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Abstract

This article analyses the impact of non-informative communication on Europeans' perceptions of European Union (EU) action on the issue of migration. We exploit the fact that Pope Francis's visit to Lesbos Island in 16 April 2016, overlaps with the days of the interviews for a Special Eurobarometer survey, such that some respondents were unintentionally exposed to the Pope's speech while others were not. Comparing Catholics and non-Catholics before and after the Pope's visit in a difference-in-differences setting, we show that the papal message persuaded exposed Catholic individuals that EU action on the issue of migration is insufficient. The effect is temporary and varies according to the demographic characteristics of the respondents and by the country's share of asylum applicants in 2015. Moreover, media exposure of the Pope's visit, measured by the Global Database of Events, Language, and Tone, was greater in Catholic countries, and this might explain the effect found.

JEL classifications: D83, R23, Z12

1. Introduction

Over the last decade, hundreds of thousands of migrants escaping war, violence, and economic instability in their home countries (Middle East, Asia, and Africa) have arrived on the shores of European countries and thousands more have drowned attempting to cross the Mediterranean Sea. Europe will face substantial demographically driven migration pressures from across the Mediterranean for decades to come (Hanson and McIntosh, 2016). The present European migration scene poses many critical questions regarding both how the European Union (EU) is dealing with the dramatic status quo and how citizens' perceptions and beliefs about what the EU should do change.

In this article, we focus on the latter aspect and analyse how persuasion modifies beliefs, particularly in the case of messages coming from a charismatic leader (Wang, 2021). We exploit the timing of Pope Francis's visit to Lesbos Island (Greece), which occurred on 16 April 2016, to study the causal impact of his speech on European citizens' perceptions of EU action on migration following a period of extraordinary mass inflow. Indeed, the visit was held after the refugee crisis hit Europe, with over a million refugees and migrants crossing the Mediterranean (mostly to Italy and Greece in 2015). The increase of inflow was about three to four times greater than the previous years, depending on the EU country. Asylum applications in Europe mirrored this pattern. The Pope's visit to Lesbos Island came after the approval of an EU–Turkey deal (20 March 2016) that shut Europe's doors and decreed that refugees arriving in Greece would be sent back to Turkey if their asylum claims were rejected.

The Pope described the recent events surrounding the humanitarian refugee crisis, and his speech focused on the importance of providing protection for human lives and supporting inclusive policies for asylum seekers. The message was repeated all day long, putting the spotlight on the crisis in the Mediterranean Sea and providing concrete suggestions of actions that Europe could take in this respect (e.g., block arms trading and trafficking, protect minorities, and stop human smuggling and unsafe routes).[1]

In this respect, we mainly focus on three research questions on salient migration matters: (i) Did exposure to Pope Francis' message affect Europeans' perceptions of EU political action for managing the migration issue? (ii) Did the papal message persuade individuals living in countries directly exposed to the European refugee crisis? Or did any individual characteristics make certain people more receptive to the Pope's message? Finally, (iii) did the level of media news covering the Pope's visit play a role in the perceptions of EU action on migration? To answer these questions, we take advantage of the Special Eurobarometer survey that was conducted in the 28 Member States (MS) of the EU between the 9 and 19 April 2016, a period straddling the papal visit to Lesbos and thus allowing the definition of a pre/post-exposure period.[2] We exploit the unintentional timing of the survey interviews during Pope Francis' visit to Lesbos to analyse how European perceptions and beliefs were modified following his speech about the humanitarian crisis and his preaching for its resolution.

Using a difference-in-differences setup, we define the treated group as those individuals living in a 'Catholic country', defined as a country where more than 50% of the population adheres to this religion (McCleary and Barro, 2003), and we classify interviews held from 6 April onwards as occurring in the post period. We use non-Catholic countries as controls for possible differences between respondents interviewed before and after the Pope's visit.[3] The Special Eurobarometer 2016 survey covers a wide range of issues but focusing on individual perceptions of the EU, current challenges, and the future of migrant integration.

We home in on a particular question about opinions on EU actions in regard to the *migration* issue. Our results demonstrate that in Catholic countries, being exposed to the

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1 More details are provided in Section 2 and in Supplementary Appendix A.
2 The UK was included in the analysis because it was part of the EU in 2016.
3 Catholic countries include Belgium, Austria, Hungary, France, Ireland, Italy, Luxembourg, Poland, Portugal, Slovak Republic, Slovenia, Spain, Croatia, Lithuania, and Malta. The non-Catholic countries are Denmark, Estonia, Finland, Germany, Great Britain, The Netherlands, Latvia, Sweden, Bulgaria, Greece, Romania, Czech Republic, and Cyprus.

papal message increased the perception of citizens that EU action on migration is insufficient. The leader's message shifted the perception of individuals living in Catholic countries regarding the critical refugee situation, but the effect is short-term: the impact dissipates in 2 days.

Using an event-study approach, we test for the parallel-trends assumption and provide direct evidence on the absence of pre-treatment differentials across Catholic and non-Catholic countries, alleviating potential anticipation effects. In the spirit of Pei et al. (2019), we also check that differences in individual characteristics do not disproportionally depend on specific 'treated' sub-groups of the population. Indeed, the inclusion of covariates does not change the main findings. Additionally, we find encouraging evidence of covariates being almost not related to the treatment when used as outcomes. Empirical results from this strategy confirm our conclusion, which also holds under a series of additional robustness checks, further strengthening the causal interpretation.

Interestingly, the individuals interviewed in Catholic countries that were more exposed to the European crisis, proxied by the share of asylum applicants, react more strongly in terms of their perceptions of EU action related to the issue of migration being insufficient. This evidence might be interpreted with respect to contact theory (Allport, 1954), according to which the interaction between different ethnic groups can lead to greater understanding and a reduction of prejudice. Furthermore, we shed light on critical individual characteristics that may exacerbate or attenuate the impact. We observe more positive effects for married, medium-educated, and non-working people.

This study also sheds some light on how charismatic leaders can shape people's perceptions through media communication (see Wang, 2021, among others). We investigate whether media coverage of the Pope's speech diverged between Catholic and non-Catholic countries. Then we test whether different volumes of news played a role in framing people's perceptions of the EU's immigration policy. To do so, we combine the Eurobarometer data that we use in the main analysis with novel data on news diffusion about the Pope's visit across EU countries. We gather this data from the Global Database of Events, Language and Tone (GDELT) project, an open-source, big data platform that monitors news articles from around the globe in real time. Among several news datasets produced by this enormous platform, the Global Knowledge Graph extracts the focus and the people mentioned from narratives monitored worldwide. This allows us to construct novel media coverage indicators that measure the quantity of news diffusion about the event of interest. For each EU country, we select only narratives focusing on refugees and mentioning the Pope in the text. Our empirical analysis offers two important insights. First, we document that Catholic countries were more exposed to news about the Pope's visit to Lesbos Island. Secondly, the results suggest that a stronger exposure to this event has possibly sharpened citizen's behaviour.

