I Z A Institute
of Labor Economics
Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 11366

Pay-What-You-Want to Support Independent Information: A Field Experiment on Motivation

Alessandra Casarico
Mirco Tonin

FEBRUARY 2018

I Z A Institute
of Labor Economics

Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 11366

Pay-What-You-Want to Support Independent Information: A Field Experiment on Motivation

Alessandra Casarico
Bocconi University, CESifo and Dondena Centre

Mirco Tonin
Free University of Bozen-Bolzano, IZA, CESifo and Dondena Centre

FEBRUARY 2018

IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

Pay-What-You-Want to Support Independent Information: A Field Experiment on Motivation*

Pay-what-you-want schemes can be a useful tool to finance high quality and independent news media without restricting readership, therefore guaranteeing maximum diffusion. We conduct a field experiment with the Italian information site lavoce.info to explore how to structure a campaign in a way that maximises readers' willingness to contribute. We compare messages stressing two possible motivations to contribute, namely the public good component of the news or the importance of the individual contributions. We also test the effect of including information about the tax allowance associated with donations. While the particular motivation stressed does not have a significant impact, information about tax allowances surprisingly reduces overall donations, due to a reduction in the number of (small) donors. Stable unsubscriptions from the newsletter suggest that the campaign does not have an adverse effect on readers.

JEL Classification: C93, D64, H41

Keywords: field experiment, pay-what-you-want, tax allowances, media

Corresponding author:
Mirco Tonin
Faculty of Economics and Management
University of Bozen-Bolzano
Piazza Università 1
I-39100 Bozen-Bolzano
Italy

E-mail: mirco.tonin@unibz.it

* We thank Francesco Daveri for support; Mariasole Lisciandro and Matteo Laffi at the site desk of lavoce.info for helping us running the experiment and for providing, with Leonardo D'Amico, the data in anonymised form. Salvatore Lattanzio provided excellent research assistance. We thank Eliana La Ferrara, Dina Pomeranz, Tommaso Reggiani, Gerhard Riener, Christian Traxler, Michael Vlassopoulos and seminar participants at Bocconi University, Free University of Bozen-Bolzano and SIEP in Catania for comments and suggestions.

1 Introduction

News media play a central role in modern societies. There is a growing literature, recently surveyed in the Handbook of Media Economics, showing, among other things, the effect on voters' and politicians' behaviour of media coverage (Strömberg, 2016) 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 recent concern over so-called "fake news" (Allcott and Gentzkow, 2017) highlights the importance of the availability of high quality and independent information.

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 the so-called "pay-what-you-want" (PWYW) model, where users are invited to pay what they want, usually including not paying at all. This is a particularly appealing pricing model in an environment, like online news, where the marginal cost of reaching an additional reader is zero. The Guardian online edition, for instance, uses such a model, offering free access to articles, but asking readers to "Become a Guardian Supporter".[3] This model 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 the PWYW model, it is thus important to understand what drives customers' willingness to pay.

To this end, in this paper we conduct a field experiment with lavoce.info (from now on lavoce), an Italian online only information outlet providing commentaries on economic news that is freely accessible, but asks its readers to contribute. In particular, we explore which message is most effective in raising contributions. In designing the messages, we take into consideration what the literature suggests motivates people's payments in PWYW schemes. Both self-image concerns, as well as concerns for the provision of public goods, be it due to

[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 13 March 2017, the Guardian has received more than 160,000 one-off contributions (see: www.theguardian.com/membership/2017/mar/13/thank-you-for-your-support-which-is-more-important-now-than-ever), growing to over 190,000 as of 12 July 2017 (personal communication).

[4] Information outlets can also run an operating loss on a permanent basis, for instance when they are cross-subsidised through other commercial activities or they are financed by political parties or other organisations. These cases are even more problematic than advertising with regard to independence. Anderson and McLaren (2012) build a model in which media owners have not only profit but also political motives, and derive implications for competition policy. See, however, Della Vigna and Hermle (2017), who find no evidence of bias due to conflict of interest in movie reviews.

self interest or to pure altruism, have been identified as important drivers.

In this paper we study whether stressing the public good element or the importance of the own contribution is more effective in raising revenues, while also investigating whether highlighting the availability of tax allowances matters. The latter could indeed represent an important policy tool to support the PWYW model for media outlets.[5] In addition, we investigate whether sending messages to solicit donations generates adverse reactions by readers, in line with the literature on 'avoiding the ask' (see, for instance, Andreoni et al., 2017 and Della Vigna et al., 2012).

We find that there is no difference in terms of contributions raised between the message that stresses the public good component of the contribution and the alternative message stressing the importance of own contribution. Including information about the availability of a tax allowance actually 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. We then document that large donations are characterised by longer time spells between the sending of the message and the giving, suggesting that they require more deliberation. Finally, we find no evidence of a relationship between overall visualisations of the website and contributions, nor of an adverse effect of the campaign, as measured by unsubscriptions from the newsletter.

This study contributes to a small but growing literature on PWYW pricing schemes. Gneezy et al. (2010), for instance, in a field experiment involving photo sales at an amusement park, show how combining a PWYW scheme with a public good contribution, in the form of a donation to a charity of half of revenues, generates the highest profits, when compared to PWYW only, to a fixed price or to a fixed price including a donation. In a subsequent study, also involving field experiments regarding PWYW schemes, in this case for photos on sightseeing tour boats and for a buffet-style restaurant, Gneezy et al. (2012) show the importance of self-image concerns in explaining individuals' behaviour. For instance, the restaurant customers paid more when they were anonymous than when observed. Mak et al. (2015) argue that PWYW is like a threshold public good, for which, with infinitely repeated provision, there are equilibria with purely self-interested consumers contributing and show experimentally the importance of communication in facilitating coordination. In a series of lab experiments Schmidt et al. (2014) find evidence that positive payments are related to the "strategic motive to keep the seller in business", but also to outcome-based social preferences like altruism or inequity aversion, while intention-based reciprocity does not play a role. Jung et al. (2014) compare PWYW with the financially identical pay-it-forward, in which people are ostensibly paying on behalf of someone else, and find that people pay more with the

[5] In the context of charitable donations in the UK, Almunia et al. (2017) look at the elasticity along both the intensive and extensive margins with respect to fiscal incentives.

latter. In a recent study, Jung et al. (2017) conduct two field experiments involving the sale of reusable grocery bags or doughnuts and combine PWYW with charitable donations, showing how customers' behaviour is consistent with impure altruism.[6]

The literature on PWYW is related to that on charitable donations, with the important distinction that contributors to PWYW, unlike donors to charities, are direct consumers of the good or service provided and their contribution could be seen as a (voluntary) payment for it. We indeed mutuate the language developed in this literature, like the distinction in terms of motives for giving between warm glow and pure altruism developed by Andreoni (1990).

To the best of our knowledge, this is the first 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 honour system. This, however, is not PWYW as there is a posted price and paying or not is thus an issue of honesty. Information provided online is a non rival good and the publisher may have an interest in reaching the largest possible audience, for instance to maximise its impact on public opinion.[7]As such, PWYW is potentially of great relevance and, as highlighted above, is indeed used by some major media outlets. There is also a specialised service facilitating this kind of financing for content on the web, flattr.com, that recently entered into a partnership with AdBlock Plus, the ad blocking software,[8] thus highlighting the competition between advertisement and PWYW as ways of generating revenues. Another example is Wikitribune,[9] aimed at "producing high quality neutral and evidence-based journalism [...] with no ads and no paywall". Ko-fi.com is also a way for users to reward online content.[10] It is not possible to say at this stage whether or not such initiatives will succeed in introducing a sustainable alternative mode of financing for such a relevant sector as news media. It is, however, important to study what factors may contribute to this, which is the aim of this paper. There is also a social welfare element, given that, as argued in Hamilton (2016), journalism can generate considerable social benefits that do not translate into equivalent subscription or ad-

[6]Other papers looking at PWYW include Regner and Barria (2009), who show how, in an online music store providing a price range and a suggested price, consumers pay more than the minimum and slightly more than the suggested price. Kim et al. (2009) conduct three field experiments in a restaurant, a movie theatre and a delicatessen shop and find that fairness considerations, satisfaction, net income and the memorised price of past purchases of the same product, as well as an external reference price provided by the seller, are the main drivers of the price paid in presence of a PWYW pricing scheme. Riener and Traxler (2012) show the sustainability over a two–year period of PWYW for a restaurant in Vienna. León et al. (2012) show instead the low performance of PWYW for a holiday package in Spain. Jung et al. (2016) study the importance of anchoring in PWYW schemes. Regner and Riener (2017) investigate the effect of a reduction of privacy at an online music store with PWYW-like pricing, showing how it creates slightly larger payments, but drastically reduces number of purchases.

