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A field experiment on fundraising to support independent information☆

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ABSTRACT

Voluntary contributions solicited via fundraising campaigns can be a useful tool to finance high quality and independent news media without restricting readership, thus guaranteeing maximum diffusion. We conduct a field experiment with the Italian online information site lavoce.info to explore what type of message is more effective in eliciting readers' willingness to contribute. We compare messages stressing the public good component of financing news or private benefits for donors. In addition, we test the effect on donations of including information about the tax allowance associated with contributions. While stressing the public good or private benefit component of donating to a media outlet does not lead to a statistically significant difference in terms of revenues raised, information about tax allowance reduces overall contributions, due to a reduction in the number of (small) donors.

1. Introduction

News media play a central role in modern societies. A growing literature, surveyed in the Handbook of Media Economics, shows, among other things, the effect on voters' and politicians' behavior of media coverage (Strömberg, 2016; Enikolopov et al., 2011; Adena et al., 2015) and media bias (Snyder and Puglisi, 2016), as well as the impact of media on finance, regarding for instance stock prices, the cost of raising capital or CEO pay (Tetlock, 2016), and on many economic and social dimensions, like attitudes and norms (Della Vigna et al., 2016). The concern over so-called "fake news" (Allcott and Gentzkow, 2017) highlights the importance of the availability of high quality and independent information.

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Producing high quality information is, of course, costly and the media industry has traditionally raised revenues through two channels: advertisement and direct payments from readers or viewers through, for instance, subscription fees. Having users' fees reduces readership, thus limiting the spread of information,[1] while advertisement may compromise actual or perceived independence, thus limiting the credibility of information.[2] A third possibility is to rely on voluntary contributions by readers and supporters. These contributions can be solicited through fundraising campaigns, akin to the ones used by charities, or, when there is a direct link with the consumption of news, through a so-called "pay-what-you-want" (PWYW) model, where users are invited to pay what they want for the service, usually including as a possibility not paying at all. The financing through voluntary contributions is particularly appealing in an environment, like online news, where there is no rivalry in consumption and it is indeed in use in several contexts. In the US, for instance, voluntary subscribers contributed in 2017 over a billion USD to public radio and public television (CPB, 2018), while the Guardian online edition offers free access to articles, but asks readers to "Become a Guardian Supporter".[3] Relying on voluntary contributions assures maximal availability and spread of information, while at the same time preserving independence, provided, of course, that enough revenues are generated.[4] To enhance the sustainability of this model of financing news, it is thus important to understand what type of appeal to readers is more effective in terms of fundraising.

To this end, in this paper we conduct a field experiment with lavoce.info (from now on Lavoce), an Italian online only information outlet that is freely accessible and provides commentaries on economic news, financing itself mostly through voluntary contributions. In particular, we explore which message addressed to readers is the most effective in raising their contributions.

In designing the messages, we take into consideration what the literature on giving suggests motivates people's voluntary contributions. First of all, the literature usually distinguishes between extrinsic and intrinsic motives for giving. Extrinsic motives include, for instance, tax breaks and thank-you gifts. Then, it further distinguishes intrinsic motives into a public and a private good element. The public good element derives from a concern about the provision of the public good financed through donations, in this case freely available news. The private element lies instead in the benefits the donor derives from his or her own donation, for instance in terms of self esteem. This distinction has long been recognized in the charitable giving literature, with the emphasis on pure altruism and warm glow as motives for giving (Andreoni, 1989; 1990),[5] while more recent papers have further delved into the private element by underlining the signaling benefits of altruistic actions, taking into consideration concerns for self image, social image, and esteem (Bénabou and Tirole, 2006; Ellingsen and Johannesson, 2008; Ariely et al., 2009; Andreoni and Bernheim, 2009; Ellingsen and Johannesson, 2011; Grossman, 2015; Adena and Huck, 2019).

In this paper, we study through a 2×2 experimental design whether stressing the public good element or the more private element of contributions is more effective in an appeal to finance a news medium, while also investigating whether highlighting the availability of extrinsic incentives, in the form of a tax allowance, matters.

There is a vast literature on the efficacy of alternative fundraising techniques by charities. Many papers use field experiments to explore the efficacy of matching schemes (e.g. Huck et al., 2015; Karlan et al., 2011), while others look at the effect of providing information on charity effectiveness (Karlan and Wood, 2017), or the impact of personal solicitation (Meer and Rosen, 2011), or reminders (Damgaard and Gravert, 2018), just to mention a few dimensions. However, it is far from obvious that the results in this literature can be readily transferred to the realm of voluntary contributions to news organizations, that may not be considered as typical charities. Indeed, in her review of the literature on charitable giving, Vesterlund (2016) writes "[s]ome studies find that giving primarily is driven by warm-glow, others find that it is driven by altruism and others that it is affected by both" and "the underlying preferences for giving are likely to depend on what the funds are solicited for". Thus, it is not a priori clear what to expect and a contribution of this paper is to investigate which type of message is more effective in raising resources in a novel and important context, that of voluntary contributions to the production of news. There are other papers using field experiments on giving to mass media, usually public radio or TV. For instance, contributions to public radio are used by Croson and Shang (2008) and Shang and Croson (2009) to investigate the effect of providing information about another donor's contribution, while Reiley and Samek (2019) use a fundraising campaign for a public television station to evaluate the effect of suggested donation amounts. These papers test completely different aspects of fundraising and, while they have mass media in the background, they do not leverage their intervention on the specificity of the provision of news, as we do in this paper, where we explore whether stressing the public good aspects of news is more effective than stressing the private benefits of contributions.

[1] See for instance Chiou and Tucker (2013).

[2] For evidence on media bias induced by advertisement, see, among others, Gambaro and Puglisi (2015) for the Italian press, Reuter and Zitzewitz (2006) for financial products, Rinallo and Basuroy (2009) for fashion.

[3] As of 12 November 2018, the Guardian has received contributions by more than 1 million readers (see: https://www.theguardian.com/membership/2018/nov/12/katharine-viner-guardian-million-reader-funding).

[4] Information outlets can also run an operating loss on a permanent basis, for instance when they are cross-subsidized through other commercial activities or they are financed by political parties or other organizations. These cases are even more problematic than advertising with regard to independence. The importance of the source of financing is highlighted by Petrova (2011), who shows how advertising was instrumental in having newspapers that were independent of political parties in the nineteenth-century US context. Anderson and McLaren (2012) build a model in which media owners care not only about profits, but also have political motives, and derive implications for competition policy. See, however, DellaVigna and Hermle (2017), who find no evidence of bias due to conflict of interest in movie reviews.

[5] This is also related to the distinction between agency and communion in social psychology, see for instance Whillans et al. (2017).

We also test the effect of underlining the availability of tax allowance for the donor. Since the tax allowance decreases the price of giving, we expect it to strengthen the incentives to contribute, both along the extensive margin (more people give) and the intensive margin (those who give make larger contributions). Indeed, the literature finds negative elasticities of donations with respect to the price of giving, usually around -1 (see Peloza and Steel, 2005, for a meta-analysis and Almunia et al., 2020, for evidence of a negative elasticity along both intensive and extensive margins). Tax allowance could represent an important policy tool to support this financing model for media outlets. From a public policy perspective, providing tax benefits for contributions to media would be justified if, as argued in Hamilton (2016),[6] journalism can generate considerable social benefits that do not translate into equivalent subscription or advertising revenues.[7] On the other hand, there is a literature showing how, in certain instances, extrinsic incentives may crowd out intrinsic motivation (see Frey and Jegen, 2001; Vesterlund, 2006, and Ariely et al., 2009). However, in the fundraising literature, even if there may be partial crowding out (e.g. Huck et al., 2015), matching usually leads to higher overall donations.[8] Again, it is important to verify whether this is the case in the context of contributions to media organizations.

Given that in our context donors/readers are also, unlike most donors to charities, direct consumers of the service provided, their contribution could be seen as a (voluntary) payment for it. Our paper is thus related also to a small but growing experimental literature on pay-what-you-want pricing schemes.[9] To the best of our knowledge, there is no study that looks at the financing of information through a PWYW pricing mechanism. The paper by Pruckner and Sausgruber (2013) is related, as they look at the sale of newspapers in the street using a honor system. These, however, are not voluntary contributions as there is a posted price and paying or not is thus an issue of honesty.[10]

We fail to detect a difference in terms of contributions raised between the message that stresses the public good component of news and the alternative message placing more emphasis on the private dimension of contributions. Including information about the availability of a tax allowance, though, reduces the total contributions collected, due to a negative response along the extensive margin, that is, to a lower likelihood of giving. We also find some evidence that this is due to a decline in the number of donors giving small amounts, leaving instead the number of donors giving large amounts unaffected. In light of the existing literature mentioned above, this is a surprising result. In our experiment, we do not vary the availability of the tax allowance, only provide information about it. Rather than the usual positive effect, we could have expected a null effect in the unlikely case that all donors were already aware of the allowance,[11] but instead we find a negative one. This provides new evidence on an issue that could be particularly relevant for news organizations, as for them micro-donations may represent a much larger share of donations compared to most charities, for instance if donations from readers are in lieu of payment for the service provided. In the results section, we propose possible explanations. We also explore broader effects of the campaign by focusing on its interaction with readership, and find no evidence of a relationship between overall visualizations of the website and donations, nor of an adverse effect of the campaign, as measured by unsubscriptions from the site newsletter.

In what follows, we first provide background information about Lavoce, describe the field experiment in detail, and provide descriptive evidence. In Section 3, we perform the empirical analysis and discuss the results, while the last section concludes.

2. The field experiment

2.1. The setting

Lavoce (Italian for thevoice) is a not-for-profit organization, which was founded in 2002. The goal stated in the statute is that of contributing to the improvement of the news and information environment in Italy, by offering impartial contributions and commentaries, policy-oriented columns grounded in academic research and by providing fact-checking of Italian economic policy.

[6] See also the evidence provided by Reinikka and Svensson (2005), who show the role of newspapers in combating corruption in Uganda. La Ferrara (2016) discusses the use of TV programs for achieving development goals, while Besley and Burgess (2001) show that media make government responsive to the needs of citizens.

[7] We point out that the externality element associated with news lies behind other forms of government intervention in this area: in Italy, for example, newspapers received direct government support, amounting to over 50 millions EUR in 2016, as well as indirect support through, for instance, a reduced VAT for newspapers of 4% (compared to the standard 22%).

