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DISCUSSION PAPER SERIES

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ABSTRACT

Ideological Alignment and Evidence-Based Policy Adoption*

The implementation of evidence-based policies hinges on the dissemination of evidence to policymakers, a process influenced by the attributes of the sender. We conduct a country-wide RCT in which two ideologically opposite prominent think tanks, two major newspapers, and a research institution with nonsalient ideology communicate identical information about a low-cost, non-ideological, and effective policy based on published research findings to a large sample of Spanish local policymakers. We measure the impact of information directly on policy adoption and find heterogeneous effects. When the informing institution aligns ideologically with policymakers, communicating research results leads to a more than 65% increase in policy adoption compared to an uninformed control group, while informing from an opposite ideology does not lead to policy adoption. Our design also allows us to compare the impact of knowledge brokers, such as think tanks, and coverage in leading newspapers in adopting public policies. We find that, when ideologically aligned with policymakers, both are equally effective in increasing policy adoption. We propose a three-stage conceptual framework of policy adoption processes - selective exposure to information, belief updating, and policy implementation- and show that ideological alignment does not influence selective exposure to information. However, evidence from a post-intervention online experiment shows that ideological alignment affects belief updating regarding a recommended policy's effectiveness. Finally, we discuss the trade-offs between effectiveness and outreach when using ideologically aligned and nonsalient institutions to disseminate research evidence and comment on the economic impact of ideological alignment for policy implementation.

JEL Classification:	P0, C93, D72, D78, D83
Keywords:	evidence-based, policy adoption, ideological alignment, RCT, policy brief, media

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1 Introduction

Understanding how to improve the dissemination of scientific knowledge to policymakers is crucial for economic and social progress. Despite worldwide efforts to disseminate research findings and promote evidence-based policymaking (OECD, 2020), a significant gap persists between available evidence and the policies ultimately implemented (European Commission, 2022). Knowledge brokers seek to bridge this gap between researchers and policymakers; however, information provision does not happen in a laboratory; it inevitably occurs in politicized contexts. While some knowledge brokers, like think tanks, are affiliated with specific ideologies, others are not.[1] This raises two pivotal questions: How does the ideological alignment between the institutions disseminating research and policymakers affect the adoption of evidence-based policies? And, are prestigious institutions with nonsalient ideologies the most effective in promoting evidence-based policies? To answer these questions, we conducted a country-wide field experiment collaborating with prominent and authoritative institutions with opposing ideologies who disseminated research findings to a large sample of local policymakers.

Our main experimental design keeps the information provided to policymakers constant and manipulates two key variables — the institution disseminating research evidence and the format of information delivery — to investigate their impact on policy adoption across three potential factors. First, similarly to Hjort et al. (2021), we analyze the influence of receiving information compared to an uninformed control group. Second, we introduce variation in the ideological leaning of the informing institution, exploring the causal effect of ideological alignment or misalignment between the policymaker and the institution. Moreover, we investigate whether prestigious ideologically nonsalient research institutions can be as effective as ideologically aligned institutions to foster the adoption of evidence-based policies. Last, our design also allows us to compare the effectiveness of knowledge brokers, such as think tanks, to that of media coverage in the adoption of public policies, following the recent literature on the importance of the medium of information delivery (e.g., Masset et al., 2013; Banerjee et al., 2020; Arnautu and Dagenais, 2021; Yian Yin and Wang,

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[1]For example, the Congressional Budget Office in the US, the What Works Network in the UK, or Ciencia en el Parlamento in Spain. Moreover, public engagement offices and media communication departments of many prominent universities act as non-ideological knowledge brokers.

2021). We compare the rate of policy adoption when policymakers receive information about the research evidence via policy briefs prepared by renowned political think tanks and when they access articles published in prominent news outlets and written by professional journalists.

To accurately assess the effect of ideological alignment between informing institutions and receiving policymakers, it is important to isolate other potential reasons that may affect policy adoption. The ideal research evidence and its associated policy recommendation need to be unequivocally effective, ideologically neutral, have a low implementation cost, be rigorous, prescriptive, timely, and within the decision remit of policymakers. Our policy recommendation, derived from the findings of Hinnosaar et al. (2021), satisfies these criteria. Their randomized controlled trial study showcases the efficacy of enhancing municipalities' Wikipedia pages to bolster tourism. This is particularly relevant for Spain, where the initial research and our study were conducted, since tourism is a pivotal sector of the Spanish economy, contributing around 12.4% of GDP (OECD, 2022). Moreover, our experiment occurred during Spain's recovery from the COVID-19 pandemic, a period wherein tourism emerged as a linchpin for economic revitalization (OECD, 2022). Finally, changing municipalities' Wikipedia page is non-ideological,[2] has a very low implementation cost, is within the responsibility of local policymakers, and its implementation is easily traceable.

The experiment was conducted in 5,678 municipalities (out of 8,131 municipalities in Spain) with a revealed interest in tourism and where we could identify local governments' ideology. Municipalities were randomly assigned to five treatment arms and a control group. The first three arms received the same information communicated either by an ideologically aligned think tank, a think tank on the opposite side of the ideological spectrum, or a researcher from a renowned foreign research institution with no salient ideology, which we call *nonsalient*. The other two treatment arms received links to an article describing the research published in the online version of ideologically aligned or opposite newspapers. Municipalities in the control group received no information. To measure policy adoption, we tracked changes in the municipal Wikipedia pages that were consistent with the recommended policy. Upon completing the experiment, we conducted an online survey, which included an experimental component, with a broader sample of municipal policymakers. This helped us better understand policymakers' attitudes toward evidence-based policymaking and how

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[2]Appendix A shows that this policy is equally supported between left- and right-wing policymakers using survey data.

ideological alignment between policymakers and informing institutions shapes belief updates about the effectiveness of interventions. Finally, we use the figures on the impact of Wikipedia changes on touristic revenues by Hinnosaar et al. (2021) to estimate the cost of ideological misalignment between the institution communicating research results and the policymakers receiving it.

Our results indicate that merely providing information increases policy adoption by 38% relative to the uninformed control group, although this increase is marginally above conventional significance thresholds (p-value=0.13). However, the effect of information provision on policy adoption in our experiment conceals substantial heterogeneity. When the ideologies of policymakers and informing institutions align, we find that the probability of policy adoption increases by more than 65% compared to the control group (p-value=0.03). Conversely, when information comes from institutions with opposite ideologies, the coefficient is small and statistically non-significant, indicating that receiving evidence from an institution with an opposite ideology is similar to receiving no information. The effect size of receiving a policy brief from an ideologically nonsalient prestigious institution is nearly half that of a policy brief from an institution with an aligned ideology. However, the coefficient is not significantly different at conventional confidence levels from either the control group or the group of municipalities that get information from an aligned institution. Finally, comparing municipalities that received newspaper articles with those receiving policy briefs, the observed difference proves marginal and lacks statistical significance, implying that both formats are similarly effective in influencing policy adoption.

We then examine the different stages at which ideological alignment may interfere with translating research evidence to policy implemented policy. We propose a three-stage conceptual framework that reflects the behavioral barriers to evidence-based policy adoption in line with Linos (2023): (1) selective exposure to information, (2) belief updating, and (3) policy implementation. First, the literature on polarization has found evidence of partisan selective exposure, showing that individuals tend to avoid information that might contradict their ideological priors (Stroud, 2010) and select media outlets whose biases match their own preferences or prior beliefs (see Gentzkow et al., 2016 for a review of this literature). Second, ideological alignment between informing institutions and policymakers may affect policymakers' beliefs about research evidence. As Bénabou and Tirole (2016) have shown, beliefs often fulfill important psychological and functional needs of the

individual, such as social or political identity protection, coherence with previous beliefs, or moral self-esteem. When dealing with politics, individuals often show politically motivated reasoning that makes them resistant to new evidence (Kunda, 1987; Taber and Lodge, 2006; Druckman et al., 2021; Dan M. Kahan and Braman, 2011). For instance, Gentzkow et al. (2018) show that even minor biases can lead individuals on both sides of the ideological spectrum to trust ideologically aligned but unreliable sources over factual and neutral ones and to change their beliefs about facts. Finally, ideological alignment might restrict policy implementation, even when policymakers are convinced about the effectiveness of the policy due to factors such as career concerns (Besley, 2005), the political economy of implementation (Cerna, 2013), the political economy of policy reform (Rodrik, 2018), or party cues (Cohen, 2003).

To examine the hypothesis at the core of the first stage in our framework, we measure the proportion of policymakers who chose to access the full information once they became aware of the informing institution's ideology.[3] The literature on strategic information acquisition, starting with Crawford and Sobel (1982), discusses why, in certain instances, individuals may strategically prefer to be informed from aligned or opposite sources to gain more information (see, more recently, Alonso and Padró i Miquel, 2023.) Our findings reveal no differences in access to the full information across treatments, which is consistent with the hypothesis that policymakers did not appear swayed by the ideology of the informing institution when deciding to acquire further information.

To test the hypothesis guiding the second stage of our framework, we conducted a survey experiment with 1,600 policymakers from 1,196 different municipalities, including many from our main experiment. Participants in the survey were asked about their beliefs regarding the potential impacts of a purportedly beneficial policy, different from the one used in our main experiment. Subsequently, policymakers were randomly assigned to receive information from think tanks with either aligned, opposite, or nonsalient ideologies, presenting published research that highlighted the actual negative effects of the policy. We then inquired whether they would believe the study results and still advocate for implementing this detrimental policy. Such motivated political reasoning and ideological biases have also been widely documented among policymakers in the literature (Baekgaard

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[3]The emails were sent from an account without ideological salience to maximize exposure. Once policymakers opened the email, they learned which institution was disseminating the research and could choose whether to access the information. See Section 3 for details of the design.

et al., 2017; Butler et al., 2017; Banuri et al., 2019; Christensen and Moynihan, 2020; Vivalt and Coville, 2023). We show that those individuals who received information from an institution with an aligned or nonsalient ideology updated their beliefs much more than those receiving information from an ideologically opposite institution. This result implies that ideological alignment matters at the stage of updating beliefs about policy effectiveness.

Finally, we compare the outcomes of our main experiment on policy adoption and our survey experiment. In the survey experiment, those policymakers receiving information communicated by an ideologically nonsalient think tank updated their beliefs to the same extent as those receiving information from an ideologically aligned think tank. However, in the main experiment, the latter group was nearly twice as likely to adopt the policy than the former, although the difference between both treatments is statistically non-significant. Taken together, and assuming policymakers update their beliefs and act upon them similarly across both experiments, the results suggest that policy adoption may depend on more factors than just belief updating. Thus, comparing the results of both experiments suggests that ideological alignment affects policy adoption across both our framework's second and third stages.

Our paper builds upon Acemoglu and Robinson (2013)'s and, more recently, Dercon (2023)'s observation that politics have often been neglected when studying the effects of policy recommendations and advice. In response, a recently growing body of literature has focused on policymakers and their ideology and how it affects their beliefs and attitudes towards evidence using surveys, without measuring actual policy adoption (e.g., Banuri et al., 2019; Nakajima, 2021; Toma and Bell, 2022; Lee, 2022; Vivalt and Coville, 2023). Closest to our research are recent studies analyzing the impact on actual policy adoption of policymakers' access to scientific evidence and methods by Hjort et al. (2021), and Mehmood et al. (2024). We bridge this literature to another related research that discusses the bottlenecks to randomized control trials' (RCT) policy adoption (Kremer et al., 2019; Wang and Yang, 2021; DellaVigna et al., 2022). In both of these strands of literature, ideology is not explicitly studied as a main factor. However, when analyzing how innovative policies are diffused across different governments, DellaVigna and Kim (2022) identifies the role of ideology as a prominent factor. Our main contribution is that we study, for the first time, how ideological alignment affects *policy implementation* using a country-wide sample of policymakers and real and

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authoritative ideological institutions to inform them. This provides a natural, unique, and controlled setting, mimicking how policymakers often inform themselves about evidence to assess how ideological alignment between the informing institution and the policymaker affects policy adoption in practice.

Second, we add to the literature on motivated reasoning, polarization, and partisan bias, which has shown, using ideologically charged examples such as climate change or COVID-19 vaccination, that when research evidence aligns with a particular ideology, it affects the general public's belief updating and compliance with policies (Druckman et al., 2021; Druckman and McGrath, 2019; Guilbeault et al., 2018; Butler and Broockman, 2011). When policies have an ideological component, it is hard to disentangle its effect from the informant's ideology. Our use of a non-ideological policy, together with our post-intervention experimental survey, allows us to isolate the effect of the informant's ideology along the policy adoption process.

Third, we contribute to the literature in political science that focuses on the importance of the messenger and the format of scientific communication. The *messenger effect* literature analyzes how the characteristics of the messenger, such as authority, credibility or likability, influence how information is received and acted upon (Afrouzi et al., 2023; Maclean et al., 2019; Favero et al., 2021; Diamond and Zhou, 2022; Banerjee et al., 2020). Afrouzi et al. (2023) also studies the role of ideology as a characteristic of messengers, along with those listed above, and like others, focuses on how the general public receives the message. In contrast, we contribute to this literature by estimating the effect of ideological alignment between the messenger and the policymakers on adopting evidence-based policies.

Fourth, a growing literature on policy communication emphasizes policy briefs as crucial and increasingly popular means of communicating evidence (see Masset et al., 2013, and a review in Arnautu and Dagenais, 2021). For example, Yian Yin and Wang (2021) show how policy briefs from think tanks have been vital for policymakers to obtain cutting-edge information about the Covid-19 pandemic. On the other hand, the media also serves as a crucial conduit through which policymakers access evidence from scientific studies (Grossman, 2022). In a pilot survey conducted with Spanish mayors before our main experiment, we found that nearly 66% indicated media as an important source of information for learning about evidence. Our design allows us to compare the

effectiveness of both instruments in fostering evidence-based policy adoption. We find that both can be equally effective in policy adoption, an additional novel contribution to this literature.

Finally, we contribute to the literature on belief formation among professionals such as central bankers (Malmendier et al., 2017), academics (DellaVigna and Pope, 2017), or policy analysts (Banuri et al., 2019).[4] For instance, Baekgaard et al. (2017) and Christensen and Moynihan (2020), using survey experiments, show that policymakers, more than the general public, tend to reject evidence contradicting their prior beliefs and resist de-biasing interventions. We contribute to this literature by focusing on local policymakers and expanding the analysis beyond belief formation to study actual policy adoption.

The next section describes the experimental design. In Section 3, we show how the experiment was implemented and how we constructed our data. The empirical strategy and the main results are presented in Sections 4 and 5. Section 6 introduces the conceptual framework and tests at which stage of the policy adoption process - information exposure, belief updating, or policy implementation - ideological matching affects evidence-based policy adoption. Finally, Section 7 discusses the implications of our findings and concludes. A detailed description and analysis of our online endline survey, a translation of all materials used in the experiment, the heterogeneous effects of the treatment arms, the treatment effects on other Wikipedia outcomes, calculations of the welfare effects of our intervention, and an explanation of the deviations with respect to the pre-analysis plan are reported in the Appendices.[5]

2 Experimental design

Our experiment examines whether informing local policymakers about peer-reviewed research evidence increases the adoption of a policy based on such research. We introduce experimental variation in (a) whether policymakers are informed or not, (b) the ideological alignment between the policymakers and the institution informing about the evidence, and (c) the communication format in which information is presented to the policymakers.

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[4] There is a tangentially related political science literature which focuses on political biases and discriminatory behavior of policymakers towards their citizens when delivering services (Butler et al., 2017; Gaikwad and Nellis, 2021; Barceló and Vela Barón, 2023).

[5] The complete registered pre-analysis plan is publicly available at: https://www.socialscienceregistry.org/trials/8967.

We present local policymakers with the results of Hinnosaar et al. (2021), which utilizes tourism as a case study to explore how online content can influence offline consumer behavior. The paper documents that Wikipedia can play a significant role in enhancing revenue from tourism in Spain. Tourists often research travel destinations on Wikipedia before they decide on their destination. Informative Wikipedia pages might thus positively influence the choice of touristic destinations and/or the length of the stay. To test this hypothesis, the authors relied on an RCT to assess the effects of changes in the Wikipedia pages on touristic outcomes for a selection of 60 Spanish municipalities. The edits were carried out by the authors and their editorial team without communicating with the municipalities.[6] The study results received limited media coverage, and therefore, local policymakers were arguably unaware of the study results at the time of our intervention.[7] Their experiment reveals that minor improvements, such as including photographs or completing the information about local festivities or tourist landmarks on the municipalities' Wikipedia pages, increased the number of overnight stays by 9%.

Our sample consists of all Spanish municipalities considered touristic according to a list of objective criteria explained in the next section. We randomly divided our sample of 5,678 touristic municipalities into six groups of similar size to have five treatment arms and one control group (each group included about 950 municipalities). The randomization was stratified according to three criteria: the political party ruling the municipality, the municipality's population, and the number of touristic accommodations available in the municipality.[8]

In the first treatment arm, the research evidence is provided in the form of a policy brief sent by a think tank with an ideology aligned with the municipal government: FAES if the municipality is classified as right-wing, and Fundación Alternativas if the municipality is left-wing. Both institutions are arguably the two most influential conservative and progressive think tanks in Spain, respectively.[9] In the second treatment arm, the same *policy brief* is endorsed by the think tank

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[6]In a follow-up paper, the authors find that the Wikipedia changes conducted in the experiment do not trigger more or less subsequent changes in the content of the Wikipedia page (Hinnosaar et al., 2022).

[7]Only the small online news portals La Informacion and Tourinews had published brief articles about the study results. See `https://www.lainformacion.com/management/turismo-editar-pueblos-wikipedia/2815402/` and `https://www.tourinews.es/resumen-de-prensa/curiosidades/wikipedia-clave-reactivar-turismo-rural_4461915_102.html`.

[8]For stratification purposes we divided all municipalities in the sample into four groups according to the ideology of the party ruling the local government. The population of the municipality and the number of tourist accommodations were obtained from official registries and divided into tertiles for stratification purposes.

[9]Appendix B contains the description of both think tanks, as it was provided to policymakers. Such de-

of the *opposite ideology*. In the third treatment arm, the same policy brief was sent using the letterhead of Berkay Özcan, a professor at the London School of Economics (and co-author of our study), which included LSE's logo and the university's description. This serves as our ideologically nonsalient treatment[10]

The remaining two treatments use media outlets instead of think tanks as the informing ideological institutions. In the fourth treatment, the research evidence is presented in an article published on the webpage of a newspaper whose ideology is *aligned* with the municipal government: El Mundo, if the municipality is classified as right-wing, and Eldiario.es if the municipality is classified as left-wing. El Mundo and Eldiario.es are two of the main media outlets in Spain and are clearly identified on the right and left of the political spectrum, respectively (see, for instance, Majo-Vazquez, 2022).[11] The fifth treatment arm presents the research evidence in an article published in a newspaper with an *opposite ideology*.[12]

We commissioned policy experts to write policy briefs and professional journalists to write newspaper articles. Both included the same basic information summarizing the research evidence, its relevance for Spanish municipalities, and the type of changes recommended. The text of the three policy briefs was exactly the same across treatment arms. Similarly, the text published by both media outlets was identical. Municipalities in the control group received no information.

Figure I shows the experimental design and the sequence of our intervention. Once municipalities were selected and classified according to the ideology of their government, municipalities in all treatment arms received an initial email (and several reminders) from the same non-ideological research center specialized in tourism.[13]

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scription was extracted from the webpages of both think tanks: `https://fundacionfaes.org/` and `https://fundacionalternativas.org/`.

[10]In the landscape of Spanish municipal politics, LSE is not usually thought of as being part of Spanish politics. Thus, for our experimental design what is important is that LSE's ideology is perceived as being less salient than the think tanks and media outlets in our other treatments.

[11]Appendix B contains a translation of the description of both newspapers, as it was provided to policy-makers. The published articles, both with the exact same text, can be found at `https://www.elmundo.es/television/medios/2022/03/07/622663cffc6c832a3b8b45d5.html/` and `https://www.eldiario.es/economia/estudio-demuestra-wikipedia-gran-aliado-recuperar-sector-turistico-espana_1_8888694.html/`, respectively.

[12]There is no treatment arm using a non-ideologically aligned newspaper since we could not identify one in the Spanish political landscape. The effect of receiving evidence from a non-ideologically aligned institution is calculated by comparing policy briefs with respect to the control group.

[13]The email was sent from an institutional account of the Instituto Universitario de Turismo y Desarrollo Económico Sostenible (TIDES), which is a small research center specialized on tourism studies associated with the University of

Figure I: Experimental Design
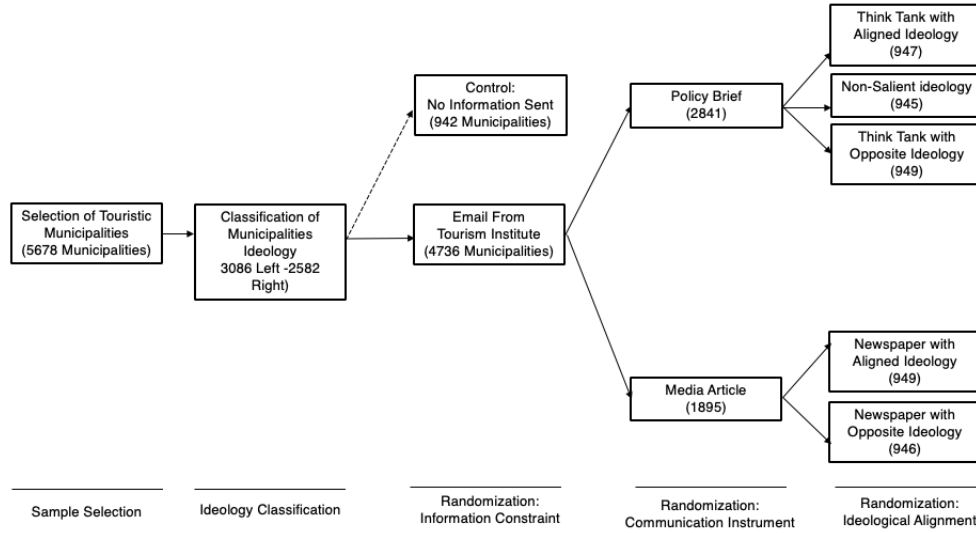
The email included a very short summary of the evidence and highlighted that the research paper presenting the evidence had been published in a prominent international academic journal. In addition, the email text recommended three changes to the municipalities' Wikipedia page to boost tourism: adding information on local festivities, references to touristic landmarks, and including new pictures of the municipality.[14] The message also emphasized the importance of having versions of the municipality's Wikipedia page translated into multiple languages, particularly English. The body of the email prominently displayed the institution that informed about the evidence, which varies by treatment, including the logo and an ideologically salient description of the institution. Finally, the email included two hyperlinks. The first one directs to the policy brief/newspaper assigned in the randomization and, therefore, varies by treatment arm. Both the policy briefs and the newspapers added details about the evidence and reinforced the importance of the changes recommended in the email to improve tourism in the municipality. The second link directed the reader to step-by-step instructions on how to change Wikipedia. The latter document was the same across treatment arms.

To sum up, the email's main content, the subject line, its sender, and the link to the instructions

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Las Palmas de Gran Canaria. `https://tides.ulpgc.es/`

[14]Remarkably, these changes are doable even in very comprehensive Wikipedia pages of big cities, as it is always possible to add a new photograph of touristic landmarks or complete information about touristic landmarks and local festivities, which is particularly scarce even in the most comprehensive Wikipedia pages.

are the same across all treatment arms. On the other hand, the informing institution, policy briefs, and newspaper articles vary across treatment arms. Policy briefs, newspaper articles, the informing institution, and its ideology were only visible once the email was opened.

Our design allows us to compare email opening rates, access to policy briefs and newspaper articles once policymakers learn the ideology of the informing institution, and changes in Wikipedia across groups to investigate three questions. First, does providing information to policymakers increase policy adoption? Second, does the ideological alignment between the informing and the policy-maker affect policy adoption? Third, does the instrument used to describe the summary evidence (newspaper vs policy brief) affect policy adoption? A detailed description of these questions and the empirical strategy used to test them is provided in Section 4.

3 Implementation of the intervention and data construction

We started by defining the universe of Spanish municipalities where tourism plays a relevant economic role. Spain is organized administratively in 17 autonomous communities, 50 provinces, and 8,131 municipalities. Municipalities have a mayor and a council responsible for managing local affairs, including urban planning, social services, waste management, and local taxation. Crucially, they also play an essential role in attracting tourism and investment to their local areas.

We included all touristic municipalities in Spain for which we could identify the ideology of the political party of the mayor, amounting to 5,678 municipalities. We define touristic municipalities as those meeting at least one of the following criteria: the municipality (a) has an officially registered touristic landmark, (b) has a tourism office, (c) has participated in FITUR, an annual International Tourism Fair in 2021 or 2022, (d) is located on the coast or near the Spanish border with France or Portugal, (e) is a member of SEGITUR, a state-owned agency which promotes innovation in tourism and/or (f) features in the database of credit card payments by tourists in 2021 provided by Caixabank, one of Spain's biggest commercial banks. We drop from the sample municipalities that, while fulfilling at least one of these criteria, meet all of the following exclusion criteria: (a) less than 500 inhabitants or more than 40% retired population, (b) do not have any touristic accommodations, and (c) do not show touristic expenditure in the pre-intervention period. While fulfilling one of the inclusion criteria (e.g., coastal, international border, etc.), the role of tourism

in the local economy is likely to be small in municipalities that meet all the exclusion criteria. 73 municipalities were excluded when applying these exclusion criteria.[15]

We built a database of personal and active email addresses of all mayors and local councelors members in charge of tourism.[16] Municipality-level population and touristic accommodations data were obtained from the Spanish National Institute of Statistics.[17] While the treatment arm and the ideology are assigned at the municipality level, we send the municipality's assigned treatment to the email addresses of all mayors and local councils in charge of tourism that we identified.[18]

The ideology of the municipality is a categorical variable with four groups: (1) Popular Party (Partido Popular, PP), which is the main conservative (right-wing) party; (2) Socialist Party (Partido Socialista Obrero Español, PSOE), which is the main progressive (left-wing) party, (3) other right-wing political parties and (4) other left-wing political parties. Party affiliation of local governments is publicly available from the central government.[19] In the vast majority of cases, the classification of the left-right ideology was straightforward. However, some municipalities in Spain are ruled by local parties whose ideology is unclear. In those cases, we proceeded as follows: first, we tracked mayors' party affiliation history. If the mayor's party was a spin-off of a previously existing party, we coded the ideology following the political views of that party. If none of these criteria clearly identified the ideology, the municipality was excluded from the sample. In total, we could not classify the ideology of 138 tourist municipalities.[20] Figure II below shows a map of

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[15] The original 60 municipalities used by Hinnosaar et al. (2021) were not informed that the original study took place, and the results of the study received very limited coverage in the Spanish media. Indeed, we explore heterogeneous effects of our treatment arms for these municipalities in Appendix C and find larger effects of ideological alignment on policy adoption for these municipalities.