[7]From this point of view, this study is related to the literature on the private provision of public goods (Bergstrom et al., 1986), even if we do not have a pure public good due to excludability, e.g. through a paywall.

[8]https://techcrunch.com/2016/05/03/adblock-plus-teams-up-with-flattr-to-help-readers-pay-publishers/

[9]https://www.wikitribune.com

[10]https://ko-fi.com/

vertising revenues. For instance, Reinikka and Svensson (2005) show the role of newspapers in combating corruption in Uganda, while La Ferrara (2016) discusses the use of TV programs for achieving development goals. It is therefore also important to explore the effectiveness of public policies like tax allowances in promoting PWYW schemes.

The relevance of assessing the factors that can contribute to the sustainability of PWYW is, of course, not limited to the media industry, but extends to other sectors, in particular those characterized by some fixed costs of providing the good or service, but zero marginal costs in giving access to one further consumer. This is often true for online content or services. In a lot of instances, there are also clear benefits in increasing the number of users, in particular at the initial stages, due to network effects. This is the case, for example, for social networks, but also for platforms like Airbnb or Uber, or sharing services like Dropbox. PWYW is a pricing strategy that represents a minimal impediment to users' growth, at the same time providing a stream of revenues to finance operations. In other instances, positive externalities makes it desirable to have a number of users as large as possible, and this may be reflected in the mission of the provider, who can then use PWYW to collect revenues without limiting access. Wikipedia is an online example, but this is also common, for instance, in the art and culture sector: there are several examples of museums, monuments or churches, which do not ask for the payment of a price for access, but invite visitors to contribute. Given the positive externalities generated by being exposed to cultural heritage, the evaluation of the impact of tax allowances seems also in this context particularly important.

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 by summarising what we learn in terms of media financing.

2 The field experiment

2.1 The setting

Lavoce (Italian for thevoice) is a not-for-profit organisation, 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.

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 specialisation 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 readers 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 5,000 visitors per day.

In terms of financial resources, lavoce is independent: the website is financed by private donations (which cannot be above €5,000 per donor), from transfers from the government budget targeted to not-for-profit organisations (the so-called '5 per mille': taxpayers can choose to which not-for-profit organisation 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 participations to news programs by members of the editorial board). In the 2015 budget, donations 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 or individuals valuing the site covered 56% of the overall budget.

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 all its readers via email. In previous years, donations were solicited directly from the website or by sending individual emails to past donors.

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 1,090 donors in the subscribers' group and 56 donors in the authors' group. The donors which are not among the subscribers, nor among the authors are managed in a third mailing list, the donors' mailing list, which contains 1,814 addresses of people who since 2007 made at least one donation 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.[11] Altogether, we have a total of 38,293 unique recipients.[12] For each dataset – subscribers, authors and donors who are neither subscribers nor authors –, recipients of the email were randomised 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.

The first message (T1 henceforth) stressed the public good nature of the activities performed by the site and appealed to pure altruism as a motivation prompting recipients to donate. The object 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 exortation to give to allow lavoce to be present in the Italian media arena (see Appendix for the full text). The second message (T2 henceforth) centered on the role that each donor plays in the working and success of the site and stressed that the site can be a tool through which the donor can make his or her voice heard, prompting warm glow feelings. The object of this second mail was "Make your voice heard: support us". In this case the message stressed the importance of each single contribution for lavoce, not only financially, but also for the support and interest it shows. It then underlined how the name of supporters is published online (if the contributor does not oppose).[13] In this case, it concluded with an exortation to "keep expressing your support ".

Each of these two messages had a variant, which recalled that donations give rise to tax allowances, thus reducing the price of the donation itself.[14] We will label the treatments in which the reminder about tax allowances was added to T1 or T2, as T1bis and T2bis, respectively. As both T1 and T1bis stress the importance of purely altruistic motivation, we will sometimes bundle them together, labelling them as PA. T2 and T2bis both stress warm glow motivation and will instead be labelled as WG. In each case, the email object 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 labelled therefore as TA, and compare them to T1 and T2 bundled together as No TA.

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

[11] In particular, we check that each e-mail address appears only once in either of the three mailing lists.

[12] In case of individuals belonging to multiple categories, we gave priority to the authors 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 most of the analyses we include a dummy for being an author.

[13] see http://www.lavoce.info/chi-ci-finanzia/

[14] 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. To this end, taxpayers require a receipt of the donation from the recipient.

they wished to give. Approximately two weeks after sending the first mail (more precisely, on 25 November 2016), the two different messages (i.e. T1: "lavoce belongs to all: support it" or, alternatively, T2: "Make your voice heard: support us") were added at the bottom of the bi-weekly newsletter, inviting the recipients to donate and providing the link to a google form to donate. 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 the behaviour of 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 includes 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 donated in the past, as well as whether they have contributed an article to the site. For most of them we also know the gender.[15] Each of these three characteristics is balanced across treatments, as Table 1 shows. Panel A controls the balancing of the covariates across the four treatments. The other two panels group the treatments two by two, to show the balancing across the motivation treatments (PA vs WG, Panel B), and the tax allowance treatment (TA vs No TA, Panel C). Throughout the two-months campaign, 182 donors donated to lavoce,[16] with donations ranging from €2 to €1000, with an average donation of €67 and a median of €50, as summarised in Table 2. The total amount raised during the campaign is €12,180, which is around 60% of the total amount of donations raised in 2016. Notice that only 9 donors asked to remain anonymous, that is, not to be listed online.[17] Also, only 7 donors asked for the documentation required to benefit from the donation. All of them in the tax allowance treatment (3 in T1bis and 4 in T2bis).

Figure 1 shows the monthly donations to lavoce over the previous four years. Donations display a strong seasonality, peaking in December in the years before the intervention, as well as a declining trend. It is evident how our intervention succeeded in generating a lot of donations in November, even if the absence of a peak in December 2016 suggests that the

[15] Gender is known for authors. For donors, it can be inferred thanks to the name they provided in the donation 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.

[16] 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.

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

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 (Figure D.1 in the Appendix).

Focusing on the different treatments in Table 2, the rate at which the email which launched the campaign was opened[18] ranges from 21% when the message appealed to what we label as warm glow motivations to donate (T2 and T2bis considered together, as they are undistinguishable before the mail is opened), to 26% when the object of the mail appealed to purely altruistic motivations (T1 and T1bis together). Looking at the number of donors, this is higher in T1 than in T1bis and it is 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, despite the difference in the number of emails opened. When we look at the intensive margin, 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 donated €1,000 (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 allowances are 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 €1,000 donation.

In Table 3 we report the same summary statistics, pooling treatments according to the appeal to pure altruism or warm glow motivation (PA vs WG, upper panel) or to the presence or not of the tax allowance reminder (No TA vs TA, lower panel). While PA and WG give a similar number of donors and an identical median donation, No TA has a larger number of donors, but a lower median donation compared to TA. The role of tax allowances in influencing the amount donors decide to give is also illustrated in Figure 2, where we can see that the distribution of donations shifts to the right in the presence of the mention of tax allowances. Testing for equality of the distribution of donations 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 the importance of the individual contribution does not make much of a difference in terms of amounts collected, whereas mentioning the availability of tax allowances reduces overall donations. We now turn to the empirical analysis.

[18] Whether an email has been opened is measured by the IT service provider through the download from their server of a 1x1 pixel image. Some email clients (e.g. gmail) do not have automatic downloading of images. In this case, opening is inferred from the clicking on links in the email. According to the provider, the percentage of inferred openings is very small (2.5% in T1, 3.4% in T1bis, 1.3% in T2, and 1.1% in T2bis). The procedure to check that an email has been opened is imperfect and, in particular, may miss in some cases the actual openings. This should not, however, be correlated with the treatments.

