



# The effect of recipient contribution requirements on support for social programs<sup>☆</sup>

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## ABSTRACT

A large literature examines the use of recipient contribution requirements in social programs to target people who most need and value aid. Yet little is known about public support for such requirements. In a field experiment with a nationally representative sample, we examine the effect of recipient contributions on charitable donations to a food aid program. The response to recipient monetary contributions is non-monotonic: donations increase when recipients make small monetary contributions and return to baseline under large recipient contributions. Recipient time contribution requirements also increase program support. Results from additional treatments suggest that individuals use contribution requirements to increase both allocative efficiency (screening recipients who most value the good) and targeting efficiency (screening recipients most in need). Our work informs the design of social programs, which must respond to the preferences of voters and donors who provide political and financial support.

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## 1. Introduction

An ongoing question regarding the optimal structure of government and non-profit aid programs is whether they should require recipients to contribute their own resources (time or money) to receive benefits. For instance, to qualify for a home from the non-profit Habitat for Humanity, low-income recipients must make small monthly payments and contribute hundreds of hours of labor to the building process. More generally, programs that provide in-kind transfers, such as health products and education, often require

recipients to pay a small part of the cost; or, programs may build in a time cost to recipients, such as having to redeem a voucher in order to receive the product.<sup>1</sup>

Recipient contribution requirements have provoked heated debate among policymakers. For example, Republican lawmakers in the U.S. have recently pushed to include work and co-payment requirements into the Medicaid and food stamp programs. Democratic lawmakers and consumer advocates have argued that such requirements strip benefits from those who need them most. In response, the Republican White House budget director stated that, “what we’ve done is not to try and remove the safety net for folks who need it, but to try and figure out if there’s folks who don’t need it that need to be back in the workforce.”<sup>2</sup>

A long line of theoretical work provides justification for these policies, arguing that if there is imperfect information about recipients, contribution requirements can act as a screening device to

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<sup>1</sup> Habitat for Humanity International ranked 11 on the list of top charities in the U.S. in 2016 (<https://www.forbes.com/top-charities/list/>). See <https://www.habitat.org/housing-help/apply> for details. For health products, see Population Services International (health products) <http://www.psi.org/research/evidence/social-marketing-evidence-base/>. For education, see Unicef “Free or Fee: 2006 Global Report” [https://www.unicef.org/education/bege\\_61665.html](https://www.unicef.org/education/bege_61665.html). See Dupas et al. (2016) for a discussion of monetary versus non-monetary costs, such as vouchers.

<sup>2</sup> See T. Lohby, Republicans want the poor to work for their government benefits, *CNN Money* (2107; <http://money.cnn.com/2017/05/30/news/economy/republicans-work-requirements-poor-benefits/index.html>).

target those who most need and value aid (Akerlof, 1978). However, contribution requirements involve tradeoffs. They impose costs on recipients whose welfare we are aiming to improve. And, the requirements may screen out the neediest if they are less able to make contributions.<sup>3</sup>

The tradeoffs between allocative efficiency (screening those who most value the good) and targeting efficiency (screening those most in need) have received extensive attention on the demand (recipient) side in the context of both government and non-profit programs. However, the academic and policy debate on recipient contribution requirements has largely ignored the supply side: the voters and charitable donors who provide political and financial support for social programs. This is a critical gap because optimal policy design requires that programs be structured in ways that are both economically efficient *and* politically attractive. In this vein, a large literature examines individual preferences for redistribution, charitable giving and support for social programs. But this work has given little attention to public support for recipient contribution requirements, or to the screening concerns these requirements address.

In this paper, we explore the supply side: do people support programs with costly recipient contribution requirements? And if so, do they use contribution requirements to screen recipients as theoretical models predict? We examine these questions in the context of charitable donations to a non-profit aid program that distributes healthy food. The program shares the broad features of in-kind transfer programs that have incomplete information about recipients' valuation for the goods they provide.<sup>4</sup> In our experiment, we vary the contributions recipients make to receive the food and study the impact on individual-level support for the program through costly donations.

Working in the context of a non-profit rather than a government program allows us to measure revealed preference through an incentivized decision: the recipient contributions are real rather than hypothetical, and the elicitation of program support is a costly donation rather than a stated preference. However, we note a limitation of our design in that we only elicit preferences for our non-profit program and not for similar government programs.

In the field experiment, we invite nearly 5000 Americans from a nationally representative internet survey panel to donate a portion of their survey earnings to the healthy food aid program. Across treatment groups, we vary the recipient contribution requirements described to respondents. We first test the impact of recipient monetary contributions: the recipient makes no contribution, the recipient pays 10% of the cost, or the recipient pays 50% of the cost. We also include treatments in which the recipient has to expend time (5 min or 25 min) registering for the program to receive the food.

We find a non-monotonic response to monetary contributions by recipients: donations increase when recipients pay 10% of the cost of the food and drop back to baseline when recipients pay 50% of the cost. Both low and high contributions of time by recipients increase program support. Our results suggest that people want to screen recipients, recognize recipient contributions as a targeting mechanism, respond to tradeoffs between allocative and targeting efficiency that monetary contribution requirements involve, and perceive time contributions as an effective screening device.

Specifically, our findings are consistent with a framework in which donors use recipient contribution requirements to screen those who most need and value the aid program. Donors are uncertain about the value of the good (healthy food) to recipients. Recipients who

value the good self-target by being willing to contribute a nominal amount (10% of the cost). That is, low monetary contributions screen out recipients who have little value for healthy food but will accept it if it is free. Larger monetary contribution requirements (50% of cost) may be viewed as too burdensome or more likely to screen out those who are most in need. In contrast to monetary contributions, donors may view higher time contributions as more likely to target those in need if they believe that poorer recipients have lower costs of time (i.e., wealthier recipients will not be willing to expend time to receive the good).

We support the interpretation of our main results through evidence from surveys, additional treatments, and a laboratory experiment. These also allow us to examine potential alternative mechanisms driving the response to monetary contribution requirements, including: price effects, paternalism, preferences for fairness or reciprocity, and investment motivations (i.e., a belief that recipients will value a good more if they invest their own resources in it). We find no evidence for these alternative mechanisms.

To our knowledge, this study is the first to experimentally examine individual preferences for recipient contributions to social programs. Using an incentivized decision in a nationally representative sample, we demonstrate that small changes in the description of a program's recipient contribution requirements have a significant impact on support for the program. Our work adds to the literature on charitable giving that has explored the response to giving by third-party donors but not the response to contributions by recipients. We also contribute to the literature on support for redistribution, which has explored individual preferences related to equity and fairness in the context of government policies, worker earnings and charitable giving; but has not examined screening concerns related to uncertainty about recipient valuation for the program. Finally, we contribute to a large literature in development and public economics on the optimal design of social programs when there is imperfect information about recipients. The work in development and public economics has focused on the demand (recipient) side; our study highlights that policy design may also need to address political economy considerations on the supply side.

In the remainder of the paper, Section 2 discusses the related literature; Section 3 describes the experimental design; Section 4 summarizes our main results; Section 5 discusses mechanisms and a replication study; and Section 6 concludes.

## 2. Background literature

Our work contributes to several growing and largely separate literatures. We contribute to two strands of literature on the use of contribution requirements to screen recipients of aid programs. The first strand focuses on monetary contribution requirements, which improve allocative efficiency by screening out those who have little value for a good. However, they come with a tradeoff: while higher prices can decrease over-inclusion (giving a good to recipients who do not use it), they also increase under-inclusion (not giving a good to recipients who need it but cannot pay for it). Empirical studies of recipient contribution requirements generally argue that increases in under-inclusion outweigh decreases in over-inclusion (an exception is Cohen et al., 2015, Dupas, 2014; Dupas and Miguel, 2017, provide reviews).

The second strand of this literature focuses on improving targeting efficiency by screening those most in need. Ordeal mechanisms (such as time-intensive application processes) can screen out wealthier recipients if they are more costly for the rich than the poor — e.g., because the cost of time is increasing in income (Nichols et al., 1971; Nichols and Zeckhauser, 1982; Besley and Coate, 1992). However, they can also impose deadweight loss through wasted time, so there is a tradeoff between targeting efficiency and productive efficiency. Empirical studies generally argue that ordeal mechanisms

<sup>3</sup> Time contribution requirements can also impose deadweight loss from wasted time.

<sup>4</sup> Examples of related programs include distributing water chlorination tablets to people who may not use them (correctly) or malaria medication to people who are not sick (Dupas and Miguel, 2017).

improve targeting with fewer concerns about under-inclusion compared to monetary contribution requirements.<sup>5</sup> However, related work demonstrates that even small barriers to program participation can work against the policy goal of improving outcomes for those most in need (see Bertrand et al., 2004; Currie, 2006; Banerjee and Duflo, 2012, for discussion). And programs that condition transfers on recipients' behavior may increase administrative costs without significantly improving outcomes (Baird et al., 2014, provide a review).

Taken together, the prior literature suggests that the response to recipient monetary contribution requirements may be non-monotonic because prices that are too low may include individuals who do not value the good, while prices that are too high may exclude those who most need the good but are least able to pay for it. There may be more tolerance for recipient time contribution requirements if people believe that they improve targeting efficiency and have fewer concerns about productive efficiency. Our experimental design includes three levels of recipient monetary contributions – none, low (nominal) and high – to examine whether individuals understand and respond to tradeoffs between under- and over- inclusion. The time contribution treatments in our experiment are modeled after ordeal mechanisms to examine the response to these requirements alongside monetary contribution requirements.

