

Heterogeneity in Crowding-Out: When Are Charitable Donations Responsive to Government Support



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Research Question

When are donations to nonprofit organizations responsive to changes in government funding?

Brief Abstract

Using survey data collected in the Netherlands, this paper explores the hypothesis that changes in government funding are inversely related to individual donations. For instance, according to economic crowding-out theories, an increase in government support will lead individual donors to decrease their contributions. The author also explores other hypotheses, specifically that government funding could serve as a 'seal of approval' for nonprofits, thus leading to increased private donations. The results suggest that the relationship between individual donations and government funding in nonprofits varies significantly between fields and even between organizations in the same field.

Key Findings

- ▶ In the social services, health, and nature subsectors, partial crowding out is more likely to occur. This means that although private donations increase in response to a decrease in government spending, these donations are not enough to make up the difference.
- ▶ Fundraising efforts might explain a part of the relationship between government support and charitable donations as organizations might use government funds to increase their fundraising success.
- ▶ Only the highly educated are likely to reduce donations when more articles are published about public funding.

Opportunities for Action

- ▶ Nonprofits should be aware of the trends in their organization and within their field concerning the relationship between individual donations and government support.
- ▶ Organizations that experience an increase in government support should consider using some of the funds to improve their fundraising. This will ensure that they will continue to be financially stable should their governments make large budget cuts.

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Heterogeneity in Crowding-out: When Are Charitable Donations Responsive to Government Support?

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Abstract

When are donations to non-profit organizations responsive to changes in government funding? This article examines relations between government financial support and charitable donations in an innovative mixed-methods design. A unique data set is obtained, matching individual-level survey data from the Giving in the Netherlands Panel Survey with media coverage of government support from LexisNexis and organizational-level information from the Dutch Central Bureau on Fundraising from 2002 to 2014. An interpretative analysis shows the ways in which people are informed about changes in public funding, which is assumed to be a prerequisite for donors to change their donations. Media coverage often does not reflect actual changes in government support. Additionally, regression analyses are deployed to examine how changes in government support and media reports are associated with changes in donations. The results show that responses to public funding are dependent on the non-profit context. Donations in the fields of social services, health, and nature are displaced by government support, while crowding-out does not occur in the field of international development. Even in fields where crowding-out is more likely to occur, the increase in donations does not offset the decrease in public support. The conclusions nuance popular beliefs about the direct consequences that policy changes have for public awareness and participation.

Introduction

How do government efforts change the landscape of the voluntary sector? Previous studies have examined the effects of government support on the financial and managerial practice of non-profit organizations (Froelich, 1999; O'Regan and Oster, 2002; Andreoni and Payne, 2003; Verschuere and De Corte, 2014) as well as on individual participation, networks, and social trust (van

Oorschot and Arts, 2005; Stadelmann-Steffen, 2011).

The current article focuses on private charitable giving. Charitable donors are indispensable for many organizations across the non-profit sector, and it is important to know how they react on contextual changes. An often formulated expectation is that donations are 'crowded out' by increasing levels of government support to public goals. The empirical foundations of the crowding-out

hypothesis are ambivalent, however, as a recent meta-analysis shows that previous findings on the relationship between government financial support and private donations have not been conclusive and depend strongly on the research design (De Wit and Bekkers, 2016).

Given the large number of theoretical and empirical publications on the public good crowding-out hypothesis, it is striking that three factors have been understudied in this literature. First, there has been little attention to the information that charitable donors receive about government funding. While Horne, Johnson, and Van Slyke (2005) show that most donors do not know how much money governments grant to organizations, the assumption in many studies is that people have perfect information and that they base their decisions on this information. Secondly, it is likely that there is a wide variety in people's reactions to varying levels of government funding, but only a small number of empirical studies examined individual heterogeneity. Thirdly, only a few studies examined the role of non-profit organizations as intermediary actors whose behaviour might explain the relationship between government support and private donations.

The question that this article seeks to answer is how government financial support and private charitable donations are related, and to what extent this relation can be explained by individual reactions of donors, organizational strategies, and media coverage of government policies. Using a unique and innovative research design, the article formulates and explores relevant mediating and moderating effects that spring from behavioural and institutionalist theories, thereby enhancing our understanding of the ways in which the government, private donors, non-profit organizations, and the media affect each other.