[16] An initial rich database of the direct contact email addresses of local policymakers was facilitated by the Spanish Federation of Municipalities (Federación Española de Municipios y Provincias, FEMP). This database was further enriched vía webscrapping.

[17] This information can be found in the following links: `https://www.ine.es/dyngs/INEbase/es/categoria.htm?c=Estadistica_P&cid=1254734710990Padrón` and `https://www.ine.es/experimental/viv_turistica/experimental_viv_turistica.htm`

[18] The collection of email addresses was blind to the treatment assignment. Consistently, Table D.IV in Appendix D shows that the number of emails of mayors and local councils does not vary across treatment arms. An important assumption is that all the people targeted within the same municipality share the same ideology of the ruling political party. While unlikely, it is in principle possible in municipalities with coalition governments that a local policy maker contacted in the municipality does not share the ideology of the ruling political party. This would add measurement error to the treatment variable, biasing the estimates towards 0. In this case, our estimates should be interpreted as a lower bound for the true treatment effect.

[19] `https://www.mptfp.gob.es/portal/politica-territorial/local/sistema_de_informacion_local_-SIL-/alcaldes_y_concejales.html`

[20] This is less than 3% of the touristic municipalities. Measurement error in classifying the ideology would lead to underestimation of our treatment effects

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Spain where all treated municipalities appear in dark color, control municipalities in lighter color, and municipalities not in our sample appear in white. The map shows that municipalities in our sample are located throughout Spain.

For the stratification of the sample, we relied on information on population, the number of tourist accommodations per capita, and the ideology of the municipality's mayor. We created three dummy variables for population and three dummy variables for tourist accommodations in the municipality, according to the tertiles of their respective distributions.

The experiment took place over seven months. The first email was sent in May 2022. During the following 7 months, we sent follow-up reminders on pre-established dates to maximize exposure (See Figure D.I in the appendix). The last reminder email was sent in early December 2022. To boost email opening rates, we hired an independent company that phoned the municipal governments' headquarters of all treated municipalities. These calls only aimed to inform policymakers that they had been emailed about our intervention. The persons making the phone calls were given a script for this interaction and had no information about the purpose of the experiment, the treatment arms, or the content of the email. We measured email openings and click-through rates on the links to policy briefs/newspaper articles and instructions to change Wikipedia included in the emails using marketing software provided by MDIRECTOR.[21]

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[21]We use this software in the first email and the following nine reminders. We identified during the intervention period that some emails sent with the MDIRECTOR software were not reaching the inbox of the targeted policymakers. To maximize the number of policymakers that received at least one email, we changed to Outlook from the tenth reminder on. Unfortunately, outlook does not allow to track email opening and click-through rates on the links included in the email, limiting our analysis to the first email and nine reminders sent.

Figure II: Spanish touristic municipalities
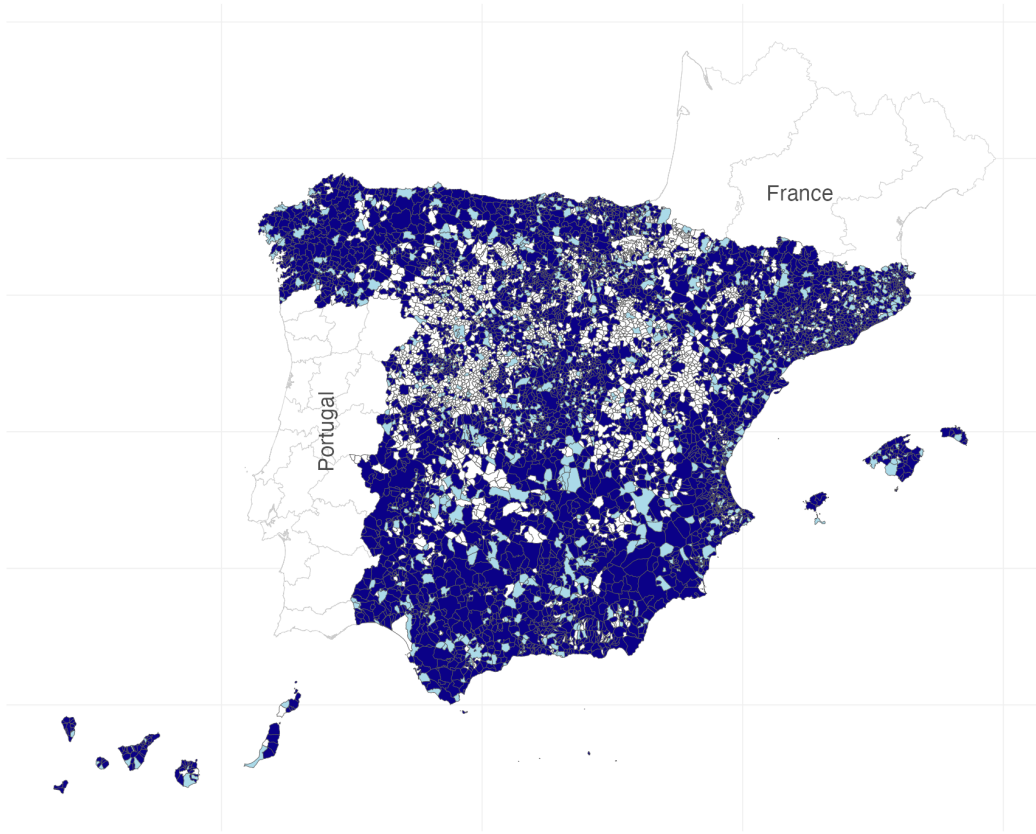
Note: Map from Spain with treated municipalities in a dark color, control municipalities in a light color, and municipalities not in the sample in white.

Our pre-registered main outcome variable measuring policy adoption is changes in the municipalities' Wikipedia page along the recommended guidelines that occurred within the study period between May 25th and December 31st, 2022. Wikipedia's collaborative and open editing model allows us to trace all changes made on the Wikipedia page of the municipalities in the sample. This information includes the changes made, the time and date of the change, and the IP address from which it was done. We first web-scraped the history of the edits function in Wikipedia to identify all changes in the Wikipedia pages during the study period. Most of these changes were small edits arguably unrelated to our intervention. To identify which changes could be driven by our intervention, two coders independently reviewed all changes and, while remaining blind to treatment status, selected which changes were consistent with the changes explicitly recommended in the summary of evidence: adding information about local festivities, improving information about touristic land-

marks and adding photographs of the municipality. This data creation exercise was conducted for the study and a placebo period in the same months of 2019, the last pre-Covid year before our intervention. Each coder performed the task separately, and differences in their judgments were resolved by a third coder who was also blind to treatment allocation. While some Wikipedia changes were undone by other Wikipedia users, we could observe all changes made within the study period, even if they were undone. The same process was carried out with the English Wikipedia pages of the municipalities.[22] While we do not observe the identity of the person who edited the Wikipedia page, and therefore, we cannot attribute each individual change with certainty to the action of the contacted policymaker (i.e., some of the edits might occur for other reasons), the existence of a control group allows to net out the effect of our treatment arms on the probability of conducting these changes from similar changes in Wikipedia that were not caused by our treatments during the study period. Reassuringly, Figure D.I in Appendix D shows that in the treatment group, most changes in Wikipedia were conducted soon after the email was sent, while reminders in the control group were uniformly spread throughout the period.

We also collected information on other Wikipedia-related outcomes, including the number of words and images on the municipalities' Spanish and English Wikipedia pages and the number of languages in which the municipality had a website in Wikipedia. Using web scraping techniques, we collected data on the latter variables before sending the first email and just after the end of the study period. We constructed variables to measure the variation in these outcomes from the beginning to the end of the experiment. These variables serve as alternative dependent variables to our main dependent variable. While they might be useful to understand how the information treatments shape Wikipedia outcomes, they are not ideal for measuring policy adoption in our experiment for two reasons: first, most of the changes registered in Wikipedia are minor edits unrelated to the changes we recommend, which could either increase or decrease the length of the text.[23] Even if these unrelated changes are minor, they would add measurement error, hindering the interpretation of the estimated treatment effect on this outcome as an indicator of policy change. Second, a

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[22]Appendix B detailed the instructions given to the coders to identify the Wikpiedia changes that were compatible with the treatment recommendations.

[23]These unrelated changes include small amendments to the history sections, minor edits in the text such as the removal of articles in sentences (not necessarily grammar errors), adding references, random images unrelated with tourism, and other minor changes unrelated to the changes recommended by the study.

significant portion of changes were undone within the period of interest, including approximately 30% of the changes consistent with recommended guidelines. While the reverted changes within the study period were identified for constructing the primary outcome variable (i.e., recommended changes at any point during the study period), they are not included in the Wikipedia outcomes described in this section. The latter set of outcomes simply registers the difference between the page's content at the beginning and the end of the study period. Given the abundance of irrelevant information and the understanding that more words do not always equate to greater clarity, it remains uncertain whether increasing the length of a Wikipedia page would necessarily improve it.

Finally, we conducted an online end-line survey targeting all Spanish municipalities, not only those we identified as touristic, between mid-April and early May 2023. These survey responses convey basic information about municipalities and local policymakers' attitudes toward evidence-based policymaking. Moreover, the survey featured an online experiment to assess political bias in belief updates. In total, invitations were extended to 17,044 local policymakers representing 7,576 municipalities. We achieved a response rate of nearly 10%, with 1,600 policymakers from 1,196 municipalities (15.8%) completing the survey[24]. Detailed information regarding this dataset and its outcomes can be found in Appendix A.

4 Empirical strategy

We investigate three main issues: (1) the pooled effect of information, (2) the role of ideological alignment between the policymakers and the informing institution, and (3) whether knowledge brokers are more effective than media outlets in promoting evidence-based policy adoption. To address them, we use linear probability models to estimate the effect of the different treatment arms on the probability of implementing a recommended change in the Wikipedia page of a municipality. Specifically, our pre-registered specification is the following:

$$\textit{Edits Wikipedia (0/1)}_{is} = \sum_{m=1}^{5} \beta_m Treatment_{mis} + Strata\ FE_s + \mu_{is}, \qquad (1)$$

where Edits Wikipedia (0/1) is a dummy variable equal to 1 if the Wikipedia page of municipality

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[24]This is within the range of large-scale (2500+ obs) online surveys reported in Meng-Jia Wu and Fils-Aime (2022)

i from randomization strata s included a change in Wikipedia along the recommended guidelines over the period studied, and 0 otherwise. $\sum_{m=1}^{5} Treatment_{mis}$ is a vector of dummy variables that indicate the treatment arm m to which municipality i from strata s is allocated. The omitted category is the control group, which received no information. *Strata FE* are randomization strata fixed effects, and μ is the error term. The coefficients of first interest are β_m, which yield the effect of receiving the treatment m relative to the control group. To test the three hypotheses described above, we not only rely on the estimation of the separate effects of the treatment arms, but we also estimate the combined effect of several treatment groups.[25]

We examine whether our stratified randomization successfully produced comparable treatments and control arms. To examine comparability, we estimate equation 1 using as dependent variables the characteristics of the municipalities' Wikipedia page and their socio-demographic characteristics, both measured before our intervention.

We start by examining balance across groups for the main outcome variable measured before the experiment, i.e., changes in the Wikipedia page. Specifically, we assess differences across groups regarding the probability of making a recommended change in Wikipedia during our placebo period, June 2019 to December 2019. These months correspond to 3 years before the start of the experiment, the last period before the COVID-19 outbreak. The results are reported in columns (1) and (2) of Table I. The magnitude of the coefficients for the different treatment arms ranges between -0.5 and 0.3 percentage points, showing the expected small effects which are statistically indistinguishable from 0. The results of this placebo analysis show that the main outcome variable is balanced across treatment groups before the start of the treatment.

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[25]For example, in our first result we calculate the pooled effect of all treatment arms combined to examine the pooled effect of information.

Table I: Balancing checks across groups (characteristics measured at baseline)

	Recommended changes (0/1)		N words Sp Sp		N words En		N images Sp		N image En		N languages		Tourist accom p/c		Population	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Effect of treatment arms relative to control																
Aligned ideology - Policy brief	-0.0054	-0.0053	-1.33	5.47	-12.20	-10.59	0.04	0.10	-0.14	-0.14	-0.33	-0.31	-0.0041	-0.0042	3,768	3,864
	(0.0043)	(0.0043)	(34.39)	(34.85)	(10.94)	(10.69)	(0.36)	(0.36)	(0.19)	(0.19)	(0.25)	(0.25)	(0.0052)	(0.0051)	(3,049)	(3,071)
Opposite ideology - Policy brief	0.0030	0.0032	-75.14	-70.00	-16.43	-15.30	-0.17	-0.13	-0.02	-0.00	-0.34*	-0.33	-0.0064	-0.0059	1,714	1,777
	(0.0074)	(0.0074)	(53.56)	(54.00)	(11.15)	(11.31)	(0.35)	(0.35)	(0.15)	(0.15)	(0.20)	(0.20)	(0.0041)	(0.0042)	(1,936)	(1,929)
Nonsalient ideology - Policy brief	-0.0022	-0.0022	-22.70	-17.71	-14.32*	-13.24	-0.27	-0.23	-0.00	0.01	-0.09	-0.07	0.0058	0.0060	-70	41
	(0.0054)	(0.0055)	(39.48)	(39.21)	(8.55)	(8.67)	(0.34)	(0.34)	(0.17)	(0.17)	(0.15)	(0.16)	(0.0051)	(0.0052)	(638)	(649)
Aligned ideology - Newspaper	0.0009	0.0010	-0.25	1.86	-6.38	-5.83	0.04	0.06	0.04	0.05	-0.12	-0.12	-0.0022	-0.0020	276	339
	(0.0056)	(0.0056)	(58.54)	(58.59)	(11.27)	(11.23)	(0.19)	(0.18)	(0.19)	(0.18)	(0.26)	(0.26)	(0.0040)	(0.0040)	(1,039)	(1,056)
Opposite ideology - Newspaper	-0.0001	0.0001	-77.32**	-69.24*	-10.24	-8.29	-0.42	-0.36	0.08	0.10	-0.30	-0.27	-0.0061	-0.0058	1,286	1,425
	(0.0055)	(0.0055)	(38.03)	(38.67)	(8.21)	(8.06)	(0.30)	(0.30)	(0.20)	(0.20)	(0.26)	(0.26)	(0.0040)	(0.0038)	(1,286)	(1,280)
Mean dep var in control	0.0202	0.0202	1,066.37	1,066.37	214.91	214.91	27.14	27.14	16.67	16.67	35.57	35.57	0.06	0.06	7,020	7,020
Strata FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
N	5,678	5,678	5,669	5,669	5,663	5,663	5,669	5,669	5,663	5,663	5,669	5,669	5,678	5,678	5,678	5,678
Pooled effects relative to control																
Any treatment	-0.0007	-0.0006	-35.35	-29.93	-11.91	-10.65	-0.16	-0.11	-0.01	0.00	-0.24	-0.22	-0.0026	-0.0024	1,395*	1,489*
	(0.0042)	(0.0043)	(36.79)	(36.83)	(7.39)	(7.29)	(0.31)	(0.31)	(0.13)	(0.13)	(0.20)	(0.20)	(0.0036)	(0.0035)	(767)	(780)
Aligned ideology	-0.0022	-0.0022	-0.79	3.66	-9.28	-8.20	0.04	0.08	-0.05	-0.04	-0.23	-0.21	-0.0031	-0.0031	2,020	2,099
	(0.0042)	(0.0042)	(41.18)	(41.34)	(9.86)	(9.72)	(0.34)	(0.34)	(0.17)	(0.16)	(0.24)	(0.24)	(0.0040)	(0.0039)	(1,438)	(1,456)
Opposite ideology	0.0015	0.0016	-76.23*	-69.62	-13.34*	-11.81	-0.30	-0.25	0.03	0.05	-0.32	-0.30	-0.0062*	-0.0059	1,500	1,601
	(0.0054)	(0.0055)	(43.57)	(43.86)	(7.96)	(7.85)	(0.30)	(0.29)	(0.15)	(0.15)	(0.21)	(0.21)	(0.0037)	(0.0037)	(1,186)	(1,182)
Policy brief	-0.0015	-0.0014	-33.11	-27.46	-14.32*	-13.05	-0.13	-0.09	-0.05	-0.04	-0.25	-0.23	-0.0016	-0.0014	1,805	1,895
	(0.0048)	(0.0049)	(35.29)	(35.33)	(8.07)	(8.06)	(0.33)	(0.32)	(0.12)	(0.12)	(0.18)	(0.18)	(0.0039)	(0.0039)	(1,128)	(1,140)
Newspaper	0.0104	0.0105	-38.72	-33.63	-8.31	-7.06	-0.19	-0.15	0.06	0.08	-0.21	-0.19	-0.0041	-0.0039	780	881
	(0.0067)	(0.0067)	(44.18)	(44.52)	(8.91)	(8.81)	(0.31)	(0.30)	(0.16)	(0.16)	(0.25)	(0.25)	(0.0036)	(0.0035)	(889)	(893)

Note: We examine balancing across groups by estimating the main specification for outcome variables measured before the start of the experiment. We first present differences between each treatment arm and the control group using the main specification estimated with and without strata fixed effects. Then, we calculate the pooled effects that will be computed in the main analysis. *Any treatment* yields the pooled effect of receiving the information across all treatment groups relative to not receiving any information. *Aligned ideology* yields the pooled effect of receiving the summary of study results endorsed by an institution (newspaper or think tank) with the same ideology relative to not receiving any information. *Opposite ideology* yields the pooled effect of receiving the summary of study results endorsed by an institution (newspaper or think tank) with the opposite ideology relative to not receiving any information. *Policy brief* yields the pooled effect of receiving the summary of study results through a policy brief relative to not receiving any information regardless of the ideology of the think tank. *Newspaper* yields the pooled effect of receiving the summary of study results through a newspaper article regardless of the ideology of the newspaper relative to not receiving any information. The table reports the balancing checks for Wikipedia outcomes measured before the start of the experiment: the probability of making a recommended change in the municipality's page in Spanish Wikipedia between May and December 2019, before the start of the experiment and the COVID pandemia, the number of words and images in the municipality's Spanish page in Wikipedia measured before the start of the intervention, the number of words and images in the municipality's English page in Wikipedia measured before the start of the intervention, the number of languages in which the municipality has a Wikipedia page, the number of touristic accommodations per inhabitant, the population of the municipality. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1

We also examine the balance across groups in terms of other Wikipedia outcomes and characteristics of the municipality. Specifically, we examine the comparability across treatments and control arms in terms of the number of words in the Spanish and English pages of Wikipedia, the number of images in the Spanish and English pages of Wikipedia, the number of languages in which the municipality has a Wikipedia page, the number of tourist accommodation per capita in the municipality, and the population of the municipality. Information on all these variables was collected on the last day before the start of the experiment. The results of the balancing checks are reported in Table I. We also test for differences in the number of email addresses targeted in the treatment across groups in Table D.IV in Appendix D. While the results of these analyses show a few unsystematic statistically significant differences for some combinations of outcomes and treatment arms, they do not follow any pattern nor exceed the expected number of false positives.[26] Overall, the results of the balancing checks suggest that the randomization created balanced and comparable groups of municipalities across treatments and control arms.

One potential threat to the experiment is differential exposure to information, as measured by the share of recipients who opened emails across treatment groups. The email was sent from the same institutional email account of the same non-ideological research center regardless of the treatment arm. The ideologically aligned institution that disseminated the research evidence was only revealed once the email was opened. Thus, we should not expect differences in opening rates across treatment groups. We tested this proposition and found reassuring results, presented in Table D.V in Appendix D.

Another potential threat is that the main estimates of the effect may be confounded by spillover effects across municipalities, which may communicate the research evidence received to other municipalities. If available, spillovers would bias the estimated treatment effects downwards.[27] To investigate this concern, we included in the end-line survey a question asking policymakers whether they were aware of having received any information about the research evidence, either from our experiment or other sources. Only five policymakers assigned to the control group (out of a total

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[26]Statistically, we expect 10 coefficients per 100 to be falsely significant at 10%, 5 coefficients per 100 to be falsely significant at 5%, and 1 coefficient per 100 to be falsely significant at 1%.

[27]If present, spillovers from treatment to control group would bias the main estimates downwards, resulting in our findings representing a lower bound for the true effects. This would not affect the main conclusions regarding the impact of political alignment on policy adoption.

of 236 respondents) reported having received any information, suggesting a very limited effect of spillovers. We investigate the existence of spillovers further through estimating the effect of distance to the nearest municipality in the sample of control municipalities for each treatment arm. The results, discussed in Section 5, rule out the existence of sizeable spillovers.

Goldsmith-Pinkham et al. (2022) identify potential biases in RCTs with mutually exclusive treatment arms when estimated with strata-fixed effects. To address these concerns, we also estimate the main regression with strata fixed effects using the procedure presented in Goldsmith-Pinkham et al. (2022) with nearly identical results.

Finally, we calculated the minimum detectable effect size (MDE) for different group comparisons. The MDE is the smallest effect we can identify with an 80% probability. The results are reported for dichotomous outcomes with different baseline probabilities in Table D.VI in Appendix D. The MDEs for hypotheses testing the effect of receiving any information, receiving information by an ideologically aligned institution, or comparing any group are approximately 2, 2.3 and 2.6 percentage points for outcomes with a baseline proportion of 3%.[28] While the calculated MDEs reported in the table represent non-negligible effects, they are likely larger than the true MDE because the pre-experimental power calculations could not take into account the stratification process and the subsequent use of strata fixed-effects in the regression, which would increase statistical power and reduce the MDE.[29]

We conducted a survey on the Social Science Prediction platform to examine other researchers' expectations about our hypotheses before making our results publicly available[30] We obtained responses from 84 researchers from 53 different universities around the World. We are reassured that most respondents agree with the statements that increasing tourism in our context is a welfare-enhancing policy (81%), and that changing municipalities' Wikipedia pages is an ideologically neutral policy (89%). Regarding the reach of the information provided in our experiment, respondents expect the opening rates of the emails that include the policy recommendation to be around 50%. Respondents also thought that click-through rates and the proportion of changes in Wikipedia

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[28]3% is approximately the baseline probability of the main outcome in the control group.

[29]Table D.VII in Appendix D reports the power calculations for continuous outcomes, which correspond to secondary outcomes in the analysis such as the number of words and images in the municipalities' Wikipedia pages.

[30]The survey is accessible in the following link: `https://socialscienceprediction.org/s/z486dd`.

would be higher when there is ideological alignment between informing institutions and policymakers. These rates were also expected to be higher in the non-salient ideology treatment than in the opposite ideology treatment (46.16% when aligned, 40.19% when ideologically nonsalient, and 30.2% when opposite ideology). Additionally, respondents expected a higher rate of changes in Wikipedia among those receiving the information from an ideologically opposite institution than among the control group (33.9% when aligned, 28.33% when ideologically nonsalient, 20.62% when opposite ideology and 13.85% in the control group). Finally, respondents were uncertain about the relative effectiveness of policy briefs compared to newspaper articles. While 28% of respondents thought they would be equally effective, the proportion of respondents who thought one would be more effective than the other was the same (36% each). In the next section, we discuss the results of our experiments and compare them with the expected results reported by the survey respondents.

5 Results

In this section, we test our main hypotheses by focusing on our (pre-registered) primary variable measuring policy adoption: the probability of changing the municipality's page in Spanish Wikipedia according to the guidelines provided in the treatments. In Appendix F, we report the results using alternative outcomes such as the length of the Wikipedia page, the number of images on the page, the number of languages in which the municipality has a Wikipedia page, and the same outcomes in the English page of the municipality in Wikipedia. As discussed in the previous section, these alternative outcomes are less precise indicators of policy adoption than the main outcome examined in this section.

To examine our first hypothesis, we investigate the pooled effect of receiving information about study results on the probability of changing Wikipedia along the recommended guidelines during the study period relative to municipalities in the control group, which do not receive any information. The coefficients of the variable *Any treatment* in Columns (1) and (2) of Panel B in Table II show an increase of approximately 0.98 percentage points (equivalent to an increase by 38%) in the probability of changing the Wikipedia, although the effect is marginally above conventional

significance thresholds (p-value=0.13).[31][32]

Table II: Effects of the treatment arms on the probability of making a recommended change in Wikipedia

	Study period		Placebo period	
	(1)	(2)	(3)	(4)
Panel A: Effect of treatment arms relative to control				
Aligned ideology - Policy brief	0.0168**	0.0169**	-0.0054	-0.0053
	(0.0081)	(0.0082)	(0.0043)	(0.0043)
Opposite ideology - Policy brief	0.0019	0.0020	0.0030	0.0032
	(0.0078)	(0.0078)	(0.0074)	(0.0074)
Nonsalient ideology - Policy brief	0.0094	0.0097	-0.0022	-0.0022
	(0.0086)	(0.0087)	(0.0054)	(0.0055)
Aligned ideology - Newspaper	0.0167*	0.0167*	0.0009	0.0010
	(0.0091)	(0.0091)	(0.0056)	(0.0056)
Opposite ideology - Newspaper	0.0041	0.0043	-0.0001	0.0001
	(0.0075)	(0.0076)	(0.0055)	(0.0055)
Mean dep var in control	0.0255	0.0255	0.0202	0.0202
Strata FE	No	Yes	No	Yes
N	5,678	5,678	5,678	5,678
Panel B: Pooled effects relative to control				
Any treatment	0.0098	0.0099	-0.0007	-0.0006
	(0.0063)	(0.0064)	(0.0042)	(0.0043)
Aligned ideology	0.0167**	0.0168**	-0.0022	-0.0022
	(0.0075)	(0.0076)	(0.0042)	(0.0042)
Opposite ideology	0.0030	0.0032	0.0015	0.0016
	(0.0065)	(0.0065)	(0.0054)	(0.0055)
Policy brief	0.0094	0.0095	-0.0015	-0.0014
	(0.0067)	(0.0068)	(0.0048)	(0.0049)
Newspaper	0.0104	0.0105	0.0004	0.0005
	(0.0067)	(0.0067)	(0.0046)	(0.0047)

Note: Estimates in columns (1) and (2) examine the effect of the different arms on recommended changes between May and December 2022. These are the main results of the study. Estimates in columns (3) and (4) examine the effect of the different arms on recommended changes between May and December 2019, a placebo period before the start of the intervention. Regressions in columns (1) and (3) do not include strata fixed-effects and regressions in columns (2) and (4) are estimated with strata fixed-effects. *Any treatment* yields the pooled effect of receiving the information across all treatment groups relative to not receiving any information. *Aligned ideology* yields the pooled effect of receiving the summary of study results endorsed by an institution (newspaper or think tank) with the same ideology relative to not receiving any information. *Opposite ideology* yields the pooled effect of receiving the summary of study results endorsed by an institution (newspaper or think tank) with the opposite ideology relative to not receiving any information. *Policy brief* yields the pooled effect of receiving the summary of study results through a policy brief relative to not receiving any information regardless of the ideology of the think tank. *Newspaper* yields the pooled effect of receiving the summary of study results through a newspaper article regardless of the ideology of the newspaper relative to not receiving any information. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

The heterogeneity analyses reported in Appendix C show that the pooled effect of receiving any information is more relevant for left-wing municipalities, municipalities in the top tertile of the population size distribution, and municipalities above the median regarding the length of the Wikipedia

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[31]Table D.I reports the p-values for the coefficients reported in Table II and other comparisons across treatment arms.

