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BELIEFS ABOUT POLITICAL NEWS IN THE RUN-UP TO AN ELECTION

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ABSTRACT

This paper develops a model of news discernment to explore the influence of elections on the formation of partisan-driven parallel information universes. Using survey data from news quizzes administered during and outside the 2020 U.S. presidential election, the model shows that partisan congruence's impact on news discernment is substantially amplified during election periods. Outside an election, when faced with a true and a fake news story and asked to select the most likely true story, an individual is 4% more likely to choose the true story if it favors their party; in the days prior to the election, this increases to 11%.

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A data appendix is available at <http://www.nber.org/data-appendix/w32802>

1 Introduction

The Global Risks Perception Survey (World Economic Forum, 2024, p. 20) identifies “disinformation and polarization” as the single most severe risk facing humanity in the next two years and links it to the third-most severe risk, “societal polarization” because “polarized societies are more likely to trust information (true or false) that confirms their beliefs.” The existence of parallel information universes along partisan lines has been at the center of the debate on the crisis of democracy for almost a decade. As Barack Obama put it: “We are operating in completely different information universes. If you watch Fox News, you are living on a different planet than you are if you, you know, listen to NPR.”¹

However, findings on the importance of partisanship in shaping political news beliefs and creating distinct information environments are mixed, with some studies suggesting a strong influence (Allcott and Gentzkow, 2017) and others indicating that a story’s truth (Pennycook and Rand, 2021) or an individual’s socioeconomic characteristics (Angelucci and Prat, 2024) have a larger impact than partisan alignment.

The objective of this paper is to document that the strength of the “parallel information universes” hypothesis depends crucially on *when within the electoral cycle the effect is measured*.

To tackle this question, we analyze data from multiple surveys using a common methodology and a representative U.S. sample provided by YouGov. These surveys include incentivized news quizzes in which participants are presented with a list containing both true and fake news stories about national politics, selected by journalists. Participants are then asked to identify the real news stories they believe are most likely to be true. Specifically, we combine data from two types of surveys: a survey conducted just before the 2020 U.S. presidential election, containing two quizzes - one focusing on major news stories from the previous two years (henceforth referred to as the “election news quiz”) and another focusing on recent news stories at the time of the survey, and eleven monthly surveys spanning from December 2018 to March 2022, including those used in Angelucci and Prat (2024), which all focus on recent news stories at the time of each survey. In total, our dataset comprises responses from 10,094 participants.

¹Interview with David Letterman in 2018.

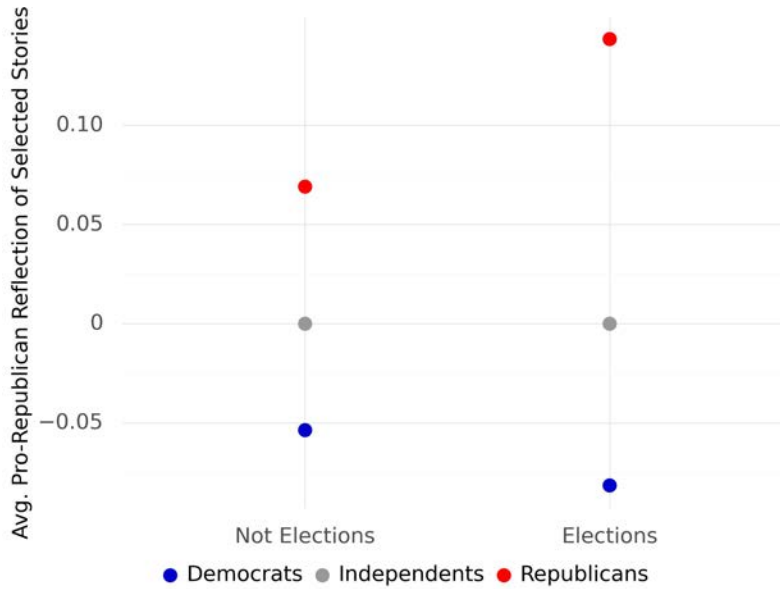


Figure 1: Raw Evidence on Partisan Congruence

Notes: The figure shows the average perceived favorability towards the Republican Party (on a 5-point scale) based on the news stories participants selected as most likely true from a list of true and false stories. Data is categorized by political affiliation and survey timing (outside and during the presidential election). Independents’ selections are normalized to zero for comparison.

Figure 1 illustrates our key finding. The figure shows the average partisan reflection of news stories chosen as most likely true, broken down by party affiliation and survey timing. Each statement gets a partisan reflection score towards the Republican Party, used to calculate the average reflection of selected statements by survey respondents. Strikingly, the gap between Democrats and Republicans in the average partisan reflection of their selected statements more than doubles during the presidential election compared to outside of the election period.² This finding helps explain the varied results in the literature and suggests a dynamic approach to studying “parallel information universes.”