[8] Matching, where a third party adds an additional amount to a $1 contribution so that the beneficiary receives $(1+x), is functionally equivalent to the rebate offered by a tax allowance, where a donation of $(1+x) attracts a tax allowance reducing the net cost to the donor to $1. This implies that we can draw on the literature on matching in charitable giving to form our hypothesis. Note, however, that in a lab experiment Eckel and Grossman (2003) show how contributions are significantly higher with matching subsidies than with rebate subsidies.

[9] For instance, Gneezy et al. (2010) study the combination of PWYW with a public good contribution, in the form of a donation to a charity, in a field experiment involving photo sales at an amusement park. Jung et al. (2017) also combine PWYW with charitable donations to show how customers' behavior is consistent with impure altruism in two field experiments involving the sale of reusable grocery bags or doughnuts. Gneezy et al. (2012) show the importance of self-image concerns in field experiments regarding PWYW for photos on sightseeing tour boats and for a buffet-style restaurant.

[10] The same is true for the payment of license fees related to the ownership of a receiver like a TV or radio set. These are used in several countries to finance public media, like BBC. Payment is compulsory, even if enforcement is not perfect (see, for instance, Fellner et al., 2013, and Rincke and Traxler, 2011.

[11] In the UK context, Scharf and Smith (2009) find that 65% of eligible taxpayers do not reclaim tax relief and the most common reason is unawareness.

The main tool to achieve this objective is the information site www.lavoce.info. Similar sites are present in other countries and languages, for instance the CEPR policy portal voxEU.org, to which Lavoce provided inspiration in the setting up, and with which it cooperates through a consortium, or the Spanish nadaesgratis.es, oekonomenstimme.org in Germany, telos-eu.com in France, and rieti.go.jp in Japan.

Since 2002 the site has continuously published columns and articles providing the public with analyses and evidence on economic policy issues of general interest. The authors are mainly academics or economists and social scientists based in public institutions, who receive no compensation for their writings. All articles are subject to a refereeing process by the editorial board of the site. The editorial board in 2016 counted 36 members. Most of them are based at universities and their research interests and fields of specialization span a wide set of economic and political topics. A restricted group of co-editors (6 in 2016) solicits contributions, distributes articles to be refereed to members of the editorial board and decides over the selection of the five/six pieces which enter the publication of the bi-weekly newsletter which is sent to about 35,000 subscribers every Tuesday and Friday throughout the year. Lavoce covers all fields of economics broadly defined and is widely read, with the site receiving on average 5000 visitors per day.

In terms of financial resources, Lavoce mostly depends on contributions by supporters: the website is financed by private donations (which cannot be above € 5000 per donor), from transfers from the government budget targeted to not-for-profit organizations (the so-called "5 per mille": taxpayers can choose to which not-for-profit organization they want to give 0.5% of their tax returns) and from revenues associated with the typical activity of the organization (e.g. contracts with media outlets for use of articles published on the site, regular participation in news programs by members of the editorial board). In the 2015 budget, contributions from readers accounted for 30% of the total revenues of the year, in line with the numbers observed in previous years. Including transfers via the "5 per mille" policy, revenues from readers and supporters covered 56% of the overall budget and was essential to guarantee the financial viability of the site.

2.2. The design

On 10 November 2016 the site launched a donation campaign. It was the first donation campaign the site specifically addressed to its readers via email. In previous years, contributions were solicited directly from the website with a message in the sidebar inviting to support. In some years individual emails were sent only to a selection of past donors, that is, those who made more generous donations.

The campaign used three different mailing lists: the authors' mailing list, i.e. the mailing list of those who wrote at least one article for the site since 2002; in this list there are 935 contacts. The second mailing list is that of subscribers, i.e. those who over the years subscribed to receive the newsletter, but are not authors. This mailing list has 35,544 addresses. Among subscribers and authors it is possible to identify a group of individuals who have donated in the past, more precisely, from 2007 onwards: there are 1090 donors in the subscribers' group and 56 donors in the authors' group. The donors who are not among the subscribers, nor among the authors are managed in a third mailing list, the donors' mailing list, which contains 1814 addresses of people who since 2007 gave at least one contribution to the site, irrespective of the amount given. The three mailing lists were checked to guarantee that there is no overlap and each individual receives just one message.[12] Altogether, we have a total of 38,293 unique recipients.[13] For each dataset – subscribers, authors and donors who are neither subscribers nor authors – recipients of the email were randomized in four different groups, each receiving a different email text from the site desk on 10 November 2016. The texts are available in the Appendix, both in the original Italian and translated into English.

As underlined in the introduction, we selected two messages in line with what the literature suggests motivates people to donate.

The first message (T1 henceforth) stressed the public good nature of the activities performed by the site and appealed to a public good element as a motivation prompting recipients to contribute. The subject of this first mail was "Lavoce belongs to all: support it". The message, after reporting some statistics about the low level of economic literacy in Italy, underlined the importance of providing information to the public and concluded with an exhortation to give to allow Lavoce to be present in the Italian media arena (see Appendix for the full text).

The second message (T2 henceforth) leveraged instead on private benefits from donating. It stressed the importance and relevance of each individual donation and the fact that Lavoce publishes the names of those who support. Thus, warm-glow motives, self-image, self-esteem, or social image concerns are emphasized.[14] The subject of this second mail was "Make Lavoce heard: support us". Note that "Make Lavoce heard" in Italian reads as "Make *your voice* heard",[15] portraying the private benefit from donating even before the recipient opens the mail. The message then underlined that the name of those

[12] In particular, we checked that each e-mail address appears only in one mailing list.

[13] In case of individuals belonging to multiple categories, we gave priority to the author's status to acknowledge the in-kind contribution in the email text, as requested by the Editorial Board. The text of the email is instead identical for subscribers and donors. Given the minimal differences between the messages sent to authors and the messages sent to subscribers and donors, we do not consider them as separate treatments. In the empirical analysis we include a dummy for being an author or a donor in the past three years.

[14] Compared to local settings or other settings in which potential givers may know or interact with each other or with the fundraiser, the nation-wide and online nature of the campaign may make reputational benefits, and thus social image concerns, less likely, but they may still be present.

[15] In the English translation in the Appendix we kept the Italian *Lavoce* to make clear that in both messages we use the name of the site.

who finance the site is published online (if the donor does not oppose)[16] and emphasized the role that each donor plays in the working and success of the site, stressing the importance of each single contribution for Lavoce, not only financially, but also for the support and interest it shows. In this case, it concluded with an exhortation to "keep on supporting" the site activity.

Each of these two messages had a variant, which recalled that contributions give rise to tax allowance, thus reducing the price of the contribution itself.[17] We will label the treatments in which the reminder about tax allowance was added to T1 or T2, as T1bis and T2bis, respectively. As both T1 and T1bis stress the public good nature of the site, we will sometimes bundle them together, labeling them as PG. Both T2 and T2bis stress private benefits from donations and will instead be labeled as PB. In each case, the email subject of the messages with and without mention of the tax allowance is identical. It can also be of interest to bundle T1bis and T2bis, both mentioning the tax allowance and labeled therefore as TA, and compare them to T1 and T2 bundled together as NTA.

As explained in the introduction, it is not ex ante clear whether an appeal to public good or to the private benefits of giving would be more effective in mobilizing resources for Lavoce. The literature on the motives for giving to charities finds mixed results, which are likely to "depend on what the funds are solicited for" (Vesterlund, 2016), so it is not clear what motives to elicit in a fundraising campaign for a provider of freely accessible news. On the other hand, based on the literature briefly reviewed in the introduction on tax allowance for charitable donations and on matching, we expect that reminding people about the existing tax allowance increases financial support, both via a potential increase in the number of those who contribute and in the generosity of contributions, thanks to the reduction in price. In the unlikely case that everybody is already aware of the allowance, the information should be redundant and, therefore, result in a null effect.

All mails contained a link to a Google form where potential donors had to give their personal data (name, surname and mail address) before proceeding to the actual donation, if they wished to give. Approximately two weeks after sending the first mail (more precisely, on 25 November 2016), the two different subject messages (i.e. T1: "Lavoce belongs to all: support it" or, alternatively, T2: "Make Lavoce heard: support us") were added at the bottom of the bi-weekly newsletter, inviting the recipients to contribute and providing the link to a Google form to do so. Of course, all recipients of the newsletter received the same message in the initial email on 10 November and in all the subsequent bi-weekly newsletters until 22 December 2016, (9 newsletters overall), when the sending of the newsletter stopped for the Christmas break. We observe our sample until 10 January 2017, when the newsletter restarted.

2.3. Descriptives

The number of mails sent on 10 November 2016 was 38,293 and included the three groups of recipients, i.e. subscribers, authors and past donors. As to the characteristics of the recipients, we know whether and how much they have contributed in the past, as well as whether they have written an article for the site. For most of them we also know the gender.[18] Throughout the two-months campaign, 182 donors contributed to Lavoce,[19] with donations ranging from € 2 to € 1000, with an average donation of € 67 and a median of € 50, as summarized in Table 1. In Table D.1 in the Appendix, we provide a breakdown across treatments of donors who are also authors (ranging from 3 in T1 to 5 in T2), who donated in the last three-years (ranging from 18 in T1-bis to 25 in T2-bis), or who belong to neither category (ranging from 12 in T2-bis to 26 in T1). Note that being an author and having donated in the last three-years are not mutually exclusive categories.

The total amount raised during the campaign is € 12,180, which is around 60% of the total amount of contributions raised in 2016. We highlight that only 9 donors asked to remain anonymous, that is, not to be listed online.[20] Also, only 7 donors asked for the documentation required to benefit from the tax allowance associated with the donation. All of them are in the tax allowance treatment (3 in T1bis and 4 in T2bis), thus suggesting that the treatment indeed increased awareness about the availability of the allowance. Note that the number of donations is relatively small compared to the number of initial emails. This is not unusual: for instance, the charitable campaign studied by Lacetera et al. (2016) reached more than 6 million users, but generated only 30 donations. The relatively small number of donations, however, reduces the statistical power of our experiment[21] and this should be taken into consideration when interpreting the results.

[16] See http://www.lavoce.info/chi-ci-finanzia/

[17] In particular, according to Italian tax law in place at the time of the experiment, individual taxpayers can deduct 19% of a donation from their tax returns, up to a maximum donation amount of € 2,065.83. There is no minimum donation amount to exploit the tax allowance. To this end, taxpayers need a receipt of the donation from the recipient to include in the tax form. Note that the tax rebate depends only on the amount of the donation and not on the marginal tax rate of the donor.

