Can Charitable Donations Compensate for a Reduction in Government Funding? The Role of Information

Abstract
Are private donors willing to replace cuts in government funding? We conducted a survey experiment \( n=2,458 \) to examine how information about government funding affect decisions to donate money to a large charitable organization in the Netherlands. Providing information about actual budget cuts increased the number of donors. Most new donors are recruited among respondents who process the information correctly, which underlines the importance of effective communication. The magnitude of the information effect is stronger for citizens with lower levels of empathic concern, who are usually less likely to donate but can be converted into donors. We conclude that policy information not only shapes attitudes, but also civic engagement outside the political sphere.

Keywords
Government funding; crowding-out; charitable giving.

Practitioners points
- When effectively communicated, government policies have the ability to change charitable giving to nonprofit organizations
- Fundraisers can use information about budget cuts to attract new donors
- Policy communication is more effective among low-empathic citizens, who are usually less likely to donate but can be converted into donors.
Information availability has become an important topic in the debate on citizen participation. Recent studies have examined the effects of exposure to information on trust in government (Grimmelikhuijsen and Meijer 2014; Kim and Lee 2012; Tolbert and Mossberger 2006), political participation (Lassen 2005; Worthy 2015) and support for welfare state programs (Slothuus 2007). A recent review of the literature shows that the effects of government transparency on legitimacy, citizen participation, trust in government and satisfaction tend to be positive, though findings are still inconclusive (Cucciniello, Porumbescu, and Grimmelikhuijsen 2017).

In many cases, citizens are unaware of government policies, reducing their effects on actual behavior. Research on the association between government funding and philanthropic giving is a striking example: it is often hypothesized that charitable giving is ‘crowded out’ by government subsidies, though it is questionable whether citizens actually have access to and use information about government policies in real-life settings (Horne, Johnson, and Van Slyke 2005).

This article examines how charitable donations are affected by a specific type of policy information, namely government funding of nonprofit organizations. Because governments and nonprofit organizations often work in the same fields, it is likely that charitable donations are affected by such information. Nonprofit organizations have increasingly important roles in the implementation of public policy through contracting, collaborations and partnerships (Ansell and Gash 2008; Milward and Provan 2003). Especially in times of fiscal stress, governments seek to outsource services (Geys and Sørensen 2016). Evidence that public budget cuts can lead to a larger sum of charitable income would have important consequences for policy decisions on government expenditures and the outsourcing of public services.

There are many empirical studies dedicated to the relationship between government spending and individual private donations (see for a review De Wit and Bekkers 2017). Theories from behavioral economics predict at least partial substitution to the extent that donors aim to contribute to public services either through taxes or through voluntary donations. Laboratory experiments have provided support for this hypothesis, but the assumption in virtually all of these studies is that people have perfect information about government policies. Thus far, only a handful of studies examined how charitable giving and volunteering are affected by different levels of exposure to knowledge about public policies (De Wit, Bekkers, and Broese van Groenou 2017; Horne, Johnson, and Van Slyke 2005; Jones 2015; Yörük 2012). Given that behavioral responses
to government policies are partly dependent on the available knowledge, we should shift our attention to the information on which social preferences are based.

Our research findings contribute to the literature in three ways. First, we examine how information about government support affects individual charitable giving. We provide a random selection of participants in a large representative panel survey with information about a reduction in government funding to a well-known nonprofit organization in the Netherlands and observe the change in their behavior by comparison to a control group in which we provide no information. Providing information increases total fundraising income by 17%.

Second, we examine to what extent such information has the ability to convert non-donors into donors. Alternatively, information about a specific nonprofit organization can lead to a displacement effect, when information convinces existing donors from other organizations to reallocate their charitable giving, which would not increase the total size of the fundraising market (Ek 2017; Reinstein 2006, 2007). Our results suggest both recruitment of new donors and substitution between organizations, depending on how well citizens conceive the information provided.

Third, we examine how the effects of information vary between social groups. Because the experiment is part of a large panel survey, we are able to analyze how the effects of information vary between citizens with different characteristics. We find that the appeal with policy information is more effective among citizens with lower empathic concern, who are less likely to donate at baseline but can be drawn into donating.
Theory

Information on government funding
Communication theories emphasize that most social interactions occur under information uncertainty. New information may reduce uncertainty and give meaning to an event (Brashers, 2007). When provided with the opportunity to donate to charities, citizens are confronted with information uncertainty about the receiving organizations. The vast majority of citizens fails to correctly estimate the percentage of public funding that nonprofit organizations receive (Horne, Johnson, and Van Slyke 2005), whether organizations are public, non-profit or for-profit (Handy et al. 2010) and what it means to be a nonprofit enterprise (Schlesinger, Mitchell, & Gray 2004).

Information about actual government funding serves as a signal about the organization’s finances and reputation. On the one hand, scholars have argued that government funding is a cue that signals organization’s trustworthiness. Citizen behavior is enabled and restricted by formal (rules, regulation) and informal (norms, habits) institutions, which guide individual decisions (North, 1991). Government funding may be such a cue, not only in its financial consequences but also in the norm that it reflects. As such, government subsidies to nonprofit organizations can be a ‘seal of approval’ (Schiff, 1990).

On the other hand, information about government funding may be detrimental for charitable giving. In economic theory, it has been argued that an increase in mandatory contributions to the public good (through tax money) ‘crowds out’ voluntary contributions (through charitable donations). The main argument here is that, at least to some extent, people are altruistic: they donate to public goods because they care about the welfare of the recipients (Roberts 1984; Warr 1982). In later work, this theory has been refined by including ‘warm glow’ in the model: to the extent that citizens give because of intrinsic motivations, their voluntary donations are not displaced by mandatory contributions (Andreoni, 1989). This model of impure altruism predicts that each Dollar increase in government funding to nonprofit organizations leads to less than a Dollar decrease in charitable donations.