Theory

Literature Review

Government support and private donations

The central argument in the crowding-out debate is that a large government is detrimental for civic life. This claim can be traced back to Alexis de Tocqueville (2003), who argued that democratic government diminishes rather than oppresses social action, ruling out private control over the small things in life. In contemporary research the crowding-out hypothesis is investigated in two strands of research. The first line of research takes a rather sociological approach. Incorporating welfare state regime theories and

analysing survey data, studies in this area investigate the effect of cross-national characteristics on different forms of individual participation like volunteering or organizational memberships (Scheepers and Grotenhuis, 2005; van Oorschot and Arts, 2005; Kaariainen and Lehtonen, 2006; Koster, 2007; Gesthuizen, van der Meer and Scheepers, 2008; Stadelmann-Steffen, 2011). The second strand of research consists largely of work of economists and concerns private charitable giving. Here, crowding-out is mostly translated as individuals compensating with donations what the government does not provide (Andreoni, 1993; Payne, 1998; Okten and Weisbrod, 2000; Ribar and Wilhelm, 2002; Andreoni and Payne, 2003, 2011).

The findings in this literature are mixed. While some studies find positive relations between government funding and private donations (Khanna and Sandler, 2000; Okten and Weisbrod, 2000; Brooks, 2003; Sokolowski, 2013), most studies find a negative correlation (Andreoni and Payne, 2003, 2011; Dokko, 2009; Isaac and Norton, 2013). In a cross-national analysis with Eurobarometer data, Scheepers and Grotenhuis (2005) find that in liberal welfare states more people give to alleviate poverty than in other welfare state regimes.

Individual behaviour

How do charitable donors react on changes in government funding? The main hypothesis here is that government financial support displaces individual donations. Economic crowding-out theories (Warr, 1982; Roberts, 1984) follow a rational choice perspective on social behaviour, assuming that a donor's utility function includes a certain contribution to the public good. This individual contribution can be provided either mandatory, through government expenditures that are financed by taxes, or voluntarily, in the form of donations to non-profit organizations. When the government funds the preferred public good with tax money, an increase of government contributions would allow charitable donors to reduce donations without consequences for the non-profit output.

However, one could argue that public funding has a positive impact on individual donations. Government funding might serve as a 'seal of approval' indicating the quality and efficacy of non-profit output (Schiff, 1990), which would lead donors to increasingly contribute to organizations that are successful in attracting public funding.

It could also be that there is no causal relationship between government support and donor behaviour. In Max Weber's notion of substantive rationality, the

nature of social action rather than its goals are leading in driving individual behaviour (Weber 1987: pp. 85–86). Following this perspective, charitable donors are mainly driven by their (political or ethical) values and not by the ultimate economic consequences of their decisions. Donations would then be driven by the content of a non-profit's portfolio rather than by its financial revenues.

A recent meta-analysis shows that laboratory experiments generally find partial crowding-out, while studies with organizational or survey data find an average correlation close to zero (De Wit and Bekkers, 2016). This suggests that the rational choice theory holds under controlled circumstances in the laboratory, while other mechanisms suppress a negative correlation in the field.

Organizational behaviour

Another explanation of a negative relation between government support and private donations is the behaviour of voluntary organizations. Sources of non-profit revenues may affect financial volatility, the extent to which organizations change the goals they target, the extent to which organizational processes and procedures are formalized and professionalized, and the autonomy of non-profit boards (Froelich, 1999; O'Regan and Oster, 2002; Verschuere and De Corte, 2014).

It is yet unsure how organizations with different levels of dependence from government support differ in their fundraising efforts. On the one hand, organizations could be inclined to invest in fundraising as a compensation strategy when they receive lower government funding (Andreoni and Payne, 2003, 2011). It is especially likely that organizations change their strategies after radical decreases in government funding, as Randall and Wilson (1989) show for the budget cuts of the Reagan administration.