[32]The results reported in Columns (3) and (4) present the placebo exercise described in Section 4. They show the expected small and insignificant coefficients that reveal no differences in Wikipedia changes across treatment arms during the placebo period.

page. These results are discussed in detail in Appendix C.

From the results of the analysis exploring the pooled effect of providing information on policy adoption for the full sample, we conclude:

Result 1: The pooled effect of all treatment arms of information provision on policy adoption is sizeable, but statistically not significant at conventional confidence levels.

Next, we examine whether policy adoption is affected by the ideological alignment between the informing institution and policymakers. The results reported in columns (1) and (2) of Panel A in Table II show that dissemination by ideologically aligned institutions -think tanks or newspapers- increases the share of municipalities that implement the recommended changes in Wikipedia by 1.68 and 1.67 percentage points, respectively. In relative terms, this represents an increase of 66% and 65%, respectively, compared to the control group. The effects are statistically significant at the 5% significance level. The results are nearly identical when the estimation is conducted with and without strata-fixed effects. The difference is also significant at the 5% level when compared against the opposite-ideology treatment arms rather than against the control group (p-value=0.02).[33] The effects are evident when compared with the coefficients of the placebo exercise reported in Columns (3) and (4) and in Figure III. Moreover, Figure D.II shows that the results are primarily driven by the inclusion of additional information on local festivities on the Wikipedia page, one of the changes we emphasized in both the email and the information provided.

The results of the analysis of heterogeneity reported in Table C.I in Appendix C show that the positive effect of receiving information from an ideologically aligned institution is larger for left-wing municipalities. However, this result should be treated with caution because, while the coefficient size is approximately three times larger, the difference between the effects is not statistically different at conventional confidence levels. Furthermore, the strength of the ideological alignment and misalignment with the partner institutions might be systematically different for right- and left-wing parties. While this is not a problem for the main estimations because ideology is a stratification

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[33]Table D.I in the Appendix reports the p-values for the coefficients reported in Table II and other comparisons across treatment arms.

factor in the randomization, the analysis of heterogeneity by policymaker's ideology should be interpreted cautiously.[34] The full results of the analyses of heterogeneity reported in Appendix C show that the effect of receiving information by an ideologically aligned institution on policy adoption seems to be larger for more populated municipalities and with lengthier Wikipedia pages. If population size and the length of Wikipedia pages indicate a municipality's capacity to implement the policy, these results suggest that alignment has a greater impact on municipalities with larger implementation capacity.

Figure III: Effects of the treatment arms on the probability of conducting recommended changes in the Spanish Wikipedia page of the municipality
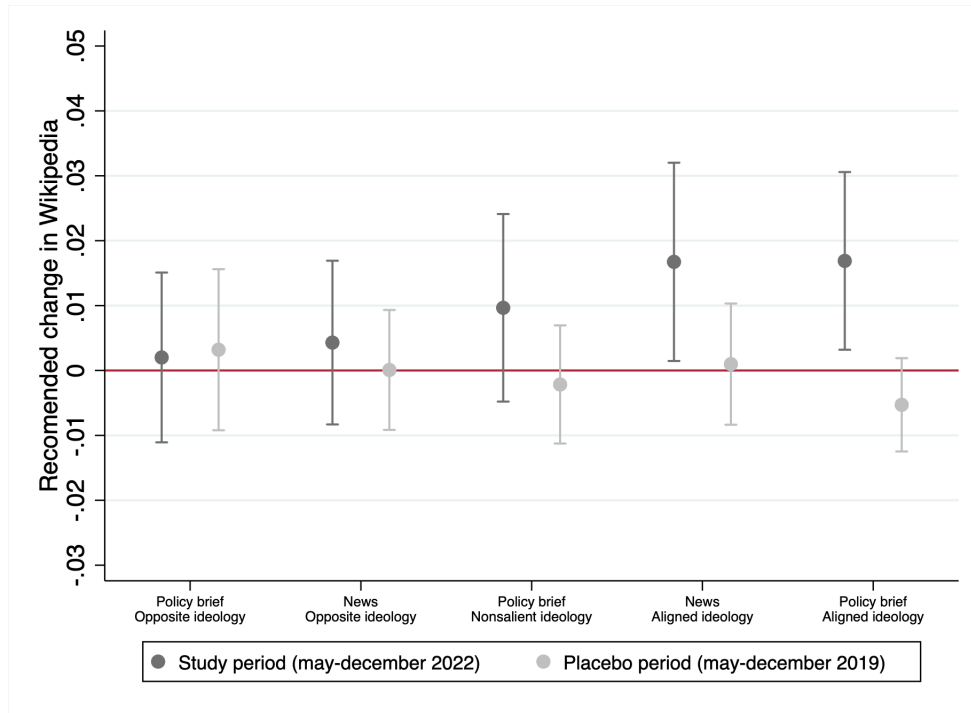
Note: The figure displays the point estimates and 95% confidence intervals for the effect of the different treatment arms relative to the control group on the probability of conducting a recommended change in the municipality's page in the Spanish Wikipedia during the study period and the placebo period.

The coefficient estimate of *Nonsalient ideology - Policy brief* in Panel A, columns (1) and (2) of Table II is sizeable, indicating that information by an ideologically nonsalient institution increase policy adoption by 37%, although the p-value is above conventional significance levels (p-value=0.27) and the result should be interpreted with caution.[35] While the magnitude of the coefficient is ap-

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[34]This is discussed in detail in Appendix C.

[35]Table D.I in the Appendix reports the p-values for the coefficients reported in Table II and other comparisons across treatment arms.

proximately half as large as the effect of ideological alignment (0.94 versus 1.68 percentage points), both effects are not statistically significantly different from each other (p-value=0.34). The main estimates do not vary across specifications.[36]

The results of the heterogeneity analyses reported in Tables C.I in Appendix C show that the effect of receiving information by an ideologically nonsalient researcher has a strong effect in municipalities ruled by left-wing parties, while a negligible effect in municipalities ruled by right-wing parties. On the other hand, the results reported in Appendix C show no statistically differential effects of this treatment by the population of the municipality, length of its Wikipedia page, whether the mayor belongs to one of the two main political parties (PP/PSOE) or a smaller one, and whether the mayor belongs to a party that promotes independence from Spain.

The coefficient estimate of *Opposite Ideology* in Panel B, columns (1) and (2) of Table II shows that receiving information communicated by an ideologically opposite institution does not affect the probability of changing the Wikipedia page along the recommended guidelines. The magnitude of the coefficients is negligible and not much higher than the coefficient for the same variable in the placebo analyses reported in Columns (3) and (4). The results suggest that receiving information from an ideologically opposite institution is not different from not receiving any information in terms of policy adoption. The results of the heterogeneity analyses reported in Tables C.II in Appendix C yield similar null effects of receiving information endorsed by an institution with an opposite ideology on the main policy adoption variable for right- and left-wing parties. The full results of the heterogeneity analyses reported in Appendix C also show equally null effects of receiving information by an ideologically opposite institution regardless of the population size of the municipality, length of its Wikipedia page, whether the mayor belongs to one of the two main political parties (PP/PSOE) or a smaller one, and whether the mayor belongs to a party that promotes independence from Spain.

Result 2: Information from aligned institutions promotes policy adoption, whereas information from ideologically opposite institutions does not increase policy adoption compared to an uninformed con-

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[36]The results reported in Columns (3) and (4) present the placebo exercise described in Section 4. They show the expected small and non-significant coefficients that reveal no differences in Wikipedia changes across treatment arms during the placebo period.

trol group. The effect of receiving information from a prestigious ideologically nonsalient institution is nearly half as large as the effect of ideological alignment, although non statistically significant at conventional confidence levels.

Finally, we study whether the instrument used to communicate research evidence, i.e., policy brief vs. newspaper, differentially affects policy adoption. The coefficient estimates for *Policy Brief* and *Newspaper* reported in Panel B, columns (1) and (2) of Table II indicate that conditional on the ideological alignment of the municipality and the informing institution, the effects of policy briefs and newspaper articles on the probability of conducting a change in Wikipedia along the recommended guidelines are virtually the same. The difference in the coefficient estimates is small (0.1 percentage points) and largely statistically non-significant (p-value=0.82).[37]

From the results of the analysis comparing the effects of the newspaper and the policy briefs on policy adoption for the full sample, we conclude:

Result 3: Both policy reports and newspaper articles, when ideologically aligned with the receiving policymaker, are equally effective in promoting policy adoption.

The results of the heterogeneity analysis reported in Appendix C show consistent null effects across different dimensions, including the mayor's ideology, the municipality's population, the length of its Wikipedia page, whether the mayor belongs to one of the two main political parties (PP/PSOE) or a smaller one, and whether the mayor belongs to a party that promotes independence from Spain.

The main results of the paper are unlikely to be driven by spillovers from information moving from treatment municipalities to control municipalities. First, the endline survey shows that, among the 236 respondents in control municipalities, only five of them reported having received any information. Secondly, the results of the spillover analysis reported in Table D.II show that for control municipalities, the distance to the nearest municipality in each treatment arm has no effect on our measure of policy adoption. Taken together, these results suggest very limited spillovers.

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[37]Table D.I in the Appendix reports the p-values for the coefficients reported in Table II and other comparisons across treatment arms.

Moreover, even if present, spillover from treatment to control group would bias the main estimates downwards, resulting in our findings representing a lower bound for the true effects. This would not affect the main conclusions regarding the impact of political alignment on policy adoption.

In Table D.III in Appendix, we replicate the main results of the analysis using the estimation method presented in Goldsmith-Pinkham et al. (2022). This method is used to account for contamination when estimating the effect of mutually exclusive treatments with control variables. The effects are nearly identical to those reported in Table II.

How surprising are our main results? Comparing outside researchers' expectations in the Social Science Prediction Platform survey with actual results in our main experiment shows that respondents correctly anticipated the order of how effective our different treatments would be, although they overestimated them. Opening rates of the emails were the closest (49% predicted versus 38% opening rates at the email level; see Table D.V in the Appendix). Regarding click-through rates, once policymakers learned the ideology of the informing institution, survey respondents expected them to be much higher than the actual one (6.42%, see Table III), in all treatments (46.16% in Aligned, 40.19% in Nonsalient and 30.2% in Opposite ideology, respectively). Similarly, as in DellaVigna et al. (2022), the rate of policy adoption was much lower than expected. Survey respondents expected high rates of policy adoption in all treatment arms: 33.9% with aligned ideologies, 28.3% with nonsalient ideology, 20.62% with opposite ideologies and 13.85% in the control treatment. Relative to control levels, the survey respondents predict that receiving information would increase the probability of treatment adoption by 144%, 103%, and 48% when informed by an institution with an aligned, nonsalient, or opposite ideology. The results of the experiment discussed above reveal much lower adoption rates and treatment effects in every treatment arm, highlighting the difficulties of translating evidence into policy, even for the simplest policies.

Finally, we estimate the monetary cost of ideological misalignment between the policymaker and the informing institution to be 2,192 euros per municipality per year, in the context of the policy recommended using the estimated impact of Wikipedia changes on touristic revenues reported in Hinnosaar et al. (2021). Further details on this calculation are provided in Appendix G. Despite the large effect on adoption in relative terms, the low levels of adoption, even within the aligned institution treatment group, keep the cost moderate in the context of this policy recommendation.

While the magnitude of the cost per municipality might seem small, it is important to highlight that the figure provided is not the cost of not implementing the policy (which we take from Hinnosaar et al., 2021) but the cost per municipality of informing policymakers using ideologically aligned versus opposite institutions.

6 At which stage of the policy adoption process does ideological alignment matter?

We propose a three-stage framework to understand how evidence-informed policies are ultimately implemented by policymakers: (1) information exposure, (2) belief updating, and (3) implementation.

Regarding the first stage, information acquisition, policymakers may choose to avoid exposure from sources with opposite ideologies (Stroud, 2010). To test whether ideological alignment could affect information exposure, we capitalize on the fact that in our experiment, all emails were sent from an email account of a small and non-ideological research center (TIDES), irrespective of the treatment arm. The identity of the endorsing institution is revealed prominently in the body of the email once policymakers have opened it. To access the full information on the policy recommendation or the instructions to change their municipalities' Wikipedia page, policy officials have to actively click on links that lead them to either a full-length policy report or a newspaper article and to step-by-step instructions on how to update Wikipedia. We cannot measure which sources of information policymakers seek or directly observe the amount of time or attention policymakers devote to the information in our emails. However, we can track whether email recipients open the email and whether, after learning which institution is providing the research information, they click on any of the mentioned links, the policy brief, the newspaper article, or the Wikipedia instructions, which arguably serve as a good proxy for policymakers' attention. Thus, our experimental design, separating email openings from click-through rates, allows us to differentiate the effect of information awareness from selective exposure to information provided by ideologically different sources. A statistically significant difference in the click-through rates to the links across treatment arms could be interpreted as evidence supporting ideological alignment influencing policy adoption from the information exposure stage.

We previously showed in Section 4 that there were no statistically significant differences in the opening rates of emails across treatment groups. Now we test for differences across treatment groups regarding click-through rates to the links in the email. The results of these analyses are reported in Table III for the probability of making at least one click, and in Table D.VIII of Appendix D for the number of clicks in each of the links. Overall, we find no variations across treatment arms in the click-through rates to the policy brief/newspaper article or the Wikipedia instructions. The coefficients are small, and none is statistically significantly different from zero at the 5% significance level. Since data on click-through rates is available at both the email and municipality levels, we conducted analyses at both levels, consistently finding null effects. Taken together, these results suggest that selective exposure to research evidence does not explain the differences in *policy adoption* across treatment groups.

Ideological alignment may also affect how policymakers update their beliefs about the effectiveness of a policy in response to research evidence, which constitutes the second stage of our policy adoption framework. Specifically, policymakers may be more inclined to revise their beliefs when the informing institution is perceived as ideologically aligned or non-ideologically salient than when it is the opposite. Previous studies have shown that belief updates are more likely to take place when information is presented by trusted or in-group sources, such as by politicians who are from the same ideological positions or by non-ideological, neutral parties (Banuri et al., 2019; Afrouzi et al., 2023; Baekgaard et al., 2017; Christensen and Moynihan, 2020; Gentzkow et al., 2018; Cohen, 2003; Merkley and Stecula, 2021).

Table III: Treatment effects in the probability of making at least one click

	At the municipality level		At the email level	
	(1)	(2)	(3)	(4)
Aligned ideology - Policy brief	0.0013	0.0017	0.0003	-0.0007
	(0.0173)	(0.0174)	(0.0099)	(0.0099)
Nonsalient ideology - Policy brief	0.0206	0.0207	0.0078	0.0064
	(0.0167)	(0.0168)	(0.0105)	(0.0106)
Aligned ideology - Newspaper	-0.0158	-0.0159	-0.0106	-0.0109
	(0.0157)	(0.0157)	(0.0107)	(0.0107)
Opposite ideology - Newspaper	-0.0250*	-0.0246*	-0.0120	-0.0119
	(0.0140)	(0.0141)	(0.0101)	(0.0099)
Reference group:				
Opposite ideology - Policy brief				
Mean dep variable	0.1227	0.1227	0.0642	0.0642
Strata FE	No	Yes	No	Yes
N	4,736	4,736	11,288	11,288

Note: The estimates presented in the table yield the effect of the different treatment arms on the probability of making at least one click in the links included in the email relative to the group of individuals that receive the summary of results endorsed by a think tank with an opposite ideology. The latter group is used as the committed category in the regressions since the control group did not receive the intervention email and we cannot measure clicks for them. Moreover, the number of municipalities included in the analysis is therefore smaller since the control group, which do not receive the email, are excluded from the analysis. The outcome variable is measured at the municipality level in columns (1) and (2). Because in some municipalities we had more than one email address, we estimate the effects in columns (3) and (4) with the outcome variable measured at the email address level. Estimates reported in columns (1) and (3) are estimated without strata fixed-effects and columns (2) and (4) are estimated with strata fixed-effects. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

To test the role of ideological alignment in belief updating, we conducted a survey with a large sample of local policymakers in Spain in late April/early May 2023.[38] The survey includes information on attitudes toward evidence-based policymaking and incorporates an online experiment to examine how ideological alignment affects the process of belief updating among policymakers. Participants were first asked their opinion on a non-ideological policy that differed from the policy used in our main experiment. Subsequently, they were presented with peer-reviewed evidence against this policy and asked whether they would implement it. Since the same think tanks provided information on the research evidence as in the main experiment, we can measure changes in beliefs once policymakers learn which ideological institution is presenting the evidence.[39]

The online survey experiment was divided into two parts. In the first part, we asked policymakers

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[38]A detailed description of the survey and the descriptive statistics are provided in Appendix A.

[39]The email inviting to complete the survey that includes the experiment was sent to all email addresses from an email account of a different non-ideologically aligned research institution, i.e., ESADE.

about their ex-ante beliefs about the effectiveness of displaying messages on road panels highlighting the number of casualties in road accidents to reduce the incidence of road accidents. Our prior was that most policymakers would believe such policy to be effective and, moreover, neutral from an ideological perspective. The vast majority of the policymakers surveyed expected either a beneficial effect of the policy (i.e., a reduction in the number of casualties in road accidents) or no effect of the policy on this outcome. There were no ex-ante differences across policymakers of different ideologies (see Appendix A). Next, we presented policymakers with a summary of the counter-intuitive results in Hall and Madsen (2022): road panels announcing the number of casualties actually increase the number of accidents in their surroundings. The presented summary of the results was identical in all surveys, and we stressed that it had been published in a leading academic journal, i.e., *Science.* We randomized whether such information was communicated by a think tank with an aligned or opposite ideology or by an ideologically nonsalient institution. A representation of the experimental design and details about the randomization and sampling strategies are provided in Appendix A. Briefly, we rely on the same think tanks or ideologically nonsalient institutions as in our main experiment: FAES, Alternativas, and LSE. The randomization was conducted at the municipality level, and therefore, all the policymakers within the same municipality were in the same treatment arm. While uncommon, local governments in Spain may have formed coalitions of political parties with different ideologies. Because randomization was conducted at the municipality level, we excluded from the survey appointed policymakers who do not share the ideology of the mayor to avoid individuals within the same municipality receiving a different version of the online survey. For policymakers from municipalities included in the main experiment of policy adoption, we provided the same treatment (i.e., aligned, ideologically non-salient, or opposite). The new municipalities and those in the control group in the main experiment were randomized without stratification to receive the information from an ideologically aligned, nonsalient or opposite institution. In the survey experiment, there is no control group that does not receive any information.

After presenting the evidence, we asked policymakers whether they believed the study results and whether they would implement the road panels displaying the number of deaths. Table IV shows the results for two samples. Panel A includes all individuals regardless of whether they believe the road messages are harmful. In Panel B, we restrict the analysis and explore belief updates among

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those individuals who, before presenting the evidence, did not believe that these messages increase road casualties. As expected, most individuals do not anticipate the negative effects of the panels documented in Hall and Madsen (2022), and the results are very similar across panels. However, the results reported in the table reveal that policymakers are more likely to believe the study results and to report that they would follow study recommendations when an ideologically aligned think tank communicates them. In other words, the results show that policymakers are more likely to believe a study published in the leading academic journal *Science* when it is communicated by a think tank with an aligned ideology than with an opposite ideology. Interestingly, we also find a large effect of receiving study results when an ideologically nonsalient institution communicated the study, although the difference between both is not statistically significant.

Table IV: Effects of the treatment arms on update of beliefs about intervention effectiveness

	Believe study results (1)	Follow study recommendations (2)	Believe study results & follow recommendations (3)
Panel A: All individuals			
Aligned ideology	0.1816***	0.0931**	0.0799**
	(0.0357)	(0.0365)	(0.0327)
Nonsalient ideology	0.2075***	0.1425***	0.1437***
	(0.0398)	(0.0417)	(0.0373)
Reference group: Opposite ideology			
Mean dep var	0.4972	0.3408	0.2011
N	951	951	951
Panel B: Individuals with pre-treatment beliefs not aligned with study results			
Aligned ideology	0.1802***	0.0922**	0.0761**
	(0.0365)	(0.0369)	(0.0328)
Nonsalient ideology	0.2036***	0.1264***	0.1252***
	(0.0408)	(0.0425)	(0.0374)
Reference group: Opposite ideology			
Mean dep var	0.4942	0.3295	0.1936
N	916	916	916

Note: The table reports the effects of the on-line experiment. Panel A reports the effects of the different treatment arms on the probability of updating beliefs about the effectiveness of the intervention for all individuals who answered the survey. Panel B reports the effects of the different treatment arms on the probability of updating beliefs about the effectiveness of the intervention for individuals that belief the intervention has no negative impacts. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

The third stage of our framework encompasses everything that falls in between belief updating and policy implementation. This includes all the constraints typically associated with the actual implementation of the policy, such as political economy, budgetary or administrative limitations, as well as issues related to career incentives or party discipline largely explored in the literature (Besley, 2005; Cerna, 2013; Rodrik, 2018). For instance, a policymaker might be persuaded by a policy recommendation but might end up not implementing it because he or she does not have sufficient resources, stakeholders' support, or administrative capacity. On the other hand, a policymaker might not be persuaded by a policy recommendation from an ideologically aligned informer but still decide to implement it because of career concerns and/or electoral incentives to do so.

Comparing our main experiment with the online survey experiment allows us to study whether ideological alignment affects the second stage, namely belief updating, differently than the third stage, namely policy implementation. While both experiments use the same think tanks and have comparable sub-samples, any comparison between the results should consider that both experiments' policies are different. For example, adopting a new policy, as in our main experiment, may be very different from removing an existing one, as shown by DellaVigna et al. (2022). However, both interventions are arguably ideologically nonsalient, with unequivocal rigorous evidence of their effectiveness. Comparisons would be informative if policymakers' decision processes were similar under both interventions. While the survey experiment (see results in Table IV) shows that policymakers update their beliefs similarly when the information comes from an ideologically aligned or an ideologically nonsalient institution, the main experiment shows that policymakers are, on average, nearly two times more likely to implement the policy when presented by an ideologically aligned institution than by an ideologically nonsalient institution, although these effects are not statistically different from each other. These findings suggest that there is something else, beyond policymakers' beliefs about policy effectiveness, driving actual policy implementation.

Our experimental design allows us to disregard two hypotheses that could explain this discrepancy. First, given that the proposed intervention is non-ideological and virtually costless, it is unlikely that policymakers encountered budgetary constraints for policy adoption. Second, we can investigate career concerns or reasons for party discipline. In the heterogeneity analysis reported in Table C.II in Appendix C, we find that the effect of receiving information from a think tank with aligned

ideology is no different than receiving information from a think tank directly associated with the policymaker's political party.[40] This suggests that party discipline is unlikely driving the effect of ideological alignment on policy adoption during this stage. Further research is needed to understand how ideological alignment curbs policy adoption at this stage.

7 Discussion and Conclusion

For evidence-based policies to be adopted, research results must be communicated to policymakers. The extent to which policymakers are persuaded by institutions communicating evidence is crucial for scientific dissemination to have an impact in the real world. In this paper, we offer a unique experimental design that allows us to introduce variation in the ideology of the informing institution while keeping everything else constant. This allows us to test how much the ideological alignment between the informer - in this case, institutions with salient ideologies - and policymakers can influence policy adoption. We benefit from a unique collaboration with widely known think tanks and media outlets of opposite ideologies and a large database of direct contacts of local policymakers in Spain to isolate the effect of ideological alignment in a controlled environment.

Our results show that ideological alignment between informing institutions and policymakers substantially increases the adoption of an ideologically nonsalient policy based on scientific results, while information from ideologically opposite institutions is as ineffective as not receiving any information. Confirming this intuition, with actual estimates obtained in a controlled setting, is important because advocates of the adoption of evidence-based policies often focus on the creation and expansion of ideologically neutral institutions as the key to disseminating research and informing policymakers. However, institutions with salient ideologies, whether explicit or perceived, do exist and also play an active role in disseminating research results, whether directly, like think tanks, or indirectly, like media outlets. In fact, we estimate the effectiveness of ideological institutions in leading policymakers to implement evidence-based policies. However, they may fail with those policymakers whose ideologies are opposite. Understanding the trade-off between effectiveness and outreach is important for the debate regarding the role of institutions and which specific features

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[40]Fundación Alternativas was originally associated with the Socialist Party, and its president is a former member of parliament and a member of the socialist party, while Fundación FAES was originally associated with the Popular Party, and is presided over by a former conservative Spanish Prime Minister and a member of the party.

make them better suited to act as knowledge brokers to disseminate research results. Additionally, our results contribute to the wider debate about designing institutions where the characteristics of who provides information matter. An interesting example is the judicial system: while in the United States courts, both sides get to pick their own expert witnesses, in Europe, it is more common to force both sides to agree on a single expert witness beforehand. Understanding the different incentives and trade-offs of both types of institutional designs in light of these messenger effects is crucial for designing effective state institutions.[41]

Our study also provides insights into the stages of policymakers' decision-making processes, from their access to research evidence to policy implementation. This is also crucial because we show that the ideology of the informing institution significantly affects the way policymakers update their beliefs and, ultimately, their adoption into policy, even in contexts in which the policy itself is not ideological.