[18] Gender is known for authors. For donors, it can be inferred thanks to the name they provided in the Google form and, for subscribers, through the form filled in when subscribing to the newsletter, if the gender field is filled, or through the email address, if it has a name.surname format.

[19] The donations received during the treatment period are 205. 13 of these donations cannot be linked to any email address in the site database and therefore are removed from the sample. We are therefore left with 192 donations. Six donors donated more than once during the campaign. More precisely, three donors made two donations; two donors made three donations and one donor made four donations. In our specification, we sum up the amount of each donation for each of the donors who gave more than once. All results are robust to considering the 192 donations separately. The same holds when we drop from our sample a single donation of € 1000.

[20] Of these, 4 are in T1, 3 in T2 and 2 in T1bis.

[21] In particular, a simple calculation for a two-sample means test indicates that with a sample size n=38,293 and a mean corresponding to our average overall donation of 0.318, the minimum detectable effect size given the conventional value for power of 0.8 and the conventional significance level of 0.05, is 0.0286, corresponding to approximately 9% of the mean.

Table 1
Descriptive statistics.

Treat.	Number emails sent	Number emails opened	Number donations	Donations over emails sent	Donations over emails opened	Total amount raised	Average donation (all)	Average donation (donors)	Median donation (donors)	Donation last 3 years	Author	Female
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel A: Separate treatments												
T1	9572	2444	52	0.54%	2.13%	3018	0.315	58.03	40	0.0147	0.0243	0.2543
							(7.196)	(79.38)		(0.1205)	(0.1541)	(0.4355)
T1bis	9574	2447	41	0.43%	1.68%	2682	0.280	65.41	50	0.0160	0.0245	0.2620
							(6.161)	(68.68)		(0.1254)	(0.1547)	(0.4397)
T2	9573	1996	49	0.51%	2.45%	3830	0.400	78.16	30	0.0153	0.0244	0.2558
							(12.279)	(154.47)		(0.1226)	(0.1544)	(0.4363)
T2bis	9574	2063	40	0.42%	1.94%	2650	0.277	66.25	50	0.0155	0.0244	0.2557
							(5.637)	(57.60)		(0.1234)	(0.1544)	(0.4363)
Panel B: Public good vs Private benefit												
PG (T1 + T1bis)	19,146	4891	93	0.49%	1.90%	5700	0.298 (6.70)	61.29 (74.55)	50	0.0154 (0.1230)	0.0244 (0.1544)	0.2581 (0.4376)
PB (T2 + T2bis)	19,147	4059	89	0.46%	2.19%	6480	0.338 (9.55)	72.81 (120.50)	50	0.0154 (0.1230)	0.0244 (0.1544)	0.2558 (0.4363)
Panel C: No Tax Allowance vs Tax Allowance												
NTA (T1 + T2)	19,145	4440	101	0.53%	2.27%	6848	0.358 (10.06)	67.80 (121.53)	30	0.0150 (0.1215)	0.0244 (0.1543)	0.2550 (0.4359)
TA (T1bis + T2bis)	19,148	4510	81	0.42%	1.80%	5332	0.278 (5.91)	65.83 (63.05)	50	0.0157 (0.1244)	0.0245 (0.1546)	0.2589 (0.4380)
Total	38,293	8950	182	0.48%	2.03%	12,180	0.318	66.92	50	0.0154	0.0244	0.2569

Notes. The table reports descriptive statistics by treatment. T1 denotes the public good treatment; T2 denotes the private benefit treatment; T1bis combines the public good and the tax allowance treatment; T2bis combines the private benefit and the tax allowance treatment. PG stands for public good; PB stands for private benefits; TA stands for tax allowance and NTA denotes the absence of the tax allowance. Standard deviations for each group are reported in round brackets. All monetary amounts are expressed in Euros.

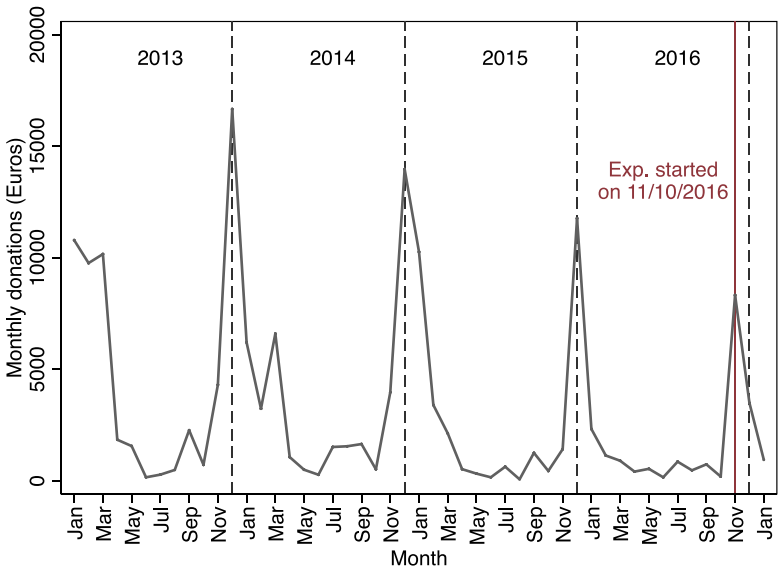


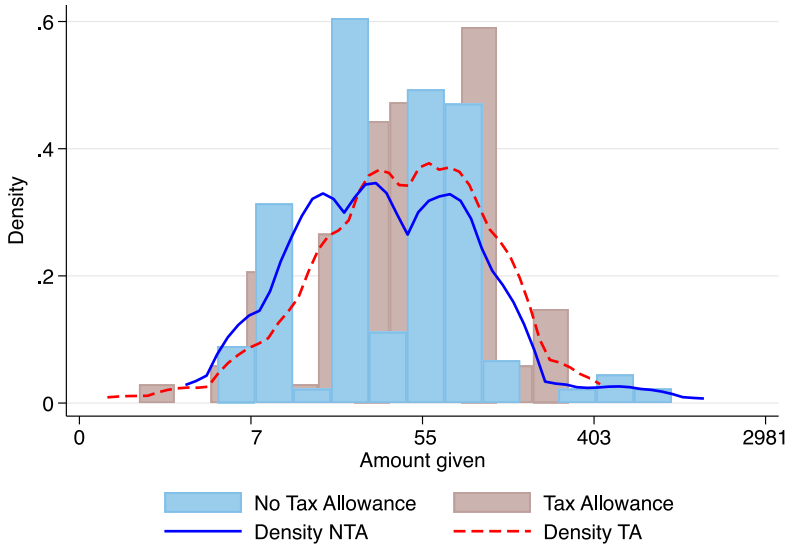
Fig. 1. Monthly donations from January 2013 to January 2017.

Fig. 1 shows the monthly donations to Lavoce over the previous four years. Contributions display a strong seasonality, peaking in December in the years before the intervention, in line with a well-documented tendency for charitable donations to peak around Christmas, at least in Western countries (Ekström, 2018). Contributions also display a declining trend. This is in line with what has happened to charitable donations in Italy during the crisis, with a substantial drop in the number of donors, from 30% of the population in 2007 to 19% in 2017 (Anselmi, 2017). It is evident how our intervention succeeded in generating a lot of contributions in November, although the absence of a peak in December 2016 suggests that the intervention may have caused an anticipation of some donations that would have happened in December. The effect of the campaign is also evident when looking at the amount collected on a weekly basis (Fig. D.1 in the Appendix). We cannot determine whether the campaign boosted or not overall contributions, because, due to editorial constraints, there is no group that is excluded from the campaign, but it seems clear that it did not manage to beat the negative trend.

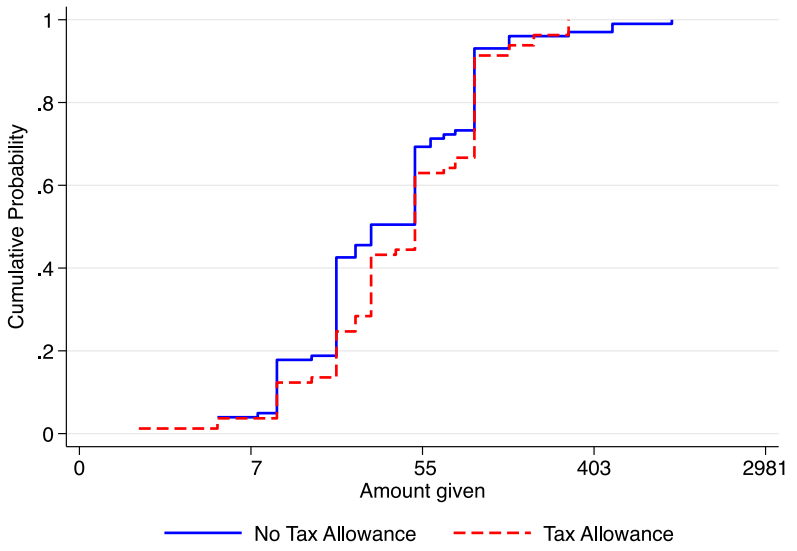
Focusing on the different treatments in Table 1 panel A, the rate at which the email which launched the campaign was opened[22] ranges from 21% when the message appealed to private benefits from donations (T2 and T2bis considered together, as they are indistinguishable before the mail is opened), to 26% when the subject of the mail appealed to public good motivation (T1 and T1bis together). It is useful to look at the absolute number of donations (column 3), as well as at the share relative to the total number of emails (column 4) or emails opened (column 5). From all these indicators, it emerges how donations are higher in T1 than in T1bis, and they are again higher in T2 than in T2bis. Thus, reminding about the possibility of enjoying a tax allowance seems to reduce the likelihood of giving, whereas this is rather similar when comparing T1 to T2 or T1bis to T2bis. When we look at donors, both the average and the median donations conditional on giving are higher in T1bis (€ 65 and € 50) compared to T1 (€ 58 and € 40). In T2bis the median donation (€ 50) is higher than in T2 (€ 30), but this is no longer true for the average donations (€ 66 in T2bis vs € 78 in T2) due to the presence of a donor in T2 who gave € 1000 (for comparison, the second largest donation is € 500). The total amount raised is higher in T1 than in T1bis and in T2 than in T2bis. Thus, the higher median donation when tax allowance is mentioned cannot compensate for the lower number of donations. The average amount is very similar comparing T1bis to T2bis, while it is higher in T2 than in T1, again thanks to a single € 1000 donation. Finally, in the last three columns we report the share of mail recipients who have been donors in the last three years, who have authored for the site and who are females. These shares are very similar across treatments, at approximately 1.5%, 2.5%, and 26%.