Different mechanisms do not necessarily exclude each other. It has been argued that small government subsidies encourage donations, while larger sums of government funding displace
them (Brooks 2000a, 200b, 2003; Hughes, Luksetich, and Rooney 2014) and that altruism is reduced when there are more donors for the same public good (Ribar and Wilhelm 2002).

Empirical evidence on the effects of government funding is widely dispersed. The median effect of a $1 reduction in government funding is a $0.18 increase in private donations (De Wit and Bekkers 2017). Experiments find much stronger crowding-out effects than studies using survey data or archival data (De Wit and Bekkers 2017). A key characteristic of laboratory experiments that enhances the crowding-out effect is the provision of clear information about changes in government funding to participants when they get a choice to donate money. In different experimental conditions, a part of their endowment is transferred to the recipient organization before they make a choice, which simulates a government tax. This procedure makes it clear to participants that a third party is also funding the organization, ensuring that the assumption of full information about levels of government taxation is satisfied. In the decisions that citizens typically make about donations, they do not have or carefully evaluate information about government funding.

As far as we know, four studies thus far have examined how donations are affected by different levels of exposure to information about government support. Two studies relying on survey data from the US find that citizens who are informed about government funding do not donate more (Horne, Johnson, and Van Slyke 2005; Yörük 2012). A recent field experiment on social media failed to find any significant effects of government funding on charitable donations (Jilke et al. forthcoming). Findings from the Netherlands suggest that the size of the crowding-out effect depends on the context in which news media report about government policies (De Wit, Bekkers, and Broese van Groenou 2017). In an experiment that most closely resembles the one presented below, Shah, Sussex, and Hernandez-Villafuerte (2015) provide respondents with scenarios about levels of government spending on medical research and about hypothetical changes in spending. They find that private giving to cancer research increases by about 17% in a situation of government cuts, although most citizens do not change their giving when government spending changes.

Because most experimental designs find higher donations in situations of lower government funding and vice versa, we expect an increase in donations when we provide information about budget cuts.
H1: When citizens are provided with information about decreasing government subsidies to an organization, they are more likely to donate and donate more to this organization than when they do not have such information.

Substitution between organizations

To the extent that charitable organizations are substitutes, increases in donations to one organization will cause donations to other organizations to decrease. Substitution is especially likely to occur if citizens have a fixed budget and a mental account for charitable giving, which separates the decision to give from other financial decisions (Thaler 1999). Imagine a household that has budgeted $15 per month for charitable donations. A spontaneous donation of $10 to a very convincing door-to-door fundraiser, leaves only $5 for donations to other organizations that the household would usually support.

There is considerable empirical support for substitution between charitable organizations both with longitudinal survey data (Reinstein 2006) and in laboratory experiments (Ek 2017; Reinstein 2007). When the price of giving to one organization decreases, for example through a matching scheme, the increase in donations reduces giving to other organizations (Reinstein 2007). However, previous research is not entirely conclusive. Using data from crowdfunding campaigns, Meer (2017) finds no evidence for ‘cannibalization’. As this result is an exception, our expectation is that increasing donations to one organization comes at the expense of donations to other organizations.

H2: When citizens are provided with information about decreasing government subsidies to one organization, they are less likely to donate and donate less to other organizations.

Moderating variables

It is an open question to what extent behavioral responsiveness to public information varies between social groups. Previous research suggests that responses to information uncertainty depend on a number of factors, including relevance (i.e.: is the event relevant to my goals?), congruency (i.e.: is the event congruent or incongruent with my goals?), and coping skills (i.e.: what resources do I have available for coping with the event?) (Brashers, 2007). Because prior
knowledge and beliefs about nonprofit organizations vary strongly across the population, it is expected that individual responses are heterogeneous. We examine four moderating factors.

First, we examine the information effect among a group of individuals from relatively wealthy households. Because of the sizeable value of their donations, High Net Worth (HNW) donors have received increasing attention (e.g. US Trust / Lilly Family School of Philanthropy 2018) and it is interesting to see whether reactions to changing government funding are different for this socio-economic group. The marginal loss of a Euro is smaller for citizens with larger wealth, so it is less costly for them to give money away. Because a change in donations by a relatively small group of wealthy donors can have an important influence on total amounts donated, it is important to study how wealthy donors respond to information about government funding to nonprofit organizations. The design of our survey poses a rare opportunity to observe wealthy donors.

\[ H3: \text{The effects of providing information about decreasing government subsidies on charitable giving is stronger for more wealthy citizens than for less wealthy citizens.} \]

Secondly, we examine the difference between citizens who previously donated to a nonprofit organization and citizens who did not. Previous donors are more committed to the goals of the organization and value the need addressed by the organization as more important than non-donors. The crowding-out hypothesis would predict that donors who care more strongly about the needs addressed by a nonprofit organization are more responsive to changes in funding by third parties, including government. Thus, providing information about government funding could have a stronger effect on previous donors.

\[ H4: \text{The effects of providing information about decreasing government subsidies on charitable giving is stronger for regular donors than for non-donors.} \]

A third possible moderator is empathic concern, the ‘other-oriented emotion elicited by and congruent with the perceived welfare of someone in need’ (Batson 2010). Citizens who are more empathic are more touched by what recipients go through. Bekkers (2008) shows that giving to the Dutch Heart Association is higher among people who know someone with a cardiovascular
disease, which are the people that are more exposed to the needs of possible recipients. He shows that the association between knowing a sick person and charitable giving is stronger when having a high empathic concern, which suggests that empathic citizens change their preferences more strongly when exposed to a need.

