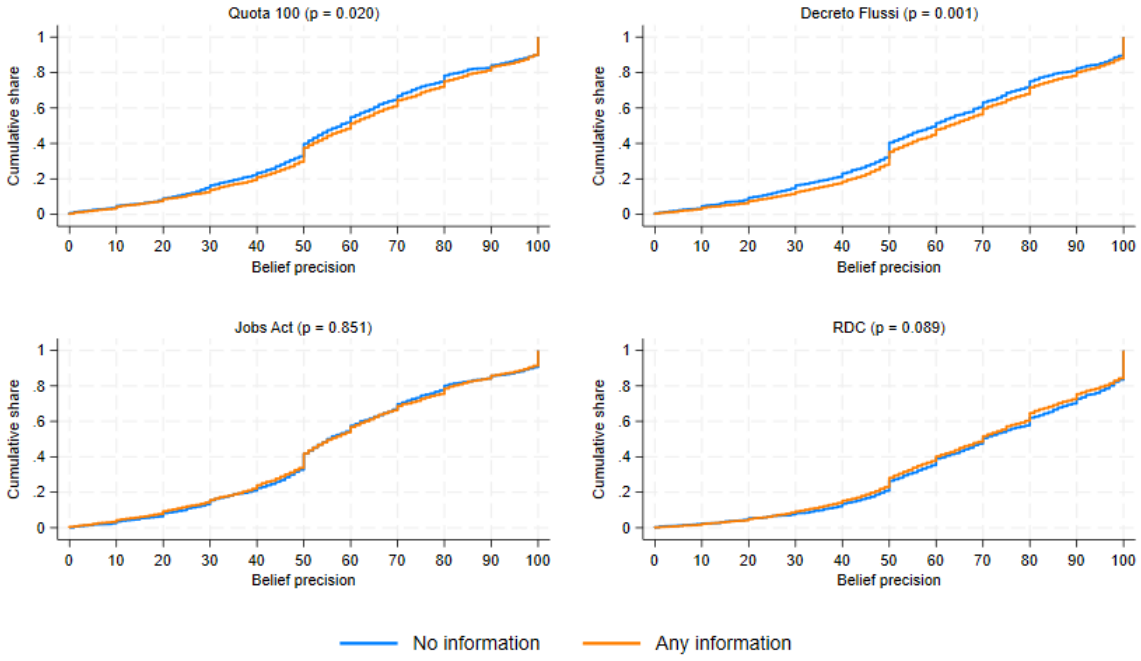
Notes: This figure reports the share of respondents holding evidence-consistent beliefs by policy and experimental condition. Blue bars correspond to the control condition, in which respondents receive no scientific evidence. Orange bars correspond to respondents exposed to scientific evidence, pooling all source attributions. P-values refer to chi-square tests for the equality of the belief distributions across treatment arms. Evidence-consistent beliefs are defined as responses aligned with the direction implied by the underlying empirical findings, as described in Section 3.

As for belief precision, Figure 2 reports the cumulative density functions (CDFs) of belief precision over experimental condition and policy.

Focusing on blue CDFs, reporting about the control group, we see that across all policies respondents have a good degree of confidence in their beliefs, with median precision above 50% and close to 10% of respondents reporting absolute confidence (100%).[8] These patterns document substantial gaps between public beliefs and scientific evidence and highlight scope, but potentially not much room, for belief updating.

[8]The decomposition of the variance of precision responses in a within-individual and a between-individual component shows that close to 50% of the variation happens within the same individual across policy questions, suggesting that it is unlikely that individuals report the same value of precision for all policies. This result holds both unconditionally and given policy-by-order of appearance and policy-by-treatment dummies.

Figure 2: Belief precision and updating in response to scientific evidence



Notes: This figure reports the cumulative density functions of belief precision by policy and experimental condition. Blue lines correspond to the control condition, in which respondents receive no scientific evidence. Orange lines correspond to respondents exposed to scientific evidence, pooling all source attributions. P-values refer to Wilcoxon tests for the equality of the belief precision distributions across treatment arms.

4.2 Scientific evidence shifts beliefs

Figure 1 also shows that exposure to scientific evidence substantially increases the share of respondents holding evidence-consistent beliefs. For all four policies, respondents who receive any scientific evidence - reported in orange and pooling across sources - are more likely to report beliefs aligned with the direction implied by the reported empirical findings. As witnessed by the p-values of the chi-square tests for equality in belief distributions across treatment arms, reported at the top of each panel, this effect is significant for three out of four policies.

The odd columns of Table 1 report, for each policy, treatment effects on the probability of holding evidence-consistent beliefs. These are obtained from linear probability models estimated on data stacked over policy by individual, controlling for policy-by-policy order of appearance dummies, and clustering standard errors by individual. As we assess the significance of treatment effects on four policies and two outcomes, Romano and Wolf (2005) Family-Wise Error Rate (FWER)-robust p-values based on 1,000 bootstrap replications are also reported in square brackets.

Table 1: Treatment Effects on Beliefs Across Policies

	Quota 100		Decreto Flussi		Jobs Act		RDC	
	Consistent belief	Belief precision	Consistent belief	Belief precision	Consistent belief	Belief precision	Consistent belief	Belief precision
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment	0.018	2.027**	0.112***	2.953***	0.053***	-0.223	0.078***	-1.413*
	(0.015)	(0.847)	(0.013)	(0.867)	(0.012)	(0.818)	(0.016)	(0.832)
	[0.401]	[0.064]	[0.001]	[0.002]	[0.001]	[0.784]	[0.001]	[0.264]

Notes: This table reports estimated treatment effects on the probability of holding evidence-consistent beliefs (odd-columns) and on belief precision (even columns). Effects are computed relative to the control condition and reported separately by policy. Estimates are based on linear regression models estimated on data stacked over policy by individual, controlling for policy-by-order of appearance dummies. Standard errors clustered by individual reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Romano and Wolf (2005) Family-Wise Error Rate (FWER)-robust p-values based on 1,000 bootstrap replications are also reported in square brackets. Observations: 20,056. Individuals: 5,014.

The magnitudes of the effects are economically meaningful in relative terms. For instance, for the Decreto Flussi policy the share of subjects holding beliefs consistent with the evidence moves from 17.5% in the control group to 28.7% in the treatment group, a 65% increase relative to baseline. At the same time, it remains true that more than two-thirds of respondents still hold beliefs that are not aligned with the evidence provided.

Figure 2 and the even columns of Table 1 show that - for two out of four policies - belief precision increases with exposure to scientific evidence. With a standard deviation of belief precision in the control group of around 25%, significant effects of size between 2 and 3 are non-negligible, around 0.1 of a standard deviation in relative terms. For the other two policies, effects are negative but much smaller in size and not significantly different from zero once the multiple hypothesis testing problem is taken into account.