In Table 1 we also report the same summary statistics, pooling treatments according to the appeal to the public good (PG) or private benefit (PB) component of donations (panel B) or to the presence (TA) or not (NTA) of the tax allowance reminder (panel C). While PG and PB give a similar number of donations and an identical median donation, NTA has a larger number of donations, but a lower median donation compared to TA. The role of tax allowance in influencing the

[22] Whether an email is opened is measured by the IT service provider through the download from their server of a 1x1 pixel image. An alternative method is to infer opening from the clicking on links in the email. According to data from the provider, the vast majority of openings are detected through the downloading of images, and the percentage of openings inferred from the clicking on links is very small (2.5% in T1, 3.4% in T1bis, 1.3% in T2, and 1.1% in T2bis). Some email clients (e.g. gmail), however, do not have automatic downloading of images and people may decide to manually allow images for an email they see and are interested in. In Section 3.1.1, we study the determinants of the probability of opening an email and show that it depends on whether the message appealed to private benefits or to public good motivation - messages that differ also in the mail subject - while it does not depend on the presence of the tax allowance treatment.



(A) Distribution and kernel density estimation of donations with and without tax allowance (log scale)



(B) Cumulative distribution functions of donations with and without tax allowance (log scale)

Fig. 2. Donation distribution.

amount supporters decide to give is also illustrated in Fig. 2, where we can see that the distribution of contributions shifts to the right in the presence of the mention of tax allowance. Testing for equality of the distribution of contributions among donors gives a *p*-value of 0.098 for the Kolmogorov-Smirnov test and of 0.12 for the Wilcoxon-Mann-Whitney test.

Overall, the descriptive statistics suggest that underlining the public good aspect of information or leveraging private benefits does not generate a different response in terms of amounts collected to finance the production of news, whereas mentioning the availability of tax allowance reduces overall contributions. We now turn to the empirical analysis to formally assess the impact of the treatments on giving.

3. Empirical analysis

We investigate empirically whether addressing recipients with different messages affects the probability of becoming a donor and the amount donated. We are interested in investigating both which type of motivation should be emphasized in

a fundraising campaign and the role of tax allowance in affecting potential donors' behavior. While it is not a priori clear whether the message prompting the public good component of quality news or the one stressing the private benefit element of donations is going to be more effective, since tax allowance reduces the price of donations, we expect that it strengthens the incentives to contribute. We cannot evaluate the effect of the campaign in itself, as, due to editorial constraints, there is no group that is excluded from the campaign.

At the end of this section, we also analyze whether the different treatments prompt different times of reaction from donors, that is, whether any of them mobilizes donors faster than the other. Moreover, we briefly look at how the campaign affects the extent of interaction with the site, first considering the relationship between donations, both in number and amount, and visualization of the site, then studying whether the donation campaign impacts on the number of people who unsubscribe from the site's newsletter.

To perform the analysis, we pool the four treatments 2 by 2. We measure both the effects of receiving message T1 and T1bis (public good) versus receiving message T2 and T2bis (private benefit), and the tax allowance treatment, i.e. we consider the effects of receiving message T1bis and T2bis (mention of the tax allowance) versus message T1 and T2 (no mention of the tax allowance).

3.1. The impact of the campaign on contributions

We first run a probit on the probability of giving ($D_i = 1$) depending on the treatment received. More precisely, we estimate the following equation

$$\Pr(D_i = 1) = \Psi(\beta_1 PB_i + \beta_2 TA_i + \gamma X_i), \tag{1}$$

where PB_i is a dummy variable taking a value of 1 if recipient i got either message T2 or T2bis and TA_i is a dummy variable taking a value of 1 if recipient i got either message T1bis or T2bis. X_i is a vector of individual characteristics, namely, whether a recipient i donated in the past three years, whether he/she contributed as an author to the site, where the two categories are not mutually exclusive. It is reasonable to expect that past donors and authors have a stronger attachment to the site and, therefore, are more likely to respond to the appeal. We also have a specification with interactions between the treatments and the controls to see whether authors or past donors respond differently to the treatments. As mentioned in the previous section, we do not know gender for the whole sample, so we do not control for it in our main analysis. In Table D.2 in the Appendix, however, we repeat the main analysis controlling for gender. This leaves our results qualitatively unchanged, with some evidence that women may actually be less likely to donate.

Table 2, columns 1–3, reports the results for the overall sample, including also those who did not open the email. As such, they can be interpreted as an estimate of the intention-to-treat effect, i.e. the causal effect of being assigned to treatment. This is of interest from a policy perspective, given that, in a field context, it is completely unrealistic to believe that a treatment delivered by email will actually reach all intended recipients.

In line with the descriptive evidence, there is no different response to the message highlighting the public good element of financing media and the one leveraging on private benefits, while mentioning the tax allowance decreases the probability to give by 0.1 percentage points, an economically significant drop given that the baseline probability of giving is 0.5%. This drop is statistically significant when we include controls for having contributed as an author or donated to the site in the past, both variables having, as expected, a strong positive effect on the likelihood of giving (column 2) and explaining a lot of variation in giving behavior, as shown by the large change in the pseudo-R^2, thus improving the precision of the estimate. The marginal effects associated with the interaction terms show that authors and past donors do not seem to respond to the treatments in a way that is statistically different from subscribers (column 3).

In columns 4–6, we look at the amount given by donors. We run an OLS regression on the log-amount donated. We use a log specification because the Shapiro-Wilk test for normality of the log of the amount donated gives a p-value of 0.76, while for the absolute amount the p-value is below 0.001. We see how the coefficients on private benefit and on tax allowance are positive but not significant in any of the specifications.

Finally, in columns 7–9, we use a Tobit regression framework that allows us to capture both the marginal effects on those donating and on the probability of becoming a donor. This allows us to look at the effect of the treatments on the amount donated overall, which is the most interesting metric from a policy perspective. Consistently with the OLS analysis, we apply the Tobit to the log-amount donated, after adding 1 to be able to include also non-donors. We report marginal effects calculated at the mean. We find that the mention of the tax allowance reduces the amount donated and the effect is significant when we control for being an author and having donated in the past, both characteristics being associated with significantly higher overall donations and, once again, explaining a lot of variation in giving behavior, as shown by the large change in the pseudo-R^2. The coefficient on PB is smaller in magnitude and never significant.[23]

Summarizing, we find evidence that the tax allowance treatment reduced the overall amount given, due to a reduction in the number of donors, whereas we detect no differential response to emphasizing the public good dimension of news vs. the private benefits of donating. Fig. 3 reports the marginal effects from probit regressions at different donations' thresholds,

[23] In Table D.2 in the Appendix we replicate the analysis in 2 including gender among the controls, for the subsample of observations for which we can identify gender. Our results do not change, while being female is negatively and significantly associated with the probability of giving and the amount given overall, when interaction terms are not included.

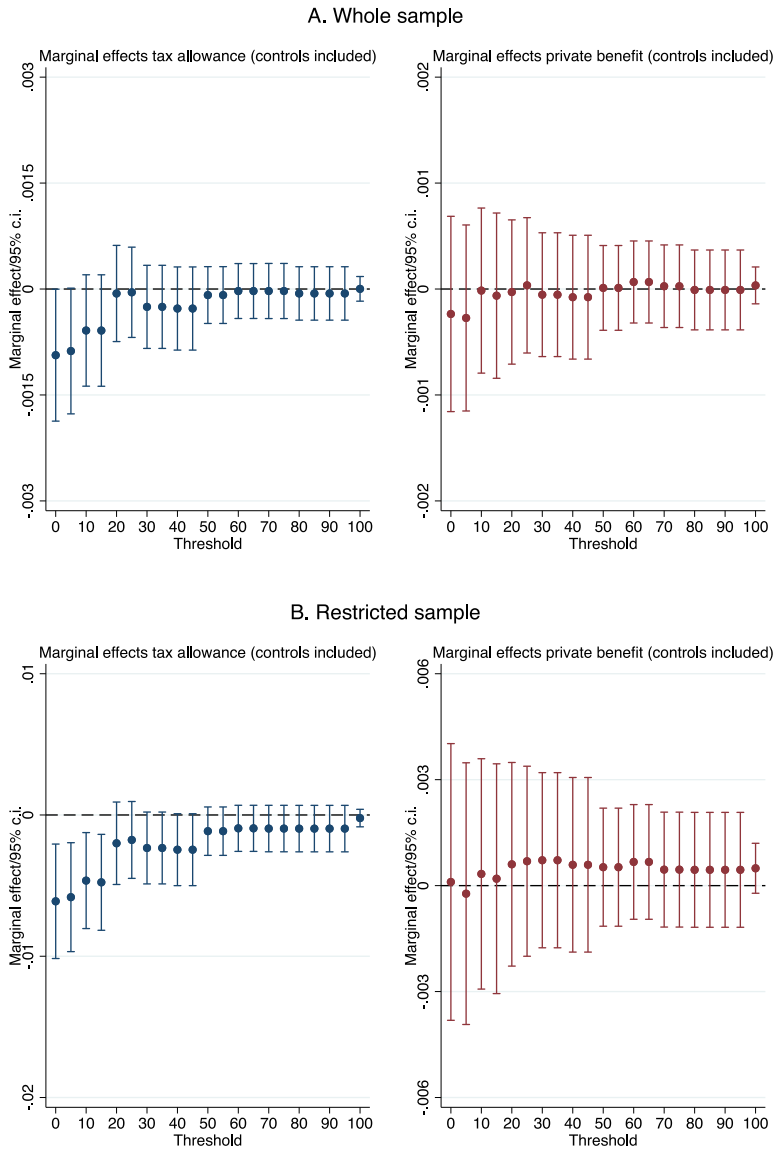


Fig. 3. Marginal effects from probit regressions. *Notes.* The figure plots the estimated marginal effects from probit regressions at different donation's thresholds (from € 0 to € 100) for the whole sample (Panel A) and for the sample of recipients who opened the email (Panel B). The dependent variable takes value 1 for donations at least equal to the threshold reported on the horizontal axis, and 0 otherwise. Both panels show the marginal effects at the mean on the treatments (tax allowance and private benefit) from regressions that include dummies for being an author and for having donated in the past three years. 95% confidence intervals are displayed alongside the marginal effects.

in which we look, for instance, at the likelihood of donating at least € 5 or € 50. We focus first on Panel A, which uses the same specification as in Table 2, column 2. The figure provides evidence that the decline in the probability of giving due to the mentioning of the tax allowance is driven by fewer small donors, while the likelihood of having larger donors is unaffected. The null effect of stressing the private benefit vis-a-vis the public good element persists also when looking at different thresholds.