Our study is mostly related to two strands of literature: the influence of media exposure on individual beliefs and behaviours, and the impact of leaders or role models in shaping those beliefs through their persuasive efforts. On this latter point, the literature is quite scarce: most studies on leadership focus on the impact of leaders on firm productivity, economic growth, or other economic outcomes (Jones and Olken, 2005), while very few recent papers have investigated how leaders can also shape beliefs. To the best of our knowledge, the paper most related to our contribution is by Bassi and Rasul (2017) which investigates how papal (Pope John Paul II) visits influenced fertility-related beliefs in Brazil in 1991. They exploit the fact that a portion of the population was surveyed before and another

portion after the papal visit, in a pre-post setting, while our identification relies on a difference-in-differences method. Their results point in the direction of a large immediate impact on beliefs and on the timing of fertility, but not on the total fertility rate. Two other papers study similar topics: Stroebel and van Benthem (2012) analyse the impact of the appointment of a Catholic bishop who supported the use of contraceptives on the use of condoms among Catholics in Kenya, and Farina and Pathania (2019) study the impact of Pope John Paul II's visits to Italian provinces on abortion rates.

Additionally, other recent works have documented the impact of the media on individuals' beliefs and choices as voters (Gentzkow, 2006; DellaVigna and Kaplan, 2007), on fertility decisions (Kearney and Levine, 2015), on divorces (Chong and Ferrara, 2009), on the perception of corruption (Rizzica and Tonello, 2020), and on crime (Dahl and DellaVigna, 2009). This article also relates to a recent strand of the literature aimed at analysing how charismatic leaders can shape people's behaviour through media communication (Wang, 2021). However, the only study focusing on the impact of media exposure on beliefs and perceptions about the migration issue is by Poli *et al.* (2017). They estimate the effects of intensified media reporting on refugees drowning in the Mediterranean on individual xenophobic attitudes, elicited via a randomized survey experiment employing a version of the trolley dilemma. In contrast, we demonstrate that the persuasive efforts of a leader are relevant in shaping beliefs about topics such as migration, at least for the group of people who are *a priori* influenced by the Pope (Alesina *et al.*, 2018).

The article is organized as follows. Section 2 describes the Pope's visit to Lesbos and his speech. The dataset and the empirical strategy are detailed in Section 3. Section 4 reports the main results as well as robustness and falsification exercises and the mechanisms at play. Section 5 offers some concluding remarks.

2. The Pope's visit to Lesbos

On 16 April 2016, Pope Francis visited Lesbos Island with the main purpose of meeting the refugees living in the Moria camp.[4] The trip lasted barely 5 h, beginning on the asphalt of the island's airport (10:00 am), moving to the prison-like camp, making a stop at a harbour, and ending back on the runway (3:15 pm). Specifically, the visit consisted of a welcome ceremony, the stopover at the Moria refugee camp with his Holiness Bartholomew and his Beatitude Ieronymos (the Ecumenical Patriarch of Constantinople and the Archbishop of Athens and of all Greece), where they gave a speech and had lunch with the refugees. The Pope's visit came at a pivotal time for Greece and sent a clear message on the Vatican's stance: 'refugees are welcome in Europe'.

Pope Francis's trip had the official aim of drawing the world's attention to the current grave humanitarian crisis in the Mediterranean Sea. In this respect, the speech was particularly related to the Social Doctrine of the Catholic Church reaffirming the importance of fundamental human rights and living with dignity and in worthy conditions as human beings. The Pope has stated that 'immigrants are not numbers, but people, faces, names and

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4   The Moria reception centre on Lesbos Island has a capacity of 1,500 people, but at the time of
    Pope Francis' visit there were more than 4,000 refugees living there because of huge bottlenecks
    in the asylum process.

stories', and he strongly encourages political leaders to employ every means to ensure that individuals enjoy the fundamental right to live in peace and security.[5]

Supplementary Appendix Fig. C1 outlines the words used by the Pope in the speeches held on April 16th, along with his first tweet that day. It is important to note that on that day, Pope Francis wanted to call attention to the humanitarian crisis and exhort political leaders and the public to stop ignoring this difficult situation and take concrete actions to solve it.[6]

Importantly, the Pope's visit provoked a lot of media attention. In most of the newspapers across the EU, his visit to Lesbos was reported as highly significant news. To provide initial descriptive evidence, in analysing the Google trends for searches of the words 'Pope Francis' or 'Lesbos Island' around the date of the visit, we observe a peak in searches on Saturday the 16th and the following day, while the pre-trend in searches regarding refugees is almost flat (Supplementary Appendix Fig. C2).

3. Data and empirical setting

In the following sections, we describe the data sources used in the analysis and the identification strategy, which is based on a difference-in-differences setup.

3.1 Data

Our main source of individual data is the Special Eurobarometer survey on perceptions and expectations, the fight against terrorism and radicalization, which was held across Europe between 9 and 19 April 2016.[7] This survey was the first and only Eurobarometer survey directly asking questions about Europeans' perceptions of such topics. We use geographical information on the respondents' countries of residence to define our treatment group, *Catholics*, who were in principle more exposed to the Pope's speech. We use non-Catholic individuals, who might not be fully interested in his Holiness' speech, as controls. We exploit the data provided by McCleary and Barro (2003), and we build the definitions of the groups based on the fraction of population adhering to Catholicism. We define the treated as those individuals living in countries where more than 50% of the population adhere to Catholicism.[8]

5　The Social Doctrine of the Catholic Church tries to translate principles, theories, and directives to the contemporary world, proposing solutions to the current social and economic problems of Catholics. More details are available at https://press.vatican.va/content/salastampa/en/bollettino/pubblico/2016/04/16.html.

6　In Supplementary Appendix A, we report portions of the speeches in which these concepts were most clearly expressed.

7　European Commission and European Parliament, Brussels (2019). Eurobarometer 85.1 (2016). Leibniz Institute for the Social Sciences (GESIS) Data Archive, Cologne. ZA6693 Data file version 2.0.0, https://doi.org/10.4232/1.13375.

8　We report the share of population adherence to the Catholic religion by country in parentheses (McCleary and Barro, 2003): FI (0.001), EE (0.004), GR (0.004), DK (0.006), BG (0.011), CY (0.012), SE (0.019), RO (0.08), GB (0.093), LV (0.19), DE (0.335), NL (0.345), CZ (0.404), HU (0.609), FR (0.67), SK (0.679), AT (0.755), IT (0.798), BE (0.809), LT (0.834), SI (0.835), IE (0.847), HR (0.885), PT (0.887), LU (0.902), ES (0.917), PL (0.922), and MT (0.945). A more obvious way to define Catholics and non-Catholics would have been individuals' replies to a question on religious affiliation; however, this information is not available at the individual level in this dataset.