3 Empirical Analysis

We investigate empirically the question of whether addressing recipients with different messages causes different reactions in terms of the extensive and intensive margin of donations and what type of message brings about a stronger resource mobilisation, thus making more likely the survival of the site under a PWYW scheme. We are interested both in the motivation behind giving and in the role of tax allowances in affecting potential donors' behaviour. Tax allowances reduce the price of donations and may affect donors' decisions. We also analyse whether the different treatments prompt different times of reaction from donors, that is, whether any of them mobilises donors faster than the other. 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. To perform the analysis, we pool the four treatments 2 by 2. We consider the altruism treatment, i.e. we measure the effects of receiving message T1 and T1bis (pure altruism) versus receiving message T2 and T2bis (warm glow), 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). Besides focusing on the effects of the campaign on the number and amount of donations, we also look at how the campaign affected the extent of interaction with the site. We first consider the relationship between donations, both in number and amount, and visualisation of the site. We then study whether the donation campaign impacts on the number of people who unsubscribe from the site's newsletter. This is a way of evaluating, in line with the literature on 'ask avoidance', whether the campaign negatively affects readers, causing disaffection with the site.

3.1 The impact of the campaign on donations

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

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

where WG_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 the message T1bis or T2bis. X_i is a vector of individual characteristics, namely, whether a recipient i donated in the past, whether he/she contributed as an author to the site. In some regressions we also control for the gender of the recipient and consider interactions between the treatments and the controls.

Table 4, columns 1-3, reports the results. In line with the descriptive evidence, there is no different response to the message eliciting pure altruism and to the one leveraging warm

glow, while mentioning the tax allowance decreases the probability to donate by 0.1 percentage points, an economically significant drop given that the baseline probability of donating is 0.5%. The drop is statistically significant only when we include controls for having contributed as an author or donated to the site in the past, both variables having a strong positive effect on the likelihood of donating (column 2) and explaining a lot of variation in giving behaviour, as shown by the large change in the pseudo-R^2. The coefficients of the interaction terms show that authors and past donors do not seem to respond to the treatments in a statistically significant different way from readers (column 3). To look at the amount donated overall, we use a Tobit regression framework in columns 4-6: we find that the mention of the tax allowance not only reduces the probability of donating, but also the amount donated, with the controls for author and having donated in the past being significant and positive on the amount donated. The reduction in donation due to the presence of the tax allowance message ranges between €17 and €27.[19] To further explore the intensive margin of donations, in columns 7-9 we run an OLS regression on the (log)amount donated, including only those who donated a positive amount.[20] When looking at the amount donated by the donors, we can see how the coefficient on warm glow is insignificant; the coefficient on the tax allowance is larger, but not significant in any of the specifications.

Summarising, we find evidence that the tax allowance treatment reduced both the probability of donating and the amount donated, whereas we detect no differential response to the motivation treatments. Figure 3, Panel A, reports the marginal effects from probit regressions at different donations' thresholds, in which we look, for instance, at the likelihood of donating at least €5 or €50. The left hand panel uses the same specification as in Table 4, column 1, and the right hand panel the specification as in column 2. The figure provides evidence that the decline in the probability of donation 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 warm glow vis-a-vis pure altruism is instead unaffected by looking at different thresholds.

We further explore the impact of the donation campaign by focusing on the probability that the recipients opened the mail sent on 10 November when the campaign was launched and by running the regression analysis described above only on those readers who opened the mail.

Table 5 presents the results of the probit estimation on the probability of opening the mail which launched the campaign, with the caveat that our measure of whether or not an email

[19] In Table D.1 in the Appendix we replicate the analysis 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 in the Tobit specification, when interaction terms are not included.

[20] 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.

has been opened is imperfect, as explained in section 2.3. We first run the regression without controls, then adding a control for the "author" and "donor" status, and finally for gender. We do not include the control for tax allowance as emails with or without the mention of tax allowance are identical before opening. In line with the descriptive evidence, we see that recipients of the warm glow treatment are 4.3 to 4.5 percentage points less likely to open and read the mail, out of a baseline probability of around 26%. This indicates that already the object of a mail generates different responses and the title appealing to pure altruism motivations ('lavoce belongs to all: support it!') is more effective than the alternative ('Make your voice heard') in drawing attention to the campaign. Having contributed to the site either as an author or as a donor in the past increases the probability of opening the mail, whereas women are less likely to open it. In Table 6 we perform the same analysis as in Table 4 on the sample of recipients who opened the mail which launched the campaign. We see that the results are the same and that the coefficients are bigger in size and more significant. In particular, the negative impact of the tax allowance treatment is stronger. Notice that this smaller sample is not selected with respect to the tax treatment, given that tax allowances were not mentioned in the mail object and therefore could not affect the probability of opening the mail. Figure 3, Panel B, reports the marginal effects from probit regressions at different donations' thresholds for the sample of the recipients who opened the mail launching the campaign. The left hand panel uses the same specification as in Table 6, column 1, and the right hand panel the specification as in column 2. In line with what we found for the whole sample, there is evidence that small donors refrain from donating when the availability of tax allowances is mentioned, while the null effect of stressing warm glow vis-a-vis pure altruism is homogeneous across donors giving different amounts. We return to this point in the conclusions.

We now turn to study the time interval between the sending of the first email launching the campaign and the donation, to investigate whether any of the treatment generates a faster response. This is done in Table 7 where, however, we do not find evidence of differential speed of response due to the treatments, even if the coefficient for tax allowance is larger in magnitude, albeit insignificant. This is confirmed also graphically, in Figure 4, where we plot the distribution of donations over the two months of the experiment. While the density of donations under the pure altruism and warm glow 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).[21] 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

[21] In Table D.2 we report mean, median and standard deviation of the number of days to donations by treatment, and by level of donation (above/below median).

Cappelen et al. (2016) find a negative association between response time and fair behaviour in a dictator game, while Piovesan and Wengström (2009) find the opposite (see Recalde et al. (2017) for a review of the literature). 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 7, 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.[22]

3.2 The campaign and interactions with the site

In this section we explore the link between the donation campaign and the extent of interaction with the site in terms of articles' visualisations and unsubscriptions from the newsletter. We do not exploit here the different treatments, but simply investigate whether the call for action and the donation behaviour relate to the site use. First, we look at the correlation between donations and the number of visualisations of the website. Given that the donation campaign concerns an online information outlet, it seems plausible to expect that visualisations may be positively correlated with donations. For instance, more interesting/topical articles may generate more traffic on the website, as measured by visualisations, and this may in turn result in more donations, possibly because readers better appreciate the value of lavoce.info or are reminded about its usefulness. Figures 5a and 5b plot the number of visualisations and, respectively, the number of donations and the amount donated day by day over the campaign period. Visualisations 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 visualisations above 15,000 in some days and below 5,000 in others. To assess this relationship, we regress the number of donations and the amount donated in each day on the number of visualisations 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 8 shows, though the coefficients on the number of visualisations are positive, they are not significant in explaining the behaviour of donors.

Finally, we study whether the donation campaign determined some unintended effects on readers' behaviour. Given the evidence on 'avoiding the ask' (see, for instance, Andreoni et al. (2017) and Della Vigna et al. (2012)), we could expect the launch of the campaign, the very first in which the website solicited donations from all its subscribers by email, to lead some to unsubscribe, as in Damgaard and Gravert (2018). To do this, we use a regression

[22] 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.

discontinuity in time approach. In particular, we analyse 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 Figures 6 shows, this does not appear to be the case. This is confirmed by the regression analysis in Table 9, where the treatment effect from a regression discontinuity design is never significant.

4 Conclusion

In this paper we study what motivates readers to contribute to a news outlet which adopts a pay-what-you-want pricing scheme. We find that stressing in the solicitation campaign the public good nature of news or the importance of individual donations makes no difference. Including a reference to tax allowances, instead, reduces overall donations. This is due to a lower propensity to donate, with some suggestive evidence of smaller donations being particularly affected. This is surprising as tax allowances can potentially reduce the cost of donating, thus reminding donors about it should enhance giving. Actually, benefitting from tax allowances 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 donating. Indeed, those unwilling/unable to deduct the donation from their tax returns should simply not take advantage of the allowance. This is indeed what happens, given that, as reported in section 2.3, only 7 contributors asked for the documentation required to benefit from the donation. Why is it then the case that mentioning tax allowances reduces the likelihood of giving?