\[ H5: \text{The effects of providing information about decreasing government subsidies on charitable giving is stronger for citizens with higher levels of empathic concern than for citizens with lower levels of empathic concern.} \]

The fourth and final moderator we investigate is a moral principle to care about others. While empathic concern is a psychological reaction to others in need, the principle of care refers to the moral standard that helping is the right thing to do. Bekkers and Wilhelm (2016) show that the principle of care is a strong predictor of different helping behaviors and that the principle of care mediates the relationship between empathic concern and helping. If the principle of care is the motivation to give, it is likely that information about decreasing public funding has a strong impact. Budget cuts will affect all recipients, irrespective of their relationship with possible donors, increasing a general awareness of need.

\[ H6: \text{The effects of providing information about decreasing government subsidies on charitable giving are stronger for citizens with a stronger principle of care than for citizens with a weaker principle of care.} \]

Research Design

Context
The nonprofit organization under study is the KWF Kankerbestrijding (the Dutch Cancer Society). KWF Kankerbestrijding funds medical research related to cancer, patient care and prevention programs and is the largest fundraising organizations in the Netherlands with a private income of 137 million Euros in the year 2012 (CBF 2014). The organization receives no long-term government funding. Rather than deliberate policy shifts, funding changes are the result of
incidental project subsidies. Incidental government funding forms a very small share of KWF’s total revenues and although the financial information is publicly available on the internet, it is likely that they are unknown to the larger audience.

The main channel through which citizens could have heard about government subsidies to KWF is news media. To examine the available information, we carried out an analysis on seven large national subscribed newspapers in the 2012-2014 period\(^1\). This analysis shows no mention of actual government funding to the organization, which confirms our assumption that citizens are not likely to know about the existence of these government subsidies.

In 2013, the organization appeared in the news with a large controversy about the invoices of the founder of Alpe d’HuZes, a popular sponsor bike ride to collect money for cancer research. The organization operated independently but its overhead costs were largely funded by KWF Kankerbestrijding. Articles about the controversy started to appear from the summer of 2013, a year before respondents took our survey experiment, until December 2013. This might have affected respondent’s perception of the organization, although KWF’s overall fundraising income has not suffered from the incident in the long run (CBF 2014).

**Data**

In an experimental design we examine the effect of providing information about actual government subsidies to KWF Kankerbestrijding. Data were collected in May and June 2014 as a part of the Giving in the Netherlands Panel Survey (GINPS), a nationally representative survey on giving and volunteering among Dutch households, and the Giving in the Netherlands High Net Worth Survey (GINHNW), its supplementary survey among disproportionally wealthy households (Bekkers, Boonstoppel, and De Wit 2018).

The sample consists of two groups. The first group \((n=1,271)\) consists of respondents who are sampled by research agency Kantar Public (formerly known as TNS Nipo) from a large pool of respondents who agreed to occasionally participate in survey research. Respondents are invited by e-mail to fill in a web survey (Computer Assisted Web Interviewing, CAWI). This group is representative of the Dutch adult population in terms of gender, age, education, region and household size. In addition, the sample includes a second group \((n=1,187)\) of High Net Worth (HNW) individuals who are disproportionally wealthy\(^2\). Those respondents are recruited via postal mail invitations to addresses from a database constructed by Elite Research based on public
records. Prospective respondents receive a letter with a generic link to the online survey (CAWI) and a questionnaire that they can fill out and send back (Paper and Pencil Interviewing, PAPI). A reminder mail contained a shorter version of the questionnaire to increase the response rate. Because a part of the HNW sample filled out this shorter questionnaire, not all moderating variables are measured in the full sample.

The 2014 wave of the GINPS included an experiment that allows for examining the effect of information about government funding on donations. Participants in the survey received a reward that, depending on the number of questions they answered, had a value of about 3.5 Euros. The reward came in points which respondents could divide between five vouchers for personal use, Air Miles and donations to four major charitable organizations. The most popular charitable organization is KWF Kankerbestrijding. The other organizations were Aidsfonds (HIV/AIDS Foundation), Rode Kruis (Red Cross) and Nederlandse Hartstichting (Dutch Heart Foundation), which we grouped in the analyses as ‘other organizations’. The different possibilities to keep the reward as a voucher or Air Miles were grouped as ‘kept reward’.

Respondents received information about only one of four nonprofit organizations, which is expected to increase giving to this organization and not to the others. This closely resembles experimental designs that find substitution between organizations in the U.S. (Reinstein 2007) and Sweden (Ek 2017).

First experimental treatment: Real decision

When respondents arrived at the end of the survey, they could see how many points they had earned by filling out the questionnaire. They were offered the possibility to divide the reward between vouchers, Air Miles and charities. The awareness of need among all respondents was evoked by the sentence “The charities could use your support”. While the control group made their decision right after that sentence, the treatment group additionally received information on the amount of government funding that KWF lost. The complete text they were shown was: “The charities could use your support. KWF Kankerbestrijding, for example, received € 361,000 government subsidies in 2011, but received no subsidies at all from Dutch government in 2012.” These are actual numbers, adopted from annual reports as collected and published on the website of the Dutch Central Bureau on Fundraising (CBF 2014). The control group received no information about government funding.
Manipulation check: Perceived change in funding
After the donation decision, the perceived change in funding was measured with the question “What do you think, did KWF Kankerbestrijding receive more, an equal amount of, or less government subsidies in 2012 compared with 2011?”. This question was the same for all respondents. For respondents in the treatment group, who received information, this serves as a manipulation check.