However, caution is necessary when interpreting the raw data. First, the stories included in the quizzes in the presidential election survey may have featured more extreme partisan reflection scores compared to the monthly quizzes included in the surveys outside of the election period. Second, the inherent difficulty of distinguishing the veracity of the stories included in the presidential election survey quizzes could be higher. This increased difficulty, potentially exacerbated by the

²Online Appendix E.1 shows that our finding remains robust after controlling for various respondent characteristics. Additionally, the regression approach used in the appendix allows us to reject that the mean pro-Republican partisan reflection score of selected statements is equal across parties (for both periods).

passage of time for the election news quiz stories, might lead respondents to rely more heavily on their partisan predispositions when assessing the truthfulness of the stories. Third, for the election news quiz, individuals might exhibit a systematic tendency to evaluate the truthfulness of older information in a partisan manner (e.g., through selective memory). In summary, the increased partisan gap observed in the presidential election survey quizzes could be driven by differences in the characteristics of the news stories selected for inclusion, rather than by the effect of the election period itself.

To account for these alternative explanations, we estimate a model of news discernment that incorporates three key components. First, by analyzing news stories included in multiple quizzes over time, the model accounts for the effect of time passage on individuals' ability to discern the truth. Second, it controls for the inherent difficulty of each news quiz. Third, the model includes the effect of partisan congruence between individuals and news stories, capturing the extent to which people are more likely to believe stories that align with their political beliefs. Importantly, the model allows the strength of this partisan congruence effect to vary between election and non-election periods. In an extension, we also allow the strength of the partisan congruence effect to differ between recent and older news stories. This additional component accounts for the potential role of selective memory, where individuals may be more likely to remember and believe partisan-congruent stories over time.

Our estimation exercise confirms the result suggested by the raw data: individuals' beliefs when assessing the truthfulness of political news become significantly more partisan during election periods. To quantify this finding, consider a thought experiment where an average partisan individual is presented with a pair of recent news stories – one true and one false, with the false story being neutral in its partisan orientation. Our model estimates predict that, outside of an election period, the individual is 4% more likely to select the true story as the most likely to be true if it reflects favorably on their preferred party compared to unfavorably. However, during an election, this difference increases to nearly 11%.

The phenomenon we document is consistent with the motivated beliefs framework (c.f. Bénabou and Tirole, 2016). Within this framework, several underlying mechanisms may contribute to the

observed patterns. First, the salience of partisan identities may increase during election periods, making it more costly for individuals to hold incongruent beliefs, thus leading to context-dependent beliefs. Second, individuals may engage in systematic motivated partisan recall, selectively remembering past news stories that support their political views. After presenting our main results, we discuss how our findings support the motivated beliefs framework and provide further insights into the underlying mechanisms of motivated partisan recall and context-dependent beliefs.

The rest of the paper proceeds as follows. Section 2 describes the survey data, presents our model of news discernment, and explains our estimation approach. Section 3 reports the main results as well as multiple robustness checks and extensions. Section 4 concludes.

2 Data and Methods

2.1 Data

This paper draws on data from 12 surveys conducted in collaboration with YouGov between December 2018 and March 2022.³ Each survey included a representative sample of approximately 1,000 U.S. adult citizens (totaling 10,094 participants).⁴ Descriptive statistics of the survey respondents' characteristics are provided in Online Appendix A. These surveys, which took respondents an average of 5-6 minutes to complete, included questions on media consumption, voting, and incentivized news quizzes. Participants were paid a show-up fee determined by YouGov proportionally to the length of the survey and bonuses of \$1 for each correctly answered news quiz, paid via gift cards. All surveys featured quizzes about recent (<4 weeks old) political news concerning the U.S. Federal Government. Nine surveys were used in Angelucci and Prat (2024), while three (December 2018, January 2019, April 2019) are novel, along with a new quiz focusing on the 2020 Presidential Election in October-November 2020. We now describe the two quiz types our analysis relies on.

³YouGov's sampling procedure is described at <https://today.yougov.com/about/panel-methodology>. To address concerns about the opt-in nature of YouGov's panel, Angelucci and Prat (2024) administered one survey with YouGov and Ipsos in parallel. Ipsos uses address-based probability sampling, which reduces possible selection concerns. They find essentially identical results on the two samples.

⁴In some surveys, some respondents completed quizzes about other topics, which we do not make use of in this analysis. We therefore do not count these respondents in our respondent total.

Monthly News Quizzes. Each survey included an incentivized news quiz focusing on stories related to the Federal Government covering events from the previous four weeks. Specifically, each quiz consisted of 3 true statements and 3 false statements. Respondents were informed that the list contained exactly three true and three false statements “about recent events related to the Federal Government.” To prevent respondents from searching for information online, participants were given 60 seconds to identify the three true statements.

Three professional journalists were employed to select the quiz statements. Weekly, they analyzed Reuters wire stories on U.S. national politics and identified the most important news from an editorial perspective. The weekly selections were then aggregated monthly to determine the top three true news stories for each month.