In particular, we focus on questions about what citizens think about EU action on the issue of migration: they could either reply that current EU action is excessive, adequate/about right, or insufficient. We define our main outcome as a dummy taking a value of 1 if the respondent states that 'current EU action on the issue of migration is "insufficient"'.[9]

There are two interpretations of this last response option. EU action could be considered insufficient either because citizens think that the EU is not doing enough to help the refugees once they enter Europe or because they think the EU is not doing enough to prevent migrants from arriving at their first place of disembarkation. Thus, the question does not reflect a positive or negative perception of migration and does not reveal whether Europeans are in favour of or against migration. Rather, this response highlights the dissatisfaction of a respondent regarding how the EU is managing the current refugee situation.

However, since the Pope's speech explicitly highlighted the need for a more humanitarian approach, we tend to favour the first interpretation, that is, the EU is not doing enough to help the refugees once they enter Europe. In the whole sample considered in the analysis, this variable has a mean of 0.72 and a standard deviation of 0.45.[10] In addition, the survey provides background information on respondent characteristics such as gender, marital status, household size, education, nationality, and main occupation, which we include as covariates (Table 1).

We complement the Eurobarometer survey with data on the number of asylum seekers per capita in 2015 and on the diffusion of the news about the Pope's visit in the 28 EU MS. The former are taken from EUROSTAT[11] and are used as cross-sectional variation to study respondents' differential reactions based on refugee crisis exposure (see Section 4). The latter comes from the GDELT platform, from which we collect the daily number of articles that contain information about the Pope and refugees in the period covered by the survey.

In particular, for each country, we extract the daily number of articles mentioning both 'refugees' (any mention of displaced persons, forced migration, and asylum seekers) and the Pope. For normalization purposes, we also extract the total number of articles monitored by GDELT in each country.

We thus build a daily ratio of the number of articles mentioning the Pope and refugees divided by the total number of articles.[12] We plot this ratio for Catholic and non-Catholic countries in Fig. 1. We observe that in both groups of countries, the news about the Pope was covered intensely on the day of the visit (16 April) and that in Catholic countries the trend and the peak are higher than in non-Catholic ones.

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9   Our sample excludes missing responses, which are reported as DK (donot know) in the survey. The GESIS recoded the missing answers (NA) represented in the original dataset by blanks (system missing) to standard values. Their complete absence suggests that eventual cases of any not-explicitly coded non-response item might be collapsed with the DK category. The value DK is not considered as a valid answer (Commission and European Parliament, 2019).

10   The raw data showing the dependent variable in the two groups of countries over time is in Fig. C3 in the Supplementary Appendix.

11   The Eurostat data used to build the indicator is: Asylum applicants by type of applicant, citizenship, age and sex—annual aggregated data (MIGR_ASYAPPCTZA) and population in the country (demo_pjan).

12   Details about the database and how we build our main measure are provided in Supplementary Appendix B.

Table 1. Descriptive statistics of covariates

Variables	Mean (1)	St. dev. (2)
Age	50.87	17.80
Female	0.554	0.497
Education: low	0.173	0.378
Education: medium	0.445	0.497
Education: high	0.324	0.468
Education: still studying	0.058	0.233
Marital status: married or cohabiting	0.656	0.475
Marital status: single	0.243	0.429
Marital status: widow	0.101	0.301
Children in the household	0.185	0.388
Occupation: student	0.058	0.233
Occupation: retired	0.317	0.465
Occupation: not working, housework	0.122	0.328
Occupation: medium—high skill	0.269	0.443
Occupation: low skill	0.234	0.423
Foreign	0.024	0.152
Observations	23,634	

Note: The table reports the mean and the standard deviation of the variables used as controls in the working sample. *Source*: Authors' calculations using Eurobarometer 85.1.
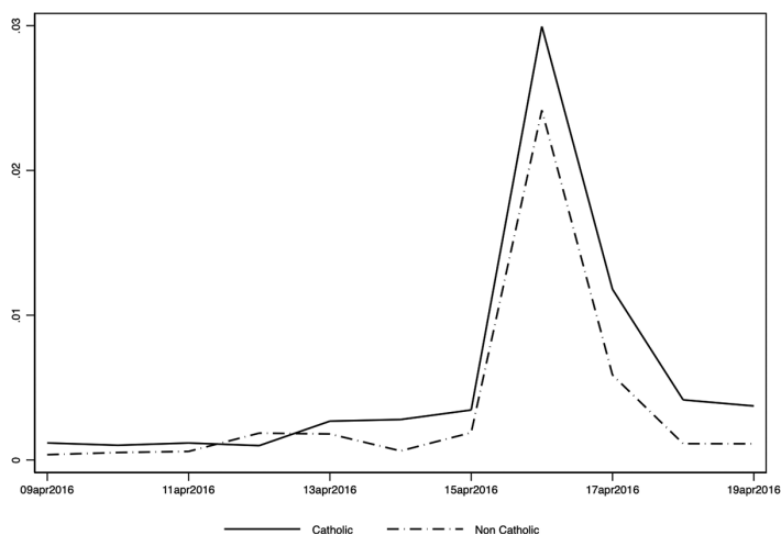
Fig. 1. News on the Pope and refugees.
Note: The figure reports the ratio of the number of news items mentioning the Pope and 'refugees' over the total number of news items. We distinguish between two groups of countries, that is, Catholic and Non-Catholic, for the period of 9–19 April 2016. *Source*: GDELT databases.

3.2 Empirical strategy

For identification purposes, we exploit the fact that the Pope's visit to Lesbos Island fortuitously occurred over the week of the Eurobarometer survey, which implies that some individuals were interviewed before the Pope's visit and others were interviewed after Pope Francis delivered his message about the critical refugee situation. Although the papal visit to Lesbos was unrelated to the decision to run the EU survey, we observe substantial differences in the characteristics of respondents depending on whether they were surveyed before or after the Pope's visit. The absence of balance in the covariates is shown in Supplementary Appendix Table C1. Most of the characteristics display significant differences between individuals surveyed in Catholic and non-Catholic countries, before and after 16 April. Therefore, the sample of catholic individuals interviewed before the visit is not so comparable with the sample interviewed after. This might be due to two main reasons. First, the probability of reaching respondents, in different days of week, can vary across individual characteristics, such as employment, education attainment, marital status, etc. Secondly, a wide literature documents that responses may be affected by the days of week (see e.g., Taylor, 2006; Conti and Pudney, 2011). This imbalance signals the fact that a simply comparison before and after Pope's visit can lead to biased conclusions, even if the day of this event can be considered as random.