Importantly, our paper may showcase a low threshold on the influence of ideology in evidence-based policy adoption since its effect may presumably be much larger when ideological discrepancies exist about the evidence itself and not only about the informing institution. Examples such as climate change or vaccine adoption easily come to mind. Further research is needed for a deeper understanding of the role of knowledge brokers in the adoption of evidence-based policies that are perceived as ideologically loaded.

Interesting avenues for further research include studying other aspects of the science communication process that could affect policy implementation beyond perceived ideology. For example, further research could focus on getting a more granular understanding of the role of other trusted or authoritative institutions, such as governmental agencies, policy evaluation institutions, different levels of government, other scientific institutions, or political parties, in disseminating scientific evidence. International institutions and governments invest resources and create new institutions to promote scientifically informed policy-making. Designing effective institutions that disseminate scientific evidence will be crucial to improving the adoption of research evidence in the context of increasing political polarization.

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[41]We are thankful to a previous anonymous referee for suggesting this example.

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Ideological Alignment and Evidence-Based Policy Adoption

Online Appendix

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A Endline survey

During April and May 2023, we conducted an online survey among an expanded sample of mayors, councilors, and officials of all municipalities to which we could assign an ideology.[42] In total, we sent invitations to 17,044 policymakers from 7,576 municipalities. Besides questions about their views on the relevance of scientific evidence for local public policies, the survey includes an online experiment to test how policymakers update their beliefs after receiving information about the true impact of a policy. As in our main experiment, we vary the ideological orientation of the institution that communicates the evidence. To avoid an explicit link with our main experiment, the survey invitations were sent by ESADE EcPol, a research-oriented think tank with a stated interest in evidence-based policies.[43] Below we describe the four modules of our endline survey along with the responses to a selection of the questions.

Common background questions

A total of 1,600 policymakers from 1,196 municipalities completed the survey, including 1,077 municipalities that were also included in the main experiment. Because one of the goals of the survey is characterizing policy-making in tourist municipalities and testing some of the assumptions of the main experiment, survey responses were presented in this section by treatment assignment in the main experiment, and also separately for those municipalities that were not tourist and therefore, not included in the main experiment. The 1,077 tourist municipalities that responded to the on-line survey were not a random sample of the tourist municipalities included in the first experiment. The descriptive statistics reported in Table A.I show that they are overall larger, with more comprehensive Wikipedia pages, although they have on average the same number of tourist accommodations per capita. While the survey respondents of the on-line survey were not representative, the number is large enough to provide valuable information about tourist municipalities in Spain.

Turning to the on-line survey, in the first question, the participants were asked to indicate their position within the municipality government by selecting one out of five possible options: mayor, councilor, administrative staff, tourism officers, and political advisor. Figure A.I shows the distri-

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[42]To assign the ideology of the municipality, we follow the same procedure used in the main experiment, which is described in Section 2.

[43]https://www.esade.edu/ecpol/en/

Table A.I: Difference in means: munici in both the on-line and main experiment vs participants only in the main experiment

	Mean Municipalities included in main experiment that responded online survey (1)	Mean Municipalities included in main experiment that did not respond online survey (2)	Difference (3)
Recommended Changes (0/1)	0.05	0.0302	-.017***
N words Sp	2,052.12	1,199.04	-853.09***
N words En	410.99	200.79	-210.20***
N images Sp	31.75	24.97	-6.78***
N images En	17.27	13.49	-3.77***
N languages	37.64	33.66	-3.98***
Tourist accom p/c	0.06	0.06	-0.00
Population	21,990.77	4,951.42	-17039.36***
N	1,077	4,601	-

Note: This table presents the mean and the difference in means between tourist municipalities that were included in the main experiment and also responded to the on-line survey, and tourist municipalities that were included in the main experiment but did not respond to the on-line survey.

bution of survey respondents among these categories by treatment status in the main intervention. Given the small sample size, the categories of tourism officers and political advisors are grouped together under the label "other". Among the municipalities of our main experiment, we observe no relevant differences in the distribution by treatment status. The majority of participants (50%-53%) are councilors in the municipality and members of the mayor's party or the ruling coalition. The second largest group is mayors, who represent between 26% and 31% of the respondents, depending on treatment status. Finally, between 15% and 18% of the respondents are administrative staff, while less than 4% are tourism officers or political advisors. On the contrary, in the case of those municipalities that did not participate in our main experiment ("Nonparticipant"), others and administrative staff account for almost 90% of the respondents.

Figure A.I: Distribution of survey participants' occupations by treatment arm:
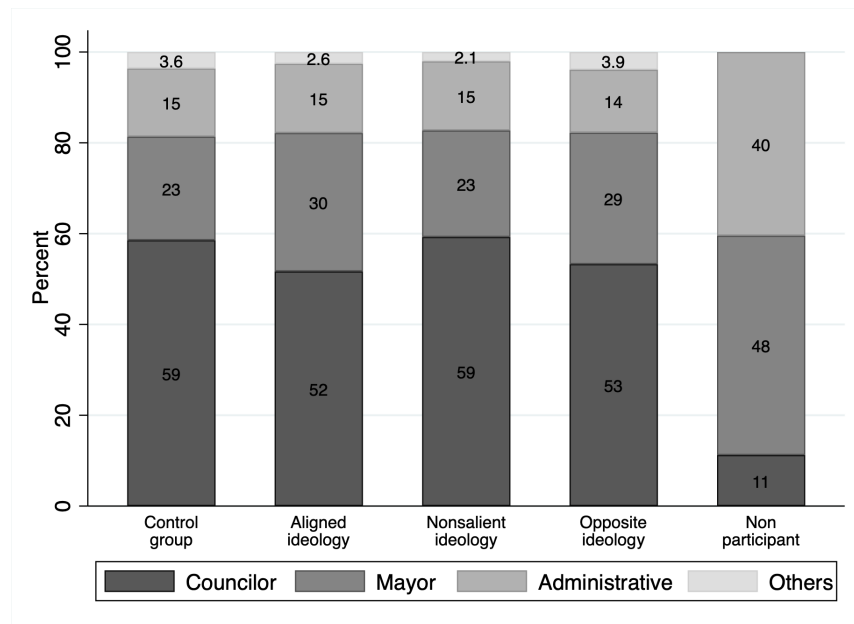
The second module includes questions that are relevant to our main intervention. Table A.II reports the responses to the first three questions regarding the respondents' views on the usefulness of scientific evidence in designing municipal public policies, the desirability of attracting more tourists to their municipality, and the effectiveness of Wikipedia as a means to achieve this objective. The answers are grouped by treatment status of the respondent's municipality in our main intervention, with columns (7) and (8) reporting the results for the municipalities that were excluded from our main experiment. Besides the tabulation of the responses, the table also includes a test for differences in means with respect to the municipalities in the control group.

The survey responses strengthen the credibility of our main intervention. The vast majority of respondents (over 80% across all treatment arms) consider scientific evidence to be quite or very useful for the design of municipal policies (Q2). Furthermore, around 70% of the respondents from the municipalities in our main experiment consider attracting more tourists a very desirable goal (Q3). Additionally, 60% of respondents believe that Wikipedia can be a fairly or very effective tool to achieve this goal (Q4). Importantly, we do not observe statistically significant differences across treatment arms relative to the control group.

3

Table A.II: Responses to questions related to the main experiment:

	Aligned ideology		Nonsalient ideology		Opposite ideology		Non participant		Control group	
	(1) Perc	(2) Diff	(3) Perc	(4) Diff	(5) Perc	(6) Diff	(7) Perc	(8) Diff	(9) Perc	(10) Diff

Q2: Do you think that scientific evidence is useful for designing municipal public policies? (n=1,107)

Very	36.22	-1.67	42.79	4.9	41.06	3.17	33.78	-4.1	37.89	-
Quite	47.68	3.58	44.23	.13	44.87	.77	41.89	-2.21	44.10	-
A bit	13.62	-1.91	10.58	-4.95	11.14	-4.38	16.22	.69	15.53	-
No	2.48	-.01	2.40	-.08	2.93	.45	8.11	5.62**	2.48	-

Q3: Do you think that increasing the number of tourists in your municipality would be a desirable goal? (n=1,108)

Very	35.29	1.13	32.04	-2.12	36.73	2.57	37.33	3.17	34.16	-
Quite	38.39	7.33	37.86	6.81	37.03	5.97	34.67	3.61	31.06	-
A bit	21.36	.24	21.84	.73	18.37	-2.75	21.33	.22	21.12	-
No	4.95	-8.71***	8.25	-5.41*	7.87	-5.79**	6.67	-7	13.66	-

Q4: Do you think that having a good entry of your municipality on Wikipedia can be an effective way to attract tourism to your municipality? (n=1,109)

Very	19.44	.81	20.19	1.56	21.11	2.48	16.00	-2.63	18.63	-
Quite	40.74	-2.74	40.38	-3.09	46.04	2.56	49.33	5.86	43.48	-
A bit	33.95	2.89	35.58	4.52	26.10	-4.96	26.67	-4.39	31.06	-
No	5.86	-.97	3.85	-2.99	6.74	-.09	8.00	1.17	6.83	-

Note: All percentages are calculated on the total number of participants who responded to that question in the survey. Columns (1), (3), (5), (7) and (9) only show the percentage of each response per treatment. Columns (2), (4), (6) and (8) show the percentage difference between that group and the Control group, which will be the reference group in the difference of means test that is carried out.

Another key assumption underlying our main intervention is the proposed policy's non-ideological nature, i.e., Wikipedia improvements to foster tourism. In the fifth question of the second module, we asked the participants to classify the proposed policy as either right-wing, left-wing, or neutral. The results, reported in Figure A.II, show that 94% to 96% of the participants consider the policy ideologically neutral, with no significant differences across treatment arms.

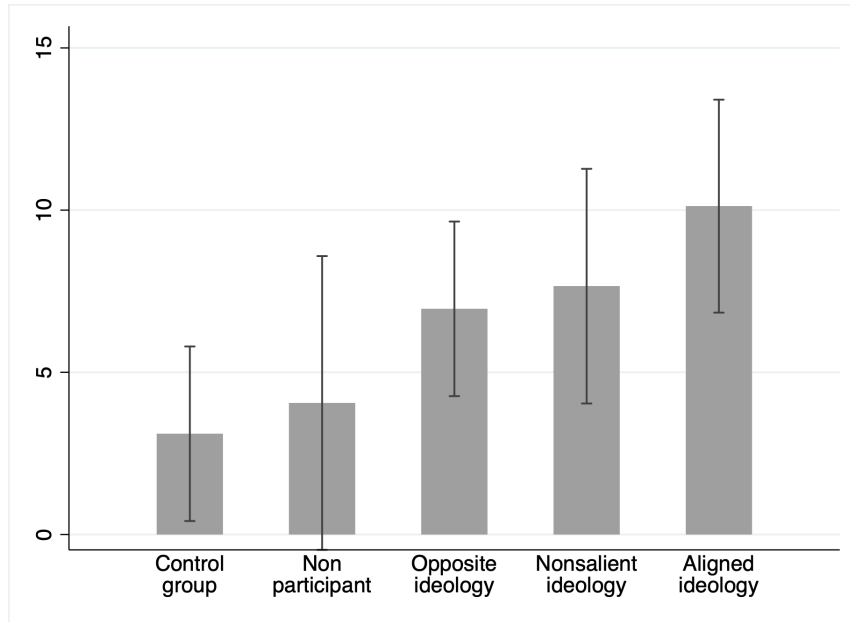Figure A.II: The perceived ideology of the proposed policy
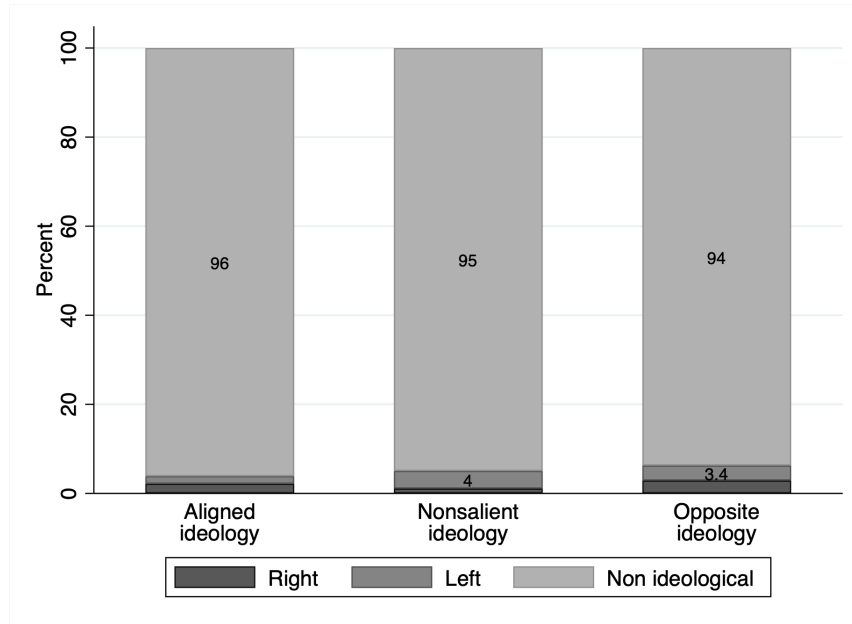
Note: All percentages are calculated excluding people who did not answer that question in the survey (n=1,105).

Next, participants were asked if they remembered receiving an email from TIDES related to our main experiment.[44] We included this question to check for contamination across treatments. Reassuringly, only 3% of the respondents in the control group and 4% of the respondents from excluded municipalities declare to have received an email from TIDES, as shown in Figure A.III. In contrast, the corresponding figure for the treated municipalities ranges from 6% for those municipalities that received information from a think tank or newspaper with an opposite ideology to 10% for the group that received information from an aligned source. Recall that the endline survey was sent almost six months after the date of the last mailing by TIDES. This helps to explain the relatively low recall rates.

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[44]After an affirmative answer, the participants were subsequently asked to reveal their trust in the provided information, their updating of beliefs and actions to improve the municipalities Wikipedia page as well as the motives behind inaction for those who did not undertake any action. Unfortunately, however, the response rate for these questions was too low to draw any reliable conclusion.

Figure A.III: Percentage of participants who remember receiving a TIDES mailing:

Finally, in the last question of the survey, we asked the participants about their personal ideological affinity. A comparison between this self-reported ideology and the ideology assigned to their municipality in the main experiment reveals a high level of correspondence, but the correlation is not perfect. 20% of the respondents state a different ideology than the one assigned to their municipality. Moreover, the difference is more pronounced when the ruling party is right-wing. Nonetheless, the differences are much smaller when we restrict the comparison to mayors and councilors.

Survey experiment

The third part of the questionnaire included our survey experiment. For the sake of comparability, we use the same think tanks as in the main experiment to inform participants about the undesirable effects of messages on road panels to avoid speeding. Random treatment assignment was such that municipalities received the endorsement of this alternative policy from the same ideological spectrum as in the previous experiment. Municipalities that were not part of the main experiment and those assigned to the control group of the main experiment were equally randomized across

all three treatments. Crucially, municipalities on both sides of the political spectrum received this new research evidence either from the same ideology or the opposite one. Figure A.IV displays the experimental design of the on-line survey. We then asked participants whether they would now implement the policy, allowing us to study whether the political endorsement of the policy changed their beliefs about its effectiveness differently across treatments.

The results of the survey experiment have already been presented in Table IV and discussed at length in Section 6. Below we present two further pieces of evidence. Table A.III reports the distribution of the answers to two questions of our survey experiment. The first question asked about prior beliefs, and the second post-treatment question was about belief updating and implementation. As expected, the vast majority of participants who responded to the first question indicated that they believed the policy would have the opposite effect to what the research presented to them immediately afterward. Specifically, 87% and 90% responded that the policy would reduce the target outcome, with minimal variations between treatment arms, while the scientific evidence provided shows that it increases the target outcome. Next, an inspection of the bottom panel shows that the percentage of respondents who state they believe the study and would refrain from implementing the counter-effective policy is significantly higher for those who received the information from non-salient or aligned think tanks than for those who are informed by a think tank on the opposite side of the political spectrum. Reversely, the percentage of those who disbelieve the study results and would insist on posting warnings against speeding is significantly higher among those who receive information from think tanks with an opposite ideology.

Finally, Table A.IV presents the results of a robustness check when we restrict the sample to respondents from the municipalities that were included in our main experiment. The results are virtually identical to those presented in Table IV.

Figure A.IV: Implementation and design of the on-line experiment

Descriptive Statistics
(7577 Municipalities)

Questions about Policy Experiment
(7577 Municipalities)

Left Think Tank
(2824 Municipalities)

Left Policy Brief
(915 Municipalities)
Left: 500 Municipalities
Right: 415 Municipalities

Left Media Article
(911 Municipalities)
Left: 498 Municipalities
Right: 412 Municipalities

Non Participant
(675 Municipalities)
Left: 242 Municipalities
Right: 433 Municipalities

Control (No Info)
(323 Municipalities)
Left: 180 Municipalities
Right: 143 Municipalities

Neutral Think Tank
(1918 Municipalities)

Neutral Policy Brief
(920 Municipalities)
Left: 505 Municipalities
Right: 415 Municipalities

Non Participant
(690 Municipalities)
Left: 260 Municipalities
Right: 430 Municipalities

Control (No Info)
(308 Municipalities)
Left: 167 Municipalities
Right: 141 Municipalities

Right Think Tank
(2835 Municipalities)

Right Policy Brief
(912 Municipalities)
Left: 494 Municipalities
Right: 418 Municipalities

Right Media Article
(928 Municipalities)
Left: 509 Municipalities
Right: 419 Municipalities

Non Participant
(705 Municipalities)
Left: 257 Municipalities
Right: 448 Municipalities

Control (No Info)
(290 Municipalities)
Left: 167 Municipalities
Right: 123 Municipalities

Biased Policies Questions
(7577 Municipalities)

Survey Sender

Implementation Experiment Treatment

Muncipality Ideology

Common Questions

Common Questions

Belief Updates Experiment

Common Questions

Table A.III: Responses to survey experiment questions by treatment arm:

	Aligned ideology		Nonsalient ideology		Opposite ideology	
	(1) Perc	(2) Diff	(3) Perc	(4) Diff	(5) Perc	(6) Diff

Q11: Do you think these messages may have any effect on the number of traffic accidents? (n=1,065)

Substantial increase	0.51	-.24	0.00	-.74	0.74	-
Slight increase	2.27	.05	4.91	2.68*	2.23	-
No effect	8.33	.17	7.55	-.62	8.17	-
Slight reduction	58.33	-1.57	63.02	3.12	59.90	-
Substantial reduction	30.56	1.6	24.53	-4.43	28.96	-

Q12: If your goal was to reduce the number of road accidents, would you put this type of informational message on roadside panels? (n=955)

Yes - Don´t believe study	16.76	-19.55***	15.90	-20.41***	36.31	-
Yes - Believe the study	39.66	10.06***	35.98	6.37	29.61	-
No - Don´t believe study	15.36	1.4	13.81	-.16	13.97	-
No - Believe the study	28.21	8.1**	34.31	14.2***	20.11	-

Note: All percentages are calculated on the total number of participants who responded to that question in the survey. Columns (1), (3) and (5) only show the percentage of each response per treatment. Columns (2), (4) and (6) show the percentage difference between that group and the Not Corresponding group, which will be the reference group in the difference of means test that is carried out.

Table A.IV: Treatment effects on update of beliefs only among participants in the main experiment

	Believe study results (1)	Follow study recommendations (2)	Believe study results & follow recommendations (3)
Panel A: All those who participated in the main experiment			
Aligned ideology	0.1955***	0.0966**	0.0782**
	(0.0366)	(0.0378)	(0.0340)
Nonsalient ideology	0.2362***	0.1216***	0.1452***
	(0.0408)	(0.0436)	(0.0391)
Reference group: Opposite ideology			
Mean dep var in reference group	0.6243	0.4128	0.2722
N	886	886	886
Panel B: Only individuals with pre-treatment beleifs not aligned with study results			
Aligned ideology	0.1938***	0.0954**	0.0738**
	(0.0374)	(0.0382)	(0.0343)
Nonsalient ideology	0.2345***	0.1054**	0.1286***
	(0.0417)	(0.0444)	(0.0393)
Reference group: Opposite ideology			
Mean dep var in reference group	0.4924	0.3364	0.2018
N	855	855	855

Note: The table reports the effects of the on-line experiment. Panel A reports the effects of the different treatment arms on the probability of updating beliefs about the effectiveness of the intervention for all individuals who answered the survey. Panel B reports the effects of the different treatment arms on the probability of updating beliefs about the effectiveness of the intervention for individuals that belief the intervention has no negative impacts. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

B Treatment arms: Policy briefs and newspaper articles

B.1 Text of the emails

This email was sent alternatively mentioning the publication of one of the five media through which the information was disseminated. Therefore, the variation in the paragraphs in which the respective medium or organization is mentioned is highlighted here.

Dear Mr/Ms. Councillor of "FINAL_NAME":

From the University Institute of Tourism and Economic Development (TIDES), we are contacting you to send you the results of a study that shows with data the beneficial effects of an effective, simple, and zero-cost intervention to increase tourism in "FINAL_NAME".

The research finds that simple changes to the Wikipedia page of municipalities like yours reported improvements of up to 33% in tourist income.

<u>Fundación Alternativas</u>:*[The study is summarised in the report published by the progressive ideas' laboratory Fundación Alternativas, directed by former socialist deputy Diego López Garrido]*

<u>FAES</u>:*[The study is summarised in the report published by the conservative think tank FAES, chaired by former popular president José María Aznar]*

<u>LSE</u>:*[The study is summarised in the following report published by researchers from the London School of Economics]*

<u>El Mundo</u>:*[The study is summarised in an article by the conservative media El Mundo, in its digital version, directed by Joaquín Manso]*

<u>elDiario.es</u>:*[The study is summarised in an article by the progressive digital media elDiario.es, directed by Ignacio Escolar]*

Insert the corresponding logo [Fundación Alternativas] [elDiario.es] [El Mundo] [FAES] [LSE]

Research shows that Wikipedia is a key instrument to promote tourism in Spanish municipalities

Insert the following text with the link to the article, depending on the media mentioned:

<u>Fundación Alternativas</u>:*[:Here, you can access the link to read the full report from the Alternativas Foundation]*

<u>FAES</u>:*[Here, you can access the link to read the full report from the FAES Foundation]*

<u>LSE</u>:*[Here, you can access the link to read the full report from researchers at the London School of Economics]*

<u>El Mundo</u>:*[Here, you can access the link to read the full El Mundo article]*

<u>elDiario.es</u>:*[Here, you can access the link to read the full elDiario.es article]*

Improvements to your municipality's Wikipedia page are straightforward- and free- and can generate more than 200,000 euros in tourist income in your municipality. Among the most effective simple changes you could implement to your Wikipedia page are:

1. Add photographs of your municipality.

2. Edit a simple English version of the exact text for foreign tourists.

3. Mention or expand the section dedicated to local festivals.

The last months of the year are critical for tourism in many municipalities since they include various bank holidays, so the changes in Wikipedia should be implemented as soon as possible. If you need help changing the Wikipedia page, you can find simple step-by-step instructions in this link, or, if you prefer us to help you do it, you can contact us at the email address estudioturismo@institutoturismotides.com

Please keep in mind that by accessing the report, you will be giving us your consent to monitor the effectiveness of our information to promote public policy based on scientific evidence.

Hoping that this information is helpful to you, receive a cordial greeting,

Instituto de Turismo y Desarrollo Económico (TIDES) https://tides.ulpgc.es Contact email: estudioturismo@institutoturismotides.com. If you do not want to receive a reminder about this study, please write to estudioturismo@institutoturismotides.com

Figure B.I: Emails PB:

Column 1 (Fundación Alternativas):

Estimado/a Sr/Sra. Regidor/a de «NOMBRE_FINAL»:

Desde el Instituto Universitario de Turismo y Desarrollo Económico (TIDES), nos ponemos en contacto con usted para hacerle llegar los resultados de un estudio que muestra con datos los efectos beneficiosos de una intervención efectiva, sencilla y a coste cero para aumentar el turismo en «NOMBRE_FINAL».

La investigación encuentra que simples cambios de la página de Wikipedia de municipios similares al suyo reportaron mejoras de hasta un 33% en los ingresos turísticos. **El estudio está resumido en el siguiente informe publicado por el laboratorio de ideas progresista Fundación Alternativas, dirigido por el exdiputado socialista Diego López Garrido.**

Una investigación demuestra que la Wikipedia es un instrumento clave para impulsar el turismo en municipios españoles

Aquí puede acceder al enlace para leer el informe completo de la Fundación Alternativas.

Las mejoras de la página de Wikipedia de su municipio son muy fáciles de hacer, sin ningún coste y pueden generar más de 200.000 euros en ingresos turísticos en su municipio. Entre los cambios sencillos más efectivos que podría implementar en la página de Wikipedia se encuentran:

1. Añadir fotografías de su municipio.

2. Editar una versión sencilla en inglés del mismo texto para turistas extranjeros.

3. Mencionar o ampliar la sección dedicada a fiestas locales.

Los últimos meses del año son clave para el turismo en muchos municipios ya que incluyen diversos puentes, por lo que sería ideal que los cambios en la Wikipedia se implementasen lo antes posible. Si necesita ayuda para cambiar la página de Wikipedia, puede encontrar instrucciones sencillas paso a paso en este link o, si prefiere que le ayudemos a hacerlo puede contactarnos en la dirección de correo electrónico estudioturismo@institutoturismotides.com

Por favor tenga en cuenta que al acceder al informe nos estará dando su consentimiento para monitorizar la efectividad de nuestra información para promover la toma de decisiones de políticas públicas basadas en evidencia científica.