We also contribute to the literature on social preferences and charitable giving that examines the impact of leadership contributions made by third-party donors. These studies generally find that third-party contributions increase giving, and that giving monotonically increases in response to larger contributions (List, 2011; Andreoni and Payne, 2013, provide reviews).<sup>6</sup> No prior work has examined contributions made by recipients. Unlike third-party contributions, we find that the response to recipient contributions is non-monotonic – i.e., large contributions by recipients are less effective than small ones. And, nominal contributions by recipients (match rates of 1 to 9) significantly increase giving. These results stand in contrast to suggestive evidence that low contributions by third-party donors (match rates below 1 to 1) have no impact or even decrease giving (Karlan et al., 2011). More broadly, our work shows that the mechanism driving the impact of contributions by others depends on the source of the contribution, whether from recipients or third-party donors.

Finally, we contribute to the literature examining preferences for redistribution. Work in this area has examined stated support for government social programs (e.g., Kuziemko et al., 2015 provide a discussion); distributional decisions among online workers (e.g., Cappelen et al., 2007; Almås et al., 2016; Lefgren et al., 2016); and, as in our study, donation decisions in charitable giving (e.g., Fong and Luttmer, 2011; Fong and Oberholzer-Gee, 2011). Much of this work focuses on fairness preferences related to sources of inequality – whether due to choices or luck – and tradeoffs between equity and efficiency (Konow, 2003; Alesina and Giuliano, 2011, provide reviews).<sup>7</sup> No prior study has examined allocative efficiency concerns that arise when recipients have heterogeneous

valuations for the goods and services that social programs provide.<sup>8</sup> Our results suggest that screening concerns related to uncertainty about recipient valuation are an additional factor shaping support for redistribution.

### 3. Experimental design

#### 3.1. Experimental setting

Our field experiment was conducted with 4908 respondents of the Understanding America Study (UAS) at the University of Southern California (USC). The UAS is a probability-based Internet panel of about 6000 adults who are representative of the American population.<sup>9</sup> Panel members routinely receive incentives to participate in surveys. The experiment was conducted as part of the panel's end-of-year survey in December, 2016–February, 2017. Participants received \$8 for the survey, which took approximately 14 min to complete.

Prior to the beginning of the survey, we offered respondents the opportunity to donate any amount of their survey payment to our food program, which was described as, 'a healthy food basket program ... to provide families in need with \$10 worth of fresh fruits and vegetables'. This description was followed by the treatment message and a note that 100% of donations would go towards purchasing the food items in the basket (see Appendix B for screenshots of the study). Participants were told that the question about donating was separate from the survey and were not told that it was part of an experiment, with the following message from the survey administrators: 'We would like to share with you an optional opportunity we have been invited to participate in by another project run at USC [...] your participation in this other project is completely voluntary [...] after we give you information about this project and you make your selection, our end of the year survey will begin'.

#### 3.2. Treatments

Our main experimental treatments varied the recipient contribution requirements, either money or time, and are summarized in Table 1. In the monetary contribution treatments, we varied whether we told respondents that the recipients contributed nothing (\$0 of the \$10 cost), a low amount (\$1 of the \$10 cost), or a high amount (\$5 of the \$10 cost). In the time contribution treatments, we told respondents that the program was free and varied whether the recipients contributed no time (no additional registration process), a low amount (a 5 minute additional registration process) or a high amount (a 25 minute additional registration process). We chose the low contribution amounts of \$1 (10% of cost) and 5 min because we wanted to test the impact of nominal contributions by recipients, analogous to prior work testing nominal contributions on the demand side. We chose the high monetary contribution of \$5 (50% of cost) to test a 1 to 1 match rate by recipients, analogous to prior work testing 1 to 1 match rates by third-party donors. The Low (and High) money and time contributions of \$1 and 5 min respectively (and \$5 and 25 min respectively) are equivalent at a \$12 per hour cost of time.<sup>10</sup>

<sup>5</sup> See Ravallion (1991), Alatas et al. (2016), Dupas et al. (2016), and Rennane (2016). An exception is Deshpande and Li (2017).

<sup>6</sup> Theoretical work demonstrates that when there is imperfect information, contributions by third-party donors can serve as a credible signal of a charity's quality and thus increase giving (Vesterlund, 2003; Andreoni, 2006; Potters et al., 2007; Karlan and List, 2012). Andreoni (2006) additionally predicts that to be credible, third-party donations must be large.

<sup>7</sup> In a related study, Drenik and Perez-Truglia (2017) surveyed Amazon Mechanical Turk respondents and found that stated support for cash transfers increases when a beneficiary is described as hard-working compared to when a beneficiary is described as lazy, and that rating diligent beneficiaries as more deserving is positively correlated with stated support for work requirements in social programs.

<sup>8</sup> The closest related work is Konow (2003), which includes a survey question about distributing pies between two hypothetical recipients, one who enjoys pie twice as much as the other.

<sup>9</sup> Panel members are recruited through address based sampling, in which recruitment letters are sent to randomly selected households using address lists from the U.S. Postal Service. Panel members without prior access to the Internet receive a tablet and internet access.

<sup>10</sup> For comparison, a full-time worker supporting a family of three can make up to an estimated \$12.78 per hour and remain eligible for food stamp benefits through the Supplemental Nutritional Assistance Program (SNAP). See <https://poverty.ucdavis.edu/faq/what-are-annual-earnings-full-time-minimum-wage-worker>.

**Table 1**  
Main experimental treatments.

Contribution level	Monetary contribution	Time contribution
None	\$0	\$0, No additional time
Low	\$1 (10% of cost)	\$0, 5 min
High	\$5 (50% of cost)	\$0, 25 min

For the monetary contribution treatments, respondents in the No Recipient Monetary Contribution treatment were told: ‘Families pay nothing for the basket. Donations provide the full \$10 cost.’; and in the Low (High) Recipient Monetary Contribution treatment were told: ‘Families contribute \$1 (\$5) for the basket. Donations provide the other \$9 (\$5).’ For the time contribution treatments, respondents were told in all treatments: ‘Families pay nothing for the basket. Donations provide the full \$10 cost.’ In addition, respondents in the No Recipient Time Contribution treatment were told: ‘Families receive the basket with no additional registration process.’; and in the Low (High) Recipient Time Contribution treatment were told: ‘Families receive the basket following an additional 5 (25) minute registration process.’<sup>11</sup>

All experimental manipulations were truthful. We allocated the funds we raised to purchase baskets of food for households in low-income areas at the cost-sharing amounts for each treatment (i.e., recipients pay \$0, \$1 or \$5). Akin to ordeal mechanisms for social programs in which people have to fill out time consuming registration forms, the time contribution treatments required completing a questionnaire (either 5 or 25 min long). UAS respondents also received an update in their quarterly newsletter regarding the total amount raised for the programs and the number of baskets distributed to date.

### 3.3. Randomization and baseline characteristics

For the randomization, we pre-specified the sample sizes for each treatment group, but did not stratify (or otherwise balance) on any baseline characteristics. Based on a conservative estimate of 4800 participants, we allocated sample sizes as follows: 600 participants in each of the monetary contribution treatments (none, low, and high); 500 participants in each of the time contribution treatments (none, low, and high); and 300 participants in each of the additional treatments discussed in Section 5.2.<sup>12</sup>

We merge our experimental data with a rich set of demographic characteristics collected by the UAS panel, including: age, gender, race/ethnicity, marital status, educational attainment, household income, and household size. To learn about potential differences in treatment effects by political leanings, we also merge our experimental data with additional data that UAS collected on respondents’ voting intentions in the 2016 U.S. Presidential election. Between July and November 2016, panel members were asked weekly: ‘What is the percent chance that ... 1) you will vote in the Presidential election? 2) you will vote for Clinton, Trump, or someone else?’ We average responses to these questions across all weeks until the election and report the following voting intentions for the 2016 Presidential Election: probability of voting and the candidate most likely to vote for.

<sup>11</sup> Both the monetary and time contribution requirements were the cost to recipients of receiving a single \$10 basket of food. Accordingly, we describe the program to respondents as providing ‘\$10 worth’ of food and the requirements as what families contribute in order to receive ‘the’ basket.

<sup>12</sup> The UAS survey programmers performed the randomization by generating a random number for each panel member and assigning a range of random numbers to each treatment. As a result, the actual sample sizes do not exactly match our pre-specified allocation.

These data are available for 85% of the sample since voting intentions were gathered in earlier surveys.<sup>13</sup>

Table 2 presents average baseline characteristics by treatment group. We report statistically significant differences for binary comparisons of each contribution treatment group and the relevant no contribution (money or time) treatment group. In the final column, we report the *p*-value from a joint F-test that the group means across all monetary and time contribution treatments are equal. Our treatment groups are well balanced on observable characteristics. Of the 96 binary comparisons of means we test, three are significantly different at the 10% level and two are significantly different at the 5% level, slightly less than would be expected by chance. Comparing across all treatments, there are statistically significant differences in one household income category and whether a respondent has non-missing voting intentions.