3.1.1. Recipients who opened the mail

We further explore the impact of the campaign by focusing on the probability that the recipients opened the mail sent on 10 November when the campaign was launched. We run the regression analysis described above only on those recipients who opened the mail, and thus were exposed to its full text. Note that, as already mentioned, the subject of the mail reads for T1 and T1bis "Lavoce belongs to all: support it", while for T2 and T2bis: "Make Lavoce [i.e. your voice] heard: support us". Therefore, for the private benefits vs public good treatment, opening the email is an outcome of interest in itself. Emails with or without the mention of tax allowance are instead identical before opening, so we do not expect to see a difference.

Table 2
Treatment effects.

Dependent variable:	(1) Pr(Giving)	(2) Pr(Giving)	(3) Pr(Giving)	(4) Ln(Donation)	(5) Ln(Donation)	(6) Ln(Donation)	(7) Ln(1+Donation)	(8) Ln(1+Donation)	(9) Ln(1+Donation)
Tax allowance	−0.0010	−0.00093**	−0.0011**	0.17	0.11	0.10	−0.069	-0.077**	-0.094**
	(0.00070)	(0.00047)	(0.00055)	(0.15)	(0.15)	(0.23)	(0.047)	(0.039)	(0.047)
Private benefit	−0.00021	−0.00024	−0.00053	0.12	0.087	0.0039	−0.013	-0.019	-0.046
	(0.00070)	(0.00047)	(0.00055)	(0.15)	(0.15)	(0.23)	(0.047)	(0.039)	(0.047)
Author		0.0047***	0.0035**		0.34*	0.21		0.40***	0.30**
		(0.00093)	(0.0015)		(0.19)	(0.28)		(0.075)	(0.13)
Donation in last 3 years		0.014***	0.013***		0.51***	0.44*		1.18***	1.11***
		(0.0012)	(0.0014)		(0.15)	(0.24)		(0.029)	(0.072)
PB × Author			0.0019			−0.13			0.16
			(0.0018)			(0.35)			(0.15)
TA × Author			0.00025			0.46			0.024
			(0.0018)			(0.34)			(0.15)
PB × Donation last 3 yrs			0.00074			0.22			0.069
			(0.0011)			(0.30)			(0.092)
TA × Donation last 3 yrs			0.00076			−0.087			0.066
			(0.0011)			(0.30)			(0.092)
Constant				3.54***	3.31***	3.35***			
				(0.12)	(0.14)	(0.17)			
Baseline prob.	0.005	0.003	0.003						
Pseudo-R^2	0.001	0.220	0.221				0.001	0.162	0.162
R^2				0.01	0.08	0.08			
Obs	38,293	38,293	38,293	182	182	182	38,293	38,293	38,293

Notes. The table reports treatment effects from three specifications: probit (marginal effects at the mean, columns 1–3), OLS (columns 4–6), and tobit (marginal effects at the mean, columns 7–9). Tax allowance pools together treatment T1bis and T2bis. Private benefit pools together treatment T2 and T2bis. PB stands for private benefit and TA for tax allowance. Robust standard errors are reported in parentheses. Significance levels: $^{*}p<0.1$, $^{**}p<0.05$, $^{***}p<0.01$.

Table 3
Probit model of opening the email launching the campaign.

	(1)	(2)	(3)	(4)	(5)
Tax allowance	0.0037	0.0034	0.0020	0.0040	0.0024
	(0.0043)	(0.0043)	(0.0044)	(0.0046)	(0.0048)
Private benefit	−0.0435***	−0.0437***	−0.0443***	−0.0452***	−0.0458***
	(0.0043)	(0.0043)	(0.0044)	(0.0046)	(0.0048)
Author		0.1310***	0.1046***	0.1235***	0.0955***
		(0.0130)	(0.0225)	(0.0132)	(0.0229)
Donation in last 3 years		0.1930***	0.1789***	0.1827***	0.1681***
		(0.0160)	(0.0280)	(0.0166)	(0.0292)
PB × Author			0.0206		0.0218
			(0.0259)		(0.0264)
TA × Author			0.0320		0.0339
			(0.0259)		(0.0264)
PB × Donation last 3 yrs			−0.0000		−0.0010
			(0.0320)		(0.0331)
TA × Donation last 3 yrs			0.0274		0.0289
			(0.0320)		(0.0332)
Female				−0.0477***	−0.0478***
				(0.0054)	(0.0054)
Baseline prob.	0.254	0.246	0.247	0.266	0.267
Pseudo-R^2	0.002	0.008	0.008	0.010	0.010
Obs	38,293	38,293	38,293	34,113	34,113

Notes. The table reports marginal effects from a probit model on the probability of opening the email. Tax allowance pools together treatment T1bis and T2bis. Private benefit pools together treatment T2 and T2bis. PB stands for private benefit and TA for tax allowance. The *Baseline prob.* is the probability of opening the mail if one receives messages T1 and T1bis. Robust standard errors are reported in parentheses. Significance levels: $^{*}p<0.1$, $^{**}p<0.05$, $^{***}p<0.01$.

However, since our measure of whether an email has been opened or not is imperfect, as explained in Section 2.3, we also control for the tax allowance treatment in the regression.

Table 3 presents the results of the probit estimation on the probability of opening the mail which launched the campaign. We first run the regression without controls, then adding a control for the "author" and "donor" status and their interaction with the treatments, and finally for gender for the subsample for which we have this information.

In all specification, the coefficient for the tax allowance dummy is always insignificant and very small. This is consistent with the descriptives and in line with what we expected. Also in line with the descriptive evidence, we see that recipients of the private benefit treatment are 4.4 to 4.6 percentage points less likely to open and read the mail, out of a baseline probability of around 25%. This indicates that the subject of the mail *per se* generates different responses and the title appealing to public good motivation ("Lavoce belongs to all: support it!") is more effective than the alternative ("Make Lavoce heard: support us!") in drawing attention to the campaign. Having contributed to the site as an author or as a donor in the past three years increases the probability of opening the mail, whereas women are less likely to open it. There is no evidence of any interaction between these characteristics and the two treatments.

In Table 4 we perform the same analysis as in Table 2 on the sample of recipients who opened the mail which launched the campaign. We see that qualitatively the results do not change with respect to those in the whole sample. Even after conditioning for opening the email, the impact of stressing the private benefit keeps being statistically insignificant. The negative impact of the tax allowance treatment is also confirmed, with a marginal effect that is bigger in size and more significant. These estimates are a better measure of the treatment effect on the treated compared to those in Table 2, given that opening the email is a necessary –but not sufficient– condition to read the tax allowance notice, and the bigger size of the effect is consistent with this. Note that this smaller sample is not selected with respect to the tax treatment, given that mentioning tax allowance does not affect the probability of opening the mail. The magnitude of the effect, −0.6 percentage points, is economically very relevant considering that only 2% of those who opened the email donated. The estimated marginal effect in the Tobit estimation are double than those in Table 2.

Fig. 3, Panel B, reports the marginal effects from probit regressions at different donations' thresholds for the sample of recipients who opened the mail launching the campaign. The panel uses the same specification as in Table 4, column 2. In line with what we find for the whole sample, there is evidence that small donors refrain from contributing when the availability of tax allowance is mentioned, while the null effect of stressing private benefit vis-a-vis public good motivation is homogeneous across donors giving different amounts.

Why is it the case that mentioning tax allowance reduces the likelihood of giving, despite the literature usually finding a negative elasticity with respect to the cost of giving? A possible explanation for our finding is that the tax allowance message suggests that the site is targeting large contributions for which the reduction in the tax burden associated with the allowance is not negligible. In other words, it makes little sense to deduct a donation of € 5, which would generate tax savings for less than € 1 given that, irrespective of the tax bracket they are in, donors can reduce taxes by an amount equivalent to 19% of their donations. Thus, potential supporters may interpret the reminder as an indication that the ex-

Table 4
Treatment effects, recipients who opened the email launching the campaign.

Dependent variable:	(1) Pr(Giving)	(2) Pr(Giving)	(3) Pr(Giving)	(4) Ln(Donation)	(5) Ln(Donation)	(6) Ln(Donation)	(7) Ln(1+Donation)	(8) Ln(1+Donation)	(9) Ln(1+Donation)
Tax allowance	−0.0062**	−0.0060***	−0.0066***	0.096	0.016	−0.075	−0.15**	−0.16***	-0.18***
	(0.0026)	(0.0020)	(0.0023)	(0.17)	(0.17)	(0.27)	(0.064)	(0.054)	(0.065)
Private benefit	0.00093	0.00010	−0.00073	0.18	0.15	0.053	0.025	0.0057	-0.021
	(0.0026)	(0.0020)	(0.0023)	(0.17)	(0.17)	(0.26)	(0.064)	(0.054)	(0.064)
Author		0.015***	0.011*		0.39*	0.25		0.41***	0.30*
		(0.0036)	(0.0059)		(0.21)	(0.30)		(0.096)	(0.16)
Donation in last 3 years		0.043***	0.041***		0.51***	0.36		1.16***	1.10***
		(0.0039)	(0.0054)		(0.18)	(0.27)		(0.043)	(0.10)
PB × Author			0.0059			−0.19			0.17
			(0.0071)			(0.39)			(0.19)
TA × Author			0.0018			0.61			0.060
			(0.0071)			(0.38)			(0.20)
PB × Donation last 3 yrs			0.0017			0.30			0.060
			(0.0052)			(0.36)			(0.13)
TA × Donation last 3 yrs			0.0022			0.016			0.073
			(0.0052)			(0.35)			(0.13)
Constant				3.46***	3.25***	3.33***			
				(0.13)	(0.15)	(0.17)			
Baseline prob.	0.019	0.011	0.012						
Pseudo-R^2	0.004	0.173	0.174				0.003	0.121	0.121
R^2				0.01	0.07	0.09			
Obs	8950	8950	8950	143	143	143	8950	8950	8950