Two methods were employed to generate the false statements. The first method, used in all our surveys, involved journalists creating “synthetic” fake statements that had never actually circulated. The second method, used in three of our surveys, relied on the fact-checking website Snopes.com to identify fake news stories that had gained traction in public discourse. When both methods were utilized, survey respondents were randomly assigned to variants of the quiz that included either the synthetic fake news headlines or the Snopes-verified fake news headlines. In our analysis, we do not distinguish between these two types of false statements.⁵ A list of the quizzes, their statements, and additional information is provided in Online Appendix F.2.2. In the average monthly quiz, respondents selected 2.25 true statements on average ($SD=0.67$).

Partisan congruence between an individual and a statement plays a crucial role in our analysis. We leverage the background information YouGov independently collects about each respondent’s self-reported political affiliation. This data allows us to categorize respondents as Republican, Democrat, or Independent.⁶ After completing the quiz and being shown the true/false statements, respondents evaluated how favorable or unfavorable each statement was to the incumbent party at the time. For true statements, they indicated how favorably the headline reflected on the incumbent party. For false statements, they assessed how favorably it would have reflected on the

⁵Angelucci and Prat (2024) find that respondents’ ability to identify true statements was almost identical regardless of the type of false statement employed.

⁶In our analysis, we group together survey respondents who self-identify as Independent, those who are “not sure” about their party affiliation, and those who identify with “something else” rather than the main political parties.

incumbent party had it been true. A 5-point scale captured these perceptions: 1 (very unfavorable) to 5 (very favorable). Taking advantage of U.S. political bipartisanship, a statement favorable to Republicans is considered unfavorable to Democrats and conversely. The average statement is close to neutral and has a mean pro-Republican rating of 2.96 (SD=.42). In our first three surveys, this question was not included for all statements. We discuss the multiple ways in which we address this issue in Footnote 9.

2020 Presidential Election News Quiz. This paper also utilizes data from an additional news quiz specific to the 2020 U.S. Presidential Election survey. Our panel of journalists identified 8 top true news stories from their monthly selections since 2018. They also selected 4 synthetic fake news stories and 4 Snopes-verified fake stories from the same period. Respondents were randomly assigned to one of four quiz variants, each with 4 true statements, 2 synthetic false statements, and 2 Snopes-verified false statements. Respondents were given 80 seconds to make their selection. Table 1 lists all true and false statements in the election news quiz, distinguishing between synthetic and Snopes-verified fakes. On average, respondents selected 2.61 true statements (SD=.78).

As with the regular monthly news quizzes, participants in the election news quiz assessed how favorably each true and false statement reflected on the incumbent party. After completing the quiz and being shown the true/false statements, respondents evaluated each statement’s favorability using the same five-point scale. The average statement is slightly pro-Democrat and has a mean pro-Republican rating of 2.64 (SD=.40).⁷

⁷This is not an issue in our identification strategy, described in Section 2.2, which relies on differences in statements’ partisan reflection rather than their levels.

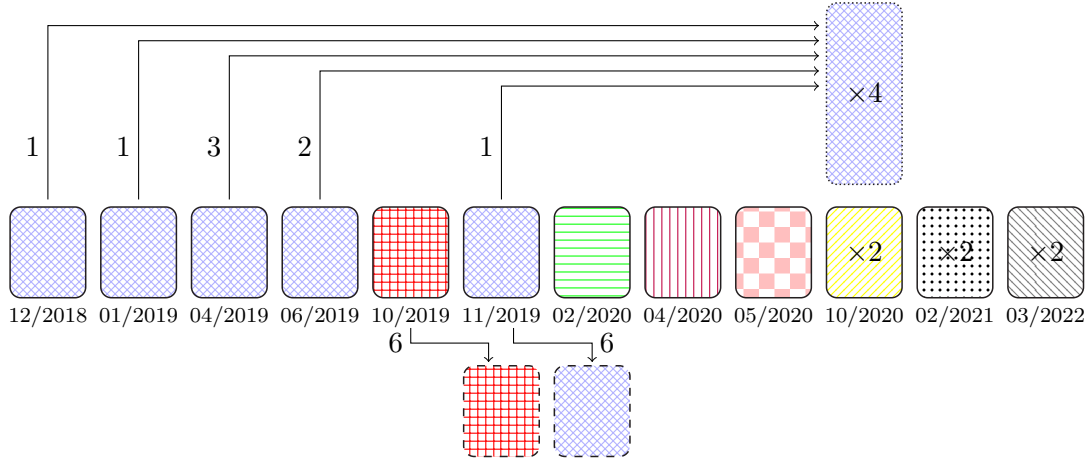


Figure 2: Organization of News Quizzes

Notes: The figure uses small solid rectangles to represent regular monthly news quizzes, while dashed rectangles indicate repeated quizzes. The large dotted rectangle signifies the election news quiz. The labels “x2” or “x4” denote whether a quiz had two or four variants, respectively. Rectangles with identical shading represent “connected” quizzes that share at least one statement, and arrows between these rectangles indicate the number of shared statements. The dates specify when each news quiz was administered to survey participants.

Figure 2 summarizes the data organization. It shows the month each survey launched, with small solid rectangles representing regular monthly news quizzes and dashed rectangles indicating repeated quizzes. The large dotted rectangle is the election news quiz from October 2020. “x2” or “x4” indicates whether a quiz had two or four variants. Identically shaded rectangles represent “connected” quizzes sharing at least one statement, with arrows indicating the number shared. E.g., one November 2019 statement was in the election news quiz. Not all election quiz statements were from previous months, as journalists could select important statements outside the monthly selections coinciding with surveys.