Table A3 in Appendix A presents additional specification tests to the estimates reported in Table 1. Our main results are robust to i) the inclusion of individual level controls with policy-specific coefficients (panel A); ii) using individual fixed effects, which force the model to leverage only variation across policies and within individuals (panel B); iii) the use of non-linear models (panel C), such as probit models for the probability of holding correct beliefs and fractional regression models (Papke and Wooldridge, 1996) for belief precision; iv) considering only the first policy observed by each individual, to avoid potential contamination effects from previous exposure to different treatments (panel D). In this last test, the number of observations shrinks substantially, and effects are less precisely estimated but somewhat larger in magnitude for belief precision.

Overall, the results presented so far are consistent with the model described in Section 2, suggesting that credible evidence can shift mean beliefs and increase their precision. As shown by Figure 2, however, individuals in the control group report

rather strong priors, and updating is not universal.[9]

4.3 Updating does not depend on source political alignment

To examine whether belief updating depends on political alignment between individuals and media sources, we match information on respondents' own political placement and on the placement of newspapers, reported on the same ideological scale (see Section 3).

Figure A3 in Appendix A reports the distribution of respondents' political self-placement. For this analysis, we focus on individuals who identify as either left- or right-wing, as alignment is defined relative to these ideological categories. Table A4 summarizes perceived outlet positioning. A non-negligible share of respondents report not knowing an outlet's orientation or perceiving it as politically neutral, an unsurprising result given heterogeneous media exposure. Among those who report an alignment, *La Repubblica* and *Il Fatto Quotidiano* are perceived as more left-leaning, whereas *Il Sole 24 Ore* and *Il Giornale* are positioned further to the right.[10]

Using this information, we construct two complementary alignment measures. The first is a coarse classification based on the average ideological categorization of outlets, with *La Repubblica* and *Il Fatto Quotidiano* coded as left-leaning and *Il Sole 24 Ore* and *Il Giornale* coded as right-oriented. The second relies on each respondent's individual perceived placement of each newspaper. We match both to respondent's own placement to construct measures of whether the info comes from a source that is aligned or misaligned with the respondent's placement, and use these indicators to test whether belief updating varies systematically with political alignment.

Table 2 reports heterogeneous treatment effects by media alignment. Panel A focuses on average alignment, restricting the sample to individuals reporting a left- or right-wing political orientation. Panel B instead uses individual alignment, further restricting the sample to individuals who both report a political orientation and provide an orientation for the outlets.

[9]The partial and policy-specific nature of belief updating, with a large majority of respondents persisting in evidence-inconsistent beliefs even after exposure, makes it unlikely that our results are driven by compliance with perceived researcher expectations (De Quidt et al., 2018).

[10]Together, these newspapers constitute key pillars of the Italian media landscape, contributing significantly to agenda-setting and the formation of political and economic narratives.

Table 2: Heterogeneous Treatment Effects by Media Alignment

	Quota 100		Decreto Flussi		Jobs Act		RDC	
	Consistent belief	Belief precision	Consistent belief	Belief precision	Consistent belief	Belief precision	Consistent belief	Belief precision
Panel A. Heterogeneous treatment effects by average perceived alignment with the media.								
Sample: individuals reporting to be left- or right-winged.								
Observations: 12,040. Individuals: 3,010								
Treatment (no outlet)	0.015	2.585**	0.140***	2.894**	0.077***	1.277	0.097***	-1.592
	(0.024)	(1.301)	(0.023)	(1.316)	(0.021)	(1.279)	(0.025)	(1.264)
Treatment × aligned	0.000	-1.882	-0.030	-1.535	-0.022	-1.116	-0.008	-0.338
	(0.024)	(1.297)	(0.024)	(1.317)	(0.022)	(1.281)	(0.026)	(1.298)
Treatment × misaligned	-0.005	-1.168	-0.025	-0.425	-0.005	-0.203	-0.030	-1.500
	(0.024)	(1.311)	(0.024)	(1.305)	(0.022)	(1.321)	(0.026)	(1.279)
Panel B. Heterogeneous treatment effects by individual perceived alignment with the media.								
Sample: individuals reporting to be left- or right-winged and reporting political orientation of media outlets.								
Observations: 5,336. Individuals: 1,334								
Treatment (no outlet)	-0.002	2.243	0.156***	5.181***	0.110***	1.278	0.092**	-2.049
	(0.036)	(1.903)	(0.034)	(1.898)	(0.031)	(1.796)	(0.038)	(1.831)
Treatment × aligned	0.003	-1.897	-0.046	-0.534	-0.052	0.626	0.065	-2.071
	(0.038)	(1.913)	(0.039)	(2.035)	(0.036)	(2.021)	(0.043)	(2.073)
Treatment × misaligned	-0.001	-1.695	-0.047	-0.344	-0.007	-0.486	-0.042	-0.396
	(0.035)	(1.761)	(0.035)	(1.818)	(0.032)	(1.755)	(0.036)	(1.752)

Notes: This table reports estimated treatment effects on the probability of holding evidence-consistent beliefs (odd-columns) and on belief precision (even columns) of receiving information and the interactions of receiving information with political alignment/misalignment of the respondent with the information source information source with. Estimates are based on linear regression models estimated on data stacked over policy by individual, controlling for policy-by-order of appearance dummies. Standard errors clustered by individual reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

In either panel, the main effects of information reception are wholly comparable to the ones reported in Table 1, although somewhat less precisely estimated given the smaller size of the samples we work with.[11] Importantly, the interaction terms between treatment and outlet alignment are small and statistically insignificant across policies and outcomes.[12]

These results thus highlight that updating occurs to a similar extent regardless of whether the attributed source is aligned or misaligned with the respondent's political

[11] Focusing on the main effect in Panel A for conciseness, the Minimum Detectable Effect (MDE) for the interaction terms *Treatment* × *aligned* and *Treatment* × *misaligned* is between .061 and .073 for Consistent Belief. This implies that we are statistically powered at conventional levels to detect relatively small impacts of 6-7 percentage-point changes in the probability that beliefs are consistent with the evidence. The point estimates we obtain are below this threshold. While we cannot conclusively argue that they are not statistically significant, we can conclude that they are below economically salient levels.

[12] Table A5 in Appendix A reports additional specifications. Panel A presents heterogeneous effects by outlet ideology in the full sample, without restricting attention to respondents who self-identify as left- or right-wing. Panels B and C further explore perceived alignment under alternative sample definitions, including and excluding respondents who report that outlets have no political orientation. Across specifications, treatment effects remain broadly similar for aligned and misaligned respondents. Differences are small in magnitude and not systematically related to political alignment, confirming that the absence of heterogeneous updating does not hinge on a particular sample restriction or alignment definition.

orientation.[13]

To connect these findings to the model, we next examine whether political alignment is reflected in differences in perceived outlet reliability, which serves as our empirical proxy for signal precision (see Section 3).