Notes. The table reports treatment effects for the sample of recipients who opened the email from three specifications: probit (marginal effects at the mean, columns 1–3), OLS (columns 4–6), and tobit (marginal effects at the mean, columns 7–9). Tax allowance pools together treatment T1bis and T2bis. Private benefit pools together treatment T2 and T2bis. PB stands for private benefit and TA for tax allowance. Robust standard errors are reported in parentheses. Significance levels: $^{*}p<0.1$, $^{**}p<0.05$, $^{***}p<0.01$.

pected contribution is large, despite the fact that the email message explicitly asks for "a donation (even a small one)". Thus, donors who would be willing to donate small amounts may be discouraged and decide not to donate. Alternatively, this result could be consistent with all recipients of the email being equally less likely to give under the tax treatment regardless of their potential donation, and those who do decide to give having a (weak) tendency to give more when they become aware of the tax rule, as a consequence of the treatment. This reduction in the likelihood of giving could be due to motivational crowding out, with intrinsic motivation declining across the board and discouraging people from donating, once extrinsic incentives are introduced – see Kamenica (2012) and Gneezy et al. (2011). This decline in intrinsic motivation could be counteracted for large donors by sizeable extrinsic incentives, while this would not be the case for small donors. It is worth stressing that we do not introduce additional incentives, as tax allowance obviously depends on the tax code, but simply remind readers about their existence. This, however, may be enough to induce crowding out.[24] We point out, though, that only 7 out of the 81 donors in the tax allowance treatment asked for the documentation necessary to benefit from the allowance when filing the tax form. In addition, the mean and the median donation of this group is 50, below the mean and in line with the median of the TA group (see Table 1), indicating that those who actually asked for the documentation are not a selected group of large donors who could profit the most from the tax allowance. This makes motivational crowding out across the board counteracted for large donors by extrinsic incentives a less likely explanation for our findings.

3.2. Other outcomes

To relate to the literature on impulsiveness and generosity (Recalde et al., 2018), we also study whether any of the treatments is associated with a faster response in terms of contributions. We expect that those receiving the tax allowance treatment are going to respond faster as they need to contribute by the end of the year not to lose the opportunity to use the tax allowance in the first available tax filing opportunity, that is 2017, since the field experiment was run in November 2016. The analysis presented in Appendix E shows that large contributions are characterized by longer time spells between the sending of the message and the act of giving, suggesting that they require more deliberation, whereas the different content of the messages does not influence the time to respond.

Also, we analyze the potential spillover effects of the overall fundrasing campaign on readers' behavior. In particular, we investigate whether sending, for the very first time in the history of the site, messages to solicit contributions generates adverse reactions by readers, in line with the literature on 'avoiding the ask' (see, for instance, Andreoni et al., 2017, and DellaVigna et al., 2012). Since the choice of the voluntary contribution model is also justified by the goal of maximizing the audience, we want to check that there is no trade-off between pursuing the financial sustainability of the model and maximizing readership. Recent evidence by Adena and Huck (2019) in the context of an opera ticket booking platform suggests that such a trade-off may indeed be present. In the analysis presented in Appendix E, we find no evidence of a relationship between overall visualizations of the website and contributions, nor of an adverse effect of the campaign, as measured by unsubscriptions from the site newsletter.

4. Conclusion

In this paper we focus on fundraising techniques for media outlets and study whether messages highlighting the public good dimension of financing news or the private benefit one can obtain is more effective in nudging readers to voluntarily contribute to an online news site. Our field experiment reveals that stressing in the solicitation campaign the public good nature of financing news or leveraging on private benefits makes no difference in terms of revenues collected. Including a reference to tax allowance, instead, reduces overall contributions. This is due to a lower propensity to give, with evidence of smaller donations being particularly affected. This is surprising as tax allowance can potentially reduce the cost of contributing, thus reminding donors about them should enhance giving. Actually, benefiting from tax allowance comes at the cost of some paperwork, but, given that there is no obligation to deduct donations from tax dues, this should not discourage anyone from giving. Indeed, those unwilling/unable to deduct the donation from their tax returns should simply not take advantage of the allowance. We explore alternative explanations for the negative impact of tax allowance and do not find support for extrinsic motivations, that is, the tax deduction in itself, playing an important role for large donors so as to compensate the potential crowding out of intrinsic incentives. More likely, the mention of tax allowance conveyed the view that the site was targeting relatively large contributions and discouraged those willing to give only a small amount.

As mentioned in the introduction, tax allowance could represent an important policy tool to support media outlets, since news have an important public good component. Our finding does not imply that it should be forfeited, but rather that it should be communicated carefully, to avoid the type of effect that we document. To this end, a potentially fruitful venue is the pairing of messages about tax allowance with messages encouraging "microgiving", for instance an option to donate a few euros through text message or the request for some form of micropayment at the end of each article. This is indeed what Lavoce decided to implement after learning about the outcomes of this study.

[24] It could also be the case that referring to tax allowance reminds people about the need to pay taxes and this makes them less keen on giving.

Declarations of Competing Interest

Both authors have contributed articles to lavoce.info and Casarico is member of the editorial board. Both activities are not remunerated. This work was supported by the Open Access Publishing Fund of the Free University of Bozen-Bolzano.

Appendix A. Treatment 1 and 1bis

We provide the original Italian text and the English translation for the emails sent to the subscribers and donors, which received treatments T1 and T1bis. Authors received a very similar email, except that they were addressed by name and that the sentences soliciting a donation also contained a reference to their contribution through articles. The detailed differences are reported below.

A1. Original

TITLE: *lavoce* è per tutti: sostienila
LOGO OF LAVOCE.INFO
Cara lettrice/Caro lettore,
un'indagine di Standard & Poor's rivela come quasi due italiani su tre non siano in grado di rispondere correttamente a domande elementari su temi economico-finanziari, il peggior risultato tra i paesi avanzati. Il problema non è meno grave se guardiamo ai più giovani: gli studenti italiani sono risultati i penultimi in uno studio dell'OCSE riguardo all'alfabetizzazione finanziaria in 18 paesi. In questo contesto, è essenziale fornire al pubblico dati e analisi sulle complesse questioni di politica economica di interesse generale,[25] un ruolo che *lavoce* svolge dal luglio 2002. Per questo motivo, vorremmo chiederti di continuare a sostenere la nostra attività con una (anche piccola) donazione.
ONLY FOR MESSAGE T1bis: Ti ricordiamo che la tua donazione a *lavoce* è detraibile ai fini fiscali.
***lavoce* è per tutti: sostienila** - Aiutaci ad essere presenti sullo scenario dell'informazione italiana attraverso una donazione.
Il Comitato di Redazione

A2. Translation

TITLE: *lavoce* belongs to all: support it
LOGO OF LAVOCE.INFO
Dear reader,
A study by Standard & Poor's shows that almost one Italian in three cannot correctly answer even basic questions on economic and financial issues, the worst result among developed countries. The outcome does not improve even when we consider the young: according to an OECD study on financial literacy in 18 countries, Italian students rank next to last. In this context, providing the public with data and analyses on complex issues about economic policy that are of general interest is essential,[26] a role *lavoce* has been playing since 2002. That is why we would like to ask you to keep on supporting our activity with a donation (even a small one).
ONLY FOR MESSAGE T1bis: We remind you that your donation to *lavoce* entitles you to a tax allowance.
***lavoce* belongs to all: support it** - Help us remain present in the Italian media arena through a donation.
The Editorial Board

Appendix B. Treatment 2 and 2bis

We provide the original Italian text and the English translation for the emails sent to the subscribers and donors, which received treatments T2 and T2bis. Authors received a very similar email, except that they were addressed by name and that the sentences soliciting a donation also contained a reference to their contribution through articles. The detailed differences are reported below.

[25] The mail to authors from here read: "... un ruolo che *lavoce* svolge, con il tuo prezioso contributo, dal luglio 2002. Per questo motivo, vorremmo chiederti di continuare a sostenere l'attività del sito, sia con i tuoi articoli, che con una (anche piccola) donazione."
[26] The mail to authors from here read: "... a role *lavoce* has been playing, with your important contribution, since 2002. That is why we would like to ask you to keep on supporting the activity of the site both with your articles and with a donation (even a small one)."

B1. Original

TITLE: Fai sentire lavoce: sostienici
LOGO OF LAVOCE.INFO
Cara lettrice/Caro lettore,
Il contributo dei sostenitori[27] è essenziale per permettere a *lavoce* di continuare a fornire al pubblico dati e analisi sulle complesse questioni di politica economica, un ruolo che *lavoce*[28] svolge dal luglio 2002. Sul sito de *lavoce* pubblichiamo il nominativo dei nostri sostenitori (previo consenso), in quanto per noi ogni singola donazione è estremamente importante, non solo dal punto di vista finanziario, ma anche per il supporto e l'interesse che dimostra. Per questo motivo, vorremmo chiederti di continuare ad esprimere il tuo sostegno a quello che facciamo[29] attraverso una (anche piccola) donazione.
ONLY FOR MESSAGE T2bis: Ti ricordiamo che la tua donazione a *lavoce* è detraibile ai fini fiscali.
Fai sentire *lavoce* : sostienici - Fai la differenza ed esprimi il tuo supporto attraverso una donazione.
Il Comitato di Redazione

B2. Translation

TITLE: Make lavoce heard: support us
LOGO OF LAVOCE.INFO
Dear reader,
Our supporters' contributions[30] are essential to allow *lavoce* to continue providing the public with data and analyses on complex issues about economic policy that are of general interest, a role *lavoce* has been playing since 2002.[31] On *lavoce*'s website we publish our supporters' names (with prior consent), as every single donation is important for us, not just financially but for the support and the interest that it shows us. That is why we would like to ask you to keep on expressing your support for our activity[32] with a donation (even a small one).
ONLY FOR MESSAGE T2bis: We remind you that your donation to *lavoce* entitles you to a tax allowance.
Make *lavoce* heard: support us - Make a difference and show your support through a donation.
The Editorial Board

Appendix C. E-mail Sample

Fig. C.1. Email sample - T2 treatment.