2.2 Model and Estimation

The raw data showed that participants selected more partisan-congruent news stories in the news quizzes included in the survey conducted just before the 2020 U.S. Presidential Election compared to the regular monthly quizzes administered outside of the election, suggesting partisan congruence played a larger role in determining political news beliefs. However, alternative factors may explain this pattern, such as the stories being more challenging to identify as true/false, more heavily dispersed along partisan lines, and older in the election news quiz.

Model To disentangle these various channels, we develop and estimate a model of news discernment that accounts for the potential effects of time, statements’ partisan reflection, and the difficulty in distinguishing true from false statements. In the model, agent i forms a belief about the truth of statement j , which is t months old, during period $e \in \{0, 1\}$, where $e = 1$ indicates the election period. We assume that the log-odds corresponding to this belief are a random variable that can be expressed as:

$$z_{ijte} = \theta_i \gamma_j \delta_t + \alpha_e b_j p_i + \varepsilon_{ijte}, \quad (1)$$

where ε_{ijte} is distributed according to a standard Gumbel CDF.

The log-odds z_{ijte} depend on several factors: individual i ’s discernment $\theta_i \in \mathbb{R}$, the degree $\gamma_j \in \mathbb{R}$ to which statement j ’s truth/falsity is easy to identify by discerning individuals, the effect of time passage $\delta_t \in \mathbb{R}$, and the partisan congruence term $\alpha_e b_j p_i$. In this latter term, p_i represents i ’s observed party identification (0 for Independents, 1 for Republicans, -1 for Democrats). b_j is statement j ’s observed favorability to Republicans (taken as respondents’ average rating, normalized across statements), with higher values corresponding to more pro-Republican statements and smaller values corresponding to more pro-Democrat statements.⁸ α_e measures this effect’s strength in election ($e = 1$) and non-election ($e = 0$) periods.⁹ In an extension, discussed below, we also allow the strength of partisan congruence between individuals and statements to depend on the passage of time.

Suppose agent i is presented with a set J of statements and is asked to select the statement $j \in J$ that they believe is most likely to be true. If ε_{ijte} is i.i.d. across statements, the probability that individual i selects statement j as the most likely to be true is:

$$\pi_{ijte}(J) = \frac{e^{\theta_i \gamma_j \delta_t + \alpha_e b_j p_i}}{\sum_{k \in J} e^{\theta_i \gamma_k \delta_t + \alpha_e b_k p_i}}. \quad (2)$$

⁸For the three statements where respondents’ favorability ratings were collected in multiple survey waves, we calculate the average across all periods to obtain a single measure.

⁹In the news quizzes included in our December 2018, January 2019 and April 2019 surveys, we did not collect the favorability ratings for all statements. To avoid dropping these surveys in our main analysis, which provide useful identifying variation for δ , we use a Large Language Model to impute the missing b_j values. Online Appendix B describes our imputation methodology. Because this approach has some important drawbacks, also discussed in Online appendix B, we show in Online Appendix E.2 that our results are not sensitive to dropping these quizzes or using alternative statement favorability measures.

In our survey quizzes, respondents are presented with a set of statements and informed that a specific number of them are true. They are tasked with selecting the true statements and are rewarded for doing so successfully. To model this decision-making process, we iteratively apply the choice probability expression in equation (2) to obtain the joint probability of an individual selecting any subset of statements as the most likely to be true. We use these joint probability expressions to construct the likelihood function for our model, which allows us to estimate the parameters of interest.

Estimation and Identification. We estimate the model parameters using Maximum Simulated Likelihood, utilizing data from all the news quizzes. When completing the news quizzes, 18.5% of respondents selected a number of statements that was either fewer or greater than the specified number of true statements (which they had been informed about). The overwhelming majority of these respondents chose strictly fewer statements than the indicated true count. We exclude these respondents from our primary dataset.¹⁰ We also exclude respondents who did not report their household income, which we use as a covariate, resulting in a total sample size of 7,423 individuals for the main analysis.

For estimation purposes, we assume that $\theta_i = 1 + \beta \mathbf{X}_i + \omega_i$, where $\mathbf{X}_i$ includes the following respondent characteristics: gender, age (lower than versus greater than or equal to median age of 52 across US adults), family income (lower than versus greater than or equal to \$60,000), education (bachelor’s degree or more versus not), ethnicity (White versus nonwhite), and party identification. The error term ω_i is normally distributed with a mean of 0 and a variance of σ^2 , which is to be estimated. Intuitively, the β parameters will be identified by using variations in statement selection rates across socioeconomic groups. Similarly, σ^2 is identified by the within-group variation in statement selection rates. The intercept of 1 normalizes the level of θ_i , which we cannot identify separately from the γ parameters.