The difference-in-differences strategy alleviates the concerns related to possible compositional effects coming from being interviewed on a particular day of the week or in a particular country. We assume that the Pope's message is more likely to influence respondents in Catholic countries since they are, in theory, more prone to listening to what the Pope says, or in any case, they are more exposed to media news about the Pope (Fig. 1). Our main assumption is that in the absence of the Pope's visit to Lesbos, Catholics, and non-Catholics would have shown similar trends in their responses to the question about migration, that is, the different composition before/after is similar in the two groups. This is supported by the fact that in most cases, the time differences before and after in the two groups are mostly similar (see Columns 3 and 6 in the Supplementary Appendix Table C1), and by the event study analysis shown in Section 4.

Our main equation is the following:

$$y_{icd} = \alpha_0 + \beta\, 1[\text{Day} \geq \text{April } 16, 2016] * \text{Catholics}_c + \gamma X_{icd} + \mu_c + \delta_d + \epsilon_{icd}, \qquad (1)$$

where y_{icd} is a dummy taking a value of 1 if respondent i in country c interviewed on day d says that EU action on the issue of migration is insufficient, $1[\text{Day} \geq \text{April } 16, 2016]$ is a dummy taking a value of 1 if the interview was held from 16 April onwards, and Catholics_c is a dummy for Catholic countries. We include both country (μ_c) and day fixed effects (δ_d), and we estimate this both with and without a set of X_{icd}, which is a vector of predetermined individual characteristics described in Table 1; the error term is ϵ_{icd}.[13] Standard errors are clustered at the level of the day of the interview and country.[14]

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13   The main control variables included in X_{icd} are age, gender, level of education, marital status, number of children, type of occupation, and being a foreigner, defined as having a nationality different from that of the country in which the respondent was interviewed (Table 1).

14   This is in line with Bassi and Rasul (2017), who also cluster standard errors at the level of the time of the interview (week). In addition, we add the country interaction as there is also country variation in our case. This also allows us to have a reasonable number of clusters (282) and not just 11.

The coefficient of interest, β, captures the effect of being interviewed after the Pope's visit to Lesbos Island and living in a Catholic country. Thus, the variation comes from over-time comparisons between Catholic and non-Catholic countries under the assumption that Catholics and non-Catholics would have shown the same trend in the absence of the Pope's visit. Under the parallel trends assumption, the perceptions of individuals in the non-Catholic countries can be used as the counterfactual evolution of the perceptions of Catholics. Indeed, in the absence of the Pope's speech the two groups would have maintained differences in outcomes similar to those observed in the baseline period.

We provide support for the causal interpretation of our result in different ways. First, we estimate Equation (1) without any control for predetermined characteristics and then including the set of covariates that could potentially be correlated with differential trends in unobservable factors. We find similar results to the estimates without controls, which alleviates the concern about covariates being correlated with the treatment.

Secondly, we implement a more powerful test of the identifying assumption using our covariates on the left-hand side of the main regression. If such a test provides null effects— meaning that the observables do not affect the coefficient of interest—the design is reliable (Pei *et al.*, 2019). We provide empirical support for this claim.

Thirdly, the critical assumption for our identification strategy is that differences in the outcomes between Catholics and non-Catholics are not associated with differential trends in the absence of the Pope's speech. We test for the existence of pre-trend differentials to alleviate the concern that the treatment is not endogenously related to pre-treatment differentials in the outcome. Although not formal proof, this test is typically interpreted as supportive of the parallel trends assumption. Finally, we conduct a series of falsification exercises in the spirit of placebo tests to strengthen the causal link.

4. Results

In Table 2, we report the main results of Equation (1). We start with a model that only takes into account country and day dummies, where our main variable of interest is the interaction between living in a Catholic country and being interviewed after the Pope's visit. The coefficient associated with the interaction term is our β of interest, and it is positive and significantly different from zero. This suggests that being interviewed in a Catholic country after the Pope's visit to Lesbos Island increases the probability of declaring that EU action on the issue of migration is insufficient by roughly 2.7 percentage points. In other words, following the Pope's visit to Lesbos, Catholics show a relatively more critical judgment of EU action on migration matters than non-Catholics. The standard errors are clustered at the level of the day of the interview and the country of the respondents.

Next, we consider the two tests suggested by Pei *et al.* (2019). First, we obtain an indication that the identifying assumptions are met since the estimated effect of interest is not sensitive to the inclusion of different sets of covariates on the right-hand side of the regression (Column 2). As for the effects of the control variables, we observe that older, female, and more educated individuals are more likely to respond that 'EU action is insufficient', and the same holds for individuals employed in medium- or high-skilled occupation, with respect to the reference category of low-skilled occupations. In contrast, foreign individuals— whose nationalities are not of the countries in which they live—-are less likely to say that 'EU action is insufficient'.

Table 2. Main results: the Pope's speech and perceptions of EU action on migration

Variables	EU action on migration is insufficient	
	(1)	(2)
Catholics × 1[Day ≥ 16 April 2016]	0.028*	0.029*
	(0.017)	(0.017)
Age		0.001***
		(0.000)
Female		0.013**
		(0.006)
Education: medium		0.028***
		(0.010)
Education: high		0.037***
		(0.011)
Education: still studying		−0.009
		(0.018)
Marital status: single		−0.010
		(0.007)
Marital status: widow		−0.017
		(0.011)
Children in the household		0.000
		(0.009)
Occupation: retired		−0.004
		(0.011)
Occupation: not working, housework		−0.007
		(0.011)
Occupation: medium–high skill		0.020**
		(0.009)
Foreign		−0.112***
		(0.021)
Constant	0.715***	0.615***
	(0.004)	(0.018)
Observations	23,634	23,634
R^2	0.043	0.049
Country FE	✓	✓
Day FE	✓	✓

Note: In the table, we report the effect of being interviewed after the Pope's visit to Lesbos on perceptions of EU action regarding the migration issue. In column (1), we consider country and day fixed effects; in column (2), we add the covariates. The reference categories are Education: low; Marital status: married; Occupation: low-skilled occupation. Robust standard errors in parentheses are clustered at the level of the country and day of the interview. *Source*: Authors' calculations using Eurobarometer 85.1
*$p < 0.10$,
**$p < 0.05$,
***$p < 0.01$.