A possible explanation for our finding is that the tax allowance message suggests that the site is targeting large donations for which the reduction in the tax burden associated with the allowance is not negligible. In other words, given that it makes little sense to deduct a donation of €5, potential donors may interpret the reminder as an indication that the expected donation is larger, despite the fact that the e-mail 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, there may be a motivational crowding out, where intrinsic motivation declines once extrinsic incentives are introduced, as documented in many instances, reviewed in Kamenica (2012) and Gneezy et al. (2011). In our case, we do not introduce additional incentives, but simply remind readers about their existence. This, however, may be enough to induce crowding out.[23]

As mentioned in the introduction, tax allowances could represent an important policy tool to support the PWYW model for media outlets since news have an important public good component. Our finding does not imply that it should be forfeited, but rather that it

[23] Hossain and Li (2013), for instance, contrast a work and a social frame for a data entry job and find that crowding out of labor participation depends on framing.

should be communicated carefully, to avoid the type of effect that we document. To this end, messages about deductibility could be paired 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.

References

Allcott, H. and M. Gentzkow (2017). Social media and fake news in the 2016 election. *Journal of Economic Perspectives 31*(2), 211–236.

Almunia, M., B. Lockwood, and K. Scharf (2017). More Giving or More Givers? The Effects of Tax Incentives on Charitable Donations in the UK. *CESIfo Working paper 6591*.

Anderson, S. P. and J. McLaren (2012). Media mergers and media bias with rational consumers. *Journal of the European Economic Association 10*(4), 831–859.

Anderson, S. P., J. Waldfogel, and D. Stromberg (2016). *Handbook of Media Economics, vol 1B*. Elsevier.

Andreoni, J. (1990). Impure altruism and donations to public goods: A theory of warm-glow giving. *The economic journal 100*(401), 464–477.

Andreoni, J., J. M. Rao, and H. Trachtman (2017). Avoiding the ask: A field experiment on altruism, empathy, and charitable giving. *Journal of Political Economy 125*(3), 625–653.

Bergstrom, T., L. Blume, and H. Varian (1986). On the private provision of public goods. *Journal of public economics 29*(1), 25–49.

Calonico, S., M. D. Cattaneo, M. H. Farrell, and R. Titiunik (2017). rdrobust: Software for regression-discontinuity designs. *Stata Journal 17*(2), 372–404.

Cappelen, A. W., U. H. Nielsen, B. Tungodden, J.-R. Tyran, and E. Wengström (2016). Fairness is intuitive. *Experimental Economics 19*(4), 727–740.

Chiou, L. and C. Tucker (2013). Paywalls and the demand for news. *Information Economics and Policy 25*(2), 61–69.

Damgaard, M. T. and C. Gravert (2018). The hidden costs of nudging: Experimental evidence from reminders in fundraising. *Journal of Public Economics 157*, 15–26.

Della Vigna, S., R. Durante, B. Knight, and E. La Ferrara (2016). Market-based lobbying: Evidence from advertising spending in italy. *American Economic Journal: Applied Economics 8*(1), 224–256.

Della Vigna, S. and J. Hermle (2017). Does conflict of interest lead to biased coverage? evidence from movie reviews. *Review of Economic Studies 84*(4), 1510–1550.

Della Vigna, S., J. A. List, and U. Malmendier (2012). Testing for altruism and social pressure in charitable giving. *The Quarterly Journal of Economics 127*(1), 1–56.

Gambaro, M. and R. Puglisi (2015). What do ads buy? daily coverage of listed companies on the italian press. *European Journal of Political Economy 39*, 41–57.

Gneezy, A., U. Gneezy, L. D. Nelson, and A. Brown (2010). Shared social responsibility: A field experiment in pay-what-you-want pricing and charitable giving. *Science 329*(5989), 325–327.

Gneezy, A., U. Gneezy, G. Riener, and L. D. Nelson (2012). Pay-what-you-want, identity, and self-signaling in markets. *Proceedings of the National Academy of Sciences 109*(19), 7236–7240.

Gneezy, U., S. Meier, and P. Rey-Biel (2011). When and why incentives (don't) work to modify behavior. *Journal of Economic Perspectives 25*(4), 191–210.

Godes, D., E. Ofek, and M. Sarvary (2009). Content vs. advertising: The impact of competition on media firm strategy. *Marketing Science 28*(1), 20–35.

Hamilton, J. T. (2016). *Democracy's Detectives*. Harvard University Press.

Hossain, T. and K. K. Li (2013). Crowding out in the labor market: A prosocial setting is necessary. *Management Science 60*(5), 1148–1160.

Imbens, G. and K. Kalyanaraman (2012). Optimal Bandwidth Choice for the Regression Discontinuity Estimator. *Review of Economic Studies 79*(3), 933–959.

Jung, M. H., L. D. Nelson, A. Gneezy, and U. Gneezy (2014). Paying more when paying for others. *Journal of personality and social psychology 107*(3), 414.

Jung, M. H., L. D. Nelson, A. Gneezy, and U. Gneezy (2017). Signaling virtue: Charitable behavior under consumer elective pricing. *Marketing Science 36*(2), 187–194.

Jung, M. H., H. Perfecto, and L. D.Nelson (2016). Anchoring in payment: Evaluating a judgmental heuristic in field experimental settings. *Journal of Marketing Research 53*(3), 354–368.

Kamenica, E. (2012). Behavioral economics and psychology of incentives. *Annual Review of Economics 4*(1), 427–452.

Kim, J., M. Natter, and M. Spann (2009). Pay what you want: A new participative pricing mechanism. *Journal of Marketing 73*(1), 44–58.

Kind, H., T. Nilssen, and L. Sørgard (2009). Business models for media firms: Does competition matter for how they raise revenue? *Marketing Science 28*(6), 1112–1128.

La Ferrara, E. (2016). Mass media and social change: Can we use television to fight poverty? *Journal of the European Economic Association 14*(4), 791–827.

León, F. J., J. Noguera, and J. Tena-Sánchez (2012). How much would you like to pay? Trust, reciprocity and prosocial motivations in El trato. *Social Science Information 51*(3), 389–417.

Mak, V., R. Zwick, A. R. Rao, and J. A. Pattaratanakun (2015). "Pay what you want" as threshold public good provision. *Organizational Behavior and Human Decision Processes 127*, 30–43.

Piovesan, M. and E. Wengström (2009). Fast or fair? a study of response times. *Economics Letters 105*(2), 193–196.

Pruckner, G. J. and R. Sausgruber (2013). Honesty on the streets: A field study on newspaper purchasing. *Journal of the European Economic Association 11*(3), 661–679.

Recalde, M. P., A. Riedl, and L. Vesterlund (2017). Error prone inference from response time: The case of intuitive generosity.

Regner, T. and J. A. Barria (2009). Do consumers pay voluntarily? the case of online music. *Journal of Economic Behavior & Organization 71*(2), 395–406.

Regner, T. and G. Riener (2017). Privacy is precious: On the attempt to lift anonymity on the internet to increase revenue. *Journal of Economics & Management Strategy 26*(2), 318–336.

Reinikka, R. and J. Svensson (2005). Fighting corruption to improve schooling: Evidence from a newspaper campaign in uganda. *Journal of the European Economic Association 3*(2-3), 259–267.

Reuter, J. and E. Zitzewitz (2006). Do ads influence editors? advertising and bias in the financial media. *The Quarterly Journal of Economics 121*(1), 197–227.

Riener, G. and C. Traxler (2012). Norms, moods, and free lunch: Longitudinal evidence on payments from a pay-what-you-want restaurant. *The Journal of Socio-Economics 41*(4), 476–483.

Rinallo, D. and S. Basuroy (2009). Does advertising spending influence media coverage of the advertiser? *Journal of Marketing 73*(6), 33–46.

Schmidt, K. M., M. Spann, and R. Zeithammer (2014). Pay what you want as a marketing strategy in monopolistic and competitive markets. *Management Science 61*(6), 1217–1236.

Snyder, J. M. and R. Puglisi (2016). Empirical studies of media bias. In S. Anderson, J. Waldfogel, and D. Stromberg (Eds.), *Handbook of Media Economics*, Volume 1, pp. 648–667. Elsevier.

Strömberg, D. (2016). Media coverage and political accountability. In S. Anderson, J. Waldfogel, and D. Strömberg (Eds.), *Handbook of Media Economics*, Volume 1, pp. 595–622. Elsevier.

Tetlock, P. C. (2016). The role of media in finance. In S. Anderson, J. Waldfogel, and D. Stromberg (Eds.), *Handbook of Media Economics*, Volume 1, pp. 701–721. Elsevier.