Next, since only the difference between γ parameters matters for choice probabilities, we normalize one γ parameter to 1 for each set of connected quizzes. Recall that a set of connected quizzes

¹⁰Angelucci and Prat (2024) show that randomly imputing missing selections does not significantly affect model estimates.

is the set of quizzes which share at least one statement, as shown in Figure 2. The non-normalized γ parameters are identified by each statement’s selection rate relative to the normalized one. We assume that a statement’s associated γ parameter remains constant over time. Instead, we capture the effect of time through δ . Specifically, we set $\delta_{t \leq 1} = 1$ if a statement is less than one month old and estimate $\delta_{t > 1} \neq 1$ if a statement is more than one month old.¹¹ The parameter δ is identified by changes in the relative selection rates for pairs of statements included in quizzes administered at different times. Intuitively, if respondents’ ability to correctly identify stories decreases with the passage of time, the difference in selection rates for the same pair of stories should be smaller once they have aged compared to the month they broke. The extent of shrinkage of the difference in selection rates of repeated statement pairs identifies the value of δ . As shown in Figure 2, we can exploit numerous such repeated pairs to determine the effect of time on discernment.

Finally, in each period ($e = 0$ and $e = 1$), we identify α_e using the correlation in observed respondent-statement partisan congruence $p_i b_j$ and statement selection. The difference between α_1 and α_0 corresponds to the difference in the average strength of the partisan selection gaps during and outside election periods. Importantly, to identify this difference between α_1 and α_0 , we exploit not only the election news quiz but also the regular monthly quiz administered in October-November 2020.

3 Results

3.1 Main Analysis

The estimation results yield $\sigma = .8$ (SE: .03), $\delta = .64$ (SE: .03), $\alpha_{e=0} = .11$ (SE: .01) and $\alpha_{e=1} = .29$ (SE: .03). We compute standard errors using 1000 weighted bootstrap replications. A table of parameter estimates is provided in Online Appendix C.1. The estimated α parameters indicate a stronger partisan congruence effect during election periods compared to non-election periods, confirming the suggestive evidence presented in Figure 1. The model accurately predicts the selection rate of statements, including when they are included in multiple quizzes or quiz variants.

¹¹We consider an alternative, more flexible, model that allows for multiple values of δ depending on statements’ age in Online Appendix E.5.2. We find that our main results are virtually identical.

Table 1 presents the share of respondents that select each statement in the election news quiz, along with the corresponding model-predicted selection probabilities (π), partisan reflection values (b), estimated statement parameters (γ), and additional statement information. Similar tables for the monthly quizzes are presented in Online Appendix C.2.

	Statement	Share	π	γ_j	b_j	Repeated?	Snopes?
True	Special Counsel Robert Mueller did not find the 2016 Trump campaign knowingly conspired with Russia	0.60	0.66	0.73	1.29	1	N/A
	Former Trump lawyer Michael Cohen sentenced to prison	0.80	0.81	0.89	-1.11	1	N/A
	The U.S. Senate acquitted Trump of impeachment charges	0.83	0.82	1.00	0.14	1	N/A
	The U.S. Government was partially shut down in fight over Trump’s border wall with Mexico	0.49	0.49	-0.14	-0.98	1	N/A
	President Trump continued to hold campaign rallies despite Coronavirus outbreak	0.93	0.91	2.14	-1.38	0	N/A
	President Trump nominated Brett Kavanaugh to the U.S. Supreme Court	0.83	0.83	1.37	0.31	0	N/A
	President Trump signed an initial trade deal with China	0.39	0.41	-0.02	1.02	0	N/A
	Trump administration moved to end the National Institutes of Health’s ability to conduct research using fetal tissue	0.35	0.37	-0.49	-0.10	0	N/A
	House Republicans unveiled legislation to significantly limit funding to Planned Parenthood centers nationwide	0.57	0.52	0.08	-0.36	1	0
False	President Trump diverted Puerto Rico aid to fund the border wall with Mexico	0.35	0.36	-0.38	-1.71	1	0
	Attorney General Barr released text message from Special Counsel prosecutor Robert Mueller: “We’re taking down Trump”	0.17	0.19	-1.20	-0.17	1	0
	U.S. Border Patrol facility admitted to measles outbreak among migrant children in custody	0.38	0.35	-0.42	-0.85	1	0
	President Trump disparaged the Puerto Rican governor and statehood movement, tweeting that Puerto Rico was “a small island filled with savages”	0.31	0.31	-0.63	-1.94	0	1
	President Trump said: “Kim Jong Un is smarter and would make a better President than Sleepy Joe Biden.”	0.38	0.36	-0.36	-1.45	0	1
	President Trump said that former President Obama wrote the emoluments clause of the Constitution	0.15	0.14	-1.75	-0.95	0	1
	President Trump tweeted that George Floyd’s family was “honored to hear from me.”	0.46	0.45	-0.05	-0.68	0	1

Table 1: 2020 Presidential Election News Quiz

Notes: The table lists all true and false news stories included in the election news quiz. For each news story, the table reports the share of survey respondents who selected the statement when completing the quiz (Share), the predicted share of respondents who select the statement when completing the quiz (π), the predicted γ_j parameter, the standardized average partisan score b_j , a binary indicator of whether the story was included in an earlier monthly news quiz (Repeated?), and a binary indicator of whether the news story was sourced from Snopes. The Share and π columns are computed across quiz variants.