A second test consists of placing such variables on the left-hand side of Equation (1). Here, one should expect that the treatment of interest, that is being a Catholic respondent interviewed after the Pope's speech, does not yield a coefficient different from zero for all outcomes tested, that is the set of covariates. This exercise is based on the balancing tests
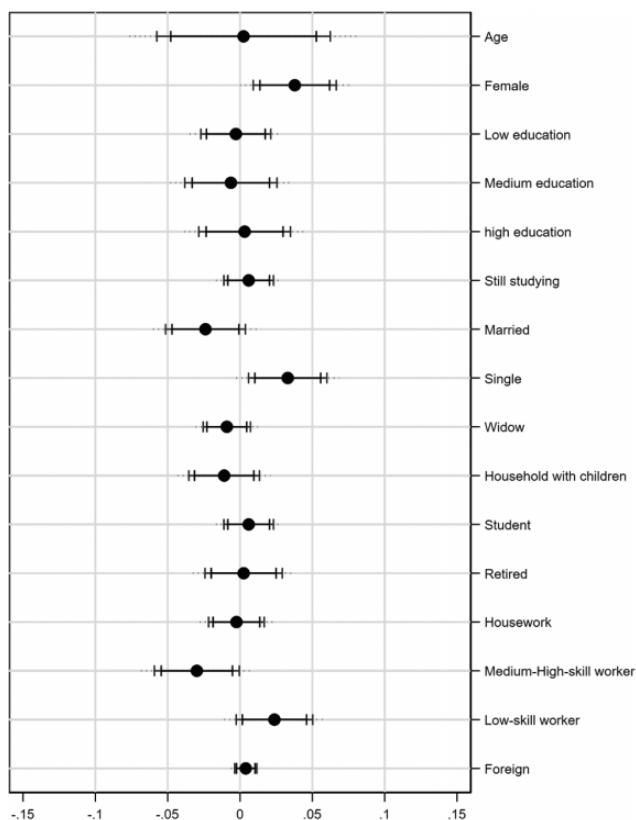
Fig. 2. Balancing test (Pei *et al.*, 2019).

Note: The plot presents the estimated coefficient associated with the treatment where each covariate included in the analysis in Table 1, Column (2), is used as an outcome, in the spirit of Pei *et al.* (2019). Robust standard errors in parentheses are clustered at the level of the country and day of the interview. We show the confidence intervals at $p < 0.10$, $p < 0.05$, and $p < 0.01$. *Source*: Authors' calculations using Eurobarometer 85.1.

that are typically carried out using baseline characteristics in randomized control trials. We perform such a test and find encouraging evidence of covariates being balanced, as shown in Fig. 2.

As mentioned in Section 3.2, the difference-in-differences strategy relies on the identifying assumption that trends in the answers to the migration questions would be the same in Catholic and non-Catholic countries in absence of the treatment (i.e., the Pope's visit to Lesbos Island). To check the parallel trends assumption, we interact each day with the dummy for Catholic country and we test whether all periods before the papal visit show a difference between treated and controls in our outcome of interest. The reference day is the day before the visit: 15 April. The results are reported in Fig. 3. We see that before the visit, none of the coefficients are different from 0, supporting our assumption and alleviating concerns about potential selection into the treatment. We also note that the effect is positive and significant on the day of the visit and the day after (16 and 17 April), suggesting a very short-run effect of these messages (see Rizzica and Tonello, 2020, for instance).
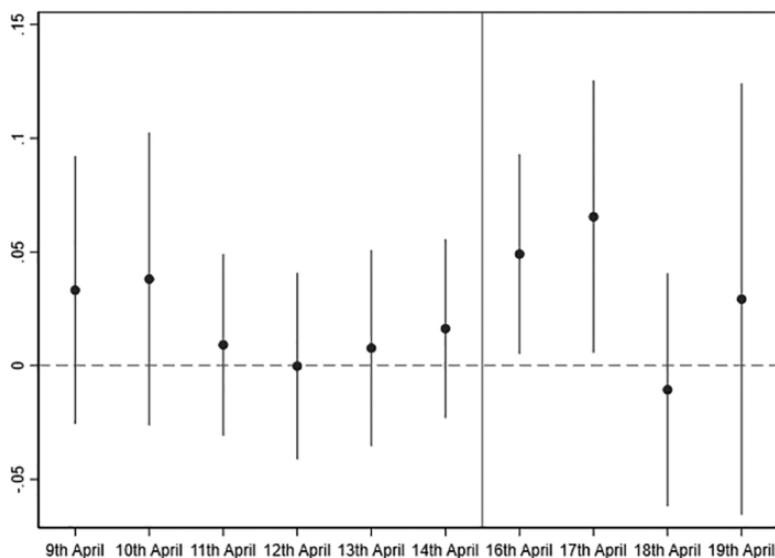
Fig. 3. Event study: the Pope's speech and perceptions of EU action on migration.
Note: The figure reports the event study of the difference-in-differences strategy. The exercise serves as a proof of the parallel trends assumption. Each dot is the coefficient of the interaction between being a Catholic country and the day of the interview. The baseline day is the 15 April. We show the confidence intervals at $p < 0.10$. *Source*: Authors' calculations using Eurobarometer 85.1

As a last piece of evidence in support of our identification, we perform a different falsification exercise. We use other Eurobarometer surveys to assess whether there were natural changes in responses happening a given number of days after the surveys started. We use five Eurobarometer surveys held between 2014 and 2017.[15] In each survey, we define a placebo dummy ($1[Day \geq 7th\ Day]$) that replicates the number of days between the first day of the survey and the papal visit to Lesbos in the original data (7 days). We then create the variable Catholic countries, comprising all of the countries we use in the main analysis, and we run five regressions similar to those presented in Table 2.[16]

We select these five surveys following three main criteria. First, they were undertaken in years close to the one considered (between 2014 and 2017). Secondly, they include information about the day of the interview (which is not always present as an observed variable in all surveys). Thirdly, they contain a question related to migration and the EU.

However, in these five standard Eurobarometer surveys, opinions regarding EU action on migration were not directly inquired about. Individuals were instead asked about 'the two most important issues facing the EU at the moment', and one of the possible replies was 'immigration'.

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15   More specifically, we use (i) Eurobarometer 82.3 (2014), 08/11/2014–17/11/2014; (ii) Eurobarometer 83.1 (2015), 28/02/2015–09/03/2015; (iii) Eurobarometer 84.3 (2015), 07/11/2015–17/11/2015; (iv) Eurobarometer 86.2 (2016), 03/11/2016–16/11/2016; and (v) Eurobarometer 87.3 (2017), 20/05/2017–30/05/2017.

16   So in the first dataset considered, the dummy *After* takes a value of 1 after 14 November.

Table 3. Other Eurobarometer surveys: falsification exercise.