### 3.4. Analysis

Following our pre-registered analysis plan, we estimate the following equation using Ordinary Least Squares (OLS) at the individual respondent level:<sup>14</sup>

$$Y = \beta_0 + \beta_1 Z^1 + \beta_2 Z^2 + \beta_3 Z^3 + \beta_4 Z^4 + \beta_5 Z^5 + \beta_6 Z^6 + \beta_7 Z^7 + \beta_8 Z^8 + \mu + \gamma X + \epsilon \quad (1)$$

where *Y* is the respondent’s donation decision and *Z<sup>t</sup>* is an indicator variable for the respondent’s treatment *t* = {1, 2, 3, 4, 5, 6, 7, 8} with 1 = “No Recipient Monetary Contribution,” 2 = “Low Recipient Monetary Contribution,” 3 = “High Recipient Monetary Contribution,” 4 = “No Recipient Time Contribution,” 5 = “Low Recipient Time Contribution” and 6 = “High Recipient Time Contribution.” The final indicators are for two additional treatments discussed in Section 5.2 in which a third-party donor provides the contribution with 7 = “Low Donor Monetary Contribution” and 8 = “High Donor Monetary Contribution.” Hereafter, we refer to the group of treatments 1–8 as the ‘healthy basket’ treatments. We include respondents from all healthy basket treatments in the regression analysis in order to increase efficiency when covariates are included. The covariates include a survey day fixed effect,  $\mu$ , and a vector, *X*, of respondent demographic characteristics: age, gender, race/ethnicity, marital status, educational attainment, household income, and household size.<sup>15</sup> The error term,  $\epsilon$ , is at the individual level, which is our level of randomization. Our regression analysis estimates the effects of recipient monetary contributions,  $\beta_2$  and  $\beta_3$ , relative to No Recipient Monetary Contribution,  $\beta_1$ . We estimate the effects of recipient time contributions,  $\beta_5$  and  $\beta_6$ , relative to No Recipient Time Contribution,  $\beta_4$ .<sup>16</sup>

<sup>13</sup> Reported intentions were a good predictor of actual voting behavior in similar continuous Presidential election polls conducted in 2008 and 2012 (Delavande and Manski, 2010; Gutsche et al., 2014). Missing data is due either to respondents choosing not to complete these prior surveys, or not being asked to complete the prior surveys if they joined the panel after the surveys were fielded. In the main analysis, we include the full sample; in the analysis of liberal/conservative leanings, we drop the 15 percent of respondents for whom voting intentions data are not available.

<sup>14</sup> See <https://www.socialscisearch.org/trials/1850>.

<sup>15</sup> We exclude 5 people for whom we are missing demographic information: 4 people missing age and 1 person missing gender. We also exclude 12 participants who started but did not complete the survey. Including these participants does not affect the results (Appendix Table A.1).

<sup>16</sup> All regressions include indicator variables for each treatment, but we only report the coefficients for the relevant Low and High contribution treatments. As shown below, we do not find significant differences between the No Recipient Monetary Contribution and No Recipient Time Contribution groups. Estimating the treatment effects pooling the two baseline groups does not affect the results (Appendix Table A.2).

**Table 2**  
Baseline characteristics by treatment group.

	Monetary contribution (\$)			Time contribution (mins)			F-test
	None	Low (\$1)	High (\$5)	None	Low (5)	High (25)	p-Value
N	580	605	657	484	516	533	
Age	49.08 (15.22)	48.81 (15.30)	49.90 (15.51)	50.48 (14.63)	49.92 (15.41)	48.60** (15.77)	0.91
Female	0.56 (0.50)	0.55 (0.50)	0.59 (0.49)	0.58 (0.49)	0.62 (0.49)	0.59 (0.49)	0.35
White	0.73 (0.44)	0.77 (0.42)	0.75 (0.43)	0.73 (0.44)	0.72 (0.45)	0.76 (0.43)	0.77
Black	0.08 (0.27)	0.07 (0.26)	0.09 (0.29)	0.09 (0.29)	0.09 (0.29)	0.08 (0.28)	0.88
Hispanic	0.09 (0.29)	0.08 (0.28)	0.07 (0.26)	0.10 (0.30)	0.11 (0.32)	0.10 (0.30)	0.21
Other	0.10 (0.30)	0.07 (0.26)	0.09 (0.28)	0.08 (0.27)	0.08 (0.27)	0.06 (0.24)	0.40
Married	0.61 (0.49)	0.60 (0.49)	0.56 (0.50)	0.59 (0.49)	0.61 (0.49)	0.61 (0.49)	0.74
Dropout or High School	0.28 (0.45)	0.24 (0.43)	0.25 (0.43)	0.24 (0.43)	0.28 (0.45)	0.23 (0.42)	0.29
Some College or AA Degree	0.38 (0.49)	0.39 (0.49)	0.39 (0.49)	0.41 (0.49)	0.35* (0.48)	0.37 (0.48)	0.66
Bachelor's Degree or Higher	0.34 (0.48)	0.37 (0.48)	0.37 (0.48)	0.35 (0.48)	0.37 (0.48)	0.40 (0.49)	0.57
Hh Income: Below 25,000	0.24 (0.43)	0.24 (0.43)	0.24 (0.43)	0.25 (0.43)	0.23 (0.42)	0.22 (0.41)	0.89
Hh Income: 25,000–49,999	0.23 (0.42)	0.20 (0.40)	0.24 (0.43)	0.25 (0.43)	0.25 (0.43)	0.22 (0.41)	0.40
Hh Income: 50,000–74,999	0.18 (0.38)	0.20 (0.40)	0.17 (0.38)	0.19 (0.39)	0.21 (0.41)	0.21 (0.41)	0.44
Hh Income: 75,000–99,999	0.17 (0.38)	0.16 (0.37)	0.14 (0.35)	0.12 (0.32)	0.11 (0.31)	0.13 (0.34)	0.01
Hh Income: 100,000 and above	0.18 (0.39)	0.20 (0.40)	0.20 (0.40)	0.20 (0.40)	0.20 (0.40)	0.23 (0.42)	0.59
Hh Size 1	0.16 (0.37)	0.16 (0.36)	0.17 (0.37)	0.17 (0.38)	0.14 (0.34)	0.16 (0.37)	0.76
Hh Size 2	0.39 (0.49)	0.40 (0.49)	0.41 (0.49)	0.43 (0.50)	0.42 (0.49)	0.37* (0.48)	0.55
Hh Size 3	0.17 (0.38)	0.19 (0.40)	0.16 (0.37)	0.15 (0.36)	0.17 (0.37)	0.17 (0.37)	0.66
Hh Size 4+	0.27 (0.45)	0.25 (0.44)	0.26 (0.44)	0.24 (0.43)	0.28 (0.45)	0.30* (0.46)	0.49
Probability Vote	0.86 (0.27)	0.85 (0.29)	0.85 (0.28)	0.88 (0.25)	0.86 (0.28)	0.85 (0.29)	0.97
Lean Trump	0.47 (0.50)	0.41* (0.49)	0.42* (0.49)	0.47 (0.50)	0.42 (0.49)	0.47 (0.50)	0.23
Lean Clinton	0.41 (0.49)	0.42 (0.49)	0.45 (0.50)	0.40 (0.49)	0.44 (0.50)	0.39 (0.49)	0.32
Lean Other	0.12 (0.32)	0.17** (0.37)	0.13 (0.34)	0.14 (0.35)	0.14 (0.35)	0.14 (0.35)	0.39
Preference Missing	0.16 (0.36)	0.13 (0.34)	0.18 (0.38)	0.12 (0.33)	0.13 (0.33)	0.14 (0.35)	0.10

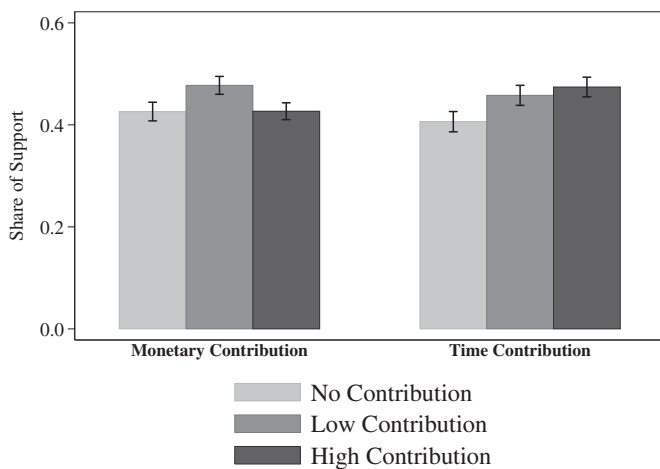
Notes: The table reports group means. Standard deviations in parentheses. The reported p-value is the probability from a joint F-test that the group means are equal to each other. Asterisks indicate a difference of means compared to the relevant No Contribution (money or time) group significant at the \* 0.1, \*\* 0.05, and \*\*\* 0.01 levels.

#### 4. Results

In this section, we present the effects of recipient monetary and time contributions on donations. Our results are consistent with the predictions of a standard screening model where altruistic donors use recipient contribution requirements to target recipients who receive the largest utility from a charitable good. Recipients' utility depends both on their marginal utility from receiving a transfer (with the poorest recipients benefiting most); and on their valuation for the particular good, which depends on heterogeneous tastes – in our case, for healthy food. If donors had perfect information, they would target low-income recipients who highly value the good (healthy food) and give it to them at no cost. However, donors do not perfectly observe individual recipients' valuation for the good, but rather form expectations based on the recipient population distribution. In such

cases, recipient contribution requirements can serve as a screening device to target only those recipients who are willing to incur the required costs – i.e., screen out those who have little value for healthy food but will accept it if it is free. However, contribution requirements have two additional impacts: (1) they impose costs on recipients, which lowers their utility; and (2) higher costs may shift the income distribution of recipients to those who can afford to make the contribution. If donors believe that the cost of time increases in income, they may view time contribution requirements as: (1) less costly than monetary requirements for the poorest recipients and (2) less likely to shift the income distribution towards wealthier recipients.