To present our main findings, we rely on the choice probabilities π (see Equation (2)) rather than directly interpreting the magnitude of the parameter estimates. Using our model estimates, we predict the performance of partisan individuals (either Democrats or Republicans) on various hypothetical news quizzes, each containing exactly one true and one false statement. The fake news story is assumed to reflect neither favorably nor unfavorably on either party. Instead, the true news story varies in its reflection towards a respondent’s party. This approach allows us to quantify and compare the relative importance of the factors that influence an individual’s ability to discern between true and fake news stories, including the impact of elections. Table 2 presents

the results.¹²

True Story	Baseline	Forgetting	Targeting	Election
Very Unfavorable	0.77	0.70	0.60	0.71
Unfavorable	0.79	0.73	0.63	0.77
Neutral	0.80	0.74	0.65	0.80
Favorable	0.82	0.76	0.67	0.84
Very Favorable	0.84	0.79	0.70	0.88
Partisan Gap	0.07	0.09	0.10	0.17

Table 2: Probability of Selecting True Story

Note: In every column, we report the predicted probability π that a partisan individual selects the true statement in a counterfactual quiz with one true and one false statement. The false statement is set to be neutral. We vary the reflection of the true statement towards an individual’s preferred party. In the “Baseline” column, $\delta = \delta_{t \leq 1} = 1$, $\alpha = \alpha_{e=0}$ and π is computed by averaging selection probabilities across all pairs of statements. The “Forgetting” column is identical to “Baseline”, except that we set $\delta = \delta_{t > 1}$. The “Targeting” is identical to “Baseline”, except that it is computed by subsetting the statement pairs to those which include the most plausible false statements. The “Elections” column is identical to “Baseline”, except that we set $\alpha = \alpha_{e=1}$. See in-text table description and Online Appendix D for additional details.

The first column in Table 2 presents the probability that an average partisan individual selects the true news story when both stories are less than 1 month old and the quiz is taken outside of an election period. On average, partisans are approximately 3 percentage points more likely to select the true story if it reflects favorably on their party rather than unfavorably. When considering extreme congruence/non-congruence levels, partisan respondents are about 7 percentage points more likely to select the true story if it reflects very favorably on their party compared to when it reflects very unfavorably. These magnitudes are comparable to those reported by Angelucci and Prat (2024), who show that the effects of partisan congruence on news discernment are typically lower than the effects of varying respondents’ socioeconomic characteristics, such as age or gender.

The second column in Table 2 presents the same probabilities, but when both news stories are more than one month old. The passage of time significantly reduces the likelihood of selecting the true statement, regardless of its reflection on one’s party. However, the effect of partisan congruence

¹²We construct the set of all pairs of true and false stories within a set of connected quizzes. The 50th and 90th percentiles of the distribution of absolute differences between the partisan reflection score of the true and false story in each pair are used to construct the reflection values of stories that are “Favorable” and “Very Favorable”, respectively. We construct the “Unfavorable” and “Very Unfavorable” rows symmetrically by setting the partisan reflection of the true story as -1 multiplied by the respective favorability quantile. The true story partisan reflection is set to 0 for the “Neutral” row. We then set the b value of the true story in each pair to each of the drawn quantiles and the b of the false story to 0, and compute the average π for each difference in reflection and pair of stories. Details regarding the construction of Table 2 are provided in Online Appendix D.

increases only moderately. For instance, at extreme congruence/non-congruence levels, partisans are approximately 9 percentage points more likely to select the true story if it reflects very favorably on their party compared to very unfavorably - only a 2 percentage point increase from the less than 1 month old scenario considered in Column 1.

The third column assumes both stories are less than 1 month old and the quiz is completed outside an election period, but with the most plausible fake news stories, making the quiz more challenging.¹³ In this scenario, respondents rely more on partisan congruence to form beliefs. Unsurprisingly, respondents are less likely to select the true news story, but the effect on the partisan gap is modest compared to the baseline, with only a 3 percentage point increase at extreme congruence/non-congruence levels. This suggests that outside of election periods, the extent to which more plausible fake news may generate parallel information universes along partisan lines is relatively limited.

Finally, the fourth column in Table 2 presents the probability that an average partisan individual selects the true news story when both stories are less than 1 month old and the quiz is completed during an election period. Strikingly, the effect of partisan congruence more than doubles compared to the baseline scenario in the first column, where the same quiz is taken outside an election period. On average, partisans are about 8 percentage points more likely to select the true story if it favors their party rather than disfavors it. Furthermore, they are 17 percentage points more likely to select the true story if it reflects very favorably on their party compared to very unfavorably.¹⁴

All in all, our model estimation exercises corroborate the pattern hinted at by the raw data presented in the introduction: even after accounting for stories' age, quiz difficulty and differences in partisan dispersion of news stories, we find that partisan congruence shapes individuals' beliefs about political news far more strongly during election periods than non-election periods. Elections, it seems, amplify the influence of partisanship on the perception of truth.