Table 3 reports respondents' assessments of each newspaper's reliability on a 1–10 scale. Perceived credibility varies with political orientation: left-wing respondents rate *La Repubblica* and *Il Fatto Quotidiano* approximately 0.6–0.8 points higher than right-wing respondents, while right-wing respondents rate *Il Giornale* about 1.8 points higher than left-wing respondents. Given that the standard deviation of perceived reliability is close to 2.5, in standardized terms these differences correspond to roughly 0.25 to 0.7SD. At the same time, average reliability levels remain relatively high across outlets, typically between 5 and 7 on a 10-point scale, indicating substantial overlap in perceived credibility even across ideological groups.

Table 3: Average perceived media reliability, by respondents' political orientation

	Left-wing	Right-wing
La Repubblica	6.72	5.89
Observations	1,452	1,303
Il Fatto Quotidiano	6.57	5.96
Observations	1,430	1,282
Il Sole 24 Ore	7.31	7.29
Observations	1,441	1,316
Il Giornale	4.71	6.49
Observations	1,405	1,282

Notes: The table reports the average perceived reliability of each newspaper on a 1-10 scale, distinguishing between respondents who self-place themselves as left-winged or right-winged. The number of observations varies across newspaper as we exclude respondents who report that they don't know the reliability of the newspaper.

In the framework of the model, alignment affects updating insofar as it shifts perceived signal precision. The evidence suggests that while alignment does influence relative trust, baseline credibility for major national newspapers is sufficiently elevated across the political spectrum that differences in perceived precision are limited in absolute terms.

[13] In Figure A4 and Figure A5 we further explore treatment heterogeneity along a broad set of individual characteristics, including gender, age, education, income, wealth, employment status, region, and political orientation. Across policies and outcomes, treatment effects are remarkably stable across subgroups. Although a few point estimates differ in magnitude - for example, somewhat larger effects among older respondents for Decreto Flussi or slightly smaller effects among respondents with primary education for Quota 100 in Figure A4 - confidence intervals are generally wide and overlap substantially, supporting the conclusion that belief updating in response to scientific evidence is broadly homogeneous across observable characteristics.

One possible interpretation is that respondents expect ideological bias when outlets take explicit positions on politically contested issues, but attribute less bias when newspapers report scientific findings originating from academic or institutional sources. In other words, partisan priors may shape expectations about commentaries, yet factual claims grounded in external research are perceived as comparatively reliable even when conveyed by ideologically distant outlets.

As a result, although relative trust varies with political alignment, the absolute differences in perceived precision are modest in the context of reporting scientific evidence, and we do not observe systematically stronger belief updating when scientific evidence is attributed to politically aligned media sources.

5 Conclusion

Citizens often infer what major public policies accomplish through media and public debate rather than direct observation, which creates room for persistent misperceptions about policy impacts—especially when the media environment is politically segmented and sources are ideologically identifiable. This paper studies whether credible scientific evidence can correct such misperceptions and, crucially, whether belief updating depends on the political alignment between individuals and the media outlet that conveys the evidence. We do so using a large-scale survey experiment on a representative sample of the Italian population, where we expose respondents to real, non-deceptive scientific evidence about the impacts of four salient and politically contested reforms while randomly varying the attributed media source.

We find that misperceptions about policy impacts are widespread and often held with substantial confidence. Providing scientific evidence shifts beliefs toward the direction implied by the evidence across all four policy domains and increases the share of respondents holding evidence-consistent beliefs, though a meaningful fraction of respondents continues to disagree with the evidence even after exposure. Most importantly, belief updating is largely unaffected by whether the evidence is attributed to a politically aligned or misaligned media outlet: people revise beliefs in response to the informational content of scientific findings even when the messenger is ideologically distant. While respondents do perceive systematic differences in outlet reliability and political positioning, these perceived differences do not translate into materially different updating when the underlying evidence is presented as scientific and policy-relevant.

These findings do not imply that political polarization or media bias are irrelevant for belief formation. Rather, they suggest that when evidence is salient, policy-relevant, and perceived as credible, its informational content can dominate partisan

source cues. One interpretation is that individuals distinguish between evaluative political commentary and factual claims grounded in scientific evidence, especially when the latter directly relate to concrete policy outcomes.

The scope of our findings is limited to belief updating in a survey setting and to policy domains where high-quality empirical evidence is available. Whether similar patterns would emerge in contexts characterized by lower trust in science, more ambiguous evidence, or sustained exposure to partisan framing remains an open question. However, when high-quality evidence is available, our results point to clear implications for the communication of scientific information in polarized environments. They suggest that credible, policy-relevant evidence can effectively shape beliefs even in the presence of ideological divisions, highlighting the potential for evidence-based communication strategies to improve public understanding despite media fragmentation.

For policymakers, the results suggest that concerns about politically segmented media environments may be less constraining for effective communication than often assumed. Even in a context where outlets such as *La Repubblica* and *Il Fatto Quotidiano* are perceived as left-leaning, and *Il Sole 24 Ore* and *Il Giornale* as right-leaning, belief updating appears to depend primarily on the credibility and clarity of the evidence rather than on source congruence. This implies that public institutions (such as INPS in one of our experiments) can disseminate scientifically grounded, policy-relevant information across a plurality of media outlets without necessarily tailoring messages to ideologically aligned channels. In other words, credible evidence can travel across partisan divides, reducing the need for highly segmented communication strategies. At the same time, the persistence of disagreement among respondents indicates that information provision alone is not sufficient to fully eliminate misperceptions, highlighting the importance of repeated exposure and clear policy framing.

For journalists, the findings underscore the continued relevance—and responsibility—of presenting rigorous, evidence-based information in accessible ways. While audiences do perceive systematic differences in reliability and political orientation across outlets, these perceptions do not substantially hinder belief updating when the information is explicitly framed as scientific and policy-relevant. This suggests that journalists, even within ideologically identifiable outlets, can play a constructive role in improving public understanding by clearly distinguishing factual reporting from opinion. In a media system where these newspapers collectively occupy a central position in shaping public debate, the ability to communicate scientific findings effectively may help mitigate persistent misperceptions and contribute to a more informed electorate, even in the presence of political polarization.

References

Allcott, H. and Gentzkow, M. (2017): "Social Media and Fake News in the 2016 Election," *Journal of Economic Perspectives*, 31, 211–236.

Barrera, O., Guriev, S., Henry, E. et al. (2020): "Facts, Alternative Facts, and Fact Checking in Times of Post-Truth Politics," *Journal of Public Economics*, 182, 104123.