Second experimental treatment: Scenario decision
After the real donation decision and the knowledge question, respondents were exposed to an extra scenario experiment. Respondents were given a second, hypothetical choice in case they would have had different information. Respondents in the treatment group either received a scenario in which funding increased or a scenario in which funding did not change. The control group received one of three scenarios in which funding either decreased, increased or did not change.

The question was: “Imagine you would have heard that government subsidies to KWF Kankerbestrijding [decreased/did not change/increased], what would you have done with your reward?” Respondents could divide their reward in exactly the same way as the actual donation decision, this time without consequences.

We should be careful with generalizing these results to real-life situations, since previous research has shown that people are more generous with hypothetical than with real money (Bekkers 2005).

Other moderating variables
The other moderating variables were adopted from questions asked earlier in the questionnaire.

To measure whether respondents are previous donors, they were asked “To which of the following charitable causes did your household donate in 2013?”, followed by a list of 30 large fundraising organizations in alphabetical order, one of which is KWF Kankerbestrijding. A part of the HNW sample filled in a shorter questionnaire in which this question was not asked, so those respondents were excluded from the analysis on this moderating effect.

As in previous research (Bekkers and Wilhelm 2016), empathic concern is measured by four statements, with answer categories on a 5 point Likert scale ranging from “Totally disagree” to “Totally agree”. A sample item is: “I am often touched by what other people go through”. The
four items have a sufficiently high Cronbach’s Alpha (0.791) and are averaged in a 1 to 5 scale. A dummy variable is created for people scoring higher than 3, indicating a high empathic concern.

Also following Bekkers and Wilhelm (2016), the principle of care is measured by four statements, with answer categories again on a 1 to 5 scale. A sample statement is: “Everyone has the responsibility to help others when they need it”. A scale is formed with high reliability (Alpha = 0.866) and a dummy measures whether respondents score higher than 3 to measure a high principle of care.

Table 1 displays descriptive statistics.

| TABLE 1 ABOUT HERE |

Results

Manipulation check

In our first experimental treatment, respondents receive information about an actual decrease in government funding. Table 2 shows the perceived change in government funding in the control and treatment group. Among those who received no information, a majority (51.8%) believes that KWF has lost funding, while only 5.1% thinks that there has been an increase.

Providing information about the actual change should increase the percentage who give the right answer. The second row of Table 2 shows that it does. In the information group, 63.7% says that KWF lost funding, while 2.9% says that funding increased. Providing information seems to work, although there are still 7 out of 20 respondents who give the wrong answer. An analysis on background characteristics (not shown) reveals that respondents who are younger and higher educated are more likely to give the right answer after being exposed to information.

| TABLE 2 ABOUT HERE |
First experimental treatment

The theoretical expectation is that providing information increases the number of donors as well as the mean amount given. Table 3 shows the percentage of people who donated (a part of) their reward to KWF, donated the full reward to KWF, donated the full reward to other organizations, kept the full reward, split the reward between KWF and another organization, split the reward between KWF and oneself, and split between KWF, another organization and oneself. The last three columns display the conditional average amounts that were donated to KWF, donated to other organizations, or kept as vouchers or Air Miles.

In line with the crowding-out hypothesis, providing information increases the total share of respondents who donated the reward fully or partly to KWF from 9% to 11.3% ($X^2(1, 2,458) = 3.53, p=0.06$). The amount donated to KWF among donors is not significantly different in the treatment group (2.2 Euros) compared with the control group (2.3 Euros). Thus, $H1$ is accepted for the number of donors but is rejected for the amounts donated among donors.

The percentage of respondents who donated the full reward to KWF increases from 5.2% to 6.1% when providing information ($X^2(1, 2,458) = 0.82, p=0.36$) and the share of respondents who keep the full reward decreases from 86.4% to 85.7% ($X^2(1, 2,458) = 0.30, p=0.56$). These differences are not statistically significant. The largest differences occur in the donations to other organizations. In the information condition, fewer respondents (2.4%) donate the full reward to one of the three other nonprofit organizations than in no information condition (3.7%). The difference is significant at 10% ($X^2(1, 2,458) = 3.54, p=0.06$). There are significantly more respondents (1.7% versus 0.6%) who divide their reward between KWF, another organization and themselves ($X^2(1, 2,458) = 6.99, p=0.01$). Also, the average amount donated to other organizations is somewhat lower here ($F(1, 144) = 3.24, p=0.07$). This suggests substitution between organizations, with respondents giving a part of their reward to KWF when they are provided with information instead of donating the full reward to other organizations. This is in line with $H2$.

What does this mean for fundraising income? In a situation where information about budget cuts is available, the total amount donated to KWF is 17% higher than in a situation without such information, of which three quarters can be attributed to substitution (revenues that would otherwise have gone to other charities) and one quarter to recruitment (new revenues). This 17%
difference in overall income is surprisingly similar to Shah, Sussex, and Hernandez-Villafuerte (2015), albeit not statistically significant ($F(2,456) = 1.39, p=0.24$).

Next, we take the manipulation check into account. We compare the control group with those in the treatment group who think that funding decreased, which is the correct answer that respondents should have given if they had processed the information correctly. Among these respondents, the share of donors to KWF is even higher (14.3%), providing stronger support for the crowding-out hypothesis under the condition of full information. Generalized to the same population, the total amount donated in this group is 44% higher than in the ‘No information’ condition. Furthermore, the share of respondents who keep the full reward is substantially lower here (82.2%). This result changes the picture of substitution. Rather than substitution between organizations, it suggests that the largest part of the increase in KWF donors can be attributed to the decrease in respondents who would be non-donors without the information. The difference between the control group and this part of the treatment group is statistically significant for donating at least something to KWF ($X^2(1, 2,023) = 13.63, p=0.00$), donating 100% to KWF ($X^2(1, 2,023) = 2.84, p=0.09$), keeping 100% of the reward ($X^2(1, 2,023) = 6.57, p=0.01$) and dividing the reward between KWF, another organization and oneself ($X^2(1, 2,023) = 12.62, p=0.00$). These results suggest that information about government funding, when it is effectively communicated, can draw non-donors into donating.