¹³The most plausible false story in a set of connected quizzes is the false story whose estimated γ_j parameter is the highest in that set of connected statements.

¹⁴Interestingly, these numbers are in line with those found by Allcott and Gentzkow (2017), who analyze data from a news quiz administered close to the 2016 presidential election and find that "Democrats and Republicans, respectively, are 17.2 and 14.7 percentage points more likely to believe ideologically aligned articles than they are to believe nonaligned articles."

3.2 Robustness Checks

Our imputation method for the missing statement reflection values b_j has some important drawbacks, discussed in Online Appendix B. We show in Online Appendix E.2.1 that our results are not driven by this imputation and dropping the quizzes affected by the missing statements does not alter our conclusions. The rest of Online Appendix E.2 constructs the statement reflection values b_j using multiple alternative methods and finds similar results.

In Online Appendix E.3, we estimate a version of the model where the partisan congruence parameter α varies before, during, and after the presidential election. We report the parameter values for each period along with their associated 95% confidence intervals. The estimate of α for the October/November 2020 survey, conducted in the days immediately preceding the 2020 Presidential Election, is markedly higher than the pre- and post-election estimates, with differences in α between periods statistically significant at the 95% confidence level.

Online Appendix E.3 also includes a version of the model where the parameter α is allowed to vary monthly. The α estimate for the October/November 2020 survey remains markedly higher than any other estimate. However, due to the relatively small sample size in each non-election survey, the confidence intervals for the corresponding α parameters are large. Lastly, we show that estimating a separate α parameter for each of the two October/November 2020 quizzes (the regular monthly quiz and the special elections news quiz) yields very similar conclusions. This finding provides additional evidence that our result is not driven by the election-specific news quiz but rather by the election period itself.

In Online Appendix E.5.2, we estimate a version of the model with two values of δ . One value is applied to stories observed for the second time within 2 to 3 months of their initial release, while the other is applied to stories observed for the second time after more than 3 months. We find that the effect of time passing on respondents' selections is more pronounced for older stories, but the estimates are very close, supporting the more parsimonious modeling choice made in the main model.

In Online Appendix E.4.2, we find that Independents who lean towards one of the two major parties exhibit a similar increase in partisan congruence, and are even more partisan in their beliefs

than moderate partisans, both during and outside of elections. These results suggest that the vast majority of American voters—79% of our sample—become much more likely to believe politically congruent news during an election, not just those with strong partisan identifications.

Online Appendix E.4.4 shows that partisan congruence strengthens during elections for all demographic groups, especially for men, white, lower-income, older, and non-college educated respondents. Surprisingly, the news beliefs of high discernment groups (older, white, and male) become at least as partisan as other groups during elections, suggesting that even those with strong discernment are prone to partisan bias in election periods.¹⁵

Finally, online Appendix E.4.3 shows that the effect of partisan alignment on news beliefs is smaller along ideological lines than partisan lines, both during and outside elections. However, we still find a large increase in the congruence effect during elections.

3.3 Mechanisms

Our main findings suggest that individuals exhibit significantly more partisan beliefs when assessing the truthfulness of news stories during elections. These results can be interpreted through the lens of the motivated beliefs framework (Bénabou and Tirole, 2016), which posits that individuals trade off the instrumental value of holding accurate beliefs against the psychological costs of maintaining beliefs incongruent with their partisan identity.

Within the motivated beliefs framework, two underlying mechanisms can explain our findings. First, voters could exhibit *context-dependent beliefs*, where partisan respondents find incongruent stories less likely to be true during the election period due to a heightened sense of partisan identity. Second, voters might experience *partisan forgetting*, where their memories of stories might be influenced by their partisan congruence, either because they pay more attention to congruent stories when they break or because they recall congruent stories more easily. Given that the election quiz included older news stories, partisan forgetting is a plausible mechanism. We argue that our analysis favors the former hypothesis.

Two of the robustness checks mentioned above provide support for the context-dependent

¹⁵See the β coefficients in Online Appendix C.1, indicating that older, white, and male respondents are more discerning about the news (consistently with the findings in Angelucci and Prat, 2024).

beliefs hypothesis. First, we find that the increase in partisan congruence appears to follow the electoral cycle: it is relatively low before the election, rises significantly during the election period, and then decreases once the election concludes. This pattern suggests that the heightened salience of partisan identities during the election may be driving the observed changes in belief formation. Second, we obtain similar results when we estimate separate partisan congruence parameters for the election news quiz and the regular recent news quiz included in the October/November 2020 survey. By construction, the partisan forgetting channel cannot explain the significant increase in partisan beliefs observed in the recent news stories quiz. This finding suggests that context-dependent beliefs alone account for most of the increase in the partisan congruence effect.