TABLE 1: Balance test of covariates

Panel A: by each treatment (T1, T1bis, T2, T2bis)			
	Pearson Chi2	P-value	Obs.
Donation last 3 yrs	1.387	0.709	38293
Author	0.008	1.000	38293
Female	1.591	0.662	34113
Panel B: PA (T1 + T1bis) vs WG (T2 + T2bis)			
	Pearson Chi2	P-value	Obs.
Donation last 3 yrs	0.000	0.999	38293
Author	0.000	0.999	38293
Female	0.251	0.617	34113
Panel C: TA (T1bis + T2bis) vs. no TA (T1 + T2)			
	Pearson Chi2	P-value	Obs.
Donation last 3 yrs	0.692	0.405	38293
Author	0.004	0.949	38293
Female	0.661	0.416	34113

Notes. This table reports a balance test of covariates for the entire sample (38,293 observations) for variables *Donation last three years* and *Author*. For *Female*, the table shows the balance test of the 34,113 observations for which we are able to identify gender.

TABLE 2: Descriptive statistics

Treat.	Number emails sent	Number emails opened	Number of donors	Total amount raised	Average donation (all)	Average donation (donors)	Median donation (donors)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
T1	9572	2444	52	3018	0.315	58.03	40
					(7.196)	(79.38)	
T1bis	9574	2447	41	2682	0.280	65.41	50
					(6.161)	(68.68)	
T2	9573	1996	49	3830	0.400	78.16	30
					(12.279)	(154.47)	
T2bis	9574	2063	40	2650	0.277	66.25	50
					(5.637)	(57.60)	
Total	38293	8950	182	12180	0.318	66.92	50

Notes. Standard deviations for each group are reported in round brackets. All monetary amounts are expressed in Euros.

TABLE 3: Descriptive statistics, pooling treatments

Treat.	Number emails sent	Number emails opened	Number of donors	Total amount raised	Average donation (all)	Average donation (donors)	Median donation (donors)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Pure Altruism vs Warm Glow							
PA (T1 + T1bis)	19146	4891	93	5700	0.298 (6.70)	61.29 (74.55)	50
WG (T2 + T2bis)	19147	4059	89	6480	0.338 (9.55)	72.81 (120.50)	50
Panel B: No Tax Allowance vs Tax Allowance							
No TA (T1 + T2)	19145	4440	101	6848	0.358 (10.06)	67.80 (121.53)	30
TA (T1bis + T2bis)	19148	4510	81	5332	0.278 (5.91)	65.83 (63.05)	50

Notes. Standard deviations for each group are reported in round brackets. All monetary amounts are expressed in Euros.

TABLE 4: Treatment effects, extensive and intensive margin

	Extensive margin			Intensive margin					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable:	Pr(Giving)	Pr(Giving)	Pr(Giving)	Donation	Donation	Donation	Ln(Donation)	Ln(Donation)	Ln(Donation)
Tax allowance	-0.0010	-0.00094**	-0.0011**	-17.8	-22.9*	-26.2*	0.17	0.11	0.10
	(0.00070)	(0.00048)	(0.00055)	(12.5)	(12.3)	(13.9)	(0.15)	(0.15)	(0.23)
Warm glow	-0.00021	-0.00024	-0.00053	-2.14	-3.96	-12.8	0.12	0.087	0.0039
	(0.00070)	(0.00047)	(0.00055)	(11.9)	(11.2)	(13.3)	(0.15)	(0.15)	(0.23)
Author		0.011***	0.0065		110.4***	83.4**		0.34*	0.21
		(0.0037)	(0.0046)		(26.1)	(36.9)		(0.19)	(0.28)
Donation in last 3 years		0.14***	0.12***		335.4***	317.8***		0.51***	0.44*
		(0.015)	(0.025)		(51.5)	(53.3)		(0.15)	(0.24)
WG × Author			0.0026			41.3			-0.13
			(0.0033)			(43.2)			(0.35)
TA × Author			0.00026			11.5			0.46
			(0.0020)			(43.0)			(0.34)
WG × Donation last 3 yrs			0.00085			25.8			0.22
			(0.0015)			(28.1)			(0.30)
TA × Donation last 3 yrs			0.00087			10.0			-0.087
			(0.0015)			(26.7)			(0.30)
Constant				-600.0***	-534.2***	-528.4***	3.54***	3.31***	3.35***
				(87.7)	(80.7)	(79.7)	(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	0.120	0.120			
R^2							0.01	0.08	0.08
Obs	38,293	38,293	38,293	38,293	38,293	38,293	182	182	182

Notes. This table reports treatment effects from three specifications: probit (marginal effects, columns 1-3), tobit (columns 4-6) and OLS (columns 7-9). Robust standard errors are reported in parentheses. Significance levels: *p<0.1, **p<0.05, ***p<0.01

TABLE 5: Probit model of opening the email launching the campaign

	(1)	(2)	(3)
Warm glow	-0.0435***	-0.0437***	-0.0451***
	(0.0043)	(0.0043)	(0.0046)
Author		0.1482***	0.1380***
		(0.0160)	(0.0160)
Donation in last 3 years		0.2274***	0.2124***
		(0.0207)	(0.0211)
Female			-0.0464***
			(0.0051)
Baseline prob.	0.255	0.248	0.268
Pseudo-R^2	0.002	0.008	0.010
Obs	38,293	38,293	34,113

Notes. Marginal effects from a probit model on the probability of opening the email. *Warm glow* pools together messages T2 and T2bis. 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

TABLE 6: Treatment effects, recipients who opened the email launching the campaign

	Extensive margin			Intensive margin					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable:	Pr(Giving)	Pr(Giving)	Pr(Giving)	Donation	Donation	Donation	Ln(Donation)	Ln(Donation)	Ln(Donation)
Tax allowance	-0.0063**	-0.0061***	-0.0067***	-32.4**	-39.5**	-42.3**	0.096	0.016	-0.075
	(0.0027)	(0.0021)	(0.0024)	(15.7)	(16.0)	(17.2)	(0.17)	(0.17)	(0.27)
Warm glow	0.00093	0.00010	-0.00073	8.31	5.00	-3.24	0.18	0.15	0.053
	(0.0026)	(0.0020)	(0.0023)	(13.8)	(12.9)	(14.8)	(0.17)	(0.17)	(0.26)
Author		0.027***	0.017		92.6***	67.6*		0.39*	0.25
		(0.010)	(0.013)		(27.4)	(36.8)		(0.21)	(0.30)
Donation in last 3 years		0.21***	0.19***		270.2***	254.4***		0.51***	0.36
		(0.025)	(0.044)		(55.0)	(55.7)		(0.18)	(0.27)
WG × Author			0.0076			31.3			-0.19
			(0.011)			(44.6)			(0.39)
TA × Author			0.0019			20.7			0.61
			(0.0082)			(44.9)			(0.38)
WG × Donation last 3 yrs			0.0018			27.9			0.30
			(0.0060)			(34.3)			(0.36)
TA × Donation last 3 yrs			0.0024			5.14			0.016
			(0.0062)			(32.2)			(0.35)
Constant				-426.4***	-401.8***	-396.4***	3.46***	3.25***	3.33***
				(83.2)	(79.1)	(77.1)	(0.13)	(0.15)	(0.17)
Baseline prob.	0.019	0.011	0.012						
Pseudo-R^2	0.004	0.173	0.174	0.002	0.085	0.086			
R^2							0.01	0.07	0.09
Obs	8,950	8,950	8,950	8,950	8,950	8,950	143	143	143

Notes. This table reports treatment effects for the sample of recipients who opened the email. See notes in Table 4. Robust standard errors are reported in parentheses. Significance levels: *p<0.1, **p<0.05, ***p<0.01

TABLE 7: 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)
Warm glow	-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

TABLE 8: Relationship between visualisations and number/amount of donations

	Number donations		Amount donated	
	(1)	(2)	(3)	(4)
Visualisations	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 visualisations divided by 100 (so the coefficient estimates the impact of an increase of 100 visualisations on the outcome). Newey-West standard errors in parentheses. Significance levels: *p<0.1, **p<0.05, ***p<0.01

TABLE 9: Discontinuity in unsubscriptions: RDD approach

Panel A: Global polynomial smoothing				
	(1)	(2)	(3)	(4)
Treatment	-1.197	0.869	2.840	2.007
	(2.013)	(3.066)	(3.930)	(4.133)
R^2	.0582	.0926	.102	.105
Obs	111	111	111	111
Polynomial order	1	2	3	4
Panel B: Local linear regression				
	(1)	(2)	(3)	(4)
Treatment	-1.097	1.070	-0.185	0.822
	(3.515)	(2.915)	(3.110)	(2.403)
R^2	.0481	.0311	.00502	.0306
Obs	21	36	27	43
Bandwidth	IK	2×IK	CCT	2×CCT

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 optimal bandwidth selectors by Imbens and Kalyanaraman (2012) and Calonico et al. (2017). Robust standard errors are reported in parentheses. Significance levels: *p<0.1, **p<0.05, ***p<0.01.