Second experimental treatment
After the actual donation decision and the knowledge question, respondents were asked what they would have done with their reward in case they had heard about decreasing, increasing or equal funding. Comparing decisions in the actual experiment with those in the scenario experiment allows us to do an extra within-subjects test of the effect of information about government funding.

Table 4 shows the differences between the real and the hypothetical decision for different experimental groups.

First, we examine respondents in the control group who did not receive information and then were asked what they had decided when they would have heard that government funding to
KWF Kankerbestrijding decreased. The results largely confirm the between-subjects analyses. The total amount donated to the charity is 34% higher in the information condition, which is a significant difference ($t(450) = -3.586, p=0.00$). Compared with the first experimental treatment this is a larger crowding-out estimate than the main effect (No information vs. Information), but smaller compared with the effect when the manipulation check is taken into account (No information vs. Information and thinks that funding decreased). When informed about budget cuts, some respondents say they would donate a part of their reward to KWF, which is significant in a paired samples t-test ($t(450) = 3.80, p=0.00$). 3.1% say they would donate if they would have heard that subsidies to this organization decreased. This is slightly more than the 2 percentage points difference between the treatment group and control group in the between-subjects design.

Furthermore, some respondents change their decision to donating the full reward to KWF ($t(450) = 2.85, p=0.01$), no longer donating the full reward to another organization ($t(450) = -1.74, p=0.08$), no longer keeping everything for themselves ($t(450) = -3.35, p=0.00$), splitting their reward between KWF and another organization ($t(450) = 1.74, p=0.08$) or splitting between KWF and themselves ($t(450) = 2.01, p=0.05$). From the 34% increase in revenues, about one fifth can be attributed to substitution between organizations and four-fifths to attracting new fundraising income.

Second, we examine the crowding-out effect the other way around. What if respondents who know that government funding decreased would have heard that it increased or did not change? The evidence for crowding-out is weaker here. The percentage of KWF donors goes from 11.3% in the information treatment to 10.4% in the hypothetical decision ($t(450) = -1.72, p=0.09$). The percentage of respondents who split the reward between KWF and another organization increases from 1% to 1.25% ($t(450) = 1.73, p=0.08$). The other differences are in the expected direction, but they are not statistically significant.

In both groups, respondents who change their decision are a minority and over 95% would not be affected by different information about government funding.

[TABLE 4 ABOUT HERE]
Moderating variables
To explore individual heterogeneity, Figure 2 shows the percentages of respondents who (partly) donated their reward among different groups in the first experimental treatment.

Panel 1 of Figure 2 shows the information effect in the regular sample and in the sample among wealthy individuals. In line with \( H3 \), the information effect is stronger and statistically significant among wealthy individuals (\( \chi^2(1, 1,187) = 3.67, p=0.06 \)) but is not statistically significant in the regular sample.

Panel 2 shows the information effect among respondents who donated to KWF in the year preceding the survey and those who did not. Providing information about government funding has a stronger effect among non-donors. In this group, the information effect is statistically significant (\( \chi^2(1, 581) = 4.66, p=0.03 \)). This is contrary to the expectation in \( H4 \).

People with low empathic concern are more sensitive to information. Panel 3 shows that the information effect is stronger among respondents with low empathic concern, which is contrary to the expectation in \( H5 \). Among those who score relatively low on empathic concern, the effect of information is statistically significant (\( \chi^2(1, 606) = 9.62, p=0.00 \)).

The fourth panel in Figure 2 shows the interaction between information and the principle of care. The information effect is somewhat stronger for respondents with a higher moral principle to care about others. In this group, the effect is significant at the 10% level (\( \chi^2(1, 1,757) = 3.09, p=0.09 \)). This is in line with the expectation in \( H6 \).

Regression analysis
In order to check results together in a regression model, we compiled a dataset in which the real and scenario decisions are pooled together so that every respondent appears twice in the data. Standard errors are clustered at the respondent in order to allow unobservables to correlate within each individual. Table 5 shows the odds ratios from a logistic regression model of the probability to donate. A coefficient higher than 1 means that the variable is associated with higher odds to be a donor, while an odds ratio lower than 1 indicates higher odds to be a non-donor.
All regression models control for the level of the reward and for being in a real experiment (the first experimental treatment) or in a scenario experiment (the second treatment). The odds ratio of the size of the reward that respondents received, which is dependent on the length of the survey, is below 1. This suggests that respondents who decide over a larger endowment are less generous.

Model I tests for the main effect of receiving information on decreasing subsidies, either in the first or the second experimental treatment. The regression shows that providing information is significantly associated with a higher likelihood to donate. Controlled for the level of the reward and being in a real or a scenario experiment, providing information increases the odds to donate with 20.9%, which confirms the increase from 9% to 11.3% donors in Table 3 and is in line with the crowding-out hypothesis.

Model II adds an interaction with the manipulation check, because respondents who accurately answered that KWF Kankerbestrijding lost subsidies have processed the information accurately and should be more likely to respond in their behavior. Indeed we find that the information effect is stronger for respondents who think that funding decreased, which is marginally significant.