Variables	Immigration is an important issue for the EU				
	(1)	(2)	(3)	(4)	(5)
Catholics	0.007	−0.015	0.023	0.035[***]	0.008
× 1[Day ≥ 7th Day]	(0.011)	(0.012)	(0.016)	(0.013)	(0.015)
Observations	27,901	27,980	27,681	27,705	28,007
R^2	0.052	0.057	0.071	0.051	0.048

Note: This table shows the same regression as in Column (1) of Table 2, using five different Eurobarometer surveys. The main dependent variable is a dummy taking a value of 1 if the respondent mentions 'immigration' as one of the most important issues the EU is facing at the moment. Robust standard errors in parentheses are clustered at the level of the country and day of the interview. *Source*: Authors' calculation using: (1) Eurobarometer 82.3 (2014); (2) Eurobarometer 83.1 (2015); (3) Eurobarometer 84.3 (2015); (4) Eurobarometer 86.2 (2016); (5) Eurobarometer 87.3 (2017)
$*p < 0.10$,
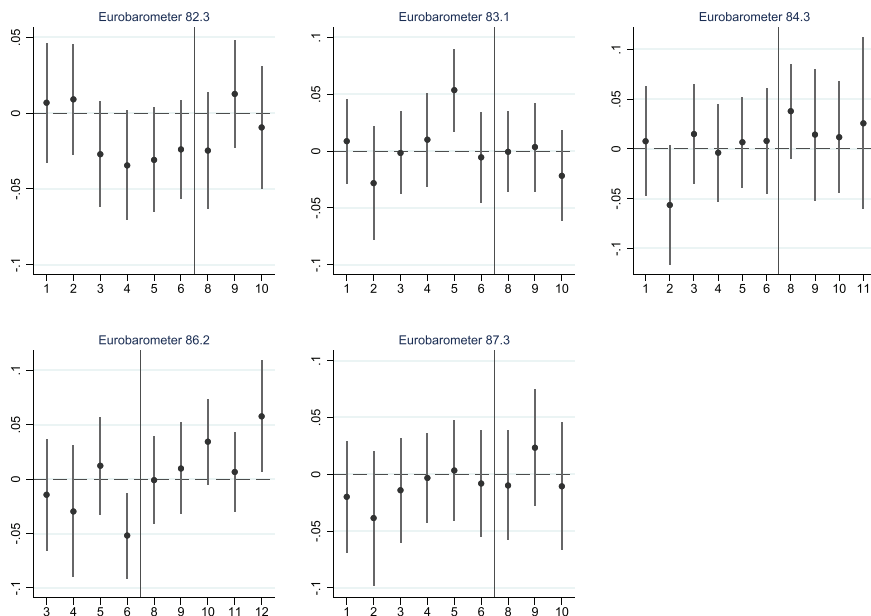$**p < 0.05$,
$***p < 0.01$.

Fig. 4. Falsification with other Eurobarometer surveys.
Note: The figure reports the coefficient of a regression including the interaction between being a Catholic country and the day of the interview, estimated from five other Eurobarometer surveys. The main dependent variable is a dummy that takes a value of 1 if the respondent mentioned 'Migration' as one of the two most important issues the EU was facing at the time. Since we do not use the same period, the falsifications are based on a baseline day, which is the seventh day of the survey (corresponding to our main result). We show the confidence intervals at $p < 0.10$. *Source*: Authors' calculation using: (i) Eurobarometer 82.3 (2014); (ii) Eurobarometer 83.1 (2015); (iii) Eurobarometer 84.3 (2015); (iv) Eurobarometer 86.2 (2016); and (v) Eurobarometer 87.3 (2017).

As a matter of fact, the main dependent variable used in the placebo regression is not the same as the one used in our regression, but it captures a similar feeling. This variable is a dummy taking a value of 1 if the respondent mentioned immigration as one of the two most important issues faced by the EU at the time.[17] In four out of five of these specifications using other Eurobarometer surveys, the coefficient of interest is not statistically significant (see Table 3).

When we replicate Fig. 3 for these other surveys in Fig. 4, we do not observe as clear a pattern as in the main specification, where there is a sudden jump in the 2 days after the Pope's visit. Most likely the positive coefficient found in Column 4 of Table 3 is due to a differential pattern of replies on Day 6 (see Fig. 4, bottom-left panel). The evidence is reassuring for our main result.

4.1 Channels and mechanisms

Our findings reveal a differential positive effect of being interviewed after the Pope's speech on the probability that respondents living in Catholic countries reply that EU action on migration is insufficient.

We then investigate the impact of the Pope's visit on other questions related to opinions about EU actions, but not strictly related to the migration issue. More specifically, we consider all of the items present in the question 'For each of the following, would you say that current EU action is excessive, adequate/about right, or insufficient?' The items are 'the issue of migration', which is the main variable of interest used in the analysis, and the following topics: economic policy, foreign policy, the fight against unemployment, health and social security, environmental protection, the fight against terrorism, security and defence policy, equal treatment of men and women, agriculture, the promotion of democracy and peace in the world, energy supply and energy security, the fight against tax fraud, the protection of external borders, industry policy.

We re-code each of these items as we did with our main dependent variable: we create a set of dummy variables taking a value of 1 if the respondent indicated 'insufficient' as their response. We then run Equation (1) on each of these dependent variables. Some of the outcomes in Table 4 can be interpreted as placebo checks where we would definitely not expect an impact, as the Pope rarely talks about some of these topics (e.g., energy supply or agriculture). Other topics are more of a test on the presence of spillover effects due to the Pope's speech (i.e., promoting democracy). The results are reported in Table 4. None of the variables are influenced by the Pope's visit. The fact that we do not see impacts on other outcomes suggests that Catholics are responding to the content of papal speeches rather than to exposure to the Pope per se.

Next, we investigate whether particular subgroups of individuals were more affected by the papal message. The United Nations High Commissioner for Refugees counts over one million refugees and migrants reaching Europe in 2015 (and almost 4,000 deaths), with similar numbers of asylum applications. We dig into the question of whether countries more exposed to the crisis react differently to the pope's speech using the national distribution of asylum applicants per capita in 2015 as a measure of heterogeneity. According to contact theory (Allport, 1954), the interaction between different groups can lead to more

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17 The other possible answers were: crime, the economic situation, rising prices and costs of living, taxation, unemployment, terrorism, the EU's influence in the world, the state of MS' public finances, pensions, the environment, energy supply, or climate change.

Table 4. Other results: the Pope's speech and European perceptions of different topics

Variables	(1) Migration	(2) Economic policy	(3) Foreign policy	(4) Unemployment	(5) Health
Catholics × 1 [Day ≥16 April 2016]	0.029[*] (0.017)	0.011 (0.018)	0.019 (0.020)	−0.015 (0.017)	0.008 (0.019)
Observations	23,634	21,450	20,717	22,632	22,436
R^2	0.049	0.117	0.071	0.070	0.088

	(6) Environment	(7) Terrorism	(8) Security	(9) Gender equality	(10) Agriculture
Catholics × 1 [Day ≥16 April 2016]	0.023 (0.019)	0.013 (0.016)	0.033 (0.021)	0.016 (0.019)	0.007 (0.020)
Observations	22,680	22,976	22,184	22,567	21,621
R^2	0.054	0.042	0.054	0.085	0.089

	(11) Democracy and peace	(12) Energy supply	(13) Tax fraud	(14) Border protection	(15) Industrial policy
Catholics × 1 [Day ≥16 April 2016]	0.027 (0.019)	0.023 (0.023)	0.009 (0.017)	0.022 (0.021)	0.034 (0.021)
Observations	22,419	21,254	22,158	22,643	19,630
R^2	0.048	0.056	0.063	0.050	0.101