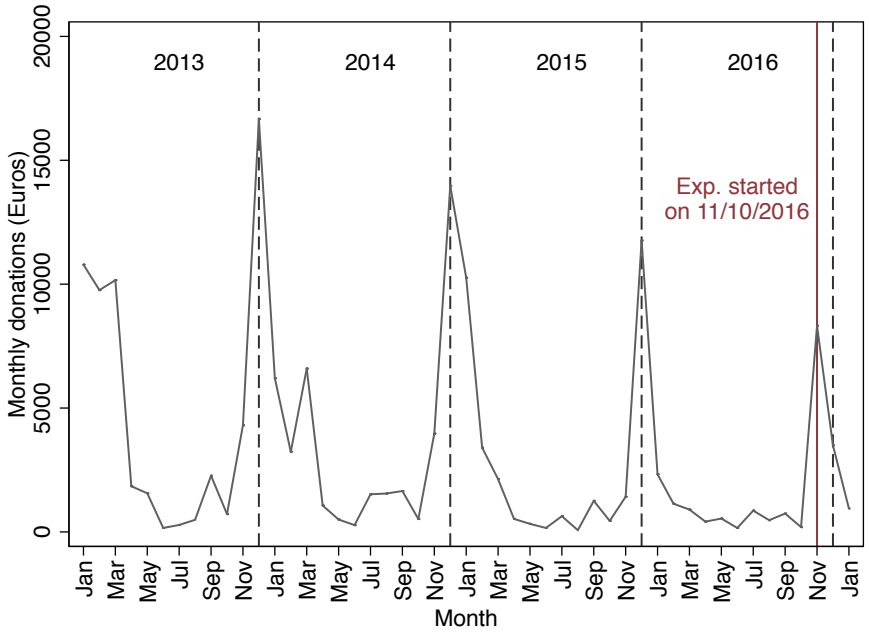
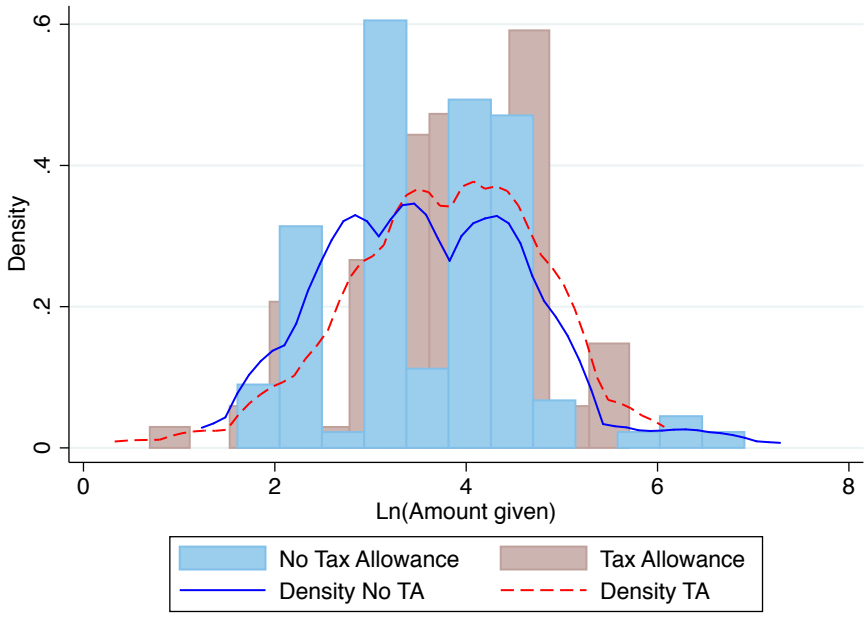
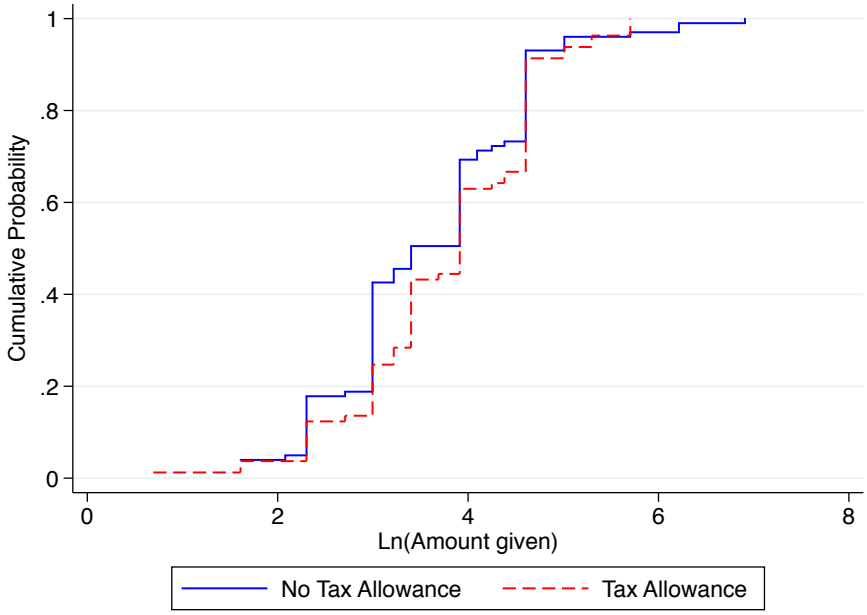


FIGURE 1: Monthly donations from January 2013 to January 2017.