Next, we test whether the information effect is different for real and hypothetical decisions by adding an interaction term between receiving information and being in the scenario experiment (Model III). The interaction is not statistically significant, suggesting that real or hypothetical information have a similar effect on the likelihood to donate.

The final two regression models provide a more stringent test of the individual-level moderating variables. The regression analysis confirms that respondents with lower empathic concern are more sensitive to information than those with higher empathic concern (Models IV and VI). Note that the sample size is smaller in Model VI because the variable for being a donor in 2013 is not measured in the full sample. The other interaction terms are not statistically significant.

[TABLE 5 ABOUT HERE]
Discussion and Conclusion

This article examined charitable giving in a context in which citizens were unlikely to know the actual change in government funding. This provides a good opportunity to test the effect of changing knowledge.

Providing information about decreasing government funding increases the number of donors. Rather than a signal of quality (Schiff, 1990), information about government funding seems to be taken as a cue on social needs, in line with the impure altruism model in behavioral economics (Andreoni, 1989). In our study, this information increased the share of donors with about 20%, which can make a considerable difference for nonprofit organizations who are dependent on fundraising income. This effect is statistically significant among citizens who are very wealthy, who do not regularly donate to the organization under study, who have a relatively low level of empathic concern and who have a relatively high principle of care. Crowding-out is stronger among those who did not previously donate to the charity, which is in line with findings by Kim & Van Ryzin (2014). Among those who are least familiar with the organization, information about budget cuts signals a higher need for contributions rather than a loss of quality. This is further evidence that government funding does not reflect a norm, as proposed by institutionalist theories.

An important question for the nonprofit sector is whether incentives lead donors from one organization to the other, or that they increase the total size of the fundraising market (Ek 2017; Reinstein 2006, 2007). Our results show support for both effects. We find not only substitution between organizations but also that information about government funding recruits new donors. New information or shocks in social needs may create a conversion effect and draw new donors into giving, as is shown in research on natural disasters (Scharf, Smith, & Ottoni-Wilhelm 2017). Our results suggest that information about government funding has the potential to increase total fundraising income, which is an important insight for fundraisers.

The net increase in the amount donated to the charity under study is 17% among all respondents, which is similar to findings of a similar scenario experiment in the United Kingdom (Shah, Sussex, and Hernandez-Villafuerte, 2015). Revenues are further increased when citizens
pay more attention to the fundraising appeal: among respondents who correctly identified the content of the information in a follow-up question, the increase in aggregate giving is 43%.

There are three reasons to be cautious in drawing strong conclusions from the current findings. First, the rewards that respondents could donate in this experiment were low, so there was not much room to increase or decrease the amounts of giving. As a result, it is not certain that the results can be generalized to larger donation amounts. Secondly, respondents were not made aware of the fact that government support is funded by their own tax money, which is common in crowding-out experiments and is known to have a strong effect on charitable giving (Eckel, Grossman, and Johnston 2005). Thirdly, the experimental design only enabled a test of the effect of a fixed amount of government funding. It is possible that information on higher amounts would in fact lead citizens to change the amounts they give.

This research bridges two strands of literature in public administration. It contributes to the literature on nonprofit finance by showing that the crowding-out effect depends on individual characteristics and the availability of information. This is an important step forward in a field where most theories make generalized predictions about individual behavior. Both microeconomic and institutionalist theories should go beyond such general statements and do more to incorporate the ways in which different individuals process information. The results also add to the growing literature on government transparency (Cucciniello, Porumbescu, and Grimmelikhuijsen 2017) by showing that information about government policies does not only affect political trust and citizen participation, but also charitable donations. These are important insights for policy areas where government and nonprofit organizations collaborate in providing public services. Both strands of research can benefit from each other in providing a more complete picture of the effects of financial policy decisions and government transparency.

Three lines of future research are promising in this area. First, it is interesting to not only look at exposure to information, but also investigate the content of this information. Different types of information, for example on decision-making processes and policy effects instead of simple policy content, are expected to have different effects on citizen attitudes and behavior (Heald 2006). Also, information from different sources might have different effects on donation behavior (Li and McDougle 2017; McDougle and Handy 2014). Previous studies have touched upon effects of framing (Eckel, Grossman, and Johnston 2005) news content (De Wit, Bekkers, and Broese van Groenou 2017) and policy preferences (Horne, Van Slyke, and Johnson 2006) on donations, but
more research will give better insights in the effects of different messages. Secondly, future studies should investigate effects of information about *changes* in funding versus information about *levels* of funding. Thirdly, more research is needed on individual heterogeneity in responses to government policies. Scholars in this field may learn from communication theories like Appraisal Theory or the Elaboration Likelihood Model, which both argue that the evaluation of new information depends on prior knowledge and beliefs. In our analyses, we found a significant interaction effect for empathic concern. More empathic citizens, who are more likely to donate to begin with, are less responsive to new information. No strong theoretical expectations existed here, and this finding might contribute to further theory building. It is possible, for example, that empathy is a source of ‘*warm glow*’ of giving, which makes citizens less responsive to changes in government contributions to the public good (Andreoni 1989).

The benefits of government transparency on citizen participation are widely studied yet still contested. This article contributes to the literature on government information by hypothesizing and testing effects on non-political participation. Given the important roles of nonprofit organizations in governance processes, changes in civic engagement can have large consequences for public policy. Previous research has shown that the right framing can increase popular support for retrenchments (Elmelund-Præstekær and Emmenegger 2013; Rodriguez, Laugesen, and Watts 2010). Our study goes a step further by examining whether information about budget cuts can lead to different civic behavior. If citizens are aware of budget cuts, they may compensate for them with their charitable donations. Professionals in the nonprofit sector might use information about public funding as a tool not only to raise support, but also to raise money.
Notes

[1] We conducted a search query in the LexisNexis database on seven large national subscribed newspapers from 2012 till 2014, collecting articles with both the name of the organization (KWF Kankerbestrijding) and the Dutch words ‘subsidie’ or ‘overheidssubsidie’ in the title and/or text. This query resulted in a total of 31 newspaper articles in 2012 (5), 2013 (21) and 2014 (5). A few articles consider (the development of) different income sources of charitable organizations in general, mentioning KWF Kankerbestrijding as an example of a large fundraising organization, but there is no specific information about actual government funding to KWF, nor about changes in such funding.