The main results of our experiment are presented in Fig. 1. The No Monetary Contribution group, in which we told respondents that recipients pay nothing for the food basket, serves as the control



**Fig. 1.** Program support by recipient contribution treatment group. *Notes:* The figure presents mean share of support (share of total payment respondents donate to the food aid program, including zeroes) and standard error bars.

group for the Low and High Monetary Contribution treatments, in which recipients contributed 10% and 50% of the cost of the basket, respectively. The No Time Contribution group, in which we told respondents that recipients receive the basket with no additional time requirement, serves as the control group for the Low and High Time Contribution treatments, in which recipients spent 5 and 25 additional minutes registering, respectively. Our outcome measure is 'Share of Support' for the program, which is the average share of a participant's \$8 survey payment donated to the food program. We include zeroes for respondents who chose not to donate any of their payment. When recipients make no contribution, respondents donate a little over forty percent of their survey payment on average, with almost sixty percent of respondents making a non-zero donation.<sup>17</sup>

We observe an inverted u-shape response to recipient monetary contributions: relative to no contribution, donations increase when recipients contribute 10% of the cost and drop back to baseline when recipients contribute 50% of the cost. For contributions of time, both low and high recipient contributions increase program support.

Table 3 reports OLS estimates of the effects of the recipient contribution treatments on program support. In Panel A, the dependent variable is 'Share of Support' (as in Fig. 1). In Panel B, the dependent variable is 'Any Support,' which is an indicator variable that is equal to 0 if a respondent chose not to donate and is equal to 1 if a respondent chose to give a non-zero donation. We also report the  $p$ -value from a test of equality of the Low and High contribution treatments. Columns 1–2 estimate the effects of recipient monetary contributions (the omitted group is No Monetary Contribution). Columns 3–4 estimate the effects of recipient time contributions (the omitted group is No Time Contribution).<sup>18</sup> Odd numbered columns include indicator variables for treatment only, while even numbered columns add additional controls for survey day fixed effects and for the demographics characteristics in Table 2: age, gender, race/ethnicity, marital status, educational attainment, household income, and household size.<sup>19</sup>

**Table 3**  
Effects of recipient contributions on program support.

	Monetary contribution		Time contribution	
<i>Panel A: Share of support</i>				
Low Contribution	0.051** (0.025)	0.049* (0.025)	0.052* (0.028)	0.054** (0.027)
High Contribution	0.001 (0.025)	0.000 (0.025)	0.068** (0.027)	0.065** (0.027)
Control mean	0.43 (0.02)		0.41 (0.02)	
Pr(Low=High)	0.039	0.045	0.545	0.695
N	4000	4000	4000	4000
<i>Panel B: Any support</i>				
Low Contribution	0.083*** (0.028)	0.081*** (0.028)	0.050 (0.031)	0.051* (0.031)
High Contribution	0.026 (0.028)	0.023 (0.028)	0.056* (0.030)	0.053* (0.030)
Control mean	0.59 (0.02)		0.57 (0.02)	
Pr(Low=High)	0.038	0.033	0.831	0.938
N	4000	4000	4000	4000
Session/Survey day	No	Yes	No	Yes
Demographics	No	Yes	No	Yes

*Notes:* OLS estimates. Standard errors in parentheses. Includes all "healthy basket" treatments. Omitted group is No Monetary Contribution in columns 1–2 and No Time Contribution in columns 3–4. Columns 1 and 3 include indicator variables for each "healthy basket" treatment. Columns 2 and 4 add survey day fixed effects and demographic covariates (gender, age, race/ethnicity, marital status, education, Hh income and Hh size). Significance reported at the \* 0.1, \*\* 0.05 and \*\*\*0.01 levels.

Low monetary contributions by recipients increase program support significantly. The share of support increases by an estimated 5 percentage points ( $p = 0.043$  without covariates,  $p = 0.051$  with covariates). The effects are stronger when we examine the effects on any support, which increases by an estimated 8 percentage points ( $p < 0.01$  with and without covariates). There is no impact of high recipient monetary contributions. Importantly, we find that the effects of low monetary contributions are significantly different from the effects of high monetary contributions at the 5% level in all estimates.

Turning to the time contribution treatments, both low and high recipient time contributions increase program support. Low time contributions increase share of support for the program by an estimated 5 percentage points ( $p = 0.062$  without covariates,  $p = 0.046$  with covariates). High time contributions increase donations by an estimated 7 percentage points ( $p = 0.013$  without covariates,  $p = 0.017$  with covariates). The estimated effects are similar (though statistically weaker) when we examine the impact on any support. The estimated effects of the low and high time contributions are never statistically distinguishable.<sup>20</sup>

Comparing the effects of the money and time contribution treatments – which are equivalent at a \$12 per hour cost of time – the estimated effects of recipients contributing \$1 (10% of costs) are very similar to the effects of recipients contributing 5 min of their time. However, the effects diverge for high contribution treatments: high monetary contributions of \$5 (50% of costs) have no impact on program support while high time contributions (25 min) increase program support substantially. This pattern is consistent with donors

<sup>17</sup> We present the distribution of donations by treatment group in Appendix Fig. A.1.

<sup>18</sup> As shown by the Control means, program support does not differ significantly for the baseline No Monetary Contribution and No Time Contribution treatments.

<sup>19</sup> The sample size of 4000 is the total number of respondents in all 'healthy basket' treatments. As discussed in Section 3.4, all regressions include individual indicator variables for each 'healthy basket' treatment, but we only report the coefficients for the relevant Low and High contribution treatments.

<sup>20</sup> We also estimate  $p$ -values adjusting for multiple hypothesis testing in regressions without covariates using both the procedures developed by List et al. (2016) and by Holm (1979). The only changes in the significance levels (1%, 5%, 10%) reported for Table 3 are the effect of the High Time treatment on Any Support, which is no longer significant at the 10% level; and the test of equality of the effects of the Low and High Monetary treatments on Share of Support, which is significant at the 10% level rather than the 5% level.

perceiving time contribution requirements as having fewer tradeoffs between under- and over-inclusion because they believe that poorer recipients have relatively low costs of time.<sup>21</sup>

## 5. Mechanisms and replication study

The non-monotonic response to recipient monetary contribution requirements shown above is consistent with a framework in which: (1) donors use low monetary contribution requirements to screen out recipients who do not value the healthy food (i.e., they will take it if it is free but not if they have to pay a nominal cost); and (2) donors are concerned that high monetary contribution requirements may be too burdensome or screen out low income recipients who value the healthy food but are not able to pay for it. In this section, we provide additional evidence to support our interpretation of the main results and examine potential alternative mechanisms for our effects. We also report on a separate laboratory experiment that replicates the results of our field experiment.

### 5.1. Survey evidence

At the end of the experiment, we asked respondents about their perceptions of families receiving the baskets. We asked these questions after respondents received the treatment messages, and so we are able to examine the impact of the contribution requirements on individuals' beliefs. To maintain the naturalism of our field setting, these questions were not incentivized and we expected largely qualitative insights from the results.<sup>22</sup>

Our framework predicts that recipient contribution requirements will affect the expected income distribution of those who select into receiving the good: recipient monetary contribution requirements will increase the expected income of recipients, while expected income will be flatter or even decreasing in response to recipient time contribution requirements (if wealthier households have higher time costs). To examine this prediction, we elicit respondents' beliefs about the household income of recipients who choose to participate in the program. After respondents made their donation decision, we asked them what portion of the families who participate in the basket program they believe are in each of the following household income categories: \$0–\$5,000, \$6,000–\$15,000, \$16,000–\$25,000, \$26,000–\$35,000, \$36,000–\$45,000, \$46,000–\$60,000 and \$61,000–\$75,000. Answers are on a 7-point scale corresponding to 'None, Almost None, Some, About Half, Most, Almost All, All.'<sup>23</sup>

As shown in Fig. 2, we find suggestive evidence that individuals believe high monetary contribution requirements may screen out the poorest recipients while time contribution requirements are less likely to do so.<sup>24</sup> As monetary contributions increase, individuals perceive recipients as having higher incomes: respondents believe recipients are less likely to have household incomes below \$26,000 and more likely to have household incomes above \$35,000. The effects of the Low Time Contribution treatment follow the opposite pattern: respondents believe that recipients are more likely to have low household incomes and less likely to have high household incomes (we do not find a consistent pattern for the High Time Contribution treatment).