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



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

FIGURE 2: Donation distribution

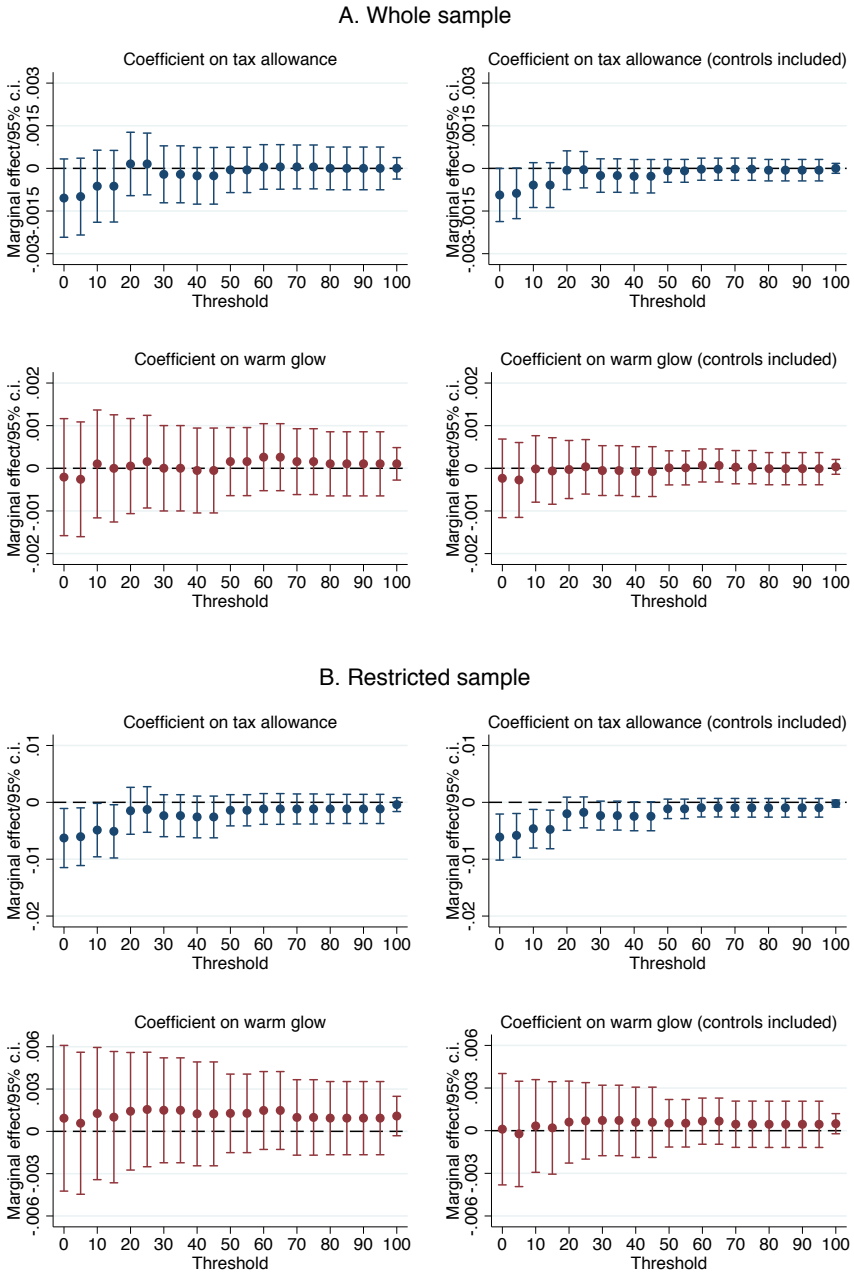


FIGURE 3: Marginal effects from probit regressions

Notes. The above figures plot 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). In both panels, the upper and lower figures on the left show the coefficients on the treatments from regressions that include only the two treatments: tax allowance and warm glow; the upper and lower figures on the right show the coefficients on the treatments from regressions that additionally include dummies for being an author and for having donated in the past three years. 95% confidence intervals are displayed alongside the marginal effects.

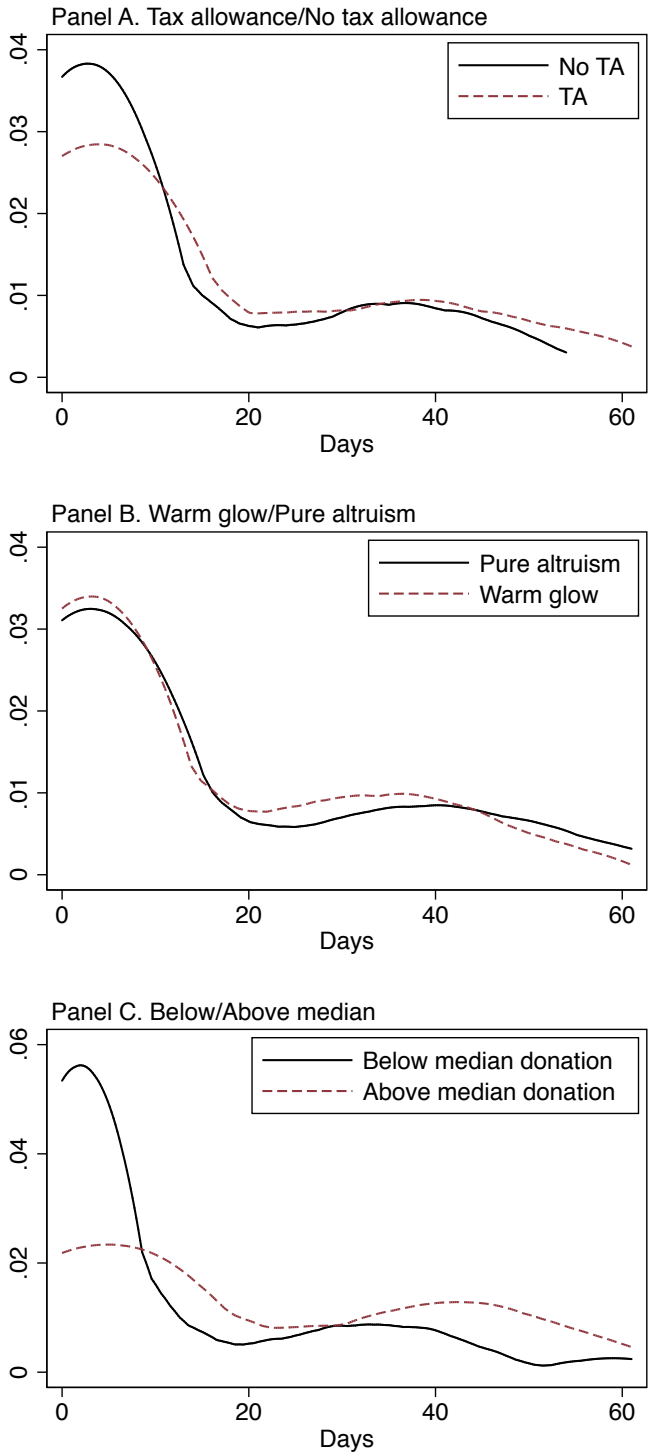
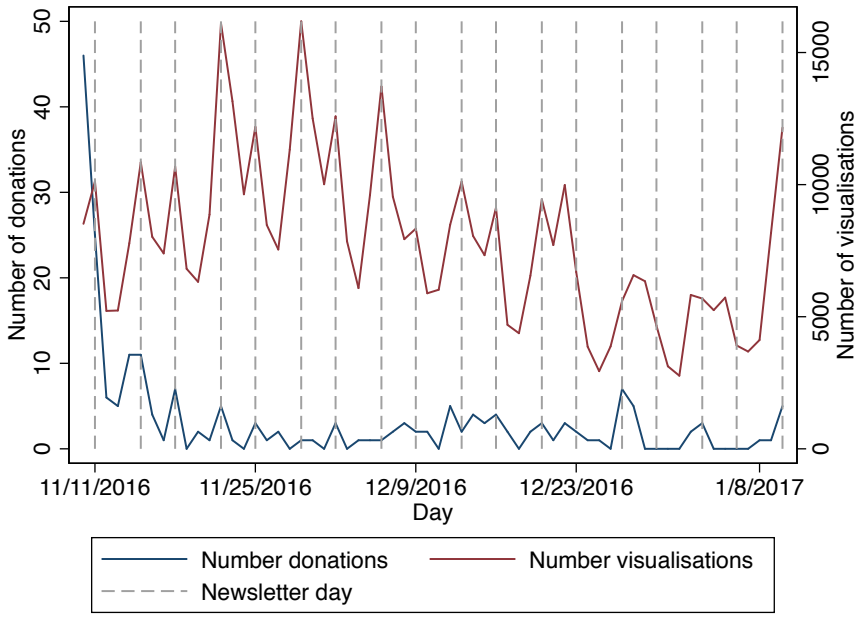
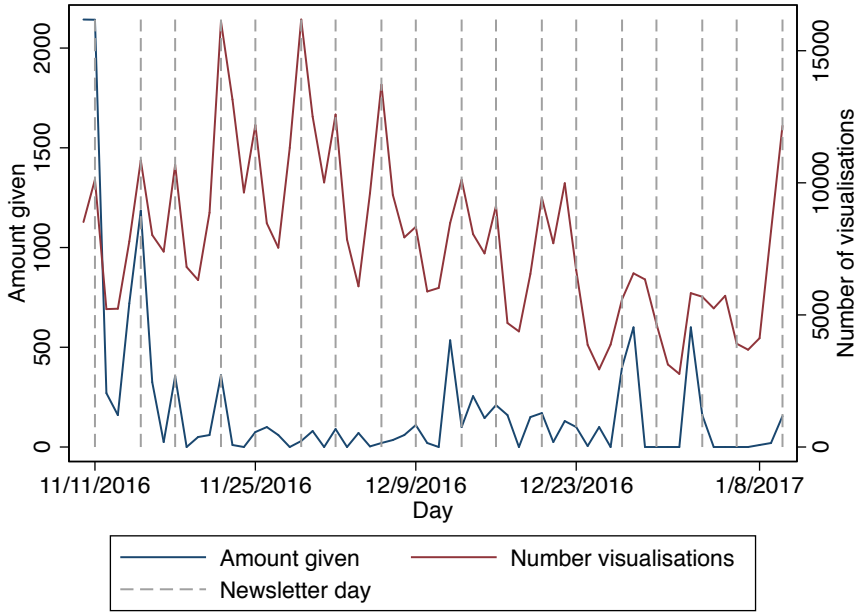


FIGURE 4: Density of donations over days from receipt of message.



(A) Visualisations vs Number of donations



(B) Visualisations vs Amount given

FIGURE 5: Number of visualisations of the site and number of donations or amount given during the experiment.