[2] Average household wealth is 271.693 Euros in the HNW sample versus 72.273 Euros in the representative sample, excluding the value of one’s primary residence and Winsorized at 99%.

[3] The numbers in the row of respondents in the treatment group who think that subsidies increased or did not change are very interesting. In this group, more people kept their reward for themselves and less people donated their reward fully or partly to KWF compared with the control group. It is possible that those respondents read, but misinterpreted the information.
References


Figure 1: Percentage respondents that donated to KWF Kankerbestrijding among people who received information and people who did not, interacted with (1) being from the sample of disproportionately wealthy households, (2) being a regular donor, (3) empathic concern and (4) the principle of care.
Table 1: Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donated to KWF (real decision)</td>
<td>2,458</td>
<td>0</td>
<td>1</td>
<td>0.101</td>
<td>0.301</td>
</tr>
<tr>
<td>Amount donated to KWF (real decision)</td>
<td>248</td>
<td>0.15</td>
<td>4.65</td>
<td>2.254</td>
<td>1.107</td>
</tr>
<tr>
<td>Donated to KWF (scenario decision)</td>
<td>2,458</td>
<td>0</td>
<td>1</td>
<td>0.107</td>
<td>0.310</td>
</tr>
<tr>
<td>Amount donated to KWF (scenario decision)</td>
<td>264</td>
<td>0.15</td>
<td>4.65</td>
<td>2.205</td>
<td>1.083</td>
</tr>
<tr>
<td>Thinks funding has increased</td>
<td>2,458</td>
<td>0</td>
<td>1</td>
<td>0.040</td>
<td>0.197</td>
</tr>
<tr>
<td>Thinks funding has remained the same</td>
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<td>1</td>
<td>0.384</td>
<td>0.486</td>
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<tr>
<td>Thinks funding has decreased</td>
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<td>0</td>
<td>1</td>
<td>0.576</td>
<td>0.494</td>
</tr>
<tr>
<td>Reward</td>
<td>2,458</td>
<td>0.60</td>
<td>5.10</td>
<td>3.228</td>
<td>0.629</td>
</tr>
<tr>
<td>Wealthy individual</td>
<td>2,458</td>
<td>0</td>
<td>1</td>
<td>0.483</td>
<td>0.500</td>
</tr>
<tr>
<td>Donating in 2013</td>
<td>1,753</td>
<td>0</td>
<td>1</td>
<td>0.67</td>
<td>0.471</td>
</tr>
<tr>
<td>Amount donated in 2013</td>
<td>754</td>
<td>0</td>
<td>2000</td>
<td>22.53</td>
<td>85.356</td>
</tr>
<tr>
<td>Empathic concern scale</td>
<td>2,458</td>
<td>1</td>
<td>5</td>
<td>3.624</td>
<td>0.719</td>
</tr>
<tr>
<td>High empathic concern</td>
<td>2,458</td>
<td>0</td>
<td>1</td>
<td>0.754</td>
<td>0.431</td>
</tr>
<tr>
<td>Principle of care scale</td>
<td>2,458</td>
<td>1</td>
<td>5</td>
<td>3.529</td>
<td>0.706</td>
</tr>
<tr>
<td>High principle of care</td>
<td>2,458</td>
<td>0</td>
<td>1</td>
<td>0.715</td>
<td>0.452</td>
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</tbody>
</table>
**Table 2: Percentage of respondents who think that funding increased, did not change or decreased**

<table>
<thead>
<tr>
<th></th>
<th>Thinks funding increased</th>
<th>Thinks funding did not change</th>
<th>Thinks funding decreased</th>
</tr>
</thead>
<tbody>
<tr>
<td>No information</td>
<td>5.08</td>
<td>43.13</td>
<td>51.79</td>
</tr>
<tr>
<td>Information</td>
<td>2.92</td>
<td>33.36</td>
<td>63.72</td>
</tr>
</tbody>
</table>
Table 3: Percentage respondents that donated or kept the reward, and conditional mean amount donated (between-subjects)

<table>
<thead>
<tr>
<th>Thinks that…</th>
<th>%</th>
<th>€ (conditional)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Donated to KWF</td>
<td>Donated 100% to KWF</td>
</tr>
<tr>
<td>No information</td>
<td>7.58</td>
<td>4.12</td>
</tr>
<tr>
<td>Funding decreased</td>
<td>10.28</td>
<td>6.29</td>
</tr>
<tr>
<td>Total</td>
<td>8.98</td>
<td>5.24</td>
</tr>
<tr>
<td>Information</td>
<td>5.98</td>
<td>4.37</td>
</tr>
<tr>
<td>Subsidies increased/did not change</td>
<td>14.27</td>
<td>7.07</td>
</tr>
<tr>
<td>Funding decreased</td>
<td>11.26</td>
<td>6.09</td>
</tr>
<tr>
<td>Total</td>
<td>11.26</td>
<td>6.09</td>
</tr>
</tbody>
</table>
Table 4: Percentage respondents that donated or kept the reward, and conditional mean amount donated (within-subjects)