Esperando que esta información le resulte útil, reciba un saludo cordial,

Instituto de Turismo y Desarrollo Económico (TIDES)
https://tides.ulpgc.es
Dirección de contacto: estudioturismo@institutoturismotides.com

En caso de no querer recibir un recordatorio sobre este estudio por favor escribe a estudioturismo@institutoturismotides.com.

Column 2 (FAES):

Estimado/a Sr/Sra. Regidor/a de «NOMBRE_FINAL»:

Desde el Instituto Universitario de Turismo y Desarrollo Económico (TIDES), nos ponemos en contacto con usted para hacerle llegar los resultados de un estudio que muestra con datos los efectos beneficiosos de una intervención efectiva, sencilla y a coste cero para aumentar el turismo en «NOMBRE_FINAL».

La investigación encuentra que simples cambios de la página de Wikipedia de municipios similares al suyo reportaron mejoras de hasta un 33% en los ingresos turísticos. **El estudio está resumido en el siguiente informe publicado por el laboratorio de ideas conservador FAES, presidido por el expresidente popular José María Aznar.**

Una investigación demuestra que la Wikipedia es un instrumento clave para impulsar el turismo en municipios españoles

Aquí puede acceder al enlace para leer el informe completo de la Fundación FAES.

Las mejoras de la página de Wikipedia de su municipio son muy fáciles de hacer, no tienen ningún coste y pueden generar más de 200.000 euros en ingresos turísticos en su municipio. Entre los cambios sencillos más efectivos que podría implementar en la página de Wikipedia se encuentran:

1. Añadir fotografías de su municipio.

2. Editar una versión sencilla en inglés del mismo texto para turistas extranjeros.

3. Mencionar o ampliar la sección dedicada a fiestas locales.

Los últimos meses del año son clave para el turismo en muchos municipios ya que incluyen diversos puentes, por lo que sería ideal que los cambios en la Wikipedia se implementasen lo antes posible. Si necesita ayuda para cambiar la página de Wikipedia, puede encontrar instrucciones sencillas paso a paso en este link o, si prefiere que le ayudemos a hacerlo puede contactarnos en la dirección de correo electrónico estudioturismo@institutoturismotides.com

Por favor tenga en cuenta que al acceder al informe nos estará dando su consentimiento para monitorizar la efectividad de nuestra información para promover la toma de decisiones de políticas públicas basadas en evidencia científica.

Esperando que esta información le resulte útil, reciba un saludo cordial,

Instituto de Turismo y Desarrollo Económico (TIDES)
https://tides.ulpgc.es
Dirección de contacto: estudioturismo@institutoturismotides.com

En caso de no querer recibir un recordatorio sobre este estudio por favor escribe a estudioturismo@institutoturismotides.com.

Column 3 (LSE):

Estimado/a Sr/Sra. Regidor/a de Albatana:

Desde el Instituto Universitario de Turismo y Desarrollo Económico (TIDES), nos ponemos en contacto con usted para hacerle llegar los resultados de un estudio que muestra con datos los efectos beneficiosos de una intervención efectiva, sencilla y a coste cero para aumentar el turismo en Albatana.

La investigación encuentra que simples cambios de la página de Wikipedia de municipios similares al suyo reportaron mejoras de hasta un 33% en los ingresos turísticos. **El estudio está resumido en el siguiente informe publicado por investigadores de la universidad inglesa London School of Economics.**

Una investigación demuestra que la Wikipedia es un instrumento clave para impulsar el turismo en municipios españoles

Aquí puede acceder al enlace para leer el informe completo de los investigadores de London School of Economics.

Las mejoras de la página de Wikipedia de su municipio son muy fáciles de hacer, no tienen ningún coste y pueden generar más de 200.000 euros en ingresos turísticos en su municipio. Entre los cambios sencillos más efectivos que podría implementar en la página de Wikipedia se encuentran:

1. Añadir fotografías de su municipio.

2. Editar una versión sencilla en inglés del mismo texto para turistas extranjeros.

3. Mencionar o ampliar la sección dedicada a fiestas locales.

Los últimos meses del año son clave para el turismo en muchos municipios ya que incluyen diversos puentes, por lo que sería ideal que los cambios en la Wikipedia se implementasen lo antes posible. Si necesita ayuda para cambiar la página de Wikipedia, puede encontrar instrucciones sencillas paso a paso en este link o, si prefiere que le ayudemos a hacerlo puede contactarnos en la dirección de correo electrónico estudioturismo@institutoturismotides.com

Por favor tenga en cuenta que al acceder al informe nos estará dando su consentimiento para monitorizar la efectividad de nuestra información para promover la toma de decisiones de políticas públicas basadas en evidencia científica.

Esperando que esta información le resulte útil, reciba un saludo cordial,

Instituto de Turismo y Desarrollo Económico (TIDES)
https://tides.ulpgc.es
Dirección de contacto: estudioturismo@institutoturismotides.com

En caso de no querer recibir un recordatorio sobre este estudio por favor escribe a estudioturismo@institutoturismotides.com.

Figure B.II: Emails Newspapers:

B.2 Text of the newspaper article

A study shows that Wikipedia can be a great ally in recovering the tourism sector in Spain

Improving a municipality's Wikipedia entry can mean an increase of up to 33% in hotel stays in that place. This was demonstrated by an experimental study developed with Spanish municipalities and published in the prestigious Journal of Economics and Management this year.

Tourism is one of our country's main economic sectors. In 2019, the sector represented 12.4% of GDP and 12.7% of employment. Furthermore, according to figures from the Ministry of Industry, Commerce and Tourism, Spain closed that same year with 83.7 million foreign tourist visits. However, COVID-19 changed the scenario radically: in 2020, international tourism decreased by 78% compared to 2019, and the tourism GDP in 2021 fell to 2017 levels, close to 6%.

In the Wikipedia Matters study, researchers Marit Hinnosaar, Toomas Hinnosaar, Michael Kummer and Olga Slivko carried out a curious experiment to analyse the impact of the information available on Wikipedia about tourist municipalities in Spain on tourism in those places. As part of the experiment, the authors improved the editing and content of Wikipedia pages referring to some Spanish municipalities chosen randomly from a sample of municipalities with tourism potential.

The experiment results showed that the improvement in Wikipedia content in different languages caused the municipalities in the sample whose pages were edited to increase the nights of accommodation of tourists native to the language in which the Wikipedia content was edited. During the tourist season, hotel nights increased by 9% in these municipalities compared to those with tourist potential but without edited pages. In the cities whose pages were more incomplete and briefer before the intervention, the increase reached 33%. That is, more detailed information captivates the attention of potential readers, and this has a direct effect on attracting tourists.

Official figures show that the average expenditure of a foreign tourist in Spain is 101 euros per day, and initial calculations suggest that improving a municipality's article on Wikipedia could generate, in that place, an approximate annual amount of 160 thousand euros of additional income. The results of this experiment demonstrate with evidence that improving the quality of the Wikipedia page is a simple and economical way to increase the visibility and number of tourists a city receives,

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which could substantially help the recovery of the tourism sector.

Figure B.III: Newspaper articles:

El Mundo:*[Here, you can access the link to read the full El Mundo article]*

https://www.elmundo.es/television/medios/2022/03/07/622663cffc6c832a3b8b45d5.html

elDiario.es:*[Here, you can access the link to read the full elDiario.es article]*

https://www.eldiario.es/economia/estudio-demuestra-wikipedia-gran-aliado-recuperar-sector-turistico-espana$_{18}$888694.html

B.3 Text of the Policy brief

Three organisations published this policy brief. All are written identically; the only difference is that each institution presented its version with its respective organisational logo plus a brief description of the organisation before showing the content of the policy brief.

[Logo Fundación Alternativas]

[About Fundación Alternativas]

[The Alternativas Foundation is an independent centre of thought and debate for political and social transformation chaired by Diego López Garrido. It was born in 1997 with the desire to be a channel for reflection, and its mission is to contribute to progressive theoretical and cultural thinking. www.fundacionalternativas.org]

[Logo FAES]

[About FAES]

[FAES is a private, non-profit foundation that has been working in the field of ideas since 1989. Chaired by José María Aznar, its objective is to nourish the thinking of the liberal reformist centre with political proposals that influence decision-making and impact public opinion. At the service of Spain and its citizens, its purpose is to create, promote and disseminate ideas based on political, intellectual, and economic freedom and strengthen the values of liberty, democracy, the rule of law, the free market and Western humanism]

[Logo LSE]

[About the London School of Economics]

[The London School of Economics and Political Science (LSE), founded in 1985, is a world-leading university specialising in teaching and research in the social sciences, with a global community of people rooted in London and ideas that transform the world]

Research shows that Wikipedia is crucial to promoting tourism in Spanish municipalities

- *A study published in the prestigious Journal of Economics and Management shows that an improvement in the content of the Wikipedia page of Spanish municipalities increased the number of*

hotel overnight stays by 9%.

- *Wikipedia page improvements are straightforward, are done at 0 cost and can generate more than €200,000 of additional income to local coffers.*

- *Adding photographs of the municipality, improving information on local festivals, and translating into other languages, such as English, are some improvements that have proven effective.*

Improve Wikipedia, a pivotal policy to improve tourism in Spanish municipalities

Tourism is a crucial sector in Spain and the main economic activity in many municipalities, where it generates income worth approximately 51 billion euros each year. In the current context of return to normality, scarce resources and growing competition, promoting tourism is one of the main political objectives in many municipalities. But what does the evidence tell us about the effectiveness of various policies in promoting tourism in your municipality? In this policy brief, we summarise the results of a recent study that shows a simple way to increase tourism in your municipality at zero cost.

The Wikipedia Matters study, published by Hinnosaar and co-authors in the prestigious Journal of Economics and Management, showed that an improvement in the content of the Wikipedia page of Spanish municipalities increased the number of hotel nights by 9% during the high season in the city. The increase in hotel overnight stays reached 33% for municipalities with Wikipedia entries that were significantly incomplete before being improved. Considering that each tourist spends an average of €136 per day, improving a municipality's page on Wikipedia can generate more than €200,000 of additional income at zero cost per year for local coffers.

Wikipedia is the world's largest collaborative encyclopaedia. It is consistently one of the first results displayed by the algorithms of the major online search engines when searching for information about anything. It is one of the most popular portals in the world. According to We Are Social's Digital 2022 report, Wikipedia was the 7th most viewed website in the world in 2021, with 66.9 billion visitors and content available in 300 languages.

What specific changes to the municipality's Wikipedia page help improve tourism?

Municipal officials of Spanish municipalities can edit the page about their locality on Wikipedia. But

what changes to Wikipedia help increase tourism? The study points out some elementary changes:

1. Add photos of the municipality, either of places or celebrations, on the Wikipedia page of your city in Spanish, English, and other languages whose nationality receives tourists.

2. Include complete information about local festivals on the Wikipedia page of your municipality in Spanish, English, and other languages whose nationalities receive tourists.

3. Complete information in Spanish or other languages in which your municipality's Wikipedia page is concise on crucial aspects of the city, such as places to visit or transportation and communication routes.

Although the improvement in the entry is particularly effective in increasing tourism in municipalities with poorly developed Wikipedia pages in Spanish and other languages, changes as simple as adding 2 or 3 photographs or adding around 300 words expanding information on local festivals have proven effective even in those municipalities with extensive Wikipedia pages.

How to do it? A straightforward, fast, and free process

Finally, it is essential to highlight that changing your municipality's page on Wikipedia in Spanish and other languages is entirely free.

In the email, you will find attached a document in PDF format showing you step-by-step instructions on changing your municipality's page on Wikipedia. Improving your municipality's page on Wikipedia is an effective and cost-free way to increase tourism income in your municipality.

References

Hinoosar, M., Hinoosar, T., Kummer, M., Slivko, O. 2022. Wikipedia Matters, Journal of Economics and Management Strategy.

Figure B.IV: Policy Briefs:

Column 1 (Fundación Alternativas)

Una investigación demuestra que la Wikipedia es un instrumento clave para impulsar el turismo en municipios españoles

- Un estudio publicado en la prestigiosa revista Journal of Economics and Management, muestra que una mejora en el contenido de la página de Wikipedia de los municipios españoles incrementó en un 9% el número de pernoctaciones hoteleras.

- Las mejoras de la página de Wikipedia son muy fáciles de hacer, se hacen a coste 0 y pueden generar más de 200.000€ de ingreso adicional a las arcas locales.

- Añadir fotografías del municipio, mejorar la información sobre fiestas locales y traducir a otros idiomas como el inglés son algunas de las mejoras específicas que han demostrado ser efectivas

Mejorar la Wikipedia, política clave para mejorar el turismo en municipios españoles

El turismo es un sector clave en España y la principal actividad económica en muchos municipios, en los que genera ingresos por un valor aproximado de 51.000 millones de euros cada año. En el actual contexto de vuelta a la normalidad, recursos escasos y creciente competencia, uno de los objetivos políticos principales en muchos ayuntamientos es cómo fomentar el turismo. ¿Pero qué nos dice la evidencia sobre la efectividad de diversas políticas para fomentar el turismo en su municipio? En este policy brief le resumimos los resultados de un estudio reciente que muestra una forma sencilla de aumentar el turismo en su municipio a coste 0.

Column 2 (FAES)

Una investigación demuestra que la Wikipedia es un instrumento clave para impulsar el turismo en municipios españoles

- Un estudio publicado en la prestigiosa revista Journal of Economics and Management, muestra que una mejora en el contenido de la página de Wikipedia de los municipios españoles incrementó en un 9% el número de pernoctaciones hoteleras.

- Las mejoras de la página de Wikipedia son muy fáciles de hacer, se hacen a coste 0 y pueden generar más de 200.000€ de ingreso adicional a las arcas locales.

- Añadir fotografías del municipio, mejorar la información sobre fiestas locales y traducir a otros idiomas como el inglés son algunas de las mejoras específicas que han demostrado ser efectivas

Mejorar la Wikipedia, política clave para mejorar el turismo en municipios españoles

El turismo es un sector clave en España y la principal actividad económica en muchos municipios, en los que genera ingresos por un valor aproximado de 51.000 millones de euros cada año. En el actual contexto de vuelta a la normalidad, recursos escasos y creciente competencia, uno de los objetivos políticos principales en muchos ayuntamientos es cómo fomentar el turismo. ¿Pero qué nos dice la evidencia sobre la efectividad de diversas políticas para fomentar el turismo en su municipio? En este policy brief le resumimos los resultados de un estudio reciente que muestra una forma sencilla de aumentar el turismo en su municipio a coste 0.

Column 3 (LSE)

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Una investigación demuestra que la Wikipedia es un instrumento clave para impulsar el turismo en municipios españoles

- Un estudio publicado en la prestigiosa revista Journal of Economics and Management, muestra que una mejora en el contenido de la página de Wikipedia de los municipios españoles incrementó en un 9% el número de pernoctaciones hoteleras.

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- Añadir fotografías del municipio, mejorar la información sobre fiestas locales y traducir a otros idiomas como el inglés son algunas de las mejoras específicas que han demostrado ser efectivas

Mejorar la Wikipedia, política clave para mejorar el turismo en municipios españoles

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B.4 Text of the instructions to change Wikipedia

Ten steps for editing content on Wikipedia

1. Open the Wikipedia page of your town hall.

2. Click "Create an account" in the upper right corner.

Figure B.V: Step 2 to edit Wikipedia:

3. Complete the registration details.

Figure B.VI: Step 3 to edit Wikipedia:

4. Once completed, click on the "Create your account" box.

Figure B.VII: Step 4 to edit Wikipedia:

5. *The "Edit" tab will appear once the account has been created.*

Figure B.VIII: Step 5 to edit Wikipedia:

6. *In the "Edit" section, you can modify and add new text to the page. You will see a toolbar like that of Word displayed. These tools will help you edit the content.*

Figure B.IX: Step 6 to edit Wikipedia:

7. *If after pressing the "Edit" tab (from the previous step), the "Code editing" version opens by default, select the "Visual editing" option to edit directly in the text.*

Figure B.X: Step 7 to edit Wikipedia:
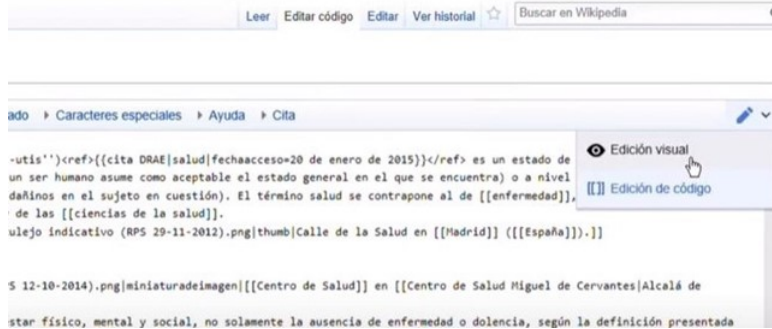
8. *To add images, go to the "Insert" tab and select the "Multimedia" or "Gallery" option. Once there, select the picture you want to add and press "insert".*

Figure B.XI: Step 8 to edit Wikipedia:

9. *Once editing is complete, select the "Publish Changes" icon at the far right of the toolbar.*

Figure B.XII: Step 9 to edit Wikipedia:

10. *When you press "Publish Changes", a pop-up tab will appear with options such as "Review your changes", "Continue editing", "Save your changes", and finally "Publish changes". Once you press "Publish Changes", you will have finished publishing information to Wikipedia.*

Figure B.XIII: Step 10 to edit Wikipedia:

C Heterogeneity of results

This appendix explores the heterogeneous effects of the different treatment arms by the ideology of the municipality's major, whether the mayor of the municipality belongs to one of the two main political parties, the population of the municipality, the number of words in the Wikipedia page of the municipality prior to our intervention, and whether the municipality belongs to a region with strong support for nationalist movements. To conduct these analyses, we expand the baseline specification 1 by adding interaction terms between the dummy variables indicating the treatment arms and the dummy variables that define the categories over which we want to estimate the heterogeneous effects of the treatments (e.g. ideology of the mayor).

First, we discuss whether the main effects of the treatments on policy adoption might differ for municipalities with a left- or a right-wing mayor. The results are reported in Table C.I. The probability of policy adoption is 38% higher among municipalities with a left-wing mayor. More importantly, the effect of receiving information from an ideologically aligned institution is nearly three times larger for left-wing municipalities, although the interaction term is not statistically significant at conventional confidence levels. Furthermore, the effect of receiving information from an ideologically nonsalient institution is relevant for left-wing policymakers but not for right-wing policymakers. On the other hand, the effect of receiving the summary of results from an institution with the opposite ideology is consistently 0 regardless of the ideology of the mayor.

It is important to interpret the results of this analysis cautiously, as the strength of the ideological alignment may not be symmetric for right- and left-wing mayors and institutions. To illustrate, consider the following example: Right-wing mayors assigned to receive the policy brief from an institution with the same ideology will receive a document endorsed by FAES. In contrast, left-wing mayors in the same treatment arm will receive a policy brief endorsed by Alternativas. If the prestige, authority, or trust associated with FAES differs for right-wing mayors compared to the prestige, authority, or trust of Alternativas for left-wing mayors, the observed results should not be solely attributed to differing ideological biases among right- and left-wing mayors, but also to this asymmetry. However, it's important to note that this consideration does not undermine the main findings reported in the paper, as each treatment arm includes both right- and left-wing

municipalities, and ideology is used in the randomization as a stratification variable.

Second, we explore whether the effect of the different treatments differ based on the political affiliation of the municipality's mayor, specifically whether they belong to the PP or PSOE, the primary right-wing and left-wing political parties, or another political party. This is a reasonable consideration given the key roles of the directors of FAES and Alternativas, who are influential figures and members of the Popular Party (PP) and the Socialist Party (PSOE), respectively.[45] While there is no formal affiliation at the moment, FAES and Alternativas wield considerable influence in shaping ideas and political and economic proposals for both PP and PSOE.

The findings of this analysis are presented in Table C.II. Overall, they indicate no discernible differential effects of the treatment arms on policy adoption based on whether the mayor belongs to either the PP/PSOE or a different political party. This result underscores that the primary effect identified in the paper—strong impacts on policy adoption when receiving information endorsed by an ideologically aligned institution—is not contingent on party discipline.

Third, the email sent to local policymakers not only includes the link to the policy report or newspaper article but also a link to a document providing step-by-step instructions for editing Wikipedia. While these instructions reduce implementation costs, one may wonder whether some non-negligible implementation costs might persist in small municipalities lacking equipment or personnel with the skills to edit the Wikipedia page. To explore this possibility, we investigate the heterogeneous effects of the treatments based on the population of the municipality, which arguably proxies for implementation capacity in the municipality. For this analysis, we divide the sample into tertiles of the population distribution and examine whether the effect differs across tertiles. The results of this analysis are reported in Table C.III. The findings indicate that the main effect on adoption is driven by municipalities in the top tertile of the population. These municipalities are likely those with a higher implementation capacity.

Fourth, we examine the heterogeneous effect of the treatment arms based on the length of the municipality's page on Spanish Wikipedia at the time before our intervention. Arguably, the word count

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[45]José María Aznar, the president of FAES, is a former president of the PP and served as the Spanish prime minister between 1996 and 2004. Diego López Garrido, the president of Alternativas, is a prominent politician and former MP for PSOE.

serves as a good proxy for the completeness of the municipality's entry on Wikipedia. Although we recommended implementing changes that were easily executable even for very comprehensive web pages (e.g., adding photographs, expanding information on festivals, etc.), it is easier to make improvements on more incomplete pages. On the other hand, shorter pages might also correlate with a lower capacity in the municipality to implement changes or a lower interest in tourism. For this analysis, we divide the sample into municipalities above and below the median length of the Wikipedia page in the sample. We then expand the main specification, including interaction terms between the treatment arms and a dummy variable indicating whether the municipality has a Wikipedia page with an above-median number of words. The results of this analysis are reported in Table C.IV. While the coefficients are not statistically significant, their magnitude suggests that the effects of receiving information endorsed by an institution with the same ideology are two times larger in municipalities with lengthier Wikipedia pages. While this result may seem counterintuitive (as editing more comprehensive webpages is, in principle, more costly), it is in line with the idea that municipalities with higher implementation capacity tend to be more responsive to ideological alignment, provided the length of Wikipedia pages serves as a proxy for implementation capacity.

Fifth, we investigated whether the treatment effects might be weaker for municipalities in which the mayor belongs to a strong nationalist party. We define these parties as those promoting independence from Spain: Esquerra Republicana de Catalunya (ERC), Junts per Catalunya, Candidatura d'Unitat Popular (CUP), Partido Nacionalista Vasco (PNV), Euskal Herria Bildu, and Bloque Nacionalista Galego (BNG). Although we address local politicians in Galicia, Catalonia, and the Basque Country in Spanish and their regional language in the email, local politicians from these parties might perceive both right and left-wing national-level think tanks and media as ideologically opposite. The results of this heterogeneity analysis are reported in Table C.V. Contrary to expectations, the results suggest that, if anything, the effect on policy adoption of receiving a summary of research from an institution with an aligned ideology is larger for these municipalities.

Finally, we analyzed whether the treatment effects are different for the 60 municipalities included in the experiment conducted by Hinnosaar et al. (2021). Unlike most of the municipalities in our sample, these 60 municipalities were big towns or cities. In the experiment conducted by Hinnosaar et al. (2021), the changes in Wikipedia pages were conducted by the authors and their

team without informing the treated municipalities. Furthermore, the results received very limited coverage from mass media in Spain, so they were unlikely to interact with our experiment.[46] The results of this heterogeneous analysis are reported in Table C.VI. They show that the impact of ideological alignment is larger among this subsample of 60 municipalities. This result is consistent with the results presented earlier in this section, illustrating that treatment effects are larger for more populated municipalities with more complete Wikipedia pages.