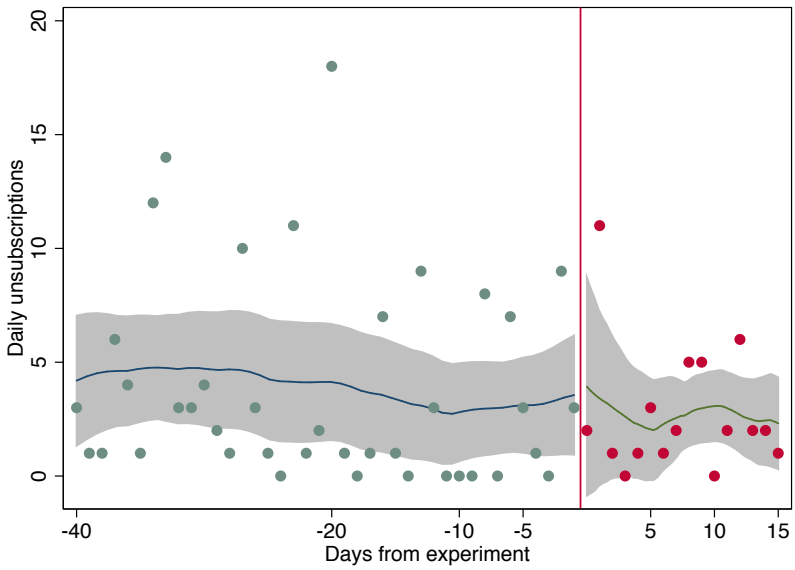


FIGURE 6: Daily unsubscriptions from newsletter

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.

Appendix

Here we provide the original Italian text and an English translation for the emails sent to the readers and donors. Contributors 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. We also include a sample of how the e-mail sent appeared to receivers and, finally, additional figures and tables.

A Treatment 1 and 1bis

A.1 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,[24] 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

[24] 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."

A.2 Translation

TITLE: lavoce belongs to all: support it!

LOGO OF LAVOCE.INFO

Dear reader,

a study by Standard & Poor's shows that almost an Italian in three cannot answer correctly 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 penultimate. In this context, providing to the great public data and analyses on complex issues about economic policy that are of general interest is essential,[25] 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 1bis: We remind you that your donation to lavoce entitles you to a tax allowance.

***lavoce* belongs to all: support it!** Thanks to your donation, you can help us to be present in the Italian media arena.

The Editorial Board

[25] 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)."

B Treatment 2 and 2bis

B.1 Original

TITLE: Fai sentire lavoce: sostienici

LOGO OF LAVOCE.INFO

Cara lettrice/Caro lettore,

Il contributo dei sostenitori[26] 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*[27] 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[28] attraverso una (anche piccola) donazione.
ONLY FOR MESSAGE 2bis: 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

[26] The mail to authors from here read: "Il contributo di sostenitori e collaboratori è essenziale per..."
[27] The mail to authors from here read: "un ruolo che *lavoce*, grazie al tuo prezioso contributo, svolge dal luglio 2002."
[28] The mail to authors from here read: .."sia con i tuoi articoli, che con una (anche piccola) donazione".

B.2 Translation

TITLE: Make your voice heard

LOGO OF LAVOCE.INFO

Dear reader,

our supporters' contribution[29] is essential to allow lavoce to keep on providing to the great public data and analyses on complex issues about economic policy that are of general interest, a role lavoce has been playing since 2002.[30] 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[31] with a donation (even a small one).
ONLY FOR MESSAGE 2bis: We remind you that your donation to lavoce is deductible for tax purposes.

Make *your voice* heard: support us! Make the difference and show your support through a donation.

The Editorial Board

[29] The mail to authors from here read: "..our supporters' and our collaborators' contribution is essential to.."

[30] The mail to authors from here read: "a role lavoce has been playing, thanks to you important contribution, since 2002".

[31] The mail to authors from here read: "both with your articles and with a donation (even a small one)".

C E-mail Sample

FIGURE C.1: Email sample - T2 treatment

D Figures and tables

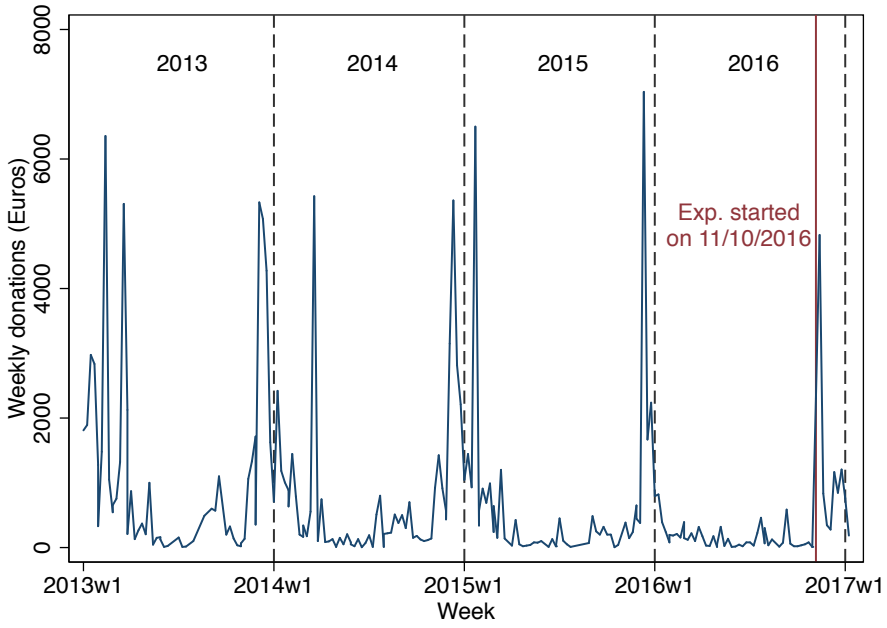


FIGURE D.1: Weekly donations from January 2013 to January 2017

TABLE D.1: Treatment effects, controlling for gender

	Extensive margin			Intensive margin					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable:	Pr(Giving)	Pr(Giving)	Pr(Giving)	Donation	Donation	Donation	Ln(Amount)	Ln(Amount)	Ln(Amount)
Tax allowance	-0.0010	-0.0011**	-0.0012*	-17.8	-23.4*	-25.6*	0.17	0.11	0.15
	(0.00070)	(0.00053)	(0.00068)	(12.5)	(12.4)	(15.1)	(0.15)	(0.15)	(0.25)
Warm glow	-0.00021	-0.00025	-0.00070	-2.14	-3.73	-14.3	0.12	0.087	0.094
	(0.00070)	(0.00052)	(0.00067)	(11.9)	(11.2)	(14.5)	(0.15)	(0.15)	(0.24)
Author		0.0099***	0.0059		101.0***	73.6**		0.34*	0.24
		(0.0036)	(0.0044)		(25.1)	(35.8)		(0.19)	(0.28)
Donation in last 3 years		0.14***	0.12***		326.3***	309.8***		0.52***	0.47*
		(0.015)	(0.026)		(50.2)	(52.3)		(0.15)	(0.24)
Gender		-0.0013**	-0.0015		-33.2**	-36.1		0.11	0.41
		(0.00056)	(0.00091)		(16.1)	(25.9)		(0.19)	(0.31)
WG × Author			0.0028			39.8			-0.15
			(0.0036)			(42.6)			(0.35)
TA × Author			0.00041			14.4			0.43
			(0.0022)			(42.5)			(0.34)
WG × Donation last 3 yrs			0.00096			25.7			0.19
			(0.0016)			(28.1)			(0.31)
TA × Donation last 3 yrs			0.00085			8.08			-0.16
			(0.0016)			(26.9)			(0.31)
WG × Female			0.00073			10.5			-0.52
			(0.0016)			(29.9)			(0.37)
TA × Female			-0.00017			-4.21			-0.14
			(0.0013)			(30.2)			(0.37)
Constant				-600.0***	-515.1***	-509.0***	3.54***	3.29***	3.28***
				(87.7)	(77.9)	(76.9)	(0.12)	(0.14)	(0.17)
Baseline prob.	0.005	0.004	0.004						
Pseudo-R^2	0.001	0.219	0.220	0.001	0.119	0.119			
R^2							0.01	0.08	0.09
Obs	38,293	34,113	34,113	38,293	34,113	34,113	182	182	182

Notes. This table reports treatment effects from two specifications: probit (marginal effects, columns 1-3) and Tobit (columns 4-6), including gender and its interactions with main treatments as controls. Robust standard errors are reported in parentheses. Significance levels: *p<0.1, **p<0.05, ***p<0.01

TABLE D.2: 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
Pure altruism	4	18.1	18.6
Warm glow	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