On the other hand, it could be that organizations use different ways of funding to further increase and diversify their revenues. Extra government support could be used to develop better and more professionalized fundraising techniques, so that higher government support increases private income, too.

While some studies show that fundraising expenditures can be an important explanation of the negative association between government support and private donations (Andreoni and Payne, 2003, 2011; Hughes, Luksetich and Rooney, 2014), a meta-analysis shows that subsidies to organizations are unlikely to displace charitable donations (De Wit and Bekkers, 2016).

Where Crowding-out Should Occur

Informed donors

A prerequisite for giving as a reaction on changes in government support is availability of information on government actions, because people will not change their donations when they are not aware of any changes in government support. Horne et al. (2005) show that most donors do not know how much government support charitable organizations receive, and that estimates of levels of public funding are highly inadequate. Even if people are not aware how much income organizations receive from the government, they could still be informed on policy changes. News media will report budget cuts because they have important consequences for an organization and its goals, as they will report it when an organization gets a large grant for a certain project. People get most of their information on government policies from news media, and government grants are likely to have an effect on individual decisions because they are covered in the media. News items might especially affect donor behaviour when they discuss problems within an organization that may need additional funding, like financial concerns or issues regarding personnel, and when they describe (the work and output of) non-profit organizations on a generally positive tone.

To date, only a handful of studies have empirically examined the effect of media coverage on charitable giving. Both after the 2004 Tsunami and the 2010 Haiti earthquake, more extended coverage on television and in the newspapers was associated with higher private giving (Brown and Minty, 2008; Lobb, Mock and Hutchinson, 2012).

Individual heterogeneity

Previous crowding-out studies have given little attention to individual heterogeneity in reactions to government policies. Some studies have looked at different income groups (Kingma, 1989; Chan et al., 1996; Guth, Sutter and Verbon, 2006) or different donor groups (Reeson and Tisdell, 2008), with no conclusive findings. In a public good experiment, Luccasen (2012) find complete crowding-out among different player types, genders, and social classes. How people react on government policies and information about these policies as depicted in the media might depend on their ability to donate and their prosocial values.

First, people who are able to donate might also be better able to change their donations. It is known that people with a paid job and more wealth donate higher

amounts than people who are not in paid labour or with lower wealth, and the higher educated donate more than the lower educated (Bekkers and Wiepking, 2011a; Wiepking and Bekkers, 2012). More financial resources also enable people to change their donations more easily because they decrease the marginal value of a dollar that can be spent on a public good. Not only is a donor's spending budget higher with more financial resources, but the price of giving is also lower in a progressive income tax system including a charitable deduction.

Secondly, people with stronger prosocial values are more likely to change their giving. People who find it important to help others, who are more empathic, and who have more confidence in voluntary organizations are generally larger donors (Wilhelm and Bekkers, 2010; Bekkers and Wiepking, 2011b), are expected to be more committed to the output of non-profit organizations, and may change their donations after changes in government policies.

Organizational heterogeneity

The voluntary sector is unique because of its large diversity. Do changes in government support have the same effect on non-profit organizations across society? Previous studies showed that the magnitude and direction of crowding-out estimates differ strongly between subsectors of the voluntary sector (Khanna and Sandler, 2000; Yetman and Yetman, 2003) or even between organizations within subsectors (Payne, 2001). Two dimensions of organizational heterogeneity are discussed here.

First, there might be stronger crowding-out effects for organizations that receive relatively large amounts of public funding. Multiple studies found an inverted U-shaped relationship between government support and private donations (Brooks, 2000b, 2003; Borgonovi, 2006; Nikolova, 2015). This could be due to donor perceptions, as Borgonovi (2006) suggests that low levels of government support serve as a signal of efficacy while donors start to perceive public funding as undesirable government control above a certain threshold. It could also be that subsidy-dependent organizations are more financially stable and less strongly focused on fundraising activities (Froelich, 1999; O'Regan and Oster, 2002).

Secondly, there might be differences between subsectors because of the nature of the public good that is provided. While not all charitable giving is directly substitutable for government funding, crowding-out is most likely to occur in areas where they are in direct competition (Stadelmann-Steffen, 2011). While a shelter for homeless people is a tangible service where

investments have immediate consequences for non-profit output, international development aid is a goal where the need is practically infinite. Both donors and professionals in non-profit organizations might be more responsive to government support if the public good can be equally provided by public or private funding and if the consequences of a change in total public good provision are more visible.