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[46]Only the small online news portals La Informacion and Tourinews have published brief articles about the study results. `https://www.lainformacion.com/management/turismo-editar-pueblos-wikipedia/2815402/https://www.tourinews.es/resumen-de-prensa/curiosidades/wikipedia-clave-reactivar-turismo-rural_4461915_102.html`

Table C.I: Heterogeneous effects of the treatment arms by ideology

	Study period		Placebo period	
Dep. var: Recommended change in Wikipedia (0/1)	(1)	(2)	(3)	(4)

Panel A: Effect of treatment arms relative to control

Aligned ideology - Policy brief	0.0239**	0.0235**	-0.0015	-0.0020
	(0.0092)	(0.0092)	(0.0058)	(0.0058)
Aligned ideology - Policy brief x Right	-0.0157	-0.0147	-0.0083	-0.0075
	(0.0163)	(0.0165)	(0.0084)	(0.0085)
Opposite ideology - Policy brief	0.0043	0.0037	-0.0035	-0.0037
	(0.0108)	(0.0109)	(0.0099)	(0.0100)
Opposite ideology - Policy brief x Right	-0.0054	-0.0039	0.0143	0.0148
	(0.0156)	(0.0157)	(0.0148)	(0.0150)
Nonsalient ideology - Policy brief	0.0236*	0.0236*	0.0022	0.0021
	(0.0119)	(0.0119)	(0.0081)	(0.0081)
Neutral ideology - Policy brief x Right	-0.0311*	-0.0309*	-0.0096	-0.0094
	(0.0161)	(0.0162)	(0.0106)	(0.0107)
Aligned ideology - Newspaper	0.0297**	0.0293**	-0.0016	-0.0019
	(0.0123)	(0.0124)	(0.0075)	(0.0075)
Aligned ideology - Newspaper x Right	-0.0285	-0.0275	0.0055	0.0060
	(0.0174)	(0.0175)	(0.0112)	(0.0112)
Opposite ideology - Newspaper	0.0100	0.0100	0.0002	0.0003
	(0.0092)	(0.0092)	(0.0068)	(0.0068)
Opposite ideology - Newspaper x Right	-0.0130	-0.0128	-0.0007	-0.0006
	(0.0151)	(0.0152)	(0.0113)	(0.0114)
Mean dep var in control	0.0255	0.0255	0.0202	0.0202
Strata FE	No	Yes	No	Yes
N	5,678	5,678	5,678	5,678

Panel B: Pooled effects relative to control

Any treatment	0.0183**	0.0180**	-0.0008	-0.0010
	(0.0070)	(0.0070)	(0.0058)	(0.0058)
Any treatment x Right	-0.0187	-0.0179	0.0003	0.0007
	(0.0125)	(0.0126)	(0.0086)	(0.0087)
Aligned ideology	0.0268***	0.0264***	-0.0016	-0.0019
	(0.0084)	(0.0084)	(0.0060)	(0.0060)
Aligned ideology x Right	-0.0221	-0.0211	-0.0014	-0.0007
	(0.0147)	(0.0149)	(0.0084)	(0.0084)
Opposite ideology	0.0072	0.0068	-0.0016	-0.0017
	(0.0085)	(0.0085)	(0.0066)	(0.0066)
Opposite ideology x Right	-0.0092	-0.0083	0.0068	0.0071
	(0.0130)	(0.0130)	(0.0111)	(0.0114)
Policy brief	0.0173**	0.0169**	-0.0010	-0.0012
	(0.0080)	(0.0080)	(0.0072)	(0.0073)
Policy brief x Right	-0.0174	-0.0165	-0.0012	-0.0007
	(0.0132)	(0.0133)	(0.0095)	(0.0096)
Newspaper	0.0198***	0.0196**	-0.0007	-0.0008
	(0.0074)	(0.0074)	(0.0058)	(0.0058)
Newspaper X Right	-0.0207	-0.0201	0.0024	0.0027
	(0.0131)	(0.0132)	(0.0096)	(0.0097)

Note: Panel A reports the heterogeneous effects of the different treatment arms on the probability of conducting a recommended change on the Wikipedia page by ideology. To explore the heterogeneous effects of the treatment arms, we interact the treatment indicators with a dummy variable indicating whether the mayor of the municipality belongs to a right- or left-wing political party. Estimates in columns (1) and (2) examine the effect of the different arms for right- and left-wing municipalities between May and December 2022, the study period. Estimates in columns (3) and (4) examine the effect of the different arms for right- and left-wing municipalities between May and December 2019, a placebo period before the start of the intervention. Regressions in columns (1) and (3) do not include strata fixed-effects and regressions in columns (2) and (4) are estimated with strata fixed-effects. Panel B reports the pooled effects relative to the control group. The mean adoption rate among municipalities with a right-wing mayor is 2.8% and for municipalities with left-wing mayors is 3.8%. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

Table C.II: Heterogeneous effects of the treatment arms by whether the mayor belongs to the PP/PSOE or to a different political party

Dep. var: Recommended change in Wikipedia (0/1)	Study period		Placebo period	
	(1)	(2)	(3)	(4)

Panel A: Effect of treatment arms relative to control

	(1)	(2)	(3)	(4)
Aligned ideology - Policy brief	0.0187	0.0190	-0.0067	-0.0066
	(0.0138)	(0.0140)	(0.0065)	(0.0065)
Aligned ideology - Policy brief x PP/PSOE	-0.0028	-0.0032	0.0020	0.0020
	(0.0170)	(0.0172)	(0.0085)	(0.0086)
Opposite ideology - Policy brief	-0.0069	-0.0068	0.0061	0.0066
	(0.0101)	(0.0101)	(0.0103)	(0.0105)
Opposite ideology - Policy brief x PP/PSOE	0.0132	0.0132	-0.0045	-0.0051
	(0.0144)	(0.0145)	(0.0142)	(0.0143)
Nonsalient ideology - Policy brief	0.0093	0.0095	0.0062	0.0063
	(0.0162)	(0.0164)	(0.0077)	(0.0077)
Nonsalient ideology - Policy brief x PP/PSOE	0.0003	0.0002	-0.0125	-0.0125
	(0.0191)	(0.0193)	(0.0104)	(0.0104)
Aligned ideology - Newspaper	0.0157	0.0161	-0.0002	0.0000
	(0.0136)	(0.0138)	(0.0080)	(0.0080)
Aligned ideology - Newspaper x PP/PSOE	0.0014	0.0009	0.0017	0.0014
	(0.0179)	(0.0182)	(0.0108)	(0.0109)
Opposite ideology - Newspaper	-0.0100	-0.0097	0.0063	0.0066
	(0.0084)	(0.0084)	(0.0091)	(0.0092)
Opposite ideology - Newspaper x PP/PSOE	0.0210	0.0207	-0.0094	-0.0097
	(0.0132)	(0.0133)	(0.0113)	(0.0114)
Mean dep var in control	0.0255	0.0255	0.0202	0.0202
Strata FE	No	Yes	No	Yes
N	5,678	5,678	5,678	5,678

Panel B: Pooled effects relative to control

	(1)	(2)	(3)	(4)
Any treatment	0.0054	0.0056	0.0023	0.0026
	(0.0086)	(0.0087)	(0.0062)	(0.0063)
Any treatment x PP/PSOE	0.0066	0.0063	-0.0045	-0.0048
	(0.0120)	(0.0121)	(0.0083)	(0.0083)
Aligned ideology	0.0172	0.0176	-0.0035	-0.0033
	(0.0126)	(0.0128)	(0.0061)	(0.0061)
Aligned ideology x PP/PSOE	-0.0007	-0.0011	0.0019	0.0017
	(0.0156)	(0.0159)	(0.0082)	(0.0082)
Opposite ideology	-0.0084	-0.0082	0.0062	0.0066
	(0.0080)	(0.0079)	(0.0083)	(0.0084)
Opposite ideology x PP/PSOE	0.0171	0.0169	-0.0070	-0.0074
	(0.0117)	(0.0117)	(0.0108)	(0.0109)
Policy brief	0.0070	0.0072	0.0019	0.0021
	(0.0108)	(0.0109)	(0.0067)	(0.0068)
Policy brief x PP/PSOE	0.0036	0.0034	-0.0050	-0.0052
	(0.0137)	(0.0138)	(0.0092)	(0.0093)
Newspaper	0.0029	0.0032	0.0030	0.0033
	(0.0076)	(0.0078)	(0.0065)	(0.0066)
Newspaper X PP/PSOE	0.0112	0.0108	-0.0039	-0.0041
	(0.0119)	(0.0120)	(0.0089)	(0.0090)

Note: Panel A reports the heterogeneous effects of the different treatment arms on the probability of conducting a recommended change on the Wikipedia page by whether the mayor belongs to the PP/PSOE parties or to a different political party. To explore the heterogeneous effects of the treatment arms, we interact the treatment indicators with a dummy variable indicating whether the mayor of the municipality belongs to either the PP/PSOE, or to a different political party. Estimates in columns (1) and (2) examine the effect of the different arms for right- and left-wing municipalities between May and December 2022, the study period. Estimates in columns (3) and (4) examine the effect of the different arms for right- and left-wing municipalities between May and December 2019, a placebo period before the start of the intervention. Regressions in columns (1) and (3) do not include strata fixed-effects and regressions in columns (2) and (4) are estimated with strata fixed-effects. Panel B reports the pooled effects relative to the control group. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

Table C.III: Heterogeneous effects of the treatment arms by the population of the municipality

Dep. var: Recommended change in Wikipedia (0/1)	Study period		Placebo period	
	(1)	(2)	(3)	(4)

Panel A: Effect of treatment arms relative to control

	(1)	(2)	(3)	(4)
Aligned ideology - Policy brief	0.0320**	0.0322**	0.0096	0.0097
	(0.0146)	(0.0148)	(0.0088)	(0.0088)
Aligned ideology - Policy brief x Mid tertile population	-0.0162	-0.0166	-0.0288**	-0.0289**
	(0.0211)	(0.0212)	(0.0121)	(0.0121)
Aligned ideology - Policy brief x Bottom tertile population	-0.0291	-0.0293	-0.0160	-0.0160
	(0.0180)	(0.0181)	(0.0096)	(0.0097)
Opposite ideology - Policy brief	0.0061	0.0067	-0.0002	0.0002
	(0.0185)	(0.0186)	(0.0129)	(0.0130)
Opposite ideology - Policy brief x Mid tertile population	0.0000	-0.0007	0.0094	0.0091
	(0.0212)	(0.0213)	(0.0202)	(0.0204)
Opposite ideology - Policy brief x Bottom tertile population	-0.0125	-0.0133	0.0001	-0.0001
	(0.0207)	(0.0208)	(0.0151)	(0.0153)
Nonsalient ideology - Policy brief	0.0066	0.0071	0.0002	0.0001
	(0.0153)	(0.0154)	(0.0121)	(0.0121)
Nonsalient ideology - Policy brief x Mid tertile population	0.0026	0.0020	-0.0099	-0.0099
	(0.0220)	(0.0221)	(0.0146)	(0.0146)
Nonsalient ideology - Policy brief x Bottom tertile population	0.0060	0.0055	0.0030	0.0032
	(0.0205)	(0.0206)	(0.0141)	(0.0142)
Aligned ideology - Newspaper	0.0466**	0.0470**	0.0091	0.0093
	(0.0192)	(0.0194)	(0.0115)	(0.0116)
Aligned ideology - Newspaper x Mid tertile population	-0.0498**	-0.0504**	-0.0187	-0.0190
	(0.0229)	(0.0231)	(0.0146)	(0.0147)
Aligned ideology - Newspaper x Bottom tertile population	-0.0404*	-0.0408*	-0.0060	-0.0060
	(0.0206)	(0.0208)	(0.0136)	(0.0137)
Opposite ideology - Newspaper	0.0160	0.0166	0.0160	0.0163
	(0.0156)	(0.0157)	(0.0102)	(0.0103)
Opposite ideology - Newspaper x Mid tertile population	-0.0163	-0.0171	-0.0321**	-0.0324**
	(0.0192)	(0.0193)	(0.0140)	(0.0141)
Opposite ideology - Newspaper x Bottom tertile population	-0.0193	-0.0199	-0.0160	-0.0162
	(0.0189)	(0.0190)	(0.0121)	(0.0122)
Mean dep var in control	0.0255	0.0255	0.0202	0.0202
Strata FE	No	Yes	No	Yes
N	5,678	5,678	5,678	5,678

Panel B: Pooled effects relative to control

	(1)	(2)	(3)	(4)
Any treatment	0.0215*	0.0220*	0.0069	0.0071
	(0.0127)	(0.0128)	(0.0083)	(0.0083)
Any treatment x Mid tertile population	-0.0160	-0.0166	-0.0160	-0.0162
	(0.0163)	(0.0164)	(0.0119)	(0.0120)
Any treatment x Bottom tertile population	-0.0191	-0.0196	-0.0070	-0.0070
	(0.0149)	(0.0150)	(0.0094)	(0.0095)
Aligned ideology	0.0393**	0.0397**	0.0094	0.0095
	(0.0158)	(0.0160)	(0.0084)	(0.0084)
Aligned ideology x Mid tertile population	-0.0331*	-0.0335*	-0.0238**	-0.0240**
	(0.0194)	(0.0195)	(0.0112)	(0.0112)
Aligned ideology x Bottom tertile population	-0.0348**	-0.0351**	-0.0110	-0.0110
	(0.0170)	(0.0172)	(0.0096)	(0.0097)
Opposite ideology	0.0110	0.0116	0.0079	0.0082
	(0.0145)	(0.0146)	(0.0095)	(0.0097)
Opposite ideology x Mid tertile population	-0.0081	-0.0089	-0.0113	-0.0116
	(0.0169)	(0.0169)	(0.0153)	(0.0155)
Opposite ideology x Bottom tertile population	-0.0159	-0.0166	-0.0079	-0.0081
	(0.0168)	(0.0168)	(0.0110)	(0.0112)
Policy brief	0.0149	0.0153	0.0032	0.0033
	(0.0131)	(0.0132)	(0.0099)	(0.0100)
Policy brief x Mid tertile population	-0.0045	-0.0051	-0.0098	-0.0099
	(0.0172)	(0.0173)	(0.0137)	(0.0138)
Policy brief x Bottom tertile population	-0.0118	-0.0123	-0.0043	-0.0043
	(0.0165)	(0.0166)	(0.0111)	(0.0112)
Newspaper	0.0314**	0.0320**	0.0125	0.0128
	(0.0136)	(0.0137)	(0.0086)	(0.0087)
Newspaper X Mid tertile population	-0.0332*	-0.0338*	-0.0254**	-0.0257**
	(0.0172)	(0.0173)	(0.0120)	(0.0121)
Newspaper X Bottom tertile population	-0.0299**	-0.0305**	-0.0110	-0.0111
	(0.0145)	(0.0146)	(0.0102)	(0.0103)

Note: Panel A reports the heterogeneous effects of the different treatment arms on the probability of conducting a recommended change on the Wikipedia page by the population of the municipality. We interact the treatment indicators with a set of dummy variables indicating whether the population is in the mid or the bottom tertile of the population distribution. The interaction term with the top tertile of the population distribution is the reference category. The mean population in municipalities in the bottom tertile is 349 inhabitants, in the medium tertile 1,617 inhabitants and in the top tertile 22,593 inhabitants. Estimates in columns (1) and (2) examine the effect of the different arms for municipalities with larger and smaller populations between May and December 2022, the study period. Estimates in columns (3) and (4) examine the effect of the different treatment arms for municipalities with larger and smaller populations between May and December 2019, a placebo period before the start of the intervention. Regressions in columns (1) and (3) do not include strata fixed-effects and regressions in columns (2) and (4) are estimated with strata fixed-effects. Panel B reports the pooled effects relative to the control group. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

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Table C.IV: Heterogeneous effects of the treatment arms by the length of the Wikipedia page

Dep. var: Recommended change in Wikipedia (0/1)	Study period		Placebo period	
	(1)	(2)	(3)	(4)

Panel A: Effect of treatment arms relative to control

	(1)	(2)	(3)	(4)
Aligned ideology - Policy brief	0.0144	0.0163	-0.0012	0.0000
	(0.0113)	(0.0113)	(0.0079)	(0.0080)
Aligned ideology - Policy brief x Below the median of words	0.0041	0.0013	-0.0089	-0.0108
	(0.0162)	(0.0161)	(0.0126)	(0.0131)
Opposite ideology - Policy brief	0.0095	0.0101	0.0048	0.0058
	(0.0121)	(0.0123)	(0.0101)	(0.0101)
Opposite ideology - Policy brief x Below the median of words	-0.0142	-0.0157	-0.0035	-0.0052
	(0.0145)	(0.0147)	(0.0133)	(0.0132)
Nonsalient ideology - Policy brief	0.0113	0.0116	0.0034	0.0040
	(0.0112)	(0.0114)	(0.0105)	(0.0105)
Nonsalient ideology - Policy brief x Below the median of words	-0.0042	-0.0041	-0.0115	-0.0125
	(0.0154)	(0.0154)	(0.0154)	(0.0154)
Aligned ideology - Newspaper	0.0287**	0.0295**	0.0090	0.0098
	(0.0141)	(0.0142)	(0.0092)	(0.0094)
Aligned ideology - Newspaper x Below the median of words	-0.0257	-0.0265	-0.0170	-0.0180
	(0.0179)	(0.0178)	(0.0135)	(0.0138)
Opposite ideology - Newspaper	0.0109	0.0099	0.0170*	0.0174*
	(0.0124)	(0.0126)	(0.0097)	(0.0098)
Opposite ideology - Newspaper x Below the median of words	-0.0120	-0.0106	-0.0320**	-0.0329**
	(0.0166)	(0.0168)	(0.0125)	(0.0127)
Mean dep var in control	0.0255	0.0255	0.0202	0.0202
Strata FE	No	Yes	No	Yes
N	5,678	5,678	5,678	5,678

Panel B: Pooled effects relative to control

	(1)	(2)	(3)	(4)
Any treatment	0.0151*	0.0157*	0.0064	0.0072
	(0.0088)	(0.0090)	(0.0069)	(0.0070)
Any treatment x Below the median of words	-0.0108	-0.0116	-0.0144	-0.0157
	(0.0124)	(0.0124)	(0.0110)	(0.0112)
Aligned ideology	0.0216*	0.0228*	0.0039	0.0049
	(0.0114)	(0.0115)	(0.0071)	(0.0073)
Aligned ideology x Below the median of words	-0.0108	-0.0126	-0.0130	-0.0144
	(0.0151)	(0.0151)	(0.0117)	(0.0121)
Opposite ideology	0.0101	0.0100	0.0108	0.0115
	(0.0099)	(0.0100)	(0.0079)	(0.0079)
Opposite ideology x Below the median of words	-0.0130	-0.0131	-0.0177	-0.0191*
	(0.0137)	(0.0138)	(0.0109)	(0.0110)
Policy brief	0.0118	0.0128	0.0023	0.0032
	(0.0090)	(0.0091)	(0.0080)	(0.0080)
Policy brief x Below the median of words	-0.0051	-0.0066	-0.0077	-0.0093
	(0.0122)	(0.0123)	(0.0119)	(0.0120)
Newspaper	0.0203*	0.0202*	0.0128	0.0134*
	(0.0105)	(0.0106)	(0.0078)	(0.0080)
Newspaper X Below the median of words	-0.0194	-0.0191	-0.0245**	-0.0254**
	(0.0148)	(0.0147)	(0.0116)	(0.0120)

Note: Panel A reports the heterogeneous effects of the different treatment arms on the probability of conducting a recommended change on the Wikipedia page by whether the Wikipedia page was above or below the median number of words before the experiment. To explore the heterogeneous effects of the treatment arms, we interact the treatment indicators with a dummy variable indicating whether the municipality's page in the Spanish Wikipedia is above or below the median number of Words in Wikipedia. Estimates in columns (1) and (2) examine the effect of the different arms for municipalities with longer and shorter pages in Wikipedia between May and December 2022, the study period. Estimates in columns (3) and (4) examine the effect of the different arms for municipalities with longer and shorter pages in Wikipedia between May and December 2019, a placebo period before the start of the intervention. Regressions in columns (1) and (3) do not include strata fixed-effects and regressions in columns (2) and (4) are estimated with strata fixed-effects. Panel B reports the pooled effects relative to the control group. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

Table C.V: Heterogeneous effects of treatment arms by belonging to nationalist party

Dep. var: Recommended change in Wikipedia (0/1)	Study period		Placebo period	
	(1)	(2)	(3)	(4)

Panel A: Effect of treatment arms relative to control

	(1)	(2)	(3)	(4)
Aligned ideology - Policy brief	0.0092	0.0089	-0.0074	-0.0075
	(0.0096)	(0.0097)	(0.0060)	(0.0059)
Aligned ideology - Policy brief x Nationalist party	0.0301*	0.0313*	0.0077	0.0080
	(0.0174)	(0.0176)	(0.0120)	(0.0119)
Opposite ideology - Policy brief	-0.0005	-0.0007	0.0038	0.0040
	(0.0098)	(0.0099)	(0.0096)	(0.0096)
Opposite ideology - Policy brief x Nationalist party	0.0092	0.0098	-0.0036	-0.0039
	(0.0126)	(0.0129)	(0.0113)	(0.0112)
Nonsalient ideology - Policy brief	0.0095	0.0091	-0.0031	-0.0030
	(0.0107)	(0.0107)	(0.0065)	(0.0066)
Nonsalient ideology - Policy brief x Nationalist party	-0.0008	0.0012	0.0033	0.0029
	(0.0145)	(0.0142)	(0.0107)	(0.0108)
Aligned ideology - Newspaper	0.0132	0.0123	0.0009	0.0007
	(0.0108)	(0.0108)	(0.0068)	(0.0068)
Aligned ideology - Newspaper x Nationalist party	0.0132	0.0168	-0.0005	0.0003
	(0.0154)	(0.0151)	(0.0131)	(0.0132)
Opposite ideology - Newspaper	0.0051	0.0055	-0.0017	-0.0013
	(0.0099)	(0.0098)	(0.0068)	(0.0069)
Opposite ideology - Newspaper x Nationalist party	-0.0050	-0.0061	0.0063	0.0049
	(0.0120)	(0.0119)	(0.0124)	(0.0129)

Panel B: Pooled effects relative to control

	(1)	(2)	(3)	(4)
Any treatment	0.0073	0.0070	-0.0015	-0.0014
	(0.0081)	(0.0081)	(0.0054)	(0.0054)
Any treatment x Nationalist party	0.0093	0.0105	0.0026	0.0025
	(0.0101)	(0.0101)	(0.0088)	(0.0090)
Aligned ideology	0.0112	0.0106	-0.0033	-0.0034
	(0.0086)	(0.0087)	(0.0052)	(0.0052)
Aligned ideology x Nationalist party	0.0217*	0.0240**	0.0036	0.0042
	(0.0120)	(0.0120)	(0.0102)	(0.0103)
Opposite ideology	0.0023	0.0024	0.0010	0.0013
	(0.0085)	(0.0086)	(0.0069)	(0.0070)
Opposite ideology x Nationalist party	0.0021	0.0019	0.0013	0.0005
	(0.0109)	(0.0110)	(0.0096)	(0.0100)
Policy brief	0.0060	0.0058	-0.0022	-0.0022
	(0.0086)	(0.0087)	(0.0064)	(0.0064)
Policy brief x Nationalist party	0.0128	0.0140	0.0025	0.0024
	(0.0121)	(0.0121)	(0.0095)	(0.0095)
Newspaper	0.0092	0.0089	-0.0004	-0.0003
	(0.0085)	(0.0085)	(0.0058)	(0.0059)
Newspaper X Nationalist party	0.0040	0.0052	0.0029	0.0026
	(0.0112)	(0.0110)	(0.0107)	(0.0109)
Mean dep var in control	0.0255	0.0255	0.0202	0.0202
Strata FE	No	Yes	No	Yes
N	5,678	5,678	5,678	5,678

Note: Panel A reports the heterogeneous effects of the different treatment arms on the probability of conducting a recommended change on the Wikipedia page by whether the mayor belongs to a political party that promotes independence from Spain. To explore the heterogeneous effects of the treatment arms, we interact the treatment indicators with a dummy variable indicating whether the mayor of the municipality belongs to one of the following political parties: Esquerra Republicana de Catalunya (ERC), Junts per Catalunya, Candidatura d'Unitat Popular (CUP), Partido Nacionalista Vasco (PNV), Euskal Herria Bildu, and Bloque Nacionalista Galego (BNG). Estimates in columns (1) and (2) examine the effect of the different arms for nationalist and non-nationalist municipalities between May and December 2022, the study period. Estimates in columns (3) and (4) examine the effect of the different arms for nationalist and non-nationalist municipalities between May and December 2019, a placebo period before the start of the intervention. Regressions in columns (1) and (3) do not include strata fixed-effects and regressions in columns (2) and (4) are estimated with strata fixed-effects. Panel B reports the pooled effects relative to the control group. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

Table C.VI: Heterogeneous effects of the treatment arms by whether the municipality is included in the experiment conducted in Hinnosaar et al. (2021)

Dep. var: Recommended change in Wikipedia (0/1)	Study period		Placebo period	
	(1)	(2)	(3)	(4)
Panel A: Effect of treatment arms relative to control				
Aligned ideology - Policy brief	0.0135*	0.0136*	-0.0056	-0.0055
	(0.0077)	(0.0078)	(0.0043)	(0.0043)
Aligned ideology - Policy brief x Hinosaar	0.4865***	0.4727***	0.0056	-0.0056
	(0.1190)	(0.1219)	(0.0043)	(0.0109)
Opposite ideology - Policy brief	0.0018	0.0020	0.0029	0.0032
	(0.0078)	(0.0079)	(0.0074)	(0.0075)
Opposite ideology - Policy brief x Hinosaar	-0.0018	-0.0156	-0.0029	-0.0181
	(0.0078)	(0.0144)	(0.0074)	(0.0121)
Nonsalient ideology - Policy brief	0.0096	0.0100	-0.0022	-0.0021
	(0.0087)	(0.0088)	(0.0055)	(0.0055)
Nonsalient ideology - Policy brief x Hinosaar	-0.0096	-0.0174	0.0022	0.0009
	(0.0087)	(0.0116)	(0.0055)	(0.0059)
Aligned ideology - Newspaper	0.0136	0.0137	0.0008	0.0009
	(0.0086)	(0.0086)	(0.0056)	(0.0057)
Aligned ideology - Newspaper x Hinosaar	0.3198*	0.3043*	-0.0008	-0.0053
	(0.1678)	(0.1588)	(0.0056)	(0.0099)
Opposite ideology - Newspaper	0.0030	0.0033	-0.0055	-0.0054
	(0.0075)	(0.0076)	(0.0053)	(0.0053)
Opposite ideology - Newspaper x Hinosaar	0.0970	0.0861	0.5055**	0.5108**
	(0.0913)	(0.0840)	(0.2024)	(0.1987)
Panel B: Pool effects relative to control				
Any treatment	0.0083	0.0085	-0.0019	-0.0018
	(0.0061)	(0.0062)	(0.0042)	(0.0042)
Any treatment x Hinosaar	0.1406**	0.1258**	0.1083***	0.1044***
	(0.0599)	(0.0495)	(0.0380)	(0.0378)
Aligned ideology	0.0135*	0.0137*	-0.0024	-0.0023
	(0.0070)	(0.0070)	(0.0042)	(0.0042)
Aligned ideology x Hinosaar	0.3865***	0.3714***	0.0024	-0.0052
	(0.1080)	(0.0992)	(0.0042)	(0.0075)
Opposite ideology	0.0024	0.0026	-0.0013	-0.0011
	(0.0064)	(0.0065)	(0.0053)	(0.0053)
Opposite ideology x Hinosaar	0.0531	0.0408	0.2790***	0.2751***
	(0.0475)	(0.0391)	(0.0952)	(0.0942)
Policy brief	0.0083	0.0085	-0.0016	-0.0015
	(0.0067)	(0.0067)	(0.0048)	(0.0049)
Policy brief x Hinosaar	0.0988**	0.0857*	0.0016	-0.0045
	(0.0482)	(0.0457)	(0.0048)	(0.0065)
Newspaper	0.0083	0.0085	-0.0023	-0.0023
	(0.0065)	(0.0065)	(0.0046)	(0.0046)
Newspaper X Hinosaar	0.2022	0.1858	0.2655***	0.2671***
	(0.1293)	(0.1193)	(0.0988)	(0.0999)
Mean dep var in control	0.0255	0.0255	0.0202	0.0202
Strata FE	No	Yes	No	Yes
N	5,678	5,678	5,678	5,678