<table>
<thead>
<tr>
<th></th>
<th>Donated to KWF</th>
<th>Donated 100% to KWF</th>
<th>Donated 100% to other org</th>
<th>Kept 100%</th>
<th>Split between KWF and other org</th>
<th>Split between KWF and self</th>
<th>Split between KWF, other org and self</th>
<th>Amount donated to KWF</th>
<th>Amount donated to other org</th>
<th>Amount kept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scenario</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funding decreased</td>
<td>8.43</td>
<td>5.10</td>
<td>3.33</td>
<td>87.58</td>
<td>1.11</td>
<td>1.55</td>
<td>0.67</td>
<td>2.48</td>
<td>2.49</td>
<td>3.18</td>
</tr>
<tr>
<td>Information</td>
<td>11.53</td>
<td>6.87</td>
<td>2.66</td>
<td>85.14</td>
<td>1.77</td>
<td>2.44</td>
<td>0.44</td>
<td>2.52</td>
<td>2.23</td>
<td>3.12</td>
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<td>Scenario</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funding increased/did not change</td>
<td>11.26</td>
<td>6.09</td>
<td>2.42</td>
<td>85.65</td>
<td>1.00</td>
<td>2.50</td>
<td>1.67</td>
<td>2.10</td>
<td>2.23</td>
<td>3.15</td>
</tr>
<tr>
<td>Scenario</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funding increased/did not change</td>
<td>10.43</td>
<td>5.42</td>
<td>2.92</td>
<td>86.16</td>
<td>1.25</td>
<td>2.25</td>
<td>1.50</td>
<td>2.05</td>
<td>1.98</td>
<td>3.14</td>
</tr>
</tbody>
</table>
Table 5: Odds ratios of the probability to donate

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information: Decrease</strong></td>
<td>1.209**</td>
<td>0.977</td>
<td>1.221</td>
<td>1.605**</td>
<td>1.570***</td>
<td>2.108***</td>
</tr>
<tr>
<td></td>
<td>(0.098)</td>
<td>(0.143)</td>
<td>(0.163)</td>
<td>(0.297)</td>
<td>(0.245)</td>
<td>(0.589)</td>
</tr>
<tr>
<td><strong>Thinks funding decreased</strong></td>
<td>1.435**</td>
<td>1.593***</td>
<td>1.573***</td>
<td>1.601***</td>
<td>1.631***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.211)</td>
<td>(0.213)</td>
<td>(0.211)</td>
<td>(0.268)</td>
<td>(0.272)</td>
<td></td>
</tr>
<tr>
<td><strong>Information * Thinks funding decreased</strong></td>
<td>1.364*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.227)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Information * Scenario</strong></td>
<td></td>
<td>0.954</td>
<td></td>
<td>1.294</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.237)</td>
<td></td>
<td>(0.337)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Wealthy household</strong></td>
<td></td>
<td></td>
<td>1.365**</td>
<td>1.074</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.202)</td>
<td>(0.209)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>High empathic concern</strong></td>
<td></td>
<td></td>
<td>2.112***</td>
<td>3.322***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.444)</td>
<td>(1.070)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>High principle of care</strong></td>
<td></td>
<td>0.925</td>
<td></td>
<td>0.831</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.175)</td>
<td></td>
<td>(0.198)</td>
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</tr>
<tr>
<td><strong>Donating in 2013</strong></td>
<td></td>
<td></td>
<td></td>
<td>1.512**</td>
<td>1.407*</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.313)</td>
<td>(0.290)</td>
<td></td>
</tr>
<tr>
<td><strong>Wealthy * Information</strong></td>
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<td>0.926</td>
<td></td>
<td>1.074</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.137)</td>
<td></td>
<td>(0.212)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EC * Information</strong></td>
<td></td>
<td></td>
<td>0.607**</td>
<td>0.535**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.122)</td>
<td>(0.157)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>POC * Information</strong></td>
<td></td>
<td>1.229</td>
<td></td>
<td>1.127</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td>(0.242)</td>
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<td>(0.279)</td>
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</tr>
<tr>
<td><strong>Donating * Information</strong></td>
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<td>0.751</td>
<td>0.781</td>
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<td>(0.142)</td>
<td>(0.150)</td>
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<td><strong>Reward</strong></td>
<td>0.873</td>
<td>0.862</td>
<td>0.863</td>
<td>0.893</td>
<td>1.230</td>
<td>1.086</td>
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<td>(0.089)</td>
<td>(0.088)</td>
<td>(0.088)</td>
<td>(0.094)</td>
<td>(0.224)</td>
<td>(0.204)</td>
</tr>
<tr>
<td><strong>Scenario decision</strong></td>
<td>1.138***</td>
<td>1.156***</td>
<td>1.156</td>
<td>1.136***</td>
<td>1.184***</td>
<td>1.076</td>
</tr>
<tr>
<td></td>
<td>(0.050)</td>
<td>(0.052)</td>
<td>(0.108)</td>
<td>(0.052)</td>
<td>(0.069)</td>
<td>(0.129)</td>
</tr>
<tr>
<td><strong>(Constant)</strong></td>
<td>0.158***</td>
<td>0.131***</td>
<td>0.122***</td>
<td>0.055***</td>
<td>0.023***</td>
<td>0.016***</td>
</tr>
<tr>
<td></td>
<td>(0.053)</td>
<td>(0.045)</td>
<td>(0.042)</td>
<td>(0.022)</td>
<td>(0.014)</td>
<td>(0.010)</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>4,916</td>
<td>4,916</td>
<td>4,916</td>
<td>4,916</td>
<td>3,506</td>
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</tr>
</tbody>
</table>

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1