### 5.2. Additional treatments

To examine alternative mechanisms driving the response to recipient monetary contributions, we test two additional treatments. First, we include treatments in which the monetary contributions (low and high) are provided by a third-party donor rather than by recipients.<sup>25</sup> This allows us to shut off motivations related to screening individual recipients (because recipients make no contribution). We can then examine whether our main results are instead driven by donors' preferences over the price of providing the good, which is the same whether the contribution comes from the recipient or another donor. That is, when a recipient (or a third-party donor) contributes 50% of costs, then the price of providing a basket of food is cut in half.<sup>26</sup>

Second, we include treatments in which families receive foods of their choice rather than being restricted to healthy foods (under the none, low and high recipient monetary contribution requirements).<sup>27</sup> The aim of these treatments is to reduce uncertainty about whether recipients value the good they are receiving (because all recipients are likely to value unrestricted foods of their own choosing). If all recipients value the good (i.e., there is little heterogeneity in valuation), then there is no need to screen out certain recipients by requiring a monetary contribution. That is, the Foods of Choice program largely turns off screening motivations related to improving allocative efficiency. This allows us to examine whether the response to recipient contributions could instead be driven by preferences for fairness or reciprocity – i.e., recipients who contribute their own resources are considered more deserving of aid, which is the same whether recipients are contributing to the restricted or unrestricted food program. Wanting recipients to make a contribution could also be due to investment motivations, which can arise from a belief that recipients will value the good more if

<sup>21</sup> Of course, it may be the case that there is a non-monotonic response to time contribution requirements at higher levels than we tested. We chose time contribution levels that were comparable in terms of cost of time to the monetary contribution requirements. We note that the monetary and time contributions may lose comparability at higher levels, as the monetary contribution requirement approaches the cost of the good with no equivalent ceiling for time contribution levels. Relatedly, as recipients' price converges to cost, there may be a ceiling effect on charitable contributions. In such cases, donations may not serve as a good measure of program support.

<sup>22</sup> Along similar lines, in order to avoid experimenter demand effects in participants' donation decisions, we did not ask these questions before implementing treatment. Therefore, we cannot examine heterogeneous treatment effects by respondents' baseline beliefs, which we leave to future research.

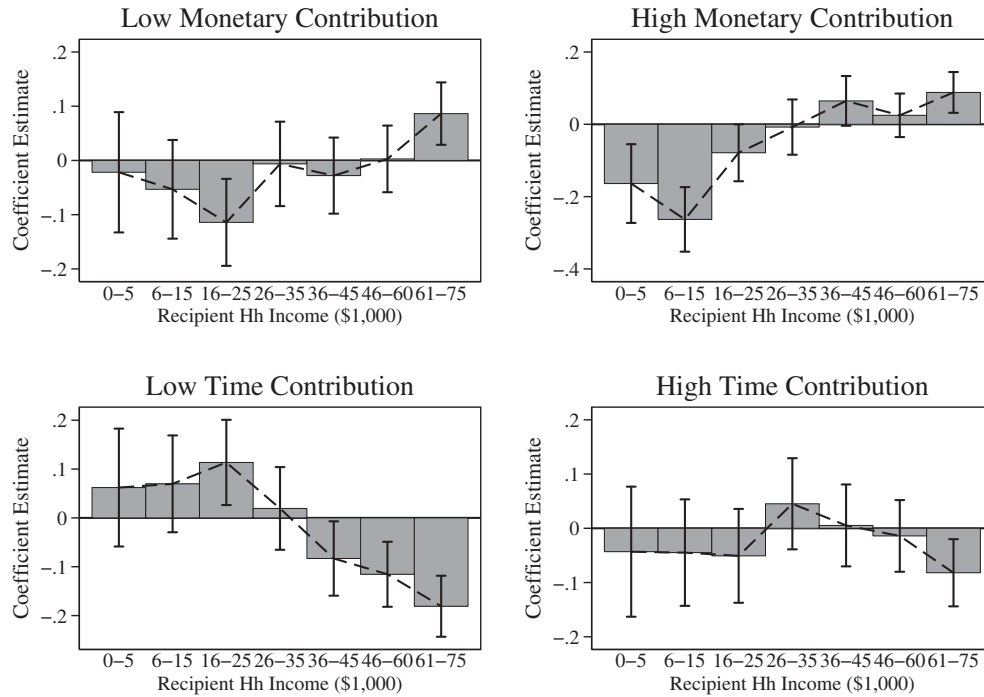
<sup>23</sup> We also ask respondents their beliefs about recipients' race/ethnicity, as well as how much of the food in the basket is eaten and how deserving the recipients are. We report the estimates for the other belief questions in Appendix Table A.3 using the same regressions specification as for the beliefs about household income. We find little impact of treatment on perceptions of how much of the food is eaten, deservingness, or recipient race/ethnicity.

<sup>24</sup> The figure reports coefficient estimates (with standard error bars) from regressions for each income category that include all 'healthy basket' treatments and the full set of covariates. The omitted group is the relevant No Contribution (time or money) treatment. Positive coefficients indicate a higher estimated proportion of households in a given income category compared to baseline; negative coefficients indicate a lower estimated proportion.

<sup>25</sup> Respondents were told in the Low (High) Donor Contribution treatment: 'Funding from a private donor provides \$1 (\$5) for the basket. Donations provide the other \$9 (\$5).'

<sup>26</sup> Framed in terms of outcomes, the same donation amount can generate twice as many baskets. We do not distinguish between providing more baskets to a single recipient or providing a single basket to more recipients – see e.g., Ottoni-Wilhelm et al. (2017) for a discussion of this issue. We argue that our additional treatments address outcome motivations of either type. A related motivation is personal impact, in which individuals would like to be responsible for providing a certain proportion of the cost of the good (see e.g., Cryder et al., 2013, for discussion). Hereafter, we use "price effects" to refer to motivations due to price, outcome or personal impact.

<sup>27</sup> We described the Foods of Choice program as a 'a food basket program ... to provide families in need with \$10 worth of foods of their choice.' All treatment messages were identical to the monetary contribution treatments described in Section 3.2. Due to sample size constraints, we only tested monetary contribution requirements and not time contribution requirements in the Foods of Choice program. So, we are not able to compare the impact of time contribution requirements in the restricted and unrestricted programs.



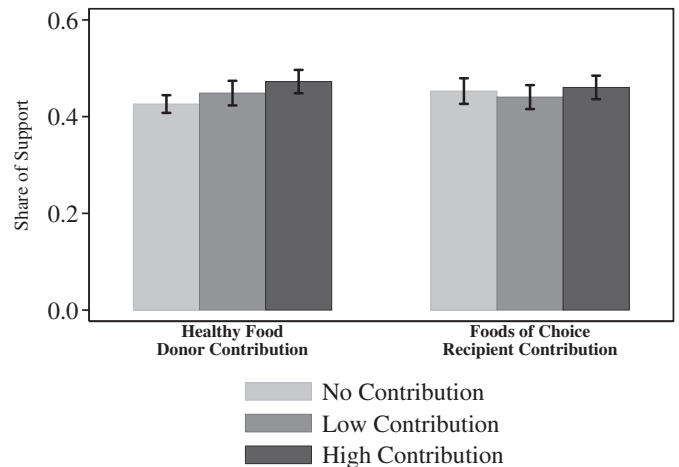
**Fig. 2.** Treatment effects on beliefs about recipient income. *Notes:* The figure presents coefficients and standard error bars from OLS estimates for each income range of the effects of the recipient contribution treatment reported for each panel. Dependent variable is belief on 1–7 scale about proportion of households that are in a given income range. Regressions include all “healthy basket” treatments. Omitted group is No Contribution for money (top panels) or time (bottom panels). All regressions include individual indicator variables for each included treatment, survey day fixed effects and demographic covariates (gender, age, race/ethnicity, marital status, education, Hh income and Hh size).

they pay a (higher) price for it (i.e., invest their own resources in the good).<sup>28</sup> Finally, comparing the restricted and unrestricted food programs allows us to examine the role of paternalism in program support. If donors are paternalistic and believe that recipients are not optimizing their food choices, they may prefer programs that limit recipients’ food choices to healthy foods.

Fig. 3 presents the results of the Donor Contribution treatments and Foods of Choice treatments.<sup>29</sup> The pattern of effects in the third-party donor contribution treatments is consistent with the findings of prior studies discussed in Section 2: low contributions have little impact, and program support increases in response to higher third-party donor contributions. Recipient contributions have no impact on program support in the foods of choice treatments, suggesting that the response to recipient contributions is not due to fairness concerns or investment motivations. We find no evidence of the inverse u-shape from our main results.

Table 4 presents the estimated effects of the alternative monetary treatments alongside our main estimates from Table 3.<sup>30</sup> To examine

whether the response to contributions in our main treatments is distinct from the pattern of results in our additional treatments, we test the following one-sided hypotheses. First, that low contributions increase program support in our main treatments but not in our additional treatments. And second, that low contributions are more effective than high contributions in our main treatments but not in our additional treatments (i.e., the Low-High difference is larger in our main treatments than in our additional treatments). We report the *p*-values from these tests in columns (3) and (5).



**Fig. 3.** Program support in additional monetary contribution treatments. *Notes:* The figure presents mean share of support (share of total payment respondents donate to the food aid program, including zeroes) and standard error bars.

<sup>28</sup> This could occur if recipients are sensitive to sunk costs (Thaler, 1980; Arkes and Blumer, 1985) or infer quality from price (Bagwell and Riordan, 1991; Riley, 2001).

<sup>29</sup> We present baseline characteristics for the additional treatment groups in Appendix Table A.4.

<sup>30</sup> The dependent variable is ‘Share of Support.’ Columns (1) and (2) report coefficients from a single regression that includes all ‘healthy basket’ treatments. Column (4) includes only the ‘foods of choice’ treatments. The relevant No Recipient Monetary Contribution treatment is the omitted group. The regressions only include indicators for treatment. Including covariates does not affect the results. We did not have sufficient sample size to adequately power our additional treatments and so do not emphasize the tests of statistical significance but rather the pattern of effects.