Note: Panel A reports the heterogeneous effects of the different treatment arms on the probability of conducting a recommended change on the Wikipedia page by whether the municipality is included in the experiment conducted in Hinnosaar et al. (2021). To explore the heterogeneous effects of the treatment arms, we interact the treatment indicators with a dummy variable indicating whether the municipality is included in the experiment conducted in the latter paper. Estimates in columns (1) and (2) examine the effects on recommended changes between May and December 2022, the study period. Estimates in columns (3) and (4) examine the effects of the different arms on recommended changes between May and December 2019, a placebo period before the start of the intervention. Regressions in columns (1) and (3) do not include strata fixed-effects and regressions in columns (2) and (4) are estimated with strata fixed-effects. Panel B reports the pooled effects relative to the control group. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

D   Additional tables and graphs

Figure D.I: Timing of changes in Wikipedia over the study period
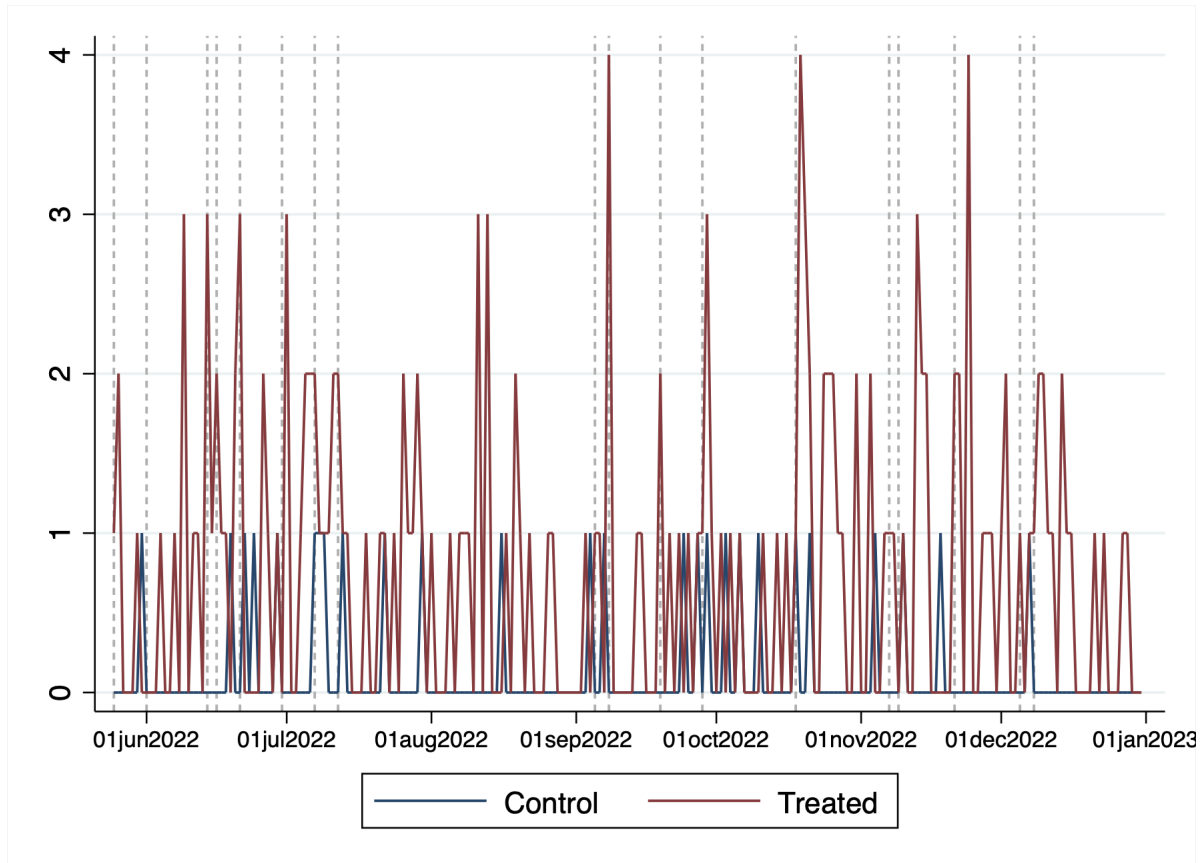
Note: The figure displays the number of recommended changes in the Spanish Wikipedia page of control and treatment municipalities over the study period. The vertical dashed lines show the timing of the reminder emails sent. The sum of the days on which mailings were made and the day after represent 16.7% of the days in our intervention period, but these account for 30% of the changes in the treatment group.

Figure D.II: Heterogeneity of results by types of recommended change in Wikipedia
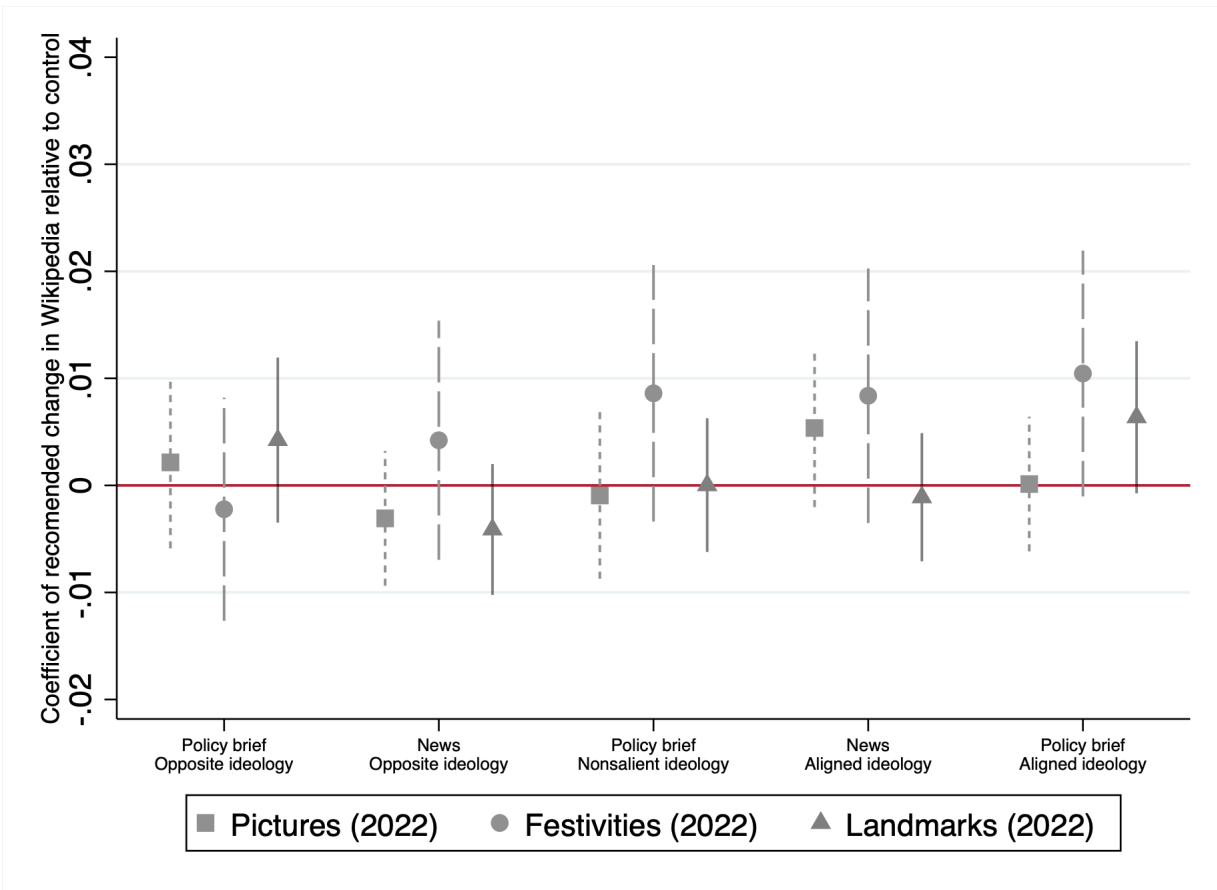
Note: The figure displays the point estimates and 95% confidence intervals for the effect of the different treatment arms relative to the control group on the probability of doing different types of changes in the municipalities' page in the Spanish Wikipedia during the study period. The taxonomy of changes includes: changes related to local festivities, changes related to pictures, and changes related to landmarks. The estimates were conducted with strata fixed-effects.

Table D.I: P-values of the different treatments:

	Without strata fixed effect (1)	With strata fixed effect (2)
Panel A: All individuals		
Any treatment vs Control group	0.128	0.126
Aligned ideology vs Control group	0.029	0.030
Opposite ideology vs Control group	0.643	0.631
Nonsalient ideology vs Control group	0.276	0.269
Aligned ideology vs Opposite ideology	0.022	0.023
Aligned ideology vs Nonsalient ideology	0.344	0.355
Nonsalient ideology vs Opposite ideology	0.348	0.345
Policy brief vs Control group	0.169	0.166
Newspaper vs Control group	.124	.124
Newspaper vs Policy brief	0.819	0.823

Note: The table reports the p-values of t-test conducted after regressions estimated without strata fixed effects in column (1) and with strata fixed effects in column (2). The p-values corresponds to the effects reported in Table II.

Table D.II: Spatial spillovers: Effect of distance to the nearest municipality in each treatment arm on the probability of changing Wikipedia for municipalities in the control group

	Study Period	Placebo Period
	Recommended changes in Wikipedia (1)	Recommended changes in Wikipedia (2)
Dist (in miles) to nearest municipality treated with...		
Aligned ideology - Policy brief	0.0007	-0.0001
	(0.0007)	(0.0005)
Opposite ideology - Policy Brief	0.0002	0.0000
	(0.0009)	(0.0007)
Nonsalient ideology - Policy Brief	0.0003	0.0007
	(0.0006)	(0.0005)
Aligned ideology - Newspaper	-0.0002	-0.0005
	(0.0007)	(0.0005)
Opposite ideology - Newspaper	-0.0003	0.0002
	(0.0004)	(0.0006)
Mean outcome	0.0255	0.0202
N	941	941

Note: For the sample of control municipalities, the table reports the effect of distance to the closest municipality in each treatment arm on the probability of a recommended change in Wikipedia during the study period in column (1) and the placebo paeriod in column (2). Te mean distance in miles from control municipalities to the closest in municipality in the aligned policy brief treatment arm is 2.39, in the opposite policy brief treatment arm is 2.38, in the nonsalient policy brief treatment arm is 2.40, in the aligned newspaper treatment arm is 2.3802, and in the opposite newspaper treatment arm is 2.37. heteroskedasticity-consistent standard errors are reported in parentheses.***p<0.01;**p<0.05;*p<0.1.

Table D.III: Effects of the treatment arms on the probability of making a recommended change in Wikipedia (Goldsmith-Pinkham et al., 2022)

	Study period		Placebo period	
	(1)	(2)	(3)	(4)
Panel A: Effect of treatment arms relative to control				
Aligned ideology - Policy brief	0.0168**	0.0169**	-0.0054	-0.0053
	(0.0081)	(0.0082)	(0.0043)	(0.0059)
Opposite ideology - Policy brief	0.0019	0.0020	0.0030	0.0032
	(0.0078)	(0.0073)	(0.0074)	(0.0066)
Nonsalient ideology - Policy brief	0.0094	0.0097	-0.0022	-0.0022
	(0.0086)	(0.0078)	(0.0054)	(0.0062)
Aligned ideology - Newspaper	0.0167*	0.0167**	0.0009	0.0010
	(0.0091)	(0.0082)	(0.0056)	(0.0065)
Opposite ideology - Newspaper	0.0041	0.0043	-0.0001	0.0001
	(0.0075)	(0.0074)	(0.0055)	(0.0064)
Mean dep var in control	0.0255	0.0255	0.0202	0.0202
Strata FE	No	Yes	No	Yes
N	5,678	5,678	5,678	5,678
Panel B: Pooled effects relative to control				
Any treatment	0.0098	0.0099	-0.0007	-0.0006
	(0.0063)	(0.0058)	(0.0042)	(0.0049)
Aligned ideology	0.0167**	0.0168**	-0.0022	-0.0022
	(0.0075)	(0.0068)	(0.0042)	(0.0054)
Opposite ideology	0.0030	0.0032	0.0015	0.0016
	(0.0065)	(0.0064)	(0.0054)	(0.0056)
Policy brief	0.0094	0.0095	-0.0015	-0.0014
	(0.0067)	(0.0062)	(0.0048)	(0.0052)
Newspaper	0.0104	0.0105	0.0004	0.0005
	(0.0067)	(0.0066)	(0.0046)	(0.0055)

Note: The table replicates the main results of the study reported in Table II but using the estimation method presented in Goldsmith-Pinkham et al. (2022). This method is used to account for contamination when estimating the effect of mutually exclusive treatments with control variables. Estimates in columns (1) and (2) examine the effect of the different arms on recommended changes between May and December 2022. These are the main results of the study. Estimates in columns (3) and (4) examine the effect of the different arms on recommended changes between May and December 2019, a placebo period before the start of the intervention. Regressions in columns (1) and (3) do not include strata fixed-effects and regressions in columns (2) and (4) are estimated with strata fixed-effects. *Any treatment* yields the pooled effect of receiving the information across all treatment groups relative to not receiving any information. *Aligned ideology* yields the pooled effect of receiving the summary of study results endorsed by an institution (newspaper or think tank) with the same ideology relative to not receiving any information. *Opposite ideology* yields the pooled effect of receiving the summary of study results endorsed by an institution (newspaper or think tank) with the opposite ideology relative to not receiving any information. *Policy brief* yields the pooled effect of receiving the summary of study results through a policy brief relative to not receiving any information regardless of the ideology of the think tank. *Newspaper* yields the pooled effect of receiving the summary of study results through a newspaper article regardless of the ideology of the newspaper relative to not receiving any information. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

Table D.IV: Effects of the treatment arms on the number of contact emails targetted in the municipality

	(1)	(2)
Aligned ideology - Policy brief	-0.0380	-0.0324
	(0.0661)	(0.0659)
Nonsalient ideology - Policy brief	0.0113	0.0045
	(0.0592)	(0.0589)
Aligned ideology - Newspaper	-0.0621	-0.0648
	(0.0700)	(0.0695)
Opposite ideology - Newspaper	0.0420	0.0409
	(0.0647)	(0.0655)
Reference group:		
Opposite ideology - Policy brief		
Mean dep variable	2.9226	2.9226
Strata FE	No	Yes
N	4,652	4,652

Note: Panel A reports the effects of the different treatment arms on the probability of conducting a recommended change on the Wikipedia page. Estimates in columns (1) and (2) examine the effect of the different arms on the number of emails targeted in each treatment group. The reference groups are the municipalities that received the information endorsed by an institution with an opposite ideology. Estimates in Column (1) do not include strata fixed-effects and regressions in column (2) are estimated with strata fixed-effects. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

Table D.V: Treatment effects on the probability of opening an email

Dep var: Opening email (0/1)	At the municipality level		At the email level	
	(1)	(2)	(3)	(4)
Aligned ideology - Policy brief	-0.0051	-0.0039	0.0083	0.0079
	(0.0239)	(0.0241)	(0.0212)	(0.0213)
Nonsalient ideology - Policy brief	0.0215	0.0216	-0.0002	-0.0043
	(0.0244)	(0.0245)	(0.0205)	(0.0203)
Aligned ideology - Newspaper	-0.0095	-0.0092	-0.0174	-0.0175
	(0.0263)	(0.0264)	(0.0219)	(0.0219)
Opposite ideology - Newspaper	-0.0257	-0.0248	-0.0204	-0.0197
	(0.0245)	(0.0247)	(0.0212)	(0.0214)
Reference group:				
Opposite ideology - Policy brief				
Mean dep variable	0.5716	0.5716	0.3796	0.3796
Strata FE	No	Yes	No	Yes
N	4,736	4,736	11,288	11,288

Note: The estimates presented in the table yield the differences across the different treatment groups and the arm that received the policy brief endorsed by a think tank with opposite ideology regarding the probability of opening the email containing the intervention. The latter group is the omitted category in the regressions since the control group did not receive the intervention email. Estimates reported in columns (1) and (3) are estimated without strata-fixed effects, and columns (2) and (4) are estimated with strata-fixed effects. The outcome variable, whether an email with the intervention is opened, is measured at the municipality level in columns (1) and (2). Because we had more than one email address in some municipalities, we estimated the effects in columns (3) and (4) with the outcome variable measured at the email address level. Standard errors in parentheses are clustered at the randomization strata level.. ***p<0.01;**p<0.05;*p<0.1

Table D.VI: Power calculations for dichotomous outcomes: Minimum detectable effect size (MDE)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Baseline prob.	Any treatment vs Control	Newspaper vs Policy brief	Newspaper vs Control	Policy brief vs Control	Same ideology vs Opposite ideology	Same ideology vs Control	Opposite ideology vs Control	Any group vs Control
0.4	0.049	0.041	0.055	0.052	0.045	0.055	0.055	0.064
0.1	0.033	0.026	0.036	0.034	0.029	0.036	0.036	0.042
0.03	0.02	0.016	0.023	0.021	0.018	0.023	0.023	0.026

Note: The table reports the minimum detectable effect size (MDE) with a probability of 80% for different treatment arms comparisons. The calculations are for dichotomous outcomes and we assume different baseline probabilities for the outcomes. We believe these were reasonable probabilities for the outcomes: opening the email received, clicking on the link to the policy brief/newspaper, and changing the Wikipedia.

Table D.VII: Power calculations

Baseline prob.	(1) Any treatment vs Control	(2) Newspaper vs Policy brief	(3) Newspaper vs Control	(4) Policy brief vs Control	(5) Same ideology vs Opposed ideology	(6) Same ideology vs Control	(7) Opposed ideology vs Control	(8) Any group vs Control
Ln words	0.043	0.036	0.048	0.045	0.039	0.048	0.048	0.055
Ln image	0.078	0.065	0.087	0.082	0.071	0.087	0.087	0.101

Note: The table reports the minimum detectable effect size (MDE) with a probability of 80% for different treatment arms comparisons. The calculations are for continuous outcomes for two outcomes for which we have baseline information: the number of words and the number of images.

Table D.VIII: Effects of the different treatment arms on the number of clicks

	At the municipality level		At the email level	
	(1)	(2)	(3)	(4)
Panel A: Number of clicks				
Aligned ideology - Policy brief	0.0465	0.0478	0.0176	0.0179
	(0.1107)	(0.1112)	(0.0463)	(0.0448)
Nonsalient ideology - Policy brief	0.2793	0.2789	0.1151	0.1142
	(0.2295)	(0.2306)	(0.0920)	(0.0915)
Aligned ideology - Newspaper	-0.1191	-0.1198	-0.0484	-0.0490
	(0.1188)	(0.1196)	(0.0492)	(0.0461)
Opposite ideology - Newspaper	0.1496	0.1517	0.0614	0.0670
	(0.2078)	(0.2103)	(0.0854)	(0.0847)
Reference group: Opposite ideology - Policy brief				
Mean dep variable	0.5674	0.5674	0.2366	0.2366
Strata FE	No	Yes	No	Yes
N	4,736	4,736	11,288	11,288
Panel B: Number of clicks on policy brief/newspaper				
Aligned ideology - Policy brief	0.0143	0.0150	0.0044	0.0039
	(0.0574)	(0.0576)	(0.0238)	(0.0230)
Nonsalient ideology - Policy brief	0.1462	0.1459	0.0602	0.0591
	(0.1141)	(0.1146)	(0.0456)	(0.0454)
Aligned ideology - Newspaper	-0.0717	-0.0721	-0.0292	-0.0298
	(0.0609)	(0.0613)	(0.0251)	(0.0238)
Opposite ideology - Newspaper	0.0664	0.0676	0.0270	0.0294
	(0.1005)	(0.1017)	(0.0414)	(0.0409)
Reference group: Opposite ideology - Policy brief				
Mean dep variable	0.3155	0.3155	0.1312	0.1312
Strata FE	No	Yes	No	Yes
N	4,736	4,736	11,288	11,288
Panel C: Number of clicks on instructions to edit Wikipedia				
Aligned ideology - Policy brief	0.0321	0.0328	0.0132	0.0140
	(0.0559)	(0.0562)	(0.0234)	(0.0227)
Nonsalient ideology - Policy brief	0.1332	0.1330	0.0550	0.0552
	(0.1162)	(0.1168)	(0.0467)	(0.0464)
Aligned ideology - Newspaper	-0.0474	-0.0477	-0.0192	-0.0193
	(0.0595)	(0.0599)	(0.0247)	(0.0229)
Opposite ideology - Newspaper	0.0831	0.0841	0.0344	0.0376
	(0.1090)	(0.1104)	(0.0448)	(0.0445)
Reference group: Opposite ideology - Policy brief				
Mean dep variable	0.2519	0.2519	0.1054	0.1054
Strata FE	No	Yes	No	Yes
N	4,736	4,736	11,288	11,288

Note: The estimates presented in the table yield the effect of the different treatment arms on the number of clicks through the links in the email relative to the group of individuals that receive the summary of results endorsed by a think tank with an opposite ideology. The latter group is the omitted category in the regressions since the control group did not receive the intervention email, and we cannot measure clicks for them. In Panel A, the outcome variable is the number of clicks to the two links included in the email. In Panel B, the outcome variable is the number of clicks to the link that provided the results summary (either the policy brief or the newspaper). In Panel C, the outcome variable is the number of clicks to the link that provided the step-by-step instructions to change the Wikipedia page. The outcome variable is measured at the municipality level in columns (1) and (2). Because we had more than one email address in some municipalities, we estimate the effects in columns (3) and (4) with the outcome variable measured at the email address level. Estimates reported in columns (1) and (3) are estimated without strata-fixed effects, and columns (2) and (4) are estimated with strata-fixed effects. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

E   Instructions for independent coders

List of inclusion criteria in the different categories of changes:

1. **Recommended Changes**: They can be of three types; it is enough for only one of them to be met for it to score as 1 in this variable.

- Changes in the festivals section: Any addition of an additional festival, the incorporation of dates in festivals that are already included, or the incorporation of relevant information about the activities carried out in said festivals will be considered a change in the parties section. In the same way, it will also be counted if what is done is to write a web link to a page where information of this type is collected (tourist information or the city council's page).

- Incorporation of new images: This type of change is especially difficult to detect since the change in bytes is small and may go unnoticed. The kind of image that is added is essential and can be known by the name of the file that is uploaded. Those that show the coat of arms or the logo of the city council, as well as those that show party logos or photos of politicians, will not be considered valid images, or graphs on the city council's outstanding debt or its demographic evolution. Yes, those that include photographs of municipal buildings, beaches, the environment, or that show a tourist attraction will be considered valid image changes.

Figure E.I: Inclusion of photos in Wikipedia:

- Edit a version in English: Any addition of text in English to the text, if it concerns festivals, the municipality's heritage, or tourism.

2. **Not recommended but credible changes**: They can be from at least three categories. Again, it is enough for one of them to be met to consider it as a change.

- <u>Changes in the heritage section</u>: In this case, any incorporation of new monuments or buildings that are part of the architectural or historical heritage of the municipality is considered a change, as well as the expansion of information on the buildings/monuments that are already included. Likewise, this also applies to artistic heritage. It will also be considered a change if, in any of the buildings and works of art, information is added that it is regarded as an asset of tourist/cultural interest by a public institution.

- <u>Changes in the nature/environment section</u>: In this case, those that refer to the natural heritage of the municipality will be considered as changes, especially when reference is made to its value in terms of tourist attraction, either due to the inclusion of routes, or other possible outdoor activities. This section includes expanding or incorporating sections on the municipality's beaches. Changes related to recording temperatures, precipitation or similar data would not be considered. It will also be considered a change if, in any place of tourist interest, the information is added that it is viewed as an asset of tourist/cultural interest by some public institution.

- <u>Changes in the gastronomy/tourism section</u>: In this case, creating a gastronomy or tourism section is considered a change most municipalities do not have. Similarly, the incorporation of a list of hospitality establishments in the gastronomy section or the incorporation or expansion of information on places of tourist interest in the tourism section would also be considered a change. It will also be considered a change if, in any area of tourist interest, the information is added that it is viewed as an asset of tourist/cultural interest by some public institution.

3. **Not recommended or credible changes**: These are outside previous sections and will be the most common. The most common, which should be distinct from any of the earlier categories, are changes in geography, administration, politics, and history, which would only enter as changes in any of the previous categories if any of the previously mentioned requirements are met.

What types of users can we find on Wikipedia?

- Changes made by an IP

- Changes made by a user without a page built (User in red)

- Changes made by a Wikipedia user with a built page (Blue User)

Practical instructions for Wikipedia classification

1. First, you must enter the general page of Wikipedia and write the name of the corresponding municipality in the search engine. As the title is the one used by Wikipedia, the first tab that will appear will be the municipality's website, the one you must click.

Figure E.II: Step 1 to classify Wikipedia changes:

2. Once you are on the Wikipedia page of the municipality in question, you must immediately access, without reading any of the page's content, the change history section, which is in the screen's upper right position.

Figure E.III: Step 2 to classify Wikipedia changes:

3. Next, you must go down in history until you reach the last change made before May 25, 2022. Next, you must open each of the changes from that date until December 31, 2022, and review each according to the previously established criteria. If any changes can be classified as recommended

or non-recommended but credible, the URL associated with the main change that motivates its registration must be copied and pasted.

Figure E.IV: Step 3 to classify Wikipedia changes:
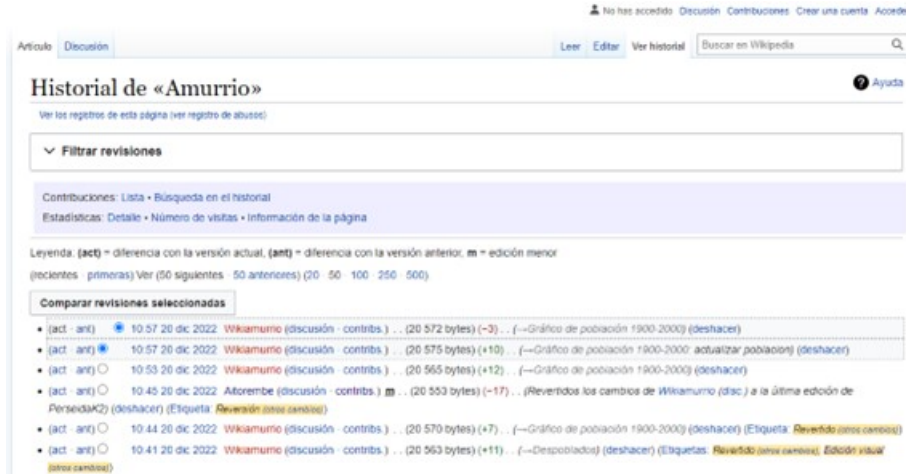
4. Once a type 1 or 2 change has been located, it is necessary to classify what kind of person makes the change. To do this, the following classification system must be followed:

• First, copy the URL associated with the change in question and paste it in the corresponding column.