Bénabou, R. and Tirole, J. (2016): "Mindful Economics: The Production, Consumption, and Value of Beliefs," *Journal of Economic Perspectives*, 30, 141–164.

Bertoni, M. and Brunello, G. (2021): "Does a higher retirement age reduce youth employment?" *Economic Policy*, 36, 325–372.

Boeri, T., Gamalerio, M., Morelli, M. et al. (2024): "Pay-as-they-get-in: attitudes toward migrants and pension systems," *Journal of Economic Geography*, 24, 63–78.

Boeri, T. and Garibaldi, P. (2019): "A tale of comprehensive labor market reforms: Evidence from the Italian jobs act," *Labour Economics*, 59, 33–48.

Boeri, T., Garibaldi, P. and Moen, E. R. (2022): "In medio stat victus: Labor Demand Effects of an Increase in the Retirement Age," *Journal of Population Economics*, 35, 519–556.

Boeri, T. and Tabellini, G. (2012): "Does information increase political support for pension reform?" *Public choice*, 150, 327–362.

Chiang, C.-F. and Knight, B. G. (2011): "Media Bias and Influence: Evidence from Newspaper Endorsements," *The Review of Economic Studies*, 78, 795–820.

Cruces, G., Perez-Truglia, R. and Tetaz, M. (2013): "Biased Perceptions of Income Distribution and Preferences for Redistribution: Evidence from a Survey Experiment," *Journal of Public Economics*, 98, 100–112.

Dachille, G., De Paola, M. and Nisticò, R. (2025): "Guaranteed minimum income and fertility," Tech. rep., Rockwool Foundation Working Paper.

De Quidt, J., Haushofer, J. and Roth, C. (2018): "Measuring and bounding experimenter demand," *American Economic Review*, 108, 3266–3302.

DellaVigna, S. and Gentzkow, M. (2010): "Persuasion: Empirical Evidence," *Annual Review of Economics*, 2, 643–669.

DellaVigna, S. and Kaplan, E. (2007): "The Fox News Effect: Media Bias and Voting," *The Quarterly Journal of Economics*, 122, 1187–1234.

Druckman, J. N., Peterson, E. and Slothuus, R. (2013): "How elite partisan polarization affects public opinion formation," *American Political Science Review*, 107, 57–79.

Facchini, G., Margalit, Y. and Nakata, H. (2022): "Countering public opposition to immigration: The impact of information campaigns," *European Economic Review*, 141, 103959.

Fasani, F. (2018): "Immigrant crime and legal status: evidence from repeated amnesty programs," *Journal of Economic Geography*, 18, 887–914.

Flynn, D. J., Nyhan, B. and Reifler, J. (2017): "The nature and origins of misperceptions: Understanding false and unsupported beliefs about politics," *Political psychology*, 38, 127–150.

Gentzkow, M. and Shapiro, J. M. (2006): "Media bias and reputation," *Journal of political Economy*, 114, 280–316.

——— (2010): "What drives media slant? Evidence from US daily newspapers," *Econometrica*, 78, 35–71.

——— (2011): "Ideological Segregation Online and Offline," *The Quarterly Journal of Economics*, 126, 1799–1839.

Gerber, A. S., Karlan, D. and Bergan, D. (2009): "Does the media matter? A field experiment measuring the effect of newspapers on voting behavior and political opinions," *American Economic Journal: Applied Economics*, 1, 35–52.

Guess, A. and Coppock, A. (2020): "Does counter-attitudinal information cause backlash? Results from three large survey experiments," *British Journal of Political Science*, 50, 1497–1515.

Guiso, L. and Jappelli, T. (2024): "The Italian Survey of Consumer Expectations: Statistical Bulletin," Tech. rep., CSEF Working Paper.

——— (2025): "Anatomy of Consumption Risk," Tech. rep., GRINS Discussion Paper No. 25/2025.

——— (2026): "Are people willing to pay to prevent natural disasters?" *Journal of Economic Behavior Organization*, 242, 107416.

Haaland, I. and Roth, C. (2020): "Labor market concerns and support for immigration," *Journal of Public Economics*, 191, 104256.

Hill, S. J. (2017): "Learning together slowly: Bayesian learning about political facts," *The Journal of Politics*, 79, 1403–1418.

Jappelli, T., Savoia, E. and Sciacchetano, A. (2026): "Intertemporal MPC and shock size," *European Economic Review*, 186, 105303.

Kuziemko, I., Norton, M. I., Saez, E. et al. (2015): "How Elastic Are Preferences for Redistribution? Evidence from Randomized Survey Experiments," *American Economic Review*, 105, 1478–1508.

Lenz, G. S. (2009): "Learning and Opinion Change, Not Priming: Reconsidering the Evidence for the Priming Hypothesis," *American Journal of Political Science*, 53, 821–837.

Maitino, M. L., Mariani, M., Patacchini, V. et al. (2024): "The Employment Effects of the Italian Minimum Guaranteed Income Scheme Reddito di Cittadinanza," *Italian Economic Journal*, 10, 649–681.

Martin, G. J. and Yurukoglu, A. (2017): "Bias in Cable News: Persuasion and Polarization," *American Economic Review*, 107, 2565–2599.

Mastrobuoni, G. and Pinotti, P. (2015): "Legal Status and the Criminal Activity of Immigrants," *American Economic Journal: Applied Economics*, 7, 175–206.

Mullainathan, S. and Shleifer, A. (2005): "The Market for News," *American Economic Review*, 95, 1031–1053.

Nyhan, B. (2020): "Facts and myths about misperceptions," *Journal of Economic Perspectives*, 34, 220–236.

Nyhan, B. and Reifler, J. (2010): "When corrections fail: The persistence of political misperceptions," *Political Behavior*, 32, 303–330.

Papke, L. E. and Wooldridge, J. M. (1996): "Econometric methods for fractional response variables with an application to 401 (k) plan participation rates," *Journal of applied econometrics*, 11, 619–632.

Pinotti, P. (2017): "Clicking on Heaven's Door: The Effect of Immigrant Legalization on Crime," *American Economic Review*, 107, 138–68.

Rabin, M. and Schrag, J. L. (1999): "First Impressions Matter: A Model of Confirmatory Bias," *The Quarterly Journal of Economics*, 114, 37–82.

Romano, J. P. and Wolf, M. (2005): "Exact and approximate stepdown methods for multiple hypothesis testing," *Journal of the American Statistical Association*, 100, 94–108.

Sestito, P. and Viviano, E. (2018): "Firing costs and firm hiring: evidence from an Italian reform," *Economic Policy*, 33, 101–130.

Stantcheva, S. (2021): "Understanding Tax Policy: How Do People Reason?" *The Quarterly Journal of Economics*, 136, 2309–2369.