[27] The mail to authors from here read: "Il contributo di sostenitori e collaboratori è essenziale per... "
[28] The mail to authors from here read: "un ruolo che *lavoce*, grazie al tuo prezioso contributo, svolge dal luglio 2002."
[29] The mail to authors from here read:."sia con i tuoi articoli, che con una (anche piccola) donazione".
[30] The mail to authors from here read: "Our supporters' and our collaborators' contributions are essential to."
[31] The mail to authors from here read: "a role *lavoce* has been playing, thanks to your important contribution, since2002//.
[32] The mail to authors from here read: "both with your articles and with a donation (even a small one)".

Appendix D. Figures and tables

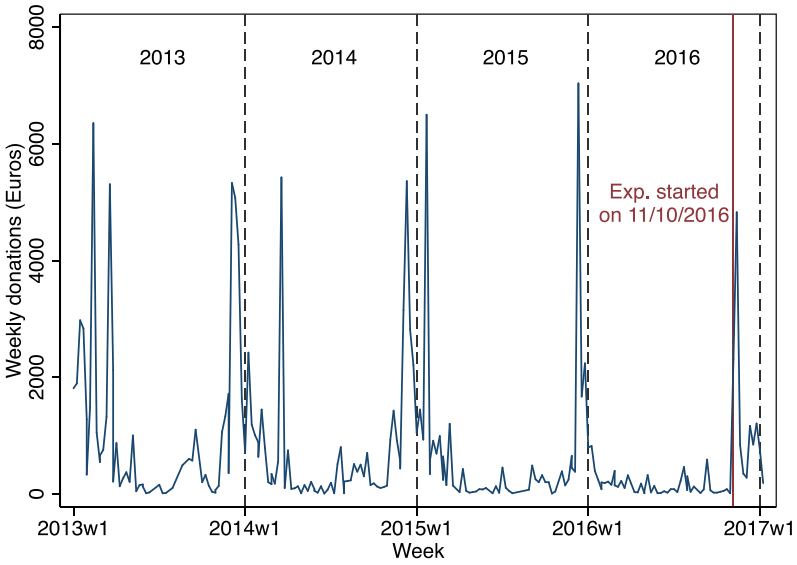


Fig. D.1. Weekly donations from January 2013 to January 2017.

Table D.1
Distribution of donors.

Treatment	Author	Donation last 3 years	Others
T1	3	24	26
T1-bis	4	18	21
T2	5	19	25
T2-bis	4	25	12

Notes. The table reports the distribution of donors during the campaign across three groups: donors who are also authors; donors who donated to the site in the previous three years; donors who are not authors and who did not donate in the previous three years. Being an author and having donated in the last three-years are not mutually exclusive categories.

Table D.2
Treatment effects, controlling for gender.

Dependent variable:	(1) Pr(Giving)	(2) Pr(Giving)	(3) Pr(Giving)	(4) Ln(Donation)	(5) Ln(Donation)	(6) Ln(Donation)	(7) Ln(1+Donation)	(8) Ln(1+Donation)	(9) Ln(1+Donation)
Tax allowance	−0.0012	−0.0011**	−0.0012*	0.17	0.11	0.15	−0.070	-0.080**	-0.093*
	(0.00079)	(0.00052)	(0.00067)	(0.15)	(0.15)	(0.25)	(0.048)	(0.040)	(0.052)
Private benefit	−0.00021	−0.00025	−0.00070	0.12	0.087	0.094	−0.012	-0.018	-0.054
	(0.00079)	(0.00052)	(0.00066)	(0.15)	(0.15)	(0.24)	(0.048)	(0.040)	(0.052)
Author		0.0047***	0.0035**		0.34*	0.24		0.37***	0.27**
		(0.0010)	(0.0017)		(0.19)	(0.28)		(0.075)	(0.13)
Donation in last 3 years		0.015***	0.014***		0.52***	0.47*		1.16***	1.09***
		(0.0013)	(0.0016)		(0.15)	(0.24)		(0.031)	(0.074)
Female		−0.0015**	−0.0017		0.11	0.41		-0.11**	-0.13
		(0.00069)	(0.0012)		(0.19)	(0.31)		(0.053)	(0.090)
PB × Author			0.0020			−0.15			0.16
			(0.0020)			(0.35)			(0.15)
TA × Author			0.00039			0.43			0.034
			(0.0020)			(0.34)			(0.15)
PB × Donation last 3 yrs			0.00084			0.19			0.071
			(0.0013)			(0.31)			(0.093)
TA × Donation last 3 yrs			0.00075			−0.16			0.061
			(0.0013)			(0.31)			(0.094)
PB × Female			0.00067			−0.52			0.048
			(0.0014)			(0.37)			(0.11)
TA × Female			−0.00017			−0.14			-0.014
			(0.0014)			(0.37)			(0.11)
Constant				3.54***	3.29***	3.28***			
				(0.12)	(0.14)	(0.17)			
Baseline prob.	0.006	0.004	0.004						
Pseudo-R^2	0.001	0.219	0.220				0.001	0.160	0.161
R^2				0.01	0.08	0.09			
Obs	34,113	34,113	34,113	182	182	182	34,113	34,113	34,113

Notes. The table reports treatment effects from three specifications: probit (marginal effects at the mean, columns 1–3), OLS (columns 4–6), and Tobit (marginal effects at the mean, columns 7–9), including a *Female* dummy and its interactions with main treatments as controls. PB stands for private benefits and TA for tax allowance. Robust standard errors are reported in parentheses. Significance levels: $^{*}p<0.1$, $^{**}p<0.05$, $^{***}p<0.01$.

Appendix E. Other measures

E1. Speed of response

We study the time interval between the sending of the first email launching the campaign and the donation, to investigate whether any of the treatments generates a faster response. In Table E.1 we report mean, median and standard deviation of the number of days to donations by treatment, and by level of donation (above/below median). We can see that on average donations take 18 days, but the median is much shorter, at 4 days. In Table E.2 we report the results of a Poisson regression of the days to donation on treatments, and do not find evidence of differential speed of response across treatments, even if the coefficient for tax allowance is larger in magnitude, albeit insignificant. This is confirmed also graphically, in Fig. E.1, where we plot the distribution of donations over the two months of the experiment. While the density of donations under the public good and the private benefit treatments almost overlap (panel B), donations by recipients of the tax allowance treatment seem to take place later, although the difference is not significant (p-value of 0.222 for the Kolmogorov-Smirnov test and of 0.117 for the Wilcoxon-Mann-Whitney test). To better understand the nature of donations in our context, it is also of interest to plot the speed of response for large and small donations. The evidence about the relationship between impulsiveness and generosity is mixed. For instance Cappelen et al. (2016) find a negative association between response time and fair behavior in a dictator game, while Piovesan and Wengström (2009) find the opposite (see for a review of the literature Recalde et al., 2018). In panel C we plot the distribution for donations above and below the median. It appears that smaller donations are given earlier than larger ones (the p-value of the Kolmogorov-Smirnov test is 0.003, and that of the Wilcoxon-Mann-Whitney test is 0.001). This is also confirmed in the regression analysis of Table E.2, columns 3–5. If we take shorter response times as an indication of impulsiveness, it appears that in our context small donations are more likely to be done impulsively, while larger donations require more deliberation.[33]

Table E.1
Number of days from start of experiment to donation, by treatment and above/below median donation.

Treatment	Median	Mean	St. dev.
T1	4.5	17.9	17.7
T1bis	4	21.9	19.9
T2	3	15.0	16.3
T2bis	6.5	24.4	20.5
Public good	4	18.1	18.6
Private benefit	4	17.8	18.5
No tax allowance	3	15.2	16.9
Tax allowance	5	21.3	20.1
Above median donation	11	20.0	19.8
Below median donation	3	12.2	17.3

Table E.2
Poisson regression of days to donation on treatments.

	(1)	(2)	(3)	(4)	(5)
Tax allowance	0.300	0.260		0.263	0.251
	(0.188)	(0.183)		(0.184)	(0.178)
Private benefit	−0.063	−0.092		−0.097	−0.129
	(0.188)	(0.183)		(0.183)	(0.181)
Author		−0.527			−0.554
		(0.499)			(0.495)
Donation in last 3 years		0.528***			0.419**
		(0.197)			(0.198)
Above median donation			0.595***	0.582***	0.487***
			(0.184)	(0.184)	(0.183)
Constant	2.516***	2.296***	2.390***	2.315***	2.182***
	(0.168)	(0.196)	(0.133)	(0.180)	(0.199)
Pseudo-R^2	0.013	0.064	0.048	0.059	0.094
Obs	182	182	182	182	182

Notes. This table reports coefficients from a Poisson regression. The dependent variable is the number of days between the start of the experiment and the day of donation. Robust standard errors are reported in parentheses. Significance levels: $^{*}p<0.1$, $^{**}p<0.05$, $^{***}p<0.01$.

[33] This is unlikely to be due to people more generous towards Lavoce having longer delays in opening the email, as it seems reasonable to assume that people more interested in Lavoce are more likely to open the email earlier.