**Table 4**  
Effects of alternative monetary contributions.

	Healthy food basket			Foods of choice	
	Recipient contribution	Donor contribution	<i>p</i> -value	Recipient contribution	<i>p</i> -value
	(1)	(2)	(1) > (2)	(4)	(1) > (4)
Low Contribution	0.051** (0.025)	0.023 (0.031)	0.174	-0.012 (0.036)	0.074
High Contribution	0.001 (0.025)	0.046 (0.030)		0.007 (0.036)	
Control mean	0.43 (0.02)			0.45 (0.03)	
Pr(Low=High)	0.039	0.496	0.041	0.574	0.047
N	4000			891	

Notes: OLS estimates. Standard errors in parentheses. Columns 1–2 report coefficients from a single regression that includes all “healthy basket” treatments. Omitted group is No Monetary Contribution for healthy baskets. Column 4 includes all “foods of choice” treatments. Omitted group is No Monetary Contribution for foods of choice baskets. All regressions include only individual indicator variables for each included treatment group. *p*-values in column 3 report one-sided tests that the effects in column 1 are larger than the effects in column 2. *p*-Values in column 5 report one-sided tests that the effects in column 1 are larger than the effects in column 4. Significance reported at the \* 0.1, \*\* 0.05 and \*\*\* 0.01 levels.

We find support for both hypotheses. Comparing treatment effects across columns, low contributions increase program support in our main treatments but have little or no impact in the donor contribution and the Foods of Choice treatments. And whereas high contributions *decrease* program support compared to low contributions in our main treatments, high contributions directionally *increase* program support compared to low contributions in the additional treatments.

These results suggest that mechanisms related to price effects or fairness preferences are not driving our main results. They are also inconsistent with investment motivations, in which donors want recipients to invest their own resources. As shown by the control group means, we do not find differences in baseline support for the ‘healthy’ versus ‘foods of choice’ programs, which suggests that paternalism is unlikely to explain our results. Finally, our results demonstrate that the mechanism driving the response to recipient contributions is distinct from the mechanism driving the response to third-party donor contributions.

### 5.3. Refund option

The results of our additional treatments suggest that investment motivations do not drive our main results. To further distinguish screening mechanisms from investment mechanisms, we gave donors the option to use their donation to provide recipients with a refund for their contribution. In the recipient monetary contribution treatments, we surprised those who chose to make a donation with the option to have their donation help cover the recipient’s costs.<sup>31</sup> We only asked this of respondents who chose to make a non-zero donation and only revealed the option after they chose their donation level. This allows us to separately identify donors’ desire to screen recipients who are *willing* to make a contribution from donors’ desire to have recipients make the actual investment in the good.

Our framework predicts that, conditional on screening recipients, donors want to minimize recipient costs and will therefore choose to refund the recipient’s contribution. If, however, donors want recipients to make an investment in the good, then they should

choose *not* to provide refunds. Similarly, preferences for reciprocity would suggest that donors do *not* provide refunds because they want to reciprocate contributions made by recipients. Finally, if recipients receive a refund, this is equivalent to a price increase: donors now cover the full cost of the good. Thus, if price motivations are driving behavior, donors should also choose *not* to provide refunds.

The large majority of donors (78%) chose to cover the recipients’ contribution. A small percentage (10%) declined to cover the recipients’ cost, and the remainder indicated that they did not understand the option. This suggests that most donors are not motivated by wanting recipients to make a costly contribution of their own resources, either due to investment motivations or preferences for reciprocity.

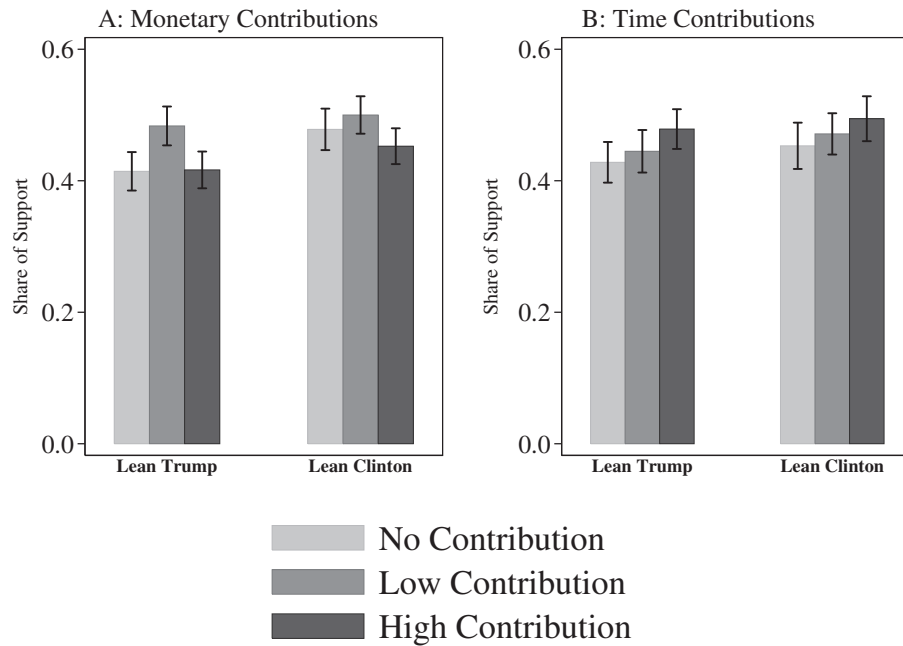
The lack of investment motivations on the donor side aligns with empirical evidence on the recipient side. In a related study, we find no evidence that paying a higher price for a food basket increases recipients’ valuation for it (Sadoff and Samek, 2018). This is also in line with findings from work in developing country contexts (Ashraf et al., 2010; Cohen and Dupas, 2010; Berry et al., 2015).

### 5.4. Effects by political preference

To evaluate whether individual preferences mirror the debate among Republican and Democratic policymakers in the U.S., we investigate the role of political leanings in preferences for recipient contribution requirements. We are in a good position to examine this issue due to the representative nature of our sample, and due to our ability to incorporate data on voting intentions in the 2016 U.S. Presidential election. We compare respondents whose preferred candidate was the Republican nominee, Donald Trump, to respondents whose preferred candidate was the Democratic nominee, Hillary Clinton.

As shown in Fig. 4, the pattern of effects is similar across political preference: an inverted u-shape response to monetary contribution requirements and increasing support in response to time contribution requirements. Trump supporters give less at baseline (when recipients make no contribution), but respond more strongly than Clinton supporters to both low recipient monetary contributions and high recipient time contributions, which closes the gap in program support in these treatments. In line with the political debate, this suggests that support for recipient contribution requirements is strongest among conservative voters. We note, however, that these results are only suggestive, as the estimated treatment effects for

<sup>31</sup> In the Low (High) Contribution treatments we told donors, ‘You have the option to use your donation to help cover the cost of the baskets to families. If you choose this option, families will receive a refund for their \$1 (\$5) contribution to the basket.’



**Fig. 4.** Program support by political preference. *Notes:* The figure presents mean share of support (share of total payment respondents donate to the food aid program, including zeroes) and standard error bars.

Trump and Clinton voters are not significantly different at conventional levels.<sup>32</sup>

### 5.5. Laboratory experiment

Finally, to validate the non-monotonic response to recipient monetary contribution requirements, we replicate the main field experiment treatments in a laboratory experiment. We also replicate the donor contribution treatments. The experiment included 1020 undergraduate participants, who were shown information about the healthy food program alongside information about an alternate charity and asked to choose which one to direct a \$100 donation (we randomly chose one participant's decision to determine the actual donation). As in the field study, we varied the monetary contribution requirements for the healthy food program across treatments (the description of the alternate charity did not change). We measure program support as the proportion of subjects who chose to direct the \$100 donation to the healthy food program rather than to the alternative charity.<sup>33</sup>

As shown in Table 5 (which has the same structure as Table 4), the results of the laboratory experiment replicate those of the field

study. First, we find the same non-monotonic response to recipient monetary contributions: low recipient monetary contributions significantly increase program support; there is no impact of high recipient monetary contributions; and the effects of low and high contributions are significantly different. Second, as in the field experiment, the response to recipient contributions is distinct from the response to contributions by third-party donors. Consistent with both the field experiment and prior studies, low contributions by other donors have no impact; and, program support directionally increases in response to high donor contributions. Importantly, the impact of low contributions by recipients is significantly larger than the impact of low contributions by third-party donors, a point we return to below.

**Table 5**  
Effects of recipient and donor contributions: Laboratory experiment.

	Healthy food basket		p-value (1) > (2)
	Recipient contribution	Donor contribution	
	(1)	(2)	
Low Contribution	0.095** (0.047)	0.002 (0.047)	0.024
High Contribution	-0.012 (0.047)	0.011 (0.047)	
Control mean	0.67 (0.03)		
Pr(Low=High)	0.023	0.851	0.041
N	958	958	

*Notes:* OLS estimates. Standard errors in parentheses. Coefficients reported from a single regression that includes all "healthy basket" treatments. Omitted group is No Monetary Contribution. Includes only individual indicator variables for each included treatment. *p*-Values report one-sided tests that the effects reported in column 1 are larger than the effects reported in column 2. Significance reported at the \*0.1, \*\* 0.05 and \*\*\* 0.01 levels.