We can also offer one additional piece of suggestive evidence in favor of the context-based beliefs hypothesis. In Online Appendix E.4.1, we estimate partisan congruence effects for three groups: those who had already voted, those certain about turnout and candidate choice, and the remaining individuals (non-voters and undecided voters). Our results reveal that partisan congruence increases during elections for all types of individuals. However, the effect is markedly stronger for voters compared to non-voters or undecided voters. While this pattern should be interpreted cautiously, it aligns with a context-dependent story, where the instrumental value of information is greater for undecided and uncommitted voters, while those who have already made up their mind experience mainly confirmatory bias. The obvious caveat is that these two types of voters differ in many other important ways.¹⁶

Finally, in Online Appendix E.5.1 we augment our framework to conduct a direct test of the partisan forgetting hypothesis mentioned above. In this augmented model, the parameter δ again captures the effect of time passage on news discernment independently of a story’s partisan reflection score, while a new parameter, r , captures partisan forgetting. As explained in greater detail in Online Appendix E.5.1, we estimate this parameter by analyzing news stories included in multiple news quizzes over time.¹⁷ Perhaps surprisingly, we find that r has virtually no impact

¹⁶In a similar exercise, we estimated a different partisan congruence effect for respondents in swing states and those in other states - for which the instrumental value of information and salience of partisan identity may be different. We do not find a large difference between the two.

¹⁷Both δ and r rely on repeated statements for identification, but the nature of the identifying variation differs between them. The key distinction lies in that δ pre-multiplies unobserved parameters (γ), while r pre-multiplies observed values (b). The model attributes within-survey differences in selection rates across statements to the γ

on news beliefs, suggesting that partisan forgetting does not seem to be at play.

4 Conclusion

This paper has shown that the prevalence of parallel information universes along partisan lines is heavily influenced by the proximity to an election. Outside of election cycles, the perceived plausibility of a news story is only marginally affected by its reflection on an individual’s preferred political party. In contrast, during an election, people exhibit a strong tendency to find news stories that portray their preferred party in a positive light to be much more plausible.

Our findings fit within a “context-based” motivated beliefs framework, whereby election periods trigger a stronger desire among individuals to affirm their partisan identity, leading to more biased evaluations of news stories and the formation of “parallel information universes” along partisan lines.

The findings of our study are consistent with a growing body of literature on the influence of partisan identity on information processing and the amplification of affective polarization during electoral periods. Previous research has shown that partisan identity can lead to directional motivated reasoning, where individuals are more likely to believe and recall information that aligns with their political beliefs (Kunda, 1990; Taber and Lodge, 2006; Bolsen et al., 2014; Green et al., 2002; Achen and Bartels, 2016; Tappin et al., 2021).

References

- Achen, Christopher H. and Larry M. Bartels**, *Democracy for realists: Why elections do not produce responsive government*, Princeton University Press, 2016.
- Allcott, Hunt and Matthew Gentzkow**, “Social Media and Fake News in the 2016 Election,” *Journal of Economic Perspectives*, May 2017, 31 (2), 211–36.
- Angelucci, Charles and Andrea Prat**, “Is Journalistic Truth Dead? Measuring How Informed Voters Are about Political News,” *American Economic Review*, April 2024, 114 (4), 887–925.

parameters, whereas changes in differences in selection rates for repeated pairs of statements across surveys are attributed to δ . Consequently, as illustrated in Figure 2, δ is identified by pairs of repeated statements. In contrast, r requires only one repeated statement for identification, as the b values are observed. However, this approach has a limitation: the model cannot adjust b values and must absorb any variation in partisan selection rate gaps between recent and older stories by adjusting r . Unfortunately, many stories repeated in the election quiz were included in quizzes where b values were not collected for all stories. As a result, one may be concerned that the imputation method for the b ’s in these quizzes may play a large role in the estimation of r , which is a key reason why we do not consider this specification our preferred one.

- Bolsen, Toby, James N. Druckman, and Fay Lomax Cook**, “The Influence of Partisan Motivated Reasoning on Public Opinion,” *Political Behavior*, 2014, *36* (2), 235–262.
- Bénabou, Roland and Jean Tirole**, “Mindful Economics: The Production, Consumption, and Value of Beliefs,” *Journal of Economic Perspectives*, September 2016, *30* (3), 141–64.
- Green, Donald P., Bradley Palmquist, and Eric Schickler**, *Partisan hearts and minds: Political parties and the social identities of voters*, Yale University Press, 2002.
- Kunda, Ziva**, “The case for motivated reasoning,” *Psychological bulletin*, 1990, *108* (3), 480.
- Pennycook, Gordon and David G. Rand**, “The Psychology of Fake News,” *Trends in Cognitive Sciences*, May 2021, *25* (5), 388–402.
- Taber, Charles S. and Milton Lodge**, “Motivated Skepticism in the Evaluation of Political Beliefs,” *American Journal of Political Science*, 2006, *50* (3), 755–769.
- Tappin, Ben M., Gordon Pennycook, and David G. Rand**, “Rethinking the link between cognitive sophistication and politically motivated reasoning,” *Journal of Experimental Psychology: General*, 2021, *150* (6), 1095–1114.
- World Economic Forum**, “Global Risks Report 2024,” Technical Report, World Economic Forum, Geneva, Switzerland 2024. Accessed: 2024-06-22.