Note: In this table, we estimate the same regression as in Column (2) of Table 2 using as the main dependent variables dummies taking a value of 1 if an individual replies that EU action on the following issues is not sufficient: (1) migration, our main variable of interest; (2) economic policy; (3) foreign policy; (4) unemployment; (5) health and social security; (6) environment; (7) terrorism; (8) security and defence policy; (9) gender equality; (10) agriculture; (11) democracy and peace worldwide; (12) energy supply and security; (13) tax fraud; (14) border protection; and (15) industrial policy. Robust standard errors in parentheses are clustered at the level of the country and day of the interview. *Source*: Authors' calculations using Eurobarometer 85.1
*$p < 0.10$,
**$p < 0.05$,
***$p < 0.01$.

understanding and thus a more sympathetic view of refugees and immigrants. On the other hand, Pettigrew (1998) stresses that intergroup interaction may, on the contrary, negatively affect prejudice (Bradburn *et al.*, 1971; Barone *et al.*, 2016; Halla *et al.*, 2017). Other hypotheses in the social sciences emphasize negative responses to inflows of immigrants. Economists, for example, demonstrate that attitudes towards immigrants are driven by concerns of economic self-interest, affecting both labour market opportunities and quality of life (see Dustmann and Preston, 2001; Facchini and Mayda, 2009). Others posit that competition between groups produces belief in a 'group threat', which in turn leads to prejudice and negative stereotyping by members of one group against the other, while simultaneously bolstering within-group cohesion (Sidanius and Pratto, 2001).

   We interact our main coefficient in Table 2 (Column 2) with a dummy equal to one for EU countries more exposed (above the median) in terms of asylum applicants per
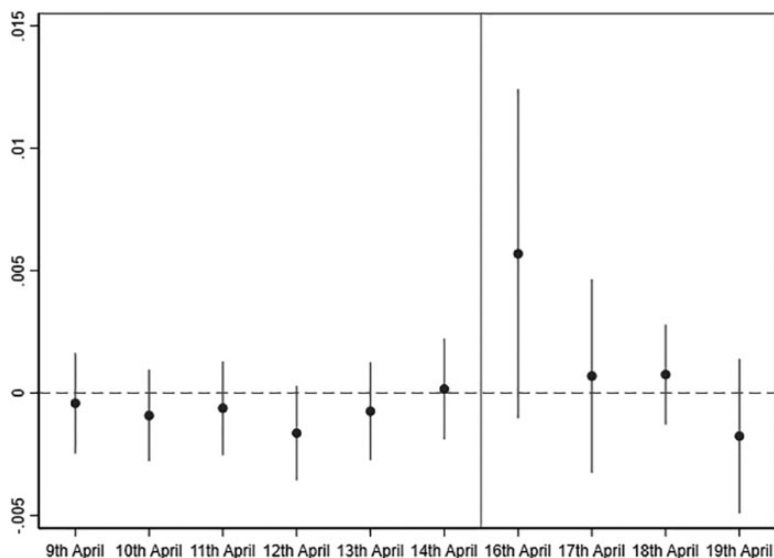
Fig. 5. Event study of the news about the papal visit and refugees.
Note: The figure reports an event study of the difference-in-differences strategy. The exercise serves as a proof of the parallel trends assumption. Each dot is the coefficient of a regression including the interaction between being a Catholic country and the day of the interview on the variable measuring exposure to news about the Pope, i.e. the share of news items containing the words 'Pope' and 'refugees' over the total number of articles. The baseline day is the 15 April. We show the confidence intervals at $p < 0.10$. *Source*: Authors' calculations using GDELT databases.

capita in 2015.[18] We show that individuals living in countries with more asylums seekers show a larger effect in terms of the statement that EU action on migration is insufficient, which may be coherent with contact theory (Table 5, Exposure to refugee crisis [A]).

Similarly, we investigate differential effects based on socioeconomic characteristics, demographic characteristics, and other aspects more related to preference in terms of political ideology. As for the demographic variables, we find that the effect is concentrated among those who are married (Table 5 [B]) and those with a medium level of education ([E]), and the impact is particularly large for not working or house-working individuals ([F]). We then consider three additional variables: political orientation ([G]), interest in politics ([H]), and opinion about EU actions ([I]). The first variable takes four values: left, centre, right, and not declared. The second can range from strong to not at all, while the third has three possible replies: positive, neutral, and negative.

Interestingly, the effects are driven by individuals with a medium level of interest in politics, those who vote mostly at the centre, and those who have a positive opinion of the EU. These last results may suggest that those who have a positive opinion of the EU are more likely to change their opinion in response to the message sent by the Pope, while those who already have a negative perception about the EU are not really affected by this news in terms of the way they answer questions about their opinions of the EU's actions.

18 The countries above the median value in terms of the number of asylum applicants per capita were Austria, Belgium, Bulgaria, Cyprus, Germany, Denmark, Finland, Greece, Hungary, Italy, Luxembourg, Malta, The Netherlands, and Sweden.

Table 5. Heterogeneity

Variables	EU action on migration is insufficient				
[A] Exposure to refugee crisis		[E] Education		[G] Political orientation	
High	0.049*	Low	−0.003	Left	0.023
	(0.025)		(0.041)		(0.029)
Low	0.025	Medium	0.065***	Centre	0.043*
	(0.023)		(0.021)		(0.024)
[B] Marital status		High	0.003	Right	0.017
Married	0.048**		(0.025)		(0.033)
	(0.019)	Studying	−0.020	Undiscl.	0.019
Single	0.006		(0.062)		(0.038)
	(0.030)	[F] Occupation		[H] Interest in politics	
Widow	−0.058	Student	−0.020	Strong	−0.049
	(0.041)		(0.062)		(0.037)
[C] Family size		Retired	0.039	Medium	0.057**
Household with kids	0.039		(0.027)		(0.026)
	(0.036)	Housework	0.116***	Low	0.024
Household without kids	0.025		(0.040)		(0.031)
	(0.018)	Med–high skill	−0.005	Not at all	0.026
[D] Gender			(0.029)		(0.038)
Male	0.019	Low skill	0.027	[I] Opinion of the EU	
	(0.020)		(0.031)	Positive	0.047*
Female	0.035				(0.028)
	(0.023)			Neutral	0.022
					(0.024)
				Negative	0.014
					(0.029)

Note: In this table, we report the effect of being interviewed after the Pope's visit to Lesbos interacted with socio-demographic covariates on perceptions of EU action on the migration issue. Each column corresponds to a different regression where we interact the main variable of interest ('after Pope's visit* Catholic countries') with individual characteristics. Robust standard errors in parentheses are clustered at the level of the country and day of the interview. *Source*: Authors' calculations using Eurobarometer 85.1 (Eurostat data is used to calculate exposure to refugee, panel A).