<sup>32</sup> Appendix Table A.5 reports the effects of recipient contributions interacted with political preference for the subsample of respondents who have voter preference data (see Section 3 for discussion). The table has the same structure as Table 3, adding an indicator variable for whether the respondent is a "Lean Trump" voter and interaction terms of the Lean Trump indicator with the Low Money, High Money, Low Time and High Time treatment indicators. The estimates are positive but not statistically significant for the interactions of Lean Trump with the Low Monetary Contribution treatment, the Low Time Contribution treatment and the High Time Contribution treatment.

<sup>33</sup> The alternative program was the children's charity, Kids Korps. Appendix C provides a detailed description of the laboratory experiment. We report baseline characteristics for the laboratory participants in Appendix Table A.6. The analysis excludes 62 participants for whom we are missing demographic information. Including these participants does not affect the results.

**6. Conclusion**

In this study, we use a large nationally representative sample in an incentivized experiment to demonstrate two novel findings. First, contributions of both money and time by recipients in a food aid program increase public support for the program. Second, the response to recipient monetary contributions is non-monotonic: small monetary contributions increase program support, while large contributions do not. Our findings suggest that voters and donors may withhold support for programs due to uncertainty about the value of aid to recipients. We also show that nominal contributions by recipients can be sufficient to address screening concerns.

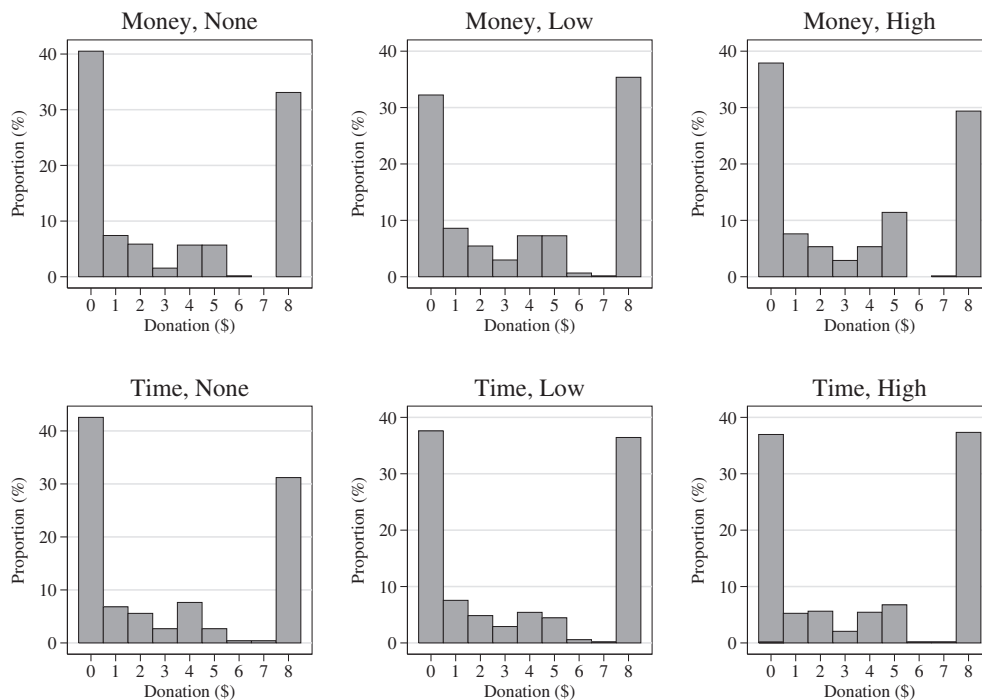
The screening preferences of voters and donors may help explain why some programs continue to include recipient contribution requirements even if there is empirical evidence of their inefficiencies. This resonates with the debate on whether transfers to the poor should be conditioned on recipients taking certain actions, in which Fiszbein and Schady (2009) argue that, “even in situations where a narrow technical assessment might suggest that an unconditional transfer is more appropriate than a [conditional transfer] (say, because there is no evidence of imperfect information) ... conditions might be justified because they lead to a preferable political economy equilibrium.” Our work suggests that efforts to improve such policies

require a better understanding of how voter and donor preferences shape program design.

To the literature on charitable giving, our study proposes an alternative mechanism for signaling quality using recipient contributions rather than leadership gifts. In our context, small contributions by recipients have a larger impact than small contributions by third-party donors. This suggests a potential new way to allocate third-party donor contributions to maximize total giving: third-party donor dollars may be more cost-effective if they can be credibly funneled through recipients.

We see several directions for further study. First, it may be possible to address screening concerns without requiring recipients to make costly contributions, for example by providing credible information that participants need and value the aid they are receiving. Second, the response to recipient time contributions may depend on how they are structured; for example, the extent to which it is wasted time (e.g., standing in line) versus productive time (e.g., work requirements). Finally, our study examines donation decisions in the context of support for a non-profit program. Future work could investigate the response to recipient contributions in the context of voter preferences for government policies. We believe our evidence of screening concerns suggests that this largely unexplored mechanism could be an important driver of support for social programs.

**Appendix A. Appendix figures and tables**



**Fig. A.1.** Distribution of donations by treatment group. *Notes:* The figure presents the distribution of donation amounts in dollars in the field experiment, by treatment group.

**Table A.1**  
Effects of recipient contributions: All participants.

	Monetary contribution	Time contribution
<i>Panel A: Share of support</i>		
Low Contribution	0.052** (0.025)	0.053* (0.028)
High Contribution	0.000 (0.025)	0.069** (0.027)
Control mean	0.43 (0.02)	0.41 (0.02)
Pr(Low=High)	0.035	0.546
N	4014	4014
<i>Panel B: Any support</i>		
Low Contribution	0.084*** (0.028)	0.052* (0.031)
High Contribution	0.026 (0.028)	0.057* (0.030)
Control mean	0.59 (0.02)	0.57 (0.02)
Pr(Low=High)	0.033	0.850
N	4014	4014
Session/Survey day	No	No
Demographics	No	No

Notes: OLS estimates. Standard errors in parentheses. Includes all “healthy basket” treatments. Omitted group is No Monetary Contribution in column 1 and No Time Contribution in column 2. All columns include only individual indicator variables for each included treatment. Significance reported at the \* 0.1, \*\* 0.05 and \*\*\* 0.01 levels.

**Table A.2**  
Effects of recipient contributions: Pooled control groups.

	(1)	(2)
<i>Panel A: Share of support</i>		
Low Monetary Contribution	0.060*** (0.022)	0.060*** (0.022)
High Monetary Contribution	0.010 (0.022)	0.012 (0.021)
Low Time Contribution	0.041* (0.023)	0.041* (0.023)
High Time Contribution	0.057** (0.023)	0.051** (0.023)
Pr(Low Money=High Money)	0.039	0.045
Pr(Low Time=High Time)	0.545	0.696
Control mean		0.42 (0.01)
N	4000	4000
<i>Panel B: Any support</i>		
Low Monetary Contribution	0.092*** (0.025)	0.093*** (0.025)
High Monetary Contribution	0.035 (0.024)	0.035 (0.024)
Low Time Contribution	0.039 (0.026)	0.037 (0.026)
High Time Contribution	0.045* (0.026)	0.039 (0.026)
Pr(Low Money=High Money)	0.038	0.033
Pr(Low Time=High Time)	0.831	0.939
Control mean		0.59 (0.02)
N	4000	4000
Survey/Survey day	No	Yes
Demographics	No	Yes

Notes: OLS estimates. Standard errors in parentheses. Includes all “healthy basket” treatments. Omitted group is pooled No Monetary Contribution and No Time Contribution groups. Column 1 includes individual indicator variables for each included treatment. Column 2 adds survey day fixed effects and demographic covariates (gender, age, race/ethnicity, marital status, education, Hh income and Hh size). Significance reported at the \* 0.1, \*\* 0.05 and \*\*\* 0.01 levels.

**Table A.3**  
Treatment effects on beliefs.

	Food	How	Recipient race				
	Eaten	Deserving	White	Black	Hispanic	Asian	Other
<i>Panel A: Monetary Contribution</i>							
Low Contribution	0.008 (0.076)	0.008 (0.047)	-0.087 (0.057)	-0.083 (0.069)	-0.063 (0.068)	-0.009 (0.061)	-0.018 (0.067)
High Contribution	-0.025 (0.075)	-0.041 (0.046)	-0.002 (0.056)	0.022 (0.068)	0.029 (0.066)	0.130** (0.060)	-0.002 (0.066)
Control mean	5.50 (0.056)	3.96 (0.034)	3.35 (0.043)	3.84 (0.050)	3.72 (0.050)	2.86 (0.046)	2.97 (0.049)
Pr(Low=High)	0.655	0.280	0.125	0.116	0.156	0.017	0.803
<i>Panel B: Time Contribution</i>							
Low Contribution	0.158* (0.083)	0.036 (0.051)	-0.021 (0.062)	-0.012 (0.075)	-0.050 (0.073)	0.024 (0.066)	0.024 (0.073)
High Contribution	0.068 (0.082)	0.050 (0.051)	-0.080 (0.062)	0.053 (0.074)	0.008 (0.073)	-0.040 (0.065)	0.017 (0.072)
Control mean	5.51 (0.059)	3.90 (0.035)	3.36 (0.048)	3.85 (0.056)	3.75 (0.055)	2.93 (0.050)	2.93 (0.053)
Pr(Low=High)	0.264	0.776	0.329	0.380	0.418	0.327	0.919
N	3994	3991	3969	3972	3966	3960	3950

Notes: OLS estimates. Standard errors in parentheses. Dependent variable on 1–7 scale reported for each column. Includes all “healthy basket” treatments. Omitted group is No Monetary Contribution in panel A and No Time Contribution in panel B. All columns include individual indicator variables for each included treatment, survey day fixed effects and demographic covariates (gender, age, race/ethnicity, marital status, education, Hh income and Hh size). Significance reported at the \* 0.1, \*\* 0.05 and \*\*\* 0.01 levels.