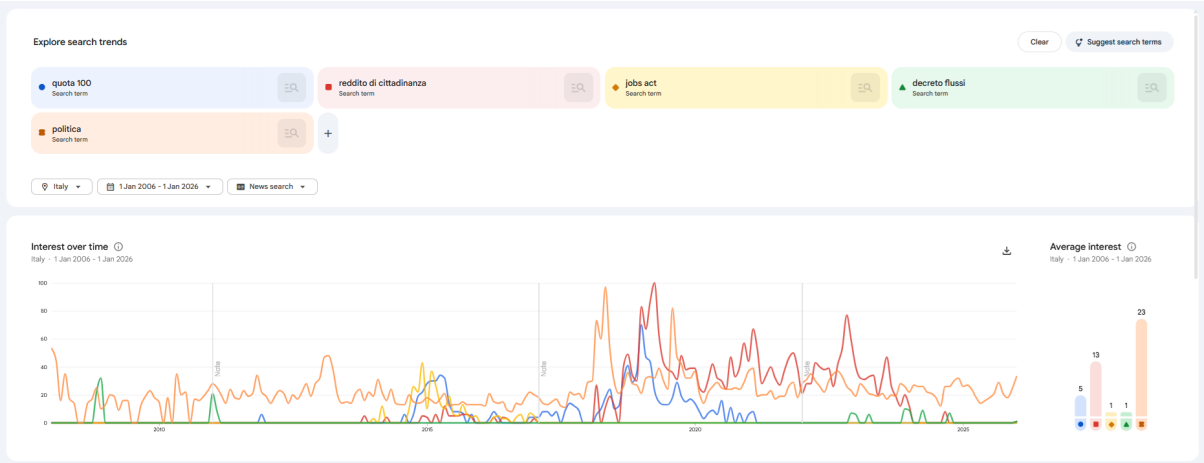
Taber, C. S. and Lodge, M. (2006): "Motivated Skepticism in the Evaluation of Political Beliefs," *American Journal of Political Science*, 50, 755–769.

Thomas, C. C., Walton, G. M., Reinhart, E. C. et al. (2023): "Mitigating welfare-related prejudice and partisanship among US conservatives with moral reframing of a universal basic income policy," *Journal of Experimental Social Psychology*, 105, 104424.

Appendices - For Online Publication

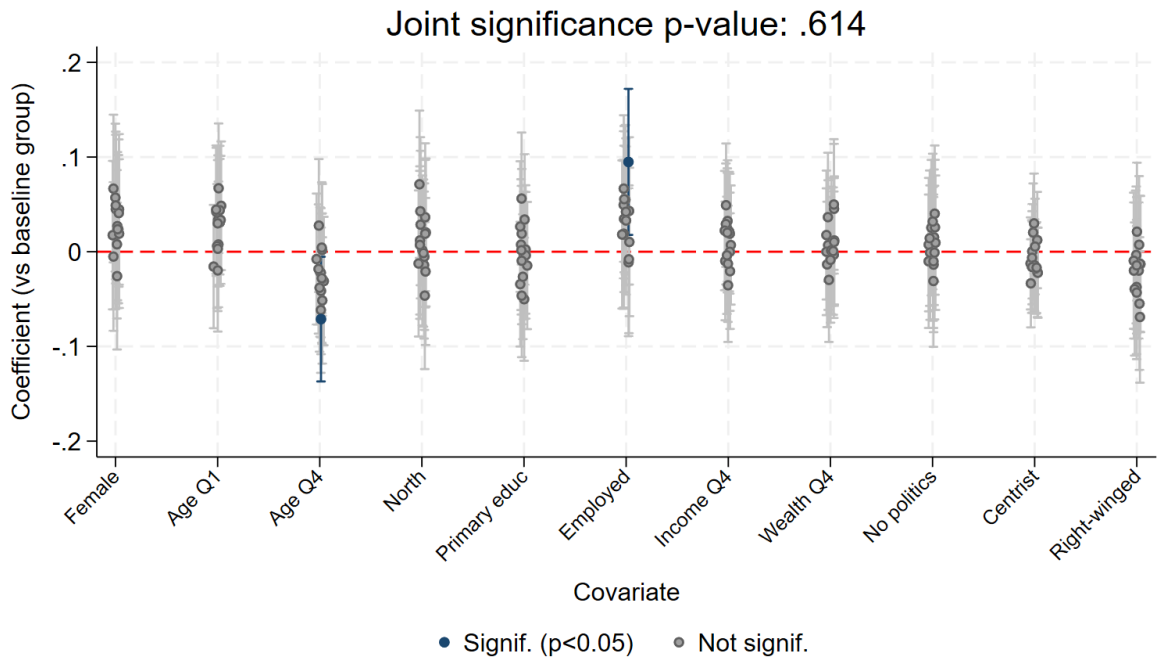
A Additional Figures and Tables

Figure A1: News Search Intensity for Policy Names, 2006–2026



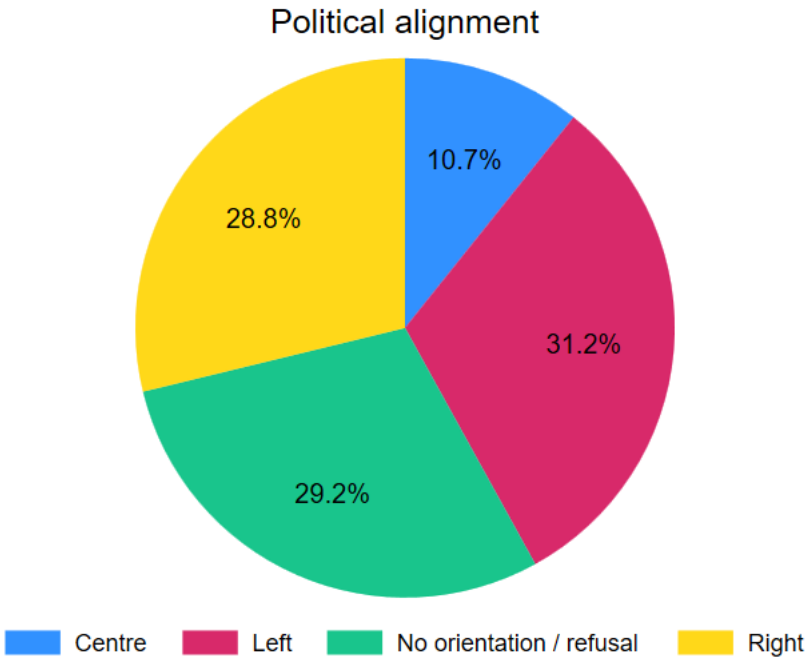
Notes: The figure reports Google Trends indices for news searches in Italy from January 2006 to January 2026 for the terms "Quota 100", "Decreto Flussi", "Jobs Act", and "Reddito di Cittadinanza", benchmarked against the search term "politica" (politics). Values are normalized by Google Trends on a 0–100 scale within the selected sample and search category (News Search), where 100 corresponds to the peak search intensity in the period.