• Indicate if the author of the change is a user with a page developed within Wikipedia. These users have their name in blue and may (or may not) have a very generated Wikipedia page, as is the following case:

Figure E.V: Step 4 to classify Wikipedia changes:

• If the author of the change is an IP address, it is necessary to indicate it with a 1 in the

variable showed for this (or with a zero otherwise) and then answer the following questions, whose information can be accessed by clicking the IP address responsible for the change in question, as can be seen in the next image:

1. Has that IP made changes in other municipalities?

2. If they have done so, were these municipalities all in the same province as the study municipality?

3. If this IP has only made changes in the municipality, did it change before the period analysed?

Figure E.VI: Step 5 to classify Wikipedia changes:

5. Once the changes in the 2022 period have been reviewed, the changes in the same period of 2019 must be looked over, and, if applicable, please note the changes in the respective row of the municipality corresponding to 2019 in the Excel template.

6. Once in which at least one change of type 1 and another of type 2 has been identified in each period considered, from May 25 to December 31, 2019, and 2022, respectively, regardless of whether the same user makes them, it is not necessary to continue reviewing said Wikipedia page. In this case, the name of the following municipality must be written in the Wikipedia search engine, located in the list at the top right of the screen.

Figure E.VII: Step 6 to classify Wikipedia changes:

F   The Effect of Treatment Arms on Other Wikipedia Outcomes

This appendix examines the effect of the different treatment arms on secondary Wikipedia outcomes. These include the length in words and the number of images on the page of the municipality in the Spanish Wikipedia, the length in words and the number of images on the page of the municipality in the English Wikipedia, and the number of languages in which there exists a municipalities' Wikipedia page. We collect information for these outcomes at the start (May 2022) and at the end of the study period (January 2023). We define the dependent variable as the difference in the variable between these two temporal points. In this section, we also report the effect of the different treatment arms on the probability of conducting a recommended change on the English page of the municipality in Wikipedia.

The results reported in this appendix should be interpreted with caution because most of these Wikipedia outcomes are poor indicators of the adoption of the recommended policy. First, most of the Wikipedia changes registered during the study period are minor edits to the text or images unrelated to the changes we recommend, which may increase or decrease the length of the text and add measurement error to the outcome variable, biasing estimates towards zero.[47] Second, a large proportion of changes along the recommended guidelines, either in images or in text, were reverted after some time by other Wikipedia users (more than 30%).[48] While recommended changes during the study period were identified even if they were reverted, the change in the number of words or images between the end and the beginning of the study period would not capture changes that were reverted. These reasons require the results reported in this appendix to be interpreted with caution, particularly when compared with the results reported in Section 5, which uses the probability of conducting a change in Wikipedia along the recommended guidelines at any point during the study period as the indicator of policy adoption. Finally, while we mention in the summary of evidence the importance of improving the Wikipedia page in other languages, the low baseline levels of change in the English Wikipedia page suggest that implementation costs might be larger than

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[47]They were very small amendments to the history sections, slight edits in the text such as the removal of articles in sentences (not necessarily grammar errors), adding references, and other minor changes unrelated to the changes recommended by the study.

[48]There are regular Wikipedia users who, in addition to making changes to enrich the Wikipedia pages of municipalities, also revert changes they consider inappropriate. Unfortunately, this was the case for a considerable number of Wikipedia changes that aligned with our recommendations.

for the Spanish page, constraining policy adoption. This is not a surprising result given that, according to the Spanish census, only 15% of Spanish people speak "good" English, and many small municipalities have very limited resources.[49] Thus, the variables measuring recommended changes in the webpage of the municipality in the English Wikipedia and the number of languages in which the municipality has a page in Wikipedia might be unrealistic outcomes for most of the municipalities in the sample.

We first investigate the pooled effect of receiving information about study results on these secondary Wikipedia outcomes. The results are reported in Tables F.I and F.II. They show insignificant effects of information provision on changes in the probability of changing the English page of Wikipedia along the recommended guidelines, in the number of words in the municipalities' Wikipedia page in Spanish, in the number of images in the municipalities' Wikipedia page in Spanish, in the number of languages in which there exists a municipalities' Wikipedia page, and in the number of images in the municipalities' Wikipedia page in English. Only the positive effect of information provision on the change in the number of words in the municipality Wikipedia page in English is statistically significant at the 10% confidence level.

We then examine the effect of ideological alignment between the informing institution and policymakers on the secondary Wikipedia outcomes. The results reported in Table F.I show that the effect of ideological alignment on recommended changes identified in Section 5 does not translate into a larger number of words or images on the Spanish page of the municipality. As discussed above, these results should, however, be interpreted with caution as the vast majority of changes in Wikipedia during the study period were unrelated to our intervention (introducing noise in the estimation), which bias the estimates towards 0. Moreover, some of the recommended changes were reverted before the study period's end, which made variations in the length of the Wikipedia page and in the number of images during the study period poor proxies of policy adoption. Similarly, Panel B of Table F.I and Table F.II show overall no effects of ideological alignment on the probability of changing the English Wikipedia page along the recommended guidelines and on other Wikipedia-related outcomes in the municipality's English Wikipedia page. The low rate of changes in the control group and the lack of treatment effects are consistent with the hypothesis of high

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[49]See for example `https://ine.es/jaxi/Tabla.htm?tpx=55481&L=0`

implementation costs for most municipalities to change Wikipedia in other languages.

The effect of receiving a "Nonsalient ideology - Policy brief" on the Wikipedia outcomes examined in this section is reported in Tables F.I and F.II. Once again, the results reveal insignificant effects on most of the Wikipedia outcomes examined in this section of receiving information from a researcher from an ideologically nonsalient institution. Only the coefficient measuring the effect on the number of words on the municipality's English page is marginally significant at 10 percent confidence levels.

The effect of receiving a summary of evidence from an "ideologically opposite institution" on other Wikipedia-related outcomes is reported in Tables F.I and F.II. We find no statistically significant effects of receiving information from an ideologically opposite institution on any of the Wikipedia outcomes analysed in this section.

Finally, the results reported in Tables F.I and F.II show that the effects of policy briefs and newspapers on the Wikipedia-related outcomes examined in this section are similarly small.

Table F.I: Effects of treatment arms on other Wikipedia outcomes

	Δ N words (1)	Δ N words (2)	Δ N images (3)	Δ N images (4)	Δ Languages (5)	Δ Languages (6)
Panel A: Spanish page						
Effect of treatment treatment arms relative to control						
Aligned ideology - Policy brief	0.14	0.19	-0.06	-0.06	0.00	0.00
	(2.61)	(2.63)	(0.04)	(0.04)	(0.00)	(0.00)
Opposite ideology - Policy brief	-1.58	-1.55	-0.04	-0.04	0.00	0.00
	(2.51)	(2.55)	(0.04)	(0.04)	(0.00)	(0.00)
Nonsalient ideology - Policy brief	0.22	0.29	-0.01	-0.01	0.00	0.00
	(2.02)	(2.03)	(0.04)	(0.04)	(0.00)	(0.00)
Aligned ideology - Newspaper	-0.36	-0.31	-0.02	-0.02	0.00	0.00
	(1.88)	(1.89)	(0.04)	(0.04)	(0.00)	(0.00)
Opposite ideology - Newspaper	-0.45	-0.42	-0.01	-0.01	0.00	0.00
	(1.70)	(1.71)	(0.03)	(0.03)	(0.00)	(0.00)
Mean dep var in control	8.02	8.02	0.19	0.19	0.00	0.00
Strata FE	No	Yes	No	Yes	No	Yes
Control Dep. var	No	Yes	No	Yes	No	Yes
N	5,669	5,669	5,669	5,669	5,669	5,669
Pooled effects relative to control						
Any treatment	-0.41	-0.36	-0.03	-0.03	0.00	0.00
	(1.87)	(1.88)	(0.02)	(0.02)	(0.00)	(0.00)
Aligned ideology	-0.11	-0.06	-0.04	-0.04	0.00	0.00
	(2.13)	(2.15)	(0.03)	(0.03)	(0.00)	(0.00)
Opposite ideology	-1.01	-0.99	-0.03	-0.02	0.00	0.00
	(2.01)	(2.03)	(0.03)	(0.03)	(0.00)	(0.00)
Policy brief	-0.41	-0.36	-0.04	-0.03	0.00	0.00
	(2.07)	(2.09)	(0.03)	(0.03)	(0.00)	(0.00)
Newspaper	-0.40	-0.36	-0.02	-0.02	0.00	0.00
	(1.66)	(1.67)	(0.03)	(0.03)	(0.00)	(0.00)
Panel B: English page						
Effect of treatment treatment arms relative to control						
Aligned ideology - Policy brief	1.09**	1.08**	0.01	0.01		
	(0.53)	(0.53)	(0.02)	(0.02)		
Opposite ideology - Policy brief	0.51	0.49	-0.01	-0.01		
	(0.37)	(0.37)	(0.02)	(0.02)		
Nonsalient ideology - Policy brief	0.73*	0.73*	0.00	0.00		
	(0.43)	(0.43)	(0.02)	(0.02)		
Aligned ideology - Newspaper	0.90**	0.89**	0.02	0.02		
	(0.37)	(0.37)	(0.02)	(0.02)		
Opposite ideology - Newspaper	0.32	0.32	-0.03	-0.02		
	(0.49)	(0.49)	(0.02)	(0.02)		
Mean dep var in control	-2.00	-2.00	0.13	0.13		
Strata FE	No	Yes	No	Yes		
Control Dep. var	No	Yes	No	Yes		
N	5,663	5,663	5,663	5,663		
Pooled effects relative to control						
Any treatment	0.71*	0.70*	-0.00	-0.00		
	(0.36)	(0.36)	(0.02)	(0.02)		
Aligned ideology	0.99**	0.99**	0.01	0.01		
	(0.40)	(0.41)	(0.02)	(0.02)		
Opposite ideology	0.41	0.41	-0.02	-0.02		
	(0.39)	(0.39)	(0.02)	(0.02)		
Policy brief	0.77**	0.77**	0.00	0.00		
	(0.36)	(0.36)	(0.02)	(0.02)		
Newspaper	0.61	0.61	-0.01	-0.00		
	(0.38)	(0.39)	(0.02)	(0.02)		

Note: The table reports the effect of the different treatment arms on other Wikipedia outcomes. Panel A reports the effects on the number of words in the municipality's Spanish Wikipedia page, the number of images in the municipality's Spanish Wikipedia page, and the number of languages in which the municipality has a page in Wikipedia. Panel B reports the effects on the number of words in the municipality's English Wikipedia page, and the number of images in the municipality's English Wikipedia page. The dependent variables are defined in changes between the variable measured at the end of the study period and the variable measured at the beginning of the study period. The table also presents the pooled effects of different treatment arms relative to the control group. *Any treatment* yields the pooled effect of receiving the information across all treatment groups relative to not receiving any information. *Aligned ideology* yields the pooled effect of receiving the summary of study results endorsed by an institution (newspaper or think tank) with the same ideology relative to not receiving any information. *Opposite ideology* yields the pooled effect of receiving the summary of study results endorsed by an institution (newspaper or think tank) with the opposite ideology relative to not receiving any information. *Policy brief* yields the pooled effect of receiving the summary of study results through a policy brief relative to not receiving any information regardless of the ideology of the think tank. *Newspaper* yields the pooled effect of receiving the summary of study results through a newspaper article regardless of the ideology of the newspaper relative to not receiving any information. Regressions in columns (1), (3), and (5) do not include strata fixed-effects, and regressions in columns (2), (4), and (6) are estimated with strata fixed-effects. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

Table F.II: Treatment effects on the probability of making a recommended change in Wikipedia:

English Wikipedia page	Study period		Placebo period Placebo	
	(1)	(2)	(3)	(4)
Aligned ideology - Policy brief	-0.0021	-0.0021	-0.0021	-0.0020
	(0.0033)	(0.0033)	(0.0026)	(0.0026)
Opposite ideology - Policy brief	-0.0000	-0.0000	-0.0011	-0.0010
	(0.0037)	(0.0037)	(0.0032)	(0.0032)
Nonsalient ideology - Policy brief	-0.0032	-0.0032	-0.0032*	-0.0031*
	(0.0031)	(0.0031)	(0.0017)	(0.0017)
Aligned ideology - Newspaper	-0.0011	-0.0011	-0.0032	-0.0031
	(0.0032)	(0.0032)	(0.0023)	(0.0023)
Opposite ideology - Newspaper	-0.0043	-0.0043	0.0032	0.0033
	(0.0028)	(0.0028)	(0.0035)	(0.0035)
Mean dep var in control	0.0053	0.0053	0.0042	0.0042
Strata FE	No	Yes	No	Yes
N	5,678	5,678	5,678	5,678

Pooled effects relative to control

Any treatment	-0.0021	-0.0021	-0.0013	-0.0012
	(0.0028)	(0.0029)	(0.0021)	(0.0021)
Aligned ideology	-0.0016	-0.0016	-0.0027	-0.0026
	(0.0029)	(0.0029)	(0.0023)	(0.0023)
Opposite ideology	-0.0021	-0.0022	0.0010	0.0011
	(0.0031)	(0.0031)	(0.0030)	(0.0031)
Policy brief	-0.0018	-0.0018	-0.0021	-0.0020
	(0.0030)	(0.0030)	(0.0021)	(0.0022)
Newspaper	-0.0027	-0.0027	-0.0000	0.0001
	(0.0028)	(0.0028)	(0.0024)	(0.0024)

Note: Panel A reports the effects of the different treatment arms on the probability of conducting a recommended change on the English Wikipedia page. Estimates in columns (1) and (2) examine the effect of the different arms on recommended changes between May and December 2022. These are the main results of the study. Estimates in columns (3) and (4) examine the effect of the different arms on recommended changes between May and December 2019, a placebo period before the start of the intervention. Regressions in columns (1) and (3) do not include strata fixed-effects and regressions in columns (2) and (4) are estimated with strata fixed-effects. Panel B reports the pooled effects relative to the control group. *Any treatment* yields the pooled effect of receiving the information across all treatment groups relative to not receiving any information. *Aligned ideology* yields the pooled effect of receiving the summary of study results endorsed by an institution (newspaper or think tank) with the same ideology relative to not receiving any information. *Opposite ideology* yields the pooled effect of receiving the summary of study results endorsed by an institution (newspaper or think tank) with the opposite ideology relative to not receiving any information. *Policy brief* yields the pooled effect of receiving the summary of study results through a policy brief relative to not receiving any information regardless of the ideology of the think tank. *Newspaper* yields the pooled effect of receiving the summary of study results through a newspaper article regardless of the ideology of the newspaper relative to not receiving any information. Standard errors in parentheses are clustered at the randomization strata level.***p<0.01;**p<0.05;*p<0.1.

G The monetary cost of ideological misalignment

Using data on overnight stays and average tourist expenditure from Spain, Hinnosaar et al. (2021) estimates that improving Wikipedia leads to an average annual increase in revenue of 160,000 euros by municipality. Assuming this figure as a valid estimate of the effect of policy adoption on revenues for municipalities in our sample and neglecting general equilibrium effects, we present in this subsection a basic calculation for the monetary cost of ideological misalignment between the policymaker and the informing institution in the context of the policy recommended. We calculate the cost of ideological misalignment as the difference in the expected value of providing information from an ideologically aligned institution compared to providing information from an ideologically opposite institution.

Our estimations, as reported in Section 5, show that policy adoption among municipalities receiving the summary of evidence from an ideologically aligned institution is 4.81%. In comparison, policy adoption among municipalities receiving the summary of evidence from an ideologically opposite institution is 2.8%. The difference in policy adoption between these groups is 1.38 percentage points, corresponding to an increase in policy adoption of nearly 48%. The economic cost of ideological misalignment between the informing institution and the policymaker in the policy recommendation is then calculated as the difference in the probability of policy adoption multiplied by the revenues generated by the intervention, as calculated by Hinnosaar et al. (2021), amounting to 2,192 euros per municipality per year.

H   Effect of the treatments on tourism

Using an RCT design, Hinnosaar et al. (2021) found that improvements in Wikipedia increased overnight stays in the municipality by 9%, although they did not find any significant effect on the number of tourists. Then, using information from average tourist expenditure per day, the authors estimate that improving the municipality's Wikipedia page increases tourist revenues by 160,000 euros per year on average. While we do not have information on the number of overnight stays to proxy for tourist expenditure, La Caixa Bank provides us with monthly-level information on card payments from tourists at the zip code level.[50] La Caixa is the third-largest retail bank in Spain, and it manages a database of tourist card payments on La Caixa terminals. Tourist payments are defined as those conducted by individuals in places located 50 km away from their residences.

We use this information to investigate how changes in the Wikipedia pages of municipalities in our sample impact tourist expenditure conducted on La Caixa terminals. The *cleanest* identification strategy would be using an assignment to a group that is informed by a think tank/newspaper with the same ideology as an instrumental variable for Wikipedia changes. The main challenge in our case is that while the effect of being assigned to treatment groups that receive the information from an institution with the same ideology on changing Wikipedia is statistically significant at 5%, the t-statistics (t=2.1) is well below the conventional threshold required for instrumental variables (t>3.33). Thus, the results of this approach are likely affected by the problem of *weak* instruments.

Thus, rather than using assignment in the experiment as instrumental variables as a source of exogenous variation, we exploit the exact timing of the Wikipedia change in either treatment or control groups to estimate the effect of Wikipedia changes using two different designs. First, we use the doubly robust difference-in-differences estimator for staggered treatments developed by Callaway and Sant'Anna (2021). Second, we use the synthetic difference-in-differences estimator developed by (Arkhangelsky et al., 2021). The results of these analyses are reported in Table H.III, showing no effects of Wikipedia changes on tourist expenditure on La Caixa terminals for all and national tourists.

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[50]The database on overnights used by Hinnosaar et al. (2021) only includes information on overnights for a sample of 133 large municipalities. These are very different from the vast majority of the municipalities that we use in our analytical sample.

Table H.III: The effect of changes in Wikipedia on tourist expenditure (in thousand euros)

	(1) All tourist expenditure	(2) All tourist expenditure	(3) National tourist expenditure	(4) National tourist expenditure
Wikipedia change	37.4 (35.8)	-5.8 (36.3)	0.9 (27.3)	-3.4 (42.4)
Estimation methods	Callaway & Sant'Anna	Synthetic control	Callaway & Sant'Anna	Synthetic control
Mean dep var	507.4	307.1	196.1	139.8
N	960	53,832	960	53,832

Note: The dependent variable in columns 1 and 2 is the monthly expenditure in thousands of euros of all tourists in the municipality. The dependent variable in columns 3 and 4 is the monthly expenditure in thousands of euros of national tourists in the municipality. Estimations in Columns 1 and 3 use the doubly robust difference-in-differences estimator with staggered treatment adoption developed in Callaway and Sant'Anna (2021). Estimations in Columns 2 and 4 use the synthetic difference-in-differences method developed in Arkhangelsky et al. (2021). ***p<0.01;**p<0.05;*p<0.1

Our results on tourism do not dismiss the robust results reported in Hinnosaar et al. (2021). Thus, we do not believe that the intervention recommended is ineffective. First, we do not observe all tourist expenditures, but only those conducted in retails with a La Caixa terminal. Furthermore, it excludes payments conducted at origin such as on-line hotel bookings or travel tickets. Thus, the extent to which the latter measure represents a credible proxy for total tourist expenditure might depend on the specific municipality. The existence of measurement error biases the results downwards, which may lead to the observed lack of effects. Second, the editorial team's improvements in the Wikipedia pages of treated municipalities in the experiment conducted by Hinnosaar et al. (2021) were substantial. In contrast, the changes induced by our policy briefs were, in most cases, minor, and this could have decreased the effect of these changes on tourism. Finally, we only have information for a maximum of 7 months, and most of the changes were conducted after the high tourist season. On the other hand, Hinnosaar et al. (2021) explores the effect of Wikipedia changes on tourist expenditure during the high tourist season one year after the changes were conducted.

For these reasons, the back-of-the-envelope calculations reported in Section 5 on the cost of political ideological bias are calculated using the effects estimated in Hinnosaar et al. (2021).

I   Deviations from the Pre-Analysis Plan

A pre-analysis plan for the main experiment was registered in the American Economic Association registry for randomized controlled trials (AEARCTR-0008967). This appendix reports and discusses the deviations from the pre-analysis plan.

I.1   Post-treatment survey

In April-May 2023, after the end of the study period, we conducted an online survey that targeted all mayors and appointed local policymakers of municipalities to which we could assign an ideology. In total, we invited 17,044 policymakers from 7,576 municipalities. 1,600 policymakers from 1,196 municipalities responded to the survey. The endline survey was aimed at understanding attitudes toward research evidence from policymakers. Furthermore, we include in the end-line survey an online experiment to test how policymakers update their beliefs in response to evidence endorsed by organizations with aligned or opposite ideologies. This online experiment was introduced to investigate whether belief updates could drive the effects of ideological endorsement on policy adoption. A description of the survey sampling strategy, questionnaire, and results is provided in Appendix A. The survey includes informed consent.

The pre-analysis plan briefly describes the intention to conduct a post-treatment survey:

"In October/November 2022, after the end of the touristic season in Spain, we will run a second online survey targeting all mayors in Spain. This survey will be sent by the Federación Española de Municipios y Provincias (FEMP), a public organization that holds the contact details of all Spanish municipal governments and communicates with them regularly to coordinate joint actions of Spanish municipalities. The survey includes an informed consent approved by the IRB. The names of the researchers involved in the study and the organizations used later to send the policy brief or news will not be included in the survey questionnaire or the email.

In this post-treatment survey, we will collect more detailed information on the socioeconomic and demographic characteristics of the mayor, the mayor's attitudes towards evidence-based policy making, perceptions about public policies to increase tourism, and the tourist activity during the tourism season of 2022. The post-treatment survey will be used for descriptive purposes. If the survey re-

sponse rate is sufficiently high, we will use the information gathered to explore the effects of the different experimental treatments on the mayors' beliefs about how to increase tourism in their municipality."

We deviate from the initial plans in two ways. First, the survey was conducted in April-May 2023, after the end of the study period. The goal was to prevent the survey - which asks policymakers about attitudes towards evidence-based policy making- from influencing policy adoption. Second, the survey was not sent by FEMP but rather by ESADE using Qualtrics software. We do not use FEMP as initially planned because the pre-treatment survey sent by ESADE has very low response rates. Third, we did not target all mayors, but all appointed local policymakers that share ideology with the mayor in municipalities for which we could identify the governing party's ideology. To expand the sample of the online experiment, we extend the survey to local policymakers rather than restrict it to mayors. Finally, the survey includes an online experiment to test how policymakers update their beliefs in response to evidence endorsed by organizations with aligned or opposite ideologies. A detailed description of the online experiment is provided in Appendix A and Section 6.

I.2   Initial survey

We conducted the survey as described in the pre-analysis plan. However, the response rate was very low: less than 100 municipalities responded to the survey, including 80 municipalities in the analytical sample. The goal of the survey was to get a better understanding of Spanish mayors, particularly those included in the sample. Given the low response rates, the initial survey cannot be used for these purposes, and therefore, the results of this survey are not reported in the paper. The database is, however, available upon request.

I.3   Stratification

The pre-analysis plan reports that the randomization was stratified by (a) political party (Partido Popular, PSOE, other right-wing parties, and other left-wing parties), (b) population in the municipality (tertile in the distribution of population of the Spanish municipalities in the sample), (c) importance of tourism in the municipality (tertile in the distribution of population of the Spanish

municipalities in the sample), and (d) the extension of Wikipedia page (tertile in the distribution of the variable number of words in the Wikipedia's page of the municipality for the Spanish municipalities in the sample).

However, the stratification was conducted based only on the first three because the correlation between the extension of the Wikipedia page and the population in the municipality was very high (0.4185), and using both variables created almost *empty cells* in the randomization process. The pre-analysis plan wrongly described the randomization process as based on four rather than three characteristics.

I.4 Study period

Initially, the study period or the period in which we were going to study changes in Wikipedia was from May 25th, 2022, to September 30th, 2022. That is the summer season in Spain. Some policymakers advised us that in many Spanish municipalities (particularly in the Canary Islands), the high season for tourism starts in the autumn. Furthermore, many municipalities in Spain (particularly rural areas) experience high demand for tourism on key dates after the summer: October 12th, November 1st, or December 6th and 8th. Thus, we decided to extend the study period from May 25th, 2022, to December 31st, 2022.

I.5 Other changes

The final sample includes a total of 5678 municipalities rather than 5677:

The pre-analysis states that we will investigate the heterogeneous effects of the treatment by whether the mayor belongs to either PP-PSOE (the main right- and left-wing political parties in Spain) or to a different political party. This heterogeneity analysis is reported in the Appendix. Additionally, we have also explored the heterogeneity of the effects by whether the mayor belongs to a right- or a left-wing party, by whether the mayor belongs to a pro-independence regionalist party, by the population of the municipality (as a proxy for capacity), by the initial length of the municipality page in Wikipedia, and by whether the municipality is included in the experiment conducted by Hinnosaar et al. (2021). While not initially included in the pre-analysis plan, we believe these dimensions of heterogeneity are crucial to better understanding which municipality

characteristics help to explain the effect of ideological alignment on policy adoption.

During the experiment, a total of 18 reminder emails were sent. Following the pre-analysis plan, the first 9 reminders were sent with the support of the marketing enterprise M-DIRECTOR, which allows tracking the clicks through the links in the emails. Unexpectedly, a non-negligible share of emails arrived in the spam folder. To maximize the reach of our emails, the last 6 reminders were sent through an Outlook account (keeping the same sender). The main drawback is that we cannot track clicks through the links in the last emails. These outcomes are therefore analyzed using only the reminder rounds sent with M-DIRECTOR.