**Table A.4**  
Baseline characteristics: Additional treatments

	Donor monetary contribution (\$)			Recipient monetary contribution (\$)			F-test p-Value
	Healthy food			Choice of food			
	None	Low (\$1)	High (\$5)	None	Low (\$1)	High (\$5)	
N	580	307	318	292	296	303	
Female	0.56 (0.50)	0.55 (0.50)	0.58 (0.49)	0.50 (0.50)	0.56 (0.50)	0.54 (0.50)	0.81
Age in Years	49.08 (15.22)	48.36 (16.23)	49.69 (14.72)	49.87 (16.07)	49.17 (16.13)	47.52* (15.66)	0.98
White	0.73 (0.44)	0.76 (0.43)	0.76 (0.43)	0.72 (0.45)	0.72 (0.45)	0.74 (0.44)	0.95
Black	0.08 (0.27)	0.06 (0.24)	0.07 (0.25)	0.11 (0.31)	0.09 (0.28)	0.10 (0.30)	0.32
Hispanic	0.09 (0.29)	0.10 (0.30)	0.08 (0.27)	0.09 (0.29)	0.10 (0.30)	0.08 (0.28)	0.95
Other	0.10 (0.30)	0.08 (0.27)	0.09 (0.28)	0.08 (0.27)	0.09 (0.29)	0.08 (0.27)	0.86
Married	0.61 (0.49)	0.60 (0.49)	0.58 (0.49)	0.64 (0.48)	0.60 (0.49)	0.59 (0.49)	0.92
Dropout or High School	0.28 (0.45)	0.26 (0.44)	0.21** (0.41)	0.22 (0.41)	0.25 (0.43)	0.26 (0.44)	0.39
Some College or AA Degree	0.38 (0.49)	0.38 (0.49)	0.45* (0.50)	0.38 (0.49)	0.39 (0.49)	0.36 (0.48)	0.52
Bachelor's Degree or Higher	0.34 (0.48)	0.36 (0.48)	0.34 (0.47)	0.40 (0.49)	0.36 (0.48)	0.38 (0.49)	0.77
Hh Income: Below 25,000	0.24 (0.43)	0.18** (0.38)	0.22 (0.42)	0.21 (0.41)	0.24 (0.43)	0.20 (0.40)	0.50
Hh Income: 25,000–49,999	0.23 (0.42)	0.26 (0.44)	0.25 (0.43)	0.21 (0.41)	0.28* (0.45)	0.26 (0.44)	0.51
Hh Income: 50,000–74,999	0.18 (0.38)	0.21 (0.41)	0.17 (0.37)	0.22 (0.42)	0.18 (0.38)	0.19 (0.40)	0.50
Hh Income: 75,000–99,999	0.17 (0.38)	0.13 (0.34)	0.15 (0.36)	0.14 (0.35)	0.11 (0.31)	0.12 (0.33)	0.17
Hh Income: 100,000 and above	0.18 (0.39)	0.22 (0.42)	0.21 (0.41)	0.22 (0.41)	0.20 (0.40)	0.22 (0.42)	0.70
Hh Size 1	0.16 (0.37)	0.14 (0.35)	0.17 (0.37)	0.15 (0.36)	0.17 (0.38)	0.17 (0.37)	0.94
Hh Size 2	0.39 (0.49)	0.37 (0.48)	0.38 (0.49)	0.38 (0.49)	0.33 (0.47)	0.33 (0.47)	0.58
Hh Size 3	0.17 (0.38)	0.16 (0.36)	0.17 (0.38)	0.17 (0.38)	0.16 (0.37)	0.22 (0.42)	0.31

(continued on next page)

Table A.4 (continued)

	Donor monetary contribution (\$)			Recipient monetary contribution (\$)			F-test <i>p</i> -Value
	Healthy food			Choice of food			
	None	Low (\$1)	High (\$5)	None	Low (\$1)	High (\$5)	
N	580	307	318	292	296	303	
Hh Size 4+	0.27 (0.45)	0.33* (0.47)	0.28 (0.45)	0.30 (0.46)	0.34 (0.47)	0.27 (0.45)	0.35
Probability Vote	0.86 (0.27)	0.86 (0.29)	0.85 (0.28)	0.86 (0.28)	0.89 (0.23)	0.87 (0.27)	1.00
Lean Trump	0.47 (0.50)	0.50 (0.50)	0.45 (0.50)	0.48 (0.50)	0.42 (0.50)	0.45 (0.50)	0.76
Lean Clinton	0.41 (0.49)	0.39 (0.49)	0.42 (0.49)	0.40 (0.49)	0.46 (0.50)	0.42 (0.49)	0.85
Lean Other	0.12 (0.32)	0.11 (0.31)	0.13 (0.33)	0.13 (0.33)	0.12 (0.32)	0.14 (0.34)	0.97
Preference Missing	0.16 (0.36)	0.19 (0.39)	0.15 (0.36)	0.16 (0.37)	0.15 (0.36)	0.15 (0.36)	0.68

Notes: The table reports group means. Standard deviations in parentheses. The reported *p*-value is the probability from a joint *F*-test that the group means are equal to each other. Asterisks indicate a difference of means compared to the relevant No Contribution ("healthy" or "foods of choice") group significant at the \* 0.1, \*\* 0.05, and \*\*\* 0.01 levels.

Table A.5

Effects of recipient contributions interacted with political preference.

	Monetary contribution		Time contribution	
<i>Panel A: Share of support</i>				
Low Contribution	0.048 (0.033)	0.054* (0.033)	-0.001 (0.035)	-0.001 (0.035)
High Contribution	-0.000 (0.033)	0.014 (0.032)	0.039 (0.036)	0.038 (0.036)
Lean Trump	-0.040** (0.018)	-0.047** (0.019)	-0.045** (0.018)	-0.059*** (0.019)
Lean Trump * Low Contribution	0.022 (0.043)	0.010 (0.042)	0.036 (0.046)	0.045 (0.045)
Lean Trump * High Contribution	0.003 (0.042)	-0.019 (0.042)	0.029 (0.045)	0.035 (0.044)
Control mean		0.43 (0.02)		0.43 (0.02)
N	3407	3407	3407	3407
<i>Panel B: Any support</i>				
Low Contribution	0.083** (0.036)	0.086** (0.036)	0.004 (0.039)	0.009 (0.039)
High Contribution	0.042 (0.036)	0.046 (0.036)	0.029 (0.040)	0.034 (0.040)
Lean Trump	-0.046** (0.020)	-0.033 (0.021)	-0.053*** (0.019)	-0.044** (0.021)
Lean Trump * Low Contribution	0.016 (0.047)	0.004 (0.047)	0.028 (0.050)	0.031 (0.050)
Lean Trump * High Contribution	-0.016 (0.046)	-0.029 (0.047)	0.022 (0.049)	0.022 (0.049)
Control mean		0.60 (0.02)		0.60 (0.02)
N	3407	3407	3407	3407
Session/Survey day	No	Yes	No	Yes
Demographics	No	Yes	No	Yes

Notes: OLS estimates. Standard errors in parentheses. Includes all "healthy basket" treatments. Omitted group is No Monetary Contribution in columns 1–2 and No Time Contribution in columns 3–4. Columns 1 and 3 include indicator variables for each "healthy basket" treatment. Columns 2 and 4 add survey day fixed effects and demographic covariates (gender, age, race/ethnicity, marital status, education, Hh income and Hh size). Significance reported at the \* 0.1, \*\* 0.05 and \*\*\* 0.01 levels.

**Table A.6**

Baseline characteristics: Laboratory experiment.

	Recipient contribution (\$)			Donor contribution (\$)		F-test
	None	Low (\$1)	High (\$5)	Low (\$1)	High (\$5)	p-Value
N	195	193	191	190	189	
Age	20.97 (2.85)	20.93 (2.50)	20.84 (2.27)	21.43 (6.05)	21.43 (6.00)	0.49
Female	0.47 (0.50)	0.53 (0.50)	0.52 (0.50)	0.50 (0.50)	0.46 (0.50)	0.54
Asian	0.60 (0.49)	0.60 (0.49)	0.61 (0.49)	0.58 (0.50)	0.59 (0.49)	0.97
Hispanic	0.08 (0.28)	0.06 (0.23)	0.06 (0.23)	0.06 (0.24)	0.07 (0.25)	0.86
White	0.23 (0.42)	0.25 (0.43)	0.24 (0.43)	0.25 (0.44)	0.24 (0.43)	0.98
Other	0.09 (0.29)	0.10 (0.30)	0.09 (0.29)	0.11 (0.31)	0.10 (0.30)	0.99

Notes: The table reports group means. Standard deviations in parentheses. The reported *p*-value is the probability from a joint *F*-test that the group means are equal to each other. Asterisks indicate a difference of means compared to the No Contribution group significant at the \* 0.1, \*\* 0.05, and \*\*\* 0.01 levels.

## Appendix B. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jpubeco.2018.10.011>.

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