Figure A2: Covariate balance across treatment groups



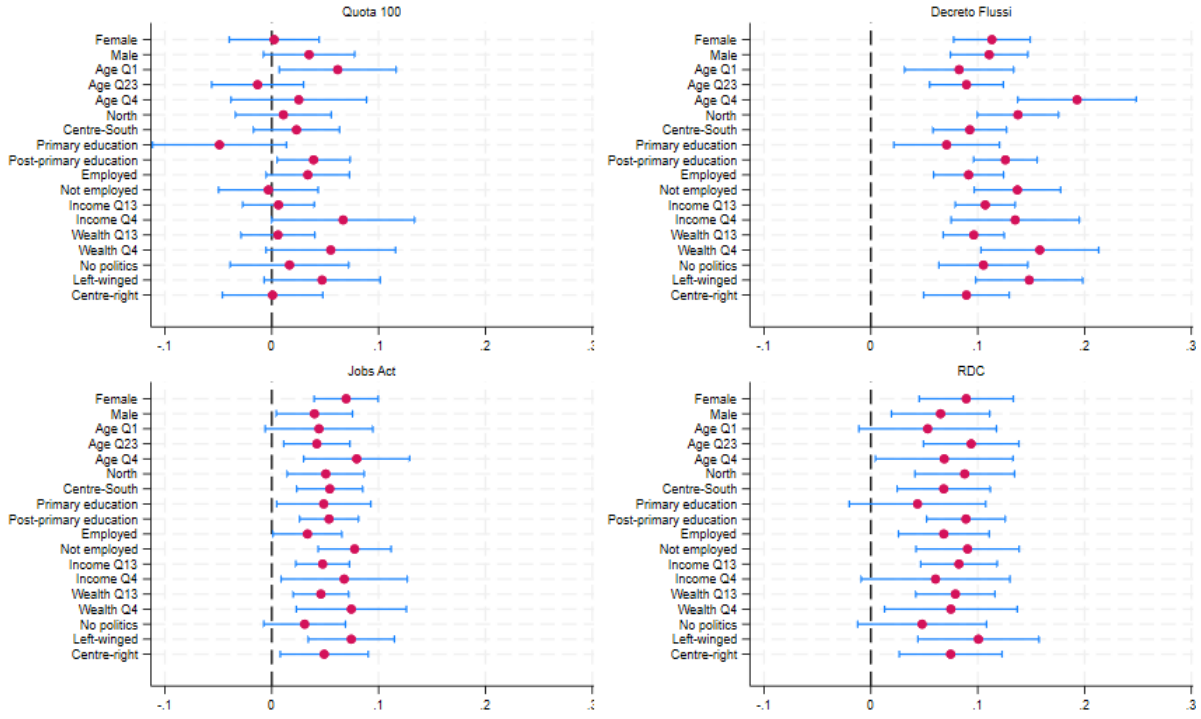
Notes: This figure reports the coefficients and 95% confidence intervals of group dummies - with respect to an omitted one - obtained from the linear regression of each of the listed covariate on group dummies, with heterosckedasticity robust standard errors. Blue dots indicate coefficients that are significant at better than the 5% level of confidence. Observations: 5,014.

Figure A3: Distribution of respondents' political placement



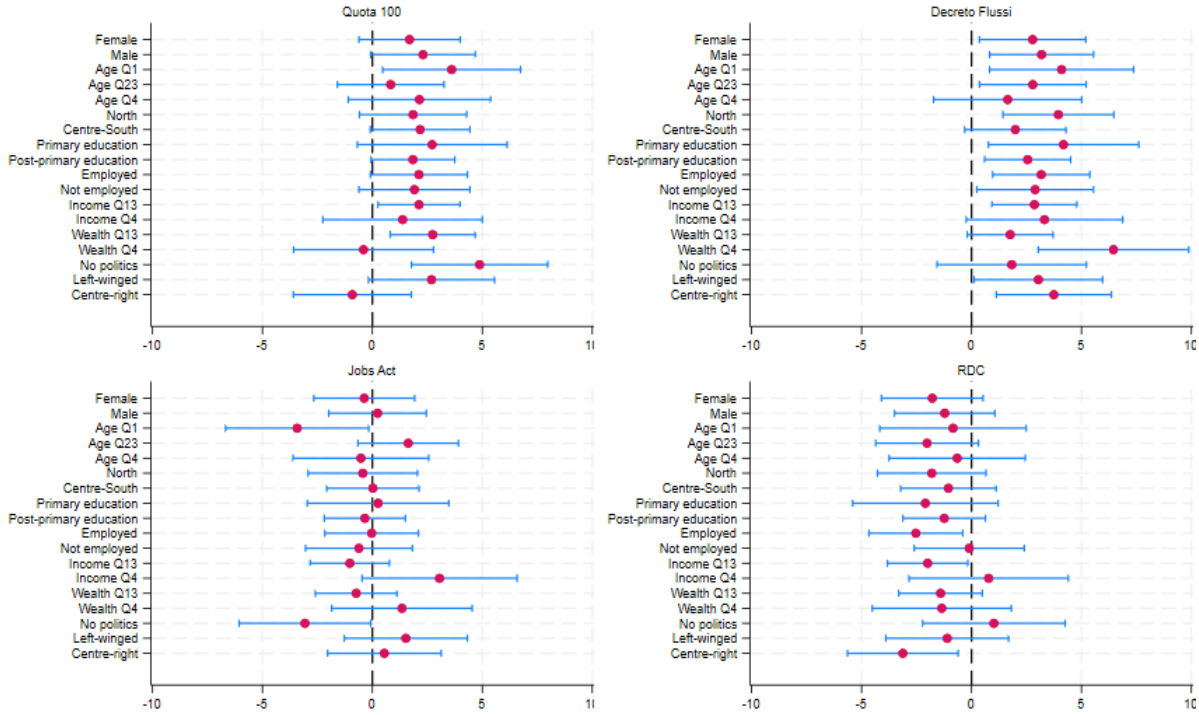
Notes: The figure reports the distribution of respondents' self-reported political orientation. The original ISCE scale includes the following categories: Far left; Left; Centre-left; Centre; Centre-right; Right; Far right; No political orientation; Don't know. For presentation purposes, responses are aggregated into four groups: (i) Far left/Left/Centre-left; (ii) Centre; (iii) Centre-right/Right/Far right; (iv) No political orientation or Don't know. Observations: 5,014.