*$p < 0.10$,

**$p < 0.05$,

***$p < 0.01$.

4.2 GDELT news

Next, we aim to investigate whether the main effect comes from the fact that individuals in non-Catholic countries were simply less exposed to the media or were similarly exposed but reacted with less strength.

To shed light on this mechanism, we use information on how the volume of news about the Pope's trip was diffused across EU countries. As mentioned in Section 3, we collect data

Table 6. GDELT news results: the Pope's speech and perceptions of EU action on migration

Variables	EU action on migration is insufficient	
	(1)	(2)
Catholics × News	0.813	
	(0.974)	
Non-Catholics × News	0.069	
	(1.009)	
Catholics × News × 1[Day ≥16 April 2016]		1.179
		(1.037)
Non-Catholics × News × 1[Day ≥16 April 2016]		0.493
		(1.075)
Observations	23,634	23,634
R^2	0.049	0.049
Country FE	✓	✓
Day FE	✓	✓
Controls	✓	✓

Note: In this table, we report the effect of being interviewed after the Pope's visit to Lesbos on perceptions of EU action on the migration issue. The indicator 'Catholics' identifies individuals living in a Catholic country. The variable 'News' defines the daily (d) number of articles about the Pope and refugees over the total number of articles in country c. In column (2), we augment the model with the indicator that defines the period after the Pope's visit to Lesbos. Robust standard errors in parentheses are clustered at the level of the country and day of the interview. *Source*: Authors' calculations using Eurobarometer 85.1 and GDELT databases.
*$p < 0.10$
**$p < 0.05$
***$p < 0.01$.

from the GDELT database and we build an indicator of exposure for each country, namely the daily ratio of the number of articles mentioning 'refugees' and the 'Pope' over the total number of articles. We have already shown that in both Catholic and non-Catholic countries this indicator peaks on 16 April , with a larger effect for Catholic countries. Moreover, the difference between the indicator in the two groups is greater on the day of the trip compared to other days. Figure 1 describes the trend between the groups of countries. Specifically, on the day of the Pope's message Catholic countries not only show larger numbers of news items (the peak is higher than for non-Catholics), but it also increases more steeply.

We then estimate a difference-in-differences strategy similar to Equation (1) to evaluate the change in the amount of Pope-related news in Catholic versus non-Catholic countries. When using only country-level data and—as a baseline—the day before the visit, we show a larger increase in news about the Pope and refugees in the Catholic countries on the day of the visit (see Fig. 5), although the differential increment is not precisely estimated. Combining the information from Figs1 and 5, Catholics are more exposed to news about the Pope and refugees in absolute terms, and on the day of the visit the difference in exposure between Catholics and non-Catholics is larger than the difference observed the days before and right after.

We now wish to assess whether the different level of exposure also reflects a differential reaction in Catholic and non-Catholic countries. We take the preliminary evidence and

then estimate the effect of the exposure on the main dependent variable following two strategies.

First, we regress the outcome variable on the news indicator, which varies by day and country, interacted by a dummy for Catholic or non-Catholic country, estimating the following fixed effect regression:

$$y_{icd} = \alpha_0 + \beta_1 \text{News}_{cd}*\text{Catholics}_c + \beta_2 \text{News}_{cd} * \text{NonCatholics}_c + \gamma X_{icd} + \mu_c + \delta_d + \epsilon_{icd}.$$
(2)

The coefficient β_1 gives the effect of exposure in Catholic countries and β_2 the effect in non-Catholic countries. All other terms are to be interpreted as in Equation (1). In this model, we do not explicitly take into account the fact that the Pope's visit was on 16 April and we let the news indicator implicitly take the time variation into account.

In a second specification, we instead estimate the following regression:

$$\begin{aligned} y_{icd} = \alpha_0 + &\alpha_1 1[\text{Day} \geq \text{April } 16, 2016]+ \\ &\beta_1 \text{News}_{cd}*\text{Catholics}_c * 1[\text{Day} \geq \text{April } 16, 2016]+ \\ &\beta_2 \text{News}_{cd}*\text{NonCatholics}_c * 1[\text{Day} \geq \text{April } 16, 2016]+ \\ &\gamma X_{icd} + \mu_c + \delta_d + \epsilon_{icd}. \end{aligned}$$
(3)

In this difference-in-differences model, the news indicator is set to 0 for all days before 16 April and to the real value from 16 April onwards. The results of Models (2) and (3) are reported in Columns (1) and (2) of Table 6, respectively. In both models, we see that the effect of being exposed to news about the Pope has a direct but imprecisely estimated effect, with both coefficients of Catholic countries being larger in magnitude than those for non-Catholic countries. The analysis does not exclude that the media coverage of the Pope's speech might have played a role in shaping the beliefs of Catholic people about EU immigration policies.[19]

5. Conclusion

The 2016 refugee crisis marked a large mass-scale migration to the EU and has featured in the anti-immigrant rhetoric of far-right parties across the continent, along with increased collective violence against foreigners. This poses many critical questions about how the EU has managed this dramatic situation and how citizens' perceptions and their beliefs are changing.

This article analyses the perceptions of European individuals regarding the immigration crisis that has been seen in Europe over recent years. In particular, we assess whether European people changed their perceptions of EU action on migration after the humanitarian speech by Pope Francis on Lesbos Island (Greece) on 16 April 2016.

We exploit the fact that this fortuitous visit occurred in the middle of a Special Eurobarometer survey period where European people were asked about their opinions of

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19   Furthermore, we collect data on the sentiment attached to the news using the variables 'emotion', 'feel', and 'fail' from the Harvard General Inquirer dictionary, which are automatically calculated by GDELT for the selected news. We estimate four similar regressions to Equation (3), using the number of words expressing those sentiments in the news related to the Pope. We do not report this analysis, although we find similar conclusions, meaning that not only the volume but also the related emotion of the content might have played a role in this context. See http://www.wjh.har vard.edu/~inquirer/homecat.htm for details about how sentiment is measured.

EU action on migration. By using a difference-in-differences approach, we show that being interviewed in a Catholic country (our treated group) after the Pope's visit to Lesbos (our post period) increases by 2.7 percentage points the probability of declaring that EU action regarding the issue of migration is insufficient. This effect is temporary (lasting only 2 days) and impacts married and medium-educated people more; it is also particularly large for not working or house-working individuals. In addition, it affects individuals who declare having a medium interest in politics more, as well as those who vote mostly at the centre and those who have a positive opinion of the EU. The effect is also larger for individuals living in countries with more asylum seekers. We do not find any effect of the Pope's speech on other questions related to opinions of EU actions, suggesting that Catholics are responding to the content of papal speeches rather than to exposure to the Pope per se.

Finally, we document that Catholic countries were more exposed to news narratives about the papal visit than non-Catholic ones, and the stronger exposure to this event might have sharpened people behaviour in those countries.

Supplementary material

Supplementary material is available online at the OUP website. These are the data and replication files and the online appendix.

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