Data and Strategy

To examine the responsiveness of donors to changes in government support, a data set has been created matching individual donor behaviour to specific organizations with organizational-level data from annual reports and media archives. The units of analysis in this study are dyads of individuals and organizations. Individual-level data were used from six waves (2002–2014) of the Giving in the Netherlands Panel Survey (Bekkers, Boonstoppel and De Wit, 2016), a biennial survey which is nationally representative.

In the survey respondents were asked whether their household donated in the previous calendar year to a list of the largest charitable organizations in the Netherlands, and if yes, what amount. In 2006 four healthcare organizations (Alzheimer, Longfonds, Diabetes Fonds, and Nierstichting) were not in the list of organizations, so they were attributed missing values for these years. The phenomenon under study is the *change* in donations compared to the previous wave.

To measure media coverage of government support to organizations, the LexisNexis database was searched for articles in seven national subscribed newspapers in the Netherlands, collecting articles published within 2 years, the year in which donations are measured and the preceding year, that include both the name of the organization and the Dutch word 'subsidie' or 'overheidssubsidie' in the title and/or text. Only articles on government support to an organization were included, so articles were omitted when they concern grants that are given *by* an organization and when the government support is actually unrelated to the organization. Each article was coded on (i) whether it mentioned increasing government funding, budget cuts or no change in government funding, (ii) whether it mentioned internal problems within the organization (e.g. issues regarding finances or personnel) or not, and (iii) whether it described the (work of) the non-profit organization as generally positive, negative, or neutral. By reading and coding the content of all articles the media analysis contains both an interpretative analysis and a quantitative measure that was used in the regression analyses.

As measures of resources, three dummy variables indicate whether a respondent achieved higher (tertiary) education, has a paid job (either part-time or full-time), and owns a home.

Values were measured by scales of altruistic values and empathic concern, as well as a single-item measure of trust in charitable organizations in the Netherlands (Bekkers et al., 2013). All answers were recoded from Likert scales to dichotomous variables where 1 means a high score.

Information on government funding of the organizations under study was adopted from the Central Bureau on Fundraising, a non-governmental accreditation organization that monitors income and expenditures of Dutch charities (Bekkers, 2003). The amounts for each year were divided by the number of households in that year as indicated by Central Bureau of Statistics Netherlands to have all variables on the level of the household.

Large changes in donations, government support, and media coverage have a disproportionately large influence on the results from the analysis. To mitigate the effect of extreme values, the change variables were treated for outliers by setting the 5 per cent most negative values on the border of the fifth percentile and the 5 per cent most positive values on the border of the 95th percentile. This procedure has been labelled 'Winsorizing', after Charles P. Winsor (Tukey, 1962: pp. 17–19).

In the pooled data set (23,094 observations among 2,175 respondents) every unique combination of a respondent i and an organization j represents a dyad with various observations at different years t . Table 1 displays descriptive statistics. Note that respondents who did not donate to an organization were excluded. To explore the validity of different arguments in the crowding-out debate two methods were used that complement and strengthen each other. First, the time trends of donations, government financial support, and fundraising expenditures were examined for all organizations and each organization separately, and the content of media coverage was analysed for three organizations with different trends in government support. Secondly, regression models were deployed to explore the main relation between donations and government support as well as possible mediating and moderating effects.

The following mixed-effects regression model is deployed:

$$\Delta Y_{ijt} = \beta_0 + u_{0j} + v_i + \beta_1 \Delta G_{jt-1} + u_{1j} \Delta G_{jt-1} + \beta_2 \Delta E_{t-1} + \beta_3 \Delta E_t + \beta_4 \Delta O_{jt-1} + \beta_5 \Delta P_{t-1} + \beta_6 \Delta T_{t-1} + \epsilon_{ijt},$$

in which ΔY is the change in charitable donations by donor i to organization j from year $t-2$ to year t , u_0 is the

organization-specific intercept, v is the individual-specific