Figure A4: Heterogeneous effects on the probability of holding evidence-consistent beliefs by individual characteristics.



Notes: This figure reports estimated treatment effects on the probability of holding evidence-consistent beliefs across individual subgroups, separately by policy and sub-sample. All specifications include policy-by-order-of-appearance fixed effects and standard errors are clustered at the individual level. Dots represent point estimates and horizontal lines indicate 95 percent confidence intervals.

Figure A5: Heterogeneous effects on belief precision by individual characteristics.



Notes: This figure reports estimated treatment effects on belief precision individual subgroups, separately by policy and sub-sample. All specifications include policy-by-order-of-appearance fixed effects and standard errors are clustered at the individual level. Dots represent point estimates and horizontal lines indicate 95 percent confidence intervals.

Table A1: Policy-News Treatment Assignment by Group

Group	Policy 1	Policy 2	Policy 3	Policy 4
Group 1	Quota 100 (No News)	Decreto Flussi (Neutral News)	Jobs Act (Left-Wing News)	RDC (Right-Wing News)
Group 2	Quota 100 (Neutral News)	Decreto Flussi (Left-Wing News)	Jobs Act (Right-Wing News)	RDC (No News)
Group 3	Quota 100 (Left-Wing News)	Decreto Flussi (Right-Wing News)	Jobs Act (No News)	RDC (Neutral News)
Group 4	Quota 100 (Right-Wing News)	Decreto Flussi (No News)	Jobs Act (Neutral News)	RDC (Left-Wing News)
Group 5	Decreto Flussi (No News)	Jobs Act (Neutral News)	RDC (Left-Wing News)	Quota 100 (Right-Wing News)
Group 6	Decreto Flussi (Neutral News)	Jobs Act (Left-Wing News)	RDC (Right-Wing News)	Quota 100 (No News)
Group 7	Decreto Flussi (Left-Wing News)	Jobs Act (Right-Wing News)	RDC (No News)	Quota 100 (Neutral News)
Group 8	Decreto Flussi (Right-Wing News)	Jobs Act (No News)	RDC (Neutral News)	Quota 100 (Left-Wing News)
Group 9	Jobs Act (No News)	RDC (Neutral News)	Quota 100 (Left-Wing News)	Decreto Flussi (Right-Wing News)
Group 10	Jobs Act (Neutral News)	RDC (Left-Wing News)	Quota 100 (Right-Wing News)	Decreto Flussi (No News)
Group 11	Jobs Act (Left-Wing News)	RDC (Right-Wing News)	Quota 100 (No News)	Decreto Flussi (Neutral News)
Group 12	Jobs Act (Right-Wing News)	RDC (No News)	Quota 100 (Neutral News)	Decreto Flussi (Left-Wing News)
Group 13	RDC (No News)	Quota 100 (Neutral News)	Decreto Flussi (Left-Wing News)	Jobs Act (Right-Wing News)
Group 14	RDC (Neutral News)	Quota 100 (Left-Wing News)	Decreto Flussi (Right-Wing News)	Jobs Act (No News)
Group 15	RDC (Left-Wing News)	Quota 100 (Right-Wing News)	Decreto Flussi (No News)	Jobs Act (Neutral News)
Group 16	RDC (Right-Wing News)	Quota 100 (No News)	Decreto Flussi (Neutral News)	Jobs Act (Left-Wing News)

Notes. The table reports the rotation scheme used to assign each group to a specific combination of policy and media framing condition (No News, Neutral News, Left-Wing News, Right-Wing News). The design ensures that each policy appears under each informational condition across groups.

Table A2: Sources of scientific evidence and media coverage

Policy	Evidence source	Left-leaning article	Right-leaning article
Quota 100	Labour Lawyers Observatory report	La Repubblica	Il Giornale
Decreto Flussi	American Economic Review article	La Repubblica	Il Giornale
Jobs Act	Labour Economics article	La Repubblica	Il Sole 24 Ore
RDC	INPS Annual Report	Il Fatto Quotidiano	Il Sole 24 Ore

Notes. The table reports the scientific or institutional sources used to construct the informational treatments, together with illustrative examples of left- and right-leaning media outlets that cited the same evidence prior to the experiment. Evidence was selected to avoid deception and ensure that respondents were exposed to evidence that had already appeared in the media.

Table A3: Specification tests

	Quota 100		Decreto Flussi		Jobs Act		RDC	
	Consistent belief	Belief precision	Consistent belief	Belief precision	Consistent belief	Belief precision	Consistent belief	Belief precision
Panel A. Including individual-level controls								
Treatment	0.020	1.836**	0.111***	2.906***	0.053***	0.015	0.071***	-1.317
	(0.015)	(0.840)	(0.013)	(0.855)	(0.012)	(0.815)	(0.016)	(0.823)
Panel B. Including individual fixed effects								
Treatment	0.018	1.129*	0.121***	2.926***	0.037**	0.260	0.085***	-0.963
	(0.018)	(0.672)	(0.015)	(0.745)	(0.016)	(0.651)	(0.020)	(0.766)
Panel C. Non-linear models								
Treatment	0.018	1.971**	0.138***	2.919***	0.075***	-0.214	0.071***	-1.525*
	(0.015)	(0.820)	(0.018)	(0.850)	(0.018)	(0.787)	(0.015)	(0.904)
Panel D. Only the first policy observed by each individual								
Treatment	0.026	5.910***	0.104***	4.936***	0.061**	-0.207	0.055*	-2.191
	(0.031)	(1.836)	(0.026)	(1.825)	(0.024)	(1.671)	(0.033)	(1.680)

Notes: This table reports sensitivity analyses of the treatment effects shown in Table 1. Panel A includes individual-level controls with policy-specific coefficients. The controls are dummies for gender, age (Quartile 1, Quartile 2 or 3, Quartile 4), macro-area (North, Centre-South), education (primary education or higher), labor market status (employed or not), income and wealth (quartiles 1 to 3, quartile 4), political orientation (no political preference, left-winged, centrist, right-winged). Panel B estimates models with individual fixed effects. Panel C reports non-linear specifications: probit models for the probability of holding evidence-consistent beliefs and fractional response models for belief precision (Papke and Wooldridge, 1996). Panel D restricts the sample to the first policy observed by each individual. Standard errors clustered at the individual level are reported in parentheses. Observations: 20,056 (expect for panel D - where we only retain one observation per individual). Individuals: 5,014. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A4: Perceived media outled political placement

	Don't know	**Not aligned**	**"Rightism" (1-7)**
La Repubblica	22.4%	15.1%	3.22
Il Fatto Quotidiano	24.6%	20.7%	3.42
Il Sole 24 Ore	22.5%	32.6%	4.29
Il Giornale	24.6%	16.7%	5.14

Notes: The table reports respondents' perceived political positioning of each newspaper. Respondents place outlets on the same 9-category ideological scale used for self-placement. For analysis, responses are recoded into four groups: (i) Far left/Left/Centre-left; (ii) Centre; (iii) Centre-right/Right/Far right; (iv) No political orientation or Don't know. The table also reports the share of respondents selecting "Don't know," the share reporting that the outlet has no political orientation, and the mean rightism score on a 1–7 scale. Observations: 5,014.