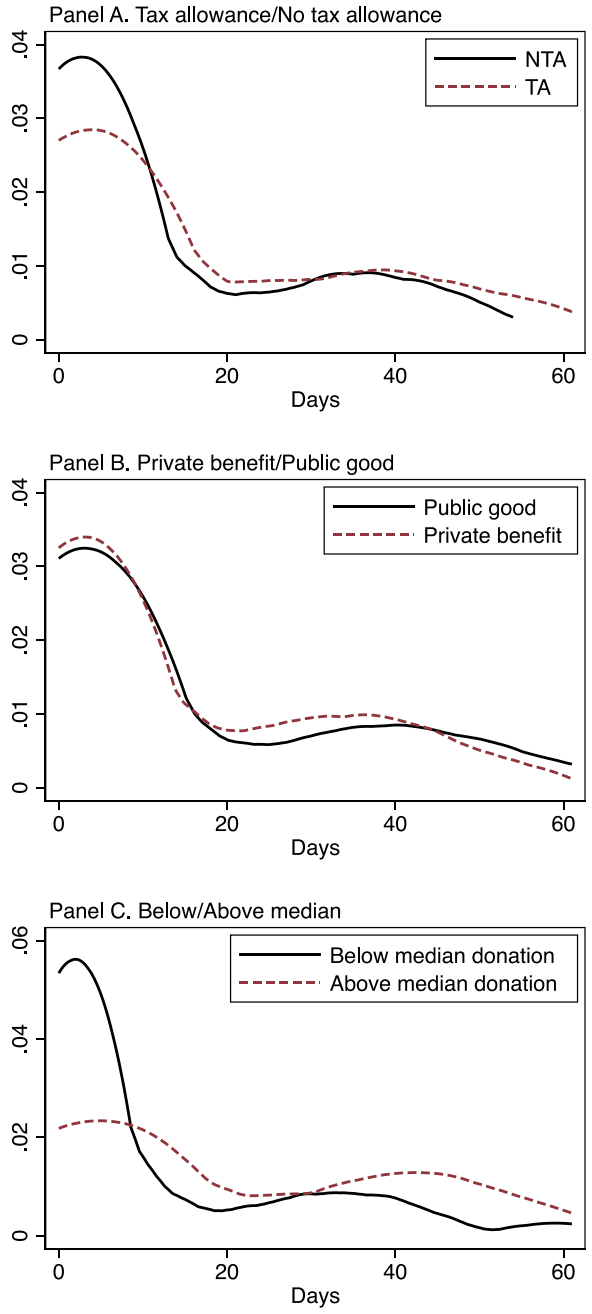
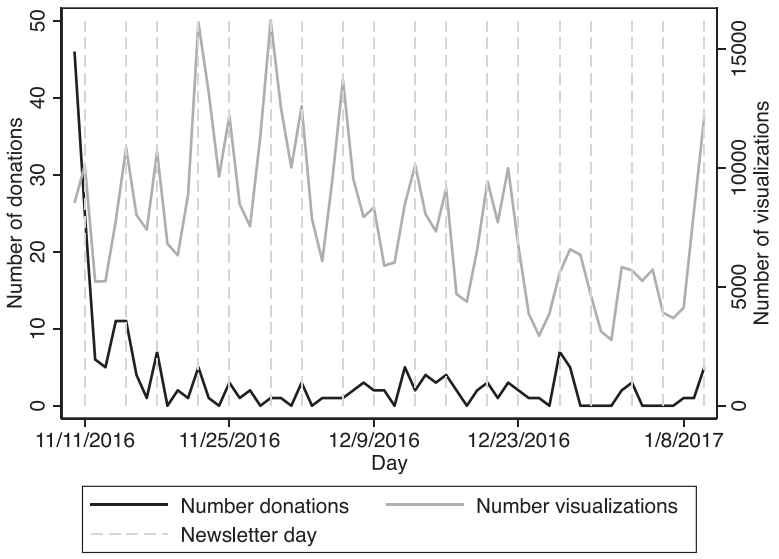


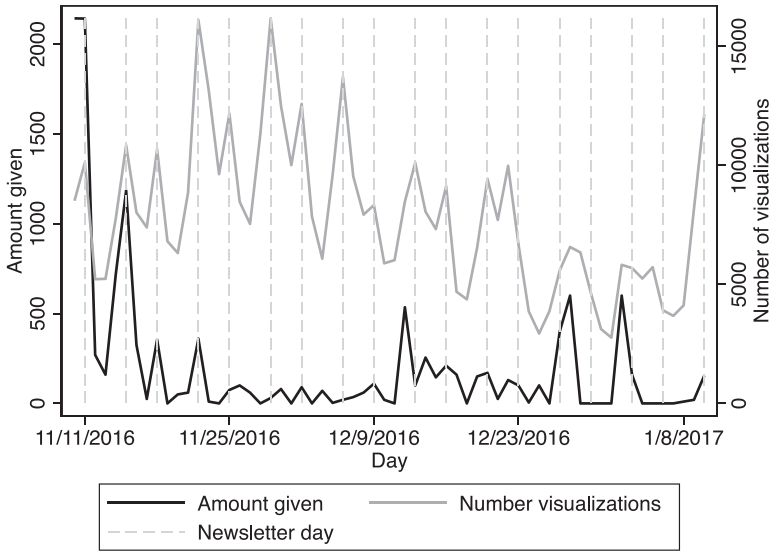
Fig. E.1. Smoothed density of donations over days from receipt of message.

E2. The campaign and interactions with the site

In this section we explore the link between the campaign and the extent of interaction with the site in terms of articles' visualizations and unsubscriptions from the newsletter. We do not exploit here the different treatments, but simply investigate whether the behavior of donations, and in particular their timing, relates to the site use. First, we look at the correlation between donations and the number of visualizations of the website. Given that the donation campaign concerns an online information outlet, it seems plausible to expect that visualizations may be positively correlated with donations.



(A) Visualizations vs Number of donations



(B) Visualizations vs Amount given

Fig. E.2. Number of visualizations of the site and number of donations (Panel A) or amount given during the experiment (Panel B).

For instance, more interesting/topical articles may generate more traffic on the website, as measured by visualizations, and this may in turn result in more donations, possibly because readers better appreciate the value of Lavoce or are reminded about its usefulness. Fig. E.2(a) and E.2(b) plot the number of visualizations and, respectively, the number of donations and the amount donated day by day over the campaign period. Visualizations peak on Tuesday and Friday, as indicated by the dashed vertical line, when the newsletter is sent out, and there is a lot of variation, with visualizations above 15,000 in some days and below 5000 in others. To assess this relationship, we regress the number of donations and the amount donated in each day on the number of visualizations in that day, controlling for day-of-the-week fixed effects and allowing for serial correlation in the error term using the Newey-West estimator. In a second specification, we also add week fixed effects. As Table E.3 shows, though the coefficients on the number of visualizations are positive, they are not significant in explaining the behavior of donors.

Finally, we study whether the donation campaign determined some unintended effects on readers' behavior. Given the evidence on 'avoiding the ask' (see, for instance, (Andreoni et al., 2017) and (DellaVigna et al., 2012)), we could expect the

Table E.3
Relationship between visualizations and number/amount of donations.

	Number donations		Amount donated	
	(1)	(2)	(3)	(4)
Visualizations	0.0163	0.0340	0.3667	4.4067
	(0.0228)	(0.0371)	(1.6238)	(3.2334)
Day fixed effects	Yes	Yes	Yes	Yes
Week fixed effects	No	Yes	No	Yes
R^2	0.08	0.85	0.06	0.78
Obs	62	62	62	62

Notes. This table reports OLS estimates from a regression of the number (columns 1–2) and the amount (columns 3–4) of daily donations on the number of daily visualizations divided by 100 (so the coefficient estimates the impact of an increase of 100 visualizations on the outcome). Newey-West standard errors in parentheses. Significance levels: *p<0.1, **p<0.05, ***p<0.01.

Table E.4
Discontinuity in unsubscriptions: RDD approach.

	(1)	(2)	(3)	(4)
Panel A: Global polynomial smoothing				
Treatment	−1.197	0.869	2.840	2.007
	(2.013)	(3.066)	(3.930)	(4.133)
R^2	0.0582	0.0926	0.102	0.105
Obs	111	111	111	111
Polynomial order	1	2	3	4
Panel B: Local linear regression				
	(1)	(2)	(3)	(4)
Treatment	−0.185	0.822	−1.097	0.807
	(3.110)	(2.403)	(3.515)	(2.754)
R^2	0.00502	0.0306	0.0481	0.0222
Obs	27	43	21	37
Bandwidth	MSE	2×MSE	CER	2×CER

Notes. This table reports the treatment effect from a regression discontinuity design. *Treatment* is a dummy equal to 1 if the unsubscription happened after the start of the experiment. The time span considered ranges from six weeks before the start of the experiment to two weeks after. The period after the treatment stops after 2 weeks because unsubscriptions were then unavailable for a short period of time due to an IT-system failure. Panel A shows coefficients estimated by fitting to both sides of the threshold a polynomial of order 1, 2, 3 or 4. Panel B performs a local linear regression at different bandwidths, defined according to the MSE (mean squared error) and CER (coverage error rate) optimal bandwidth selectors by Calonico et al. (2017). Robust standard errors are reported in parentheses. Significance levels: $^{*}p<0.1$, $^{**}p<0.05$, $^{***}p<0.01$.

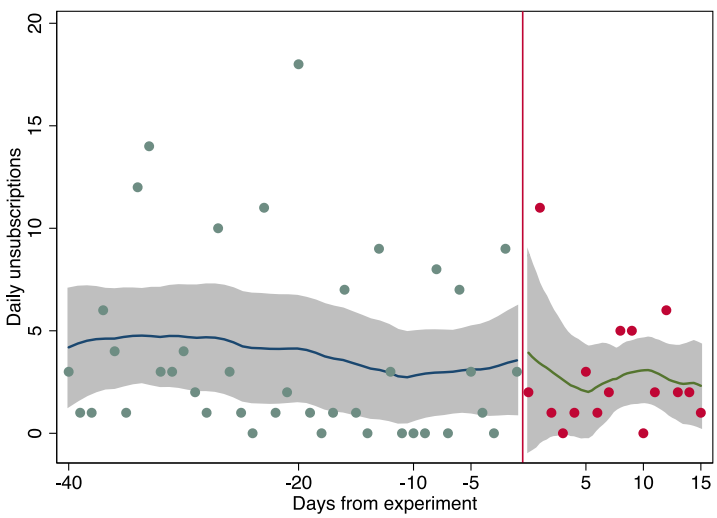


Fig. E.3. Daily unsubscriptions from newsletter. *Notes.* Each bin represents the number of daily unsubscriptions. Solid lines are local polynomial smooth at each side of the threshold, i.e. the day of the experiment. The grey areas are 95% confidence intervals. The period after the treatment stops after 2 weeks because unsubscriptions were then unavailable for a short period of time due to an IT-system failure.

launch of the campaign, the very first in which the website solicited contributions from all its subscribers by email, to lead some to unsubscribe, as in Damgaard and Gravert (2018). Differently from many charities, the main business of a newspaper is producing news and not collecting donations, so the potential 'ask avoidance' is much more relevant in this context. The evidence provided by Adena and Huck (2019), where opera customers who faced more insistent online fundraising bought fewer tickets in the following season, indicates that this may indeed be a serious issue. To test this, we use a regression discontinuity in time approach. In particular, we analyze the rate at which readers of the newsletter decided to unsubscribe. If there is a significant discontinuity at the start of the donation campaign, it would mean that the nudging of the campaign had a negative impact on readers' interest in the site, or at least in receiving the newsletter. As Figs. E.3 shows, this does not appear to be the case. This is confirmed by the regression analysis in Table E.4, where the treatment effect from a regression discontinuity design is never significant.

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