Table A5: Heterogeneous Treatment Effects by Media Alignment, Additional Specifications

	Quota 100		Decreto Flussi		Jobs Act		RDC	
	Consistent belief	Belief precision	Consistent belief	Belief precision	Consistent belief	Belief precision	Consistent belief	Belief precision
Panel A. Heterogeneous treatment effects by outlet ideology (full sample).								
Observations: 20,056. Individuals: 5,014								
Treatment (no outlet)	0.021	2.384**	0.118***	2.850***	0.052***	0.260	0.074***	-0.440
	(0.019)	(1.039)	(0.017)	(1.046)	(0.015)	(1.002)	(0.020)	(1.013)
Treatment × left-leaning outlet	-0.021	-0.296	0.001	0.280	-0.004	-1.326	0.007	-1.097
	(0.019)	(1.037)	(0.018)	(1.052)	(0.016)	(1.017)	(0.020)	(1.016)
Treatment × right-leaning outlet	0.012	-0.770	-0.016	0.033	0.007	-0.113	0.004	-1.817*
	(0.019)	(1.048)	(0.018)	(1.027)	(0.016)	(1.025)	(0.020)	(1.006)
Panel B. Heterogeneous treatment effects by individual perceived alignment (restricted sample).								
Sample: individuals reporting to be left- or right-winged and reporting alignment for media outlets.								
Observations: 5,336. Individuals: 1,334								
Treatment (no outlet)	-0.002	2.243	0.156***	5.180***	0.110***	1.278	0.092**	-2.048
	(0.036)	(1.903)	(0.034)	(1.898)	(0.031)	(1.796)	(0.038)	(1.831)
Treatment × outlet aligned	-0.003	-2.362	-0.038	-0.930	-0.050	-0.495	-0.021	-1.244
	(0.036)	(1.826)	(0.037)	(1.898)	(0.033)	(1.812)	(0.039)	(1.887)
Treatment × outlet misaligned	0.005	-1.186	-0.054	0.070	0.007	0.349	0.004	-0.627
	(0.036)	(1.826)	(0.036)	(1.911)	(0.035)	(1.913)	(0.038)	(1.864)
Panel C. Heterogeneous treatment effects by individual perceived alignment (including neutral outlets).								
Sample: individuals reporting to be left- or right-winged and reporting alignment for media outlets or that media outlets are not aligned.								
Observations: 9,220. Individuals: 2,305								
Treatment (no outlet)	0.002	3.094**	0.149***	3.630**	0.104***	1.414	0.091***	-1.060
	(0.028)	(1.473)	(0.026)	(1.473)	(0.024)	(1.417)	(0.029)	(1.404)
Treatment × aligned	0.011	-2.501	-0.026	-0.361	-0.045	1.995	0.079**	-3.375*
	(0.031)	(1.590)	(0.031)	(1.616)	(0.030)	(1.672)	(0.036)	(1.772)
Treatment × misaligned	-0.012	-1.536	-0.042	-0.563	-0.015	-1.984	-0.036	-1.029
	(0.026)	(1.385)	(0.026)	(1.357)	(0.024)	(1.363)	(0.027)	(1.287)

Notes: This table reports estimated treatment effects on the probability of holding evidence-consistent beliefs (odd columns) and on belief precision (even columns) of receiving information and the interactions of receiving information with political alignment/misalignment of the respondent with the information source. Estimates are based on linear regression models estimated on data stacked over policy by individual, controlling for policy-by-order-of-appearance dummies. Standard errors clustered by individual reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

B Other experimental modules

B.1 Quota 100

Quota 100, introduced in 2019, allowed early retirement for those who were at least 62 years old and had 38 years of contributions by 2021. After its introduction, a debate emerged focusing on its effectiveness in promoting early retirement and the potential increase in youth employment (the so-called "generational turnover").

***Q1**. In your opinion, how did "Quota 100" impact employment?*

- ***Increased**: for every retiree with "Quota 100", more than one worker was hired.*
- ***Unchanged**: for every retiree with "Quota 100", one worker was hired.*
- ***Decreased**: for every retiree with "Quota 100", less than one worker was hired.*
- *Cited by various news outlets, . . .*

- *Cited by **la Repubblica** and other news outlets, . . .*
- *Cited by **il Giornale** and other news outlets, . . .*

. . . a study by the Osservatorio Statistico dei Consulenti del Lavoro estimated that for every 3 retirees under "Quota 100", one young worker was hired.

B.2 Jobs Act

The "Jobs Act", introduced in 2014, abolished the obligation of reinstatement for dismissals without just cause as provided by Article 18 of the Workers' Statute, reducing dismissal costs for companies with more than 15 employees. After its introduction, a debate emerged focusing on the consequences of this measure on employment.
***Q1**. In your opinion, how did the "Jobs Act" impact employment?*

- ***Increased**: hirings outnumbered dismissals.*
- ***Unchanged**: hirings equaled dismissals.*
- ***Decreased**: dismissals outnumbered hiring.*

- *Cited by various news outlets, . . .*
- *Cited by **la Repubblica** and other news outlets, . . .*
- *Cited by **il Sole 24 Ore** and other news outlets, . . .*

. . . a study by Bocconi University and the University of Turin estimated that in companies with more than 15 employees, the Jobs Act encouraged permanent hiring but also led, to a lesser extent, to an increase in dismissals.

B.3 Reddito di Cittadinanza (RDC)

The "Reddito di Cittadinanza" guarantees a minimum income to all citizens whose income falls below a certain threshold. After its introduction, a debate emerged focusing on the effectiveness of the measure in combating poverty and the possible effects on employment.
***Q1**. In your opinion, how did the "Reddito di Cittadinanza" affect the labor supply of those who were employed before receiving the benefit?*

- ***Increased**: the benefit increased the labor supply of those who were employed.*
- ***Unchanged**: the benefit did not change the labor supply of those who were employed.*
- ***Decreased**: the benefit decreased the labor supply of those who were employed.*

- *Cited by various news outlets, . . .*

- *Cited by **il Fatto Quotidiano** and other news outlets, . . .*
- *Cited by **il Sole 24 Ore** and other news outlets, . . .*

. . . an annual report by the Italian Social Security Institute (INPS) estimated that the "Reddito di Cittadinanza" did not discourage labor supply among those who were employed before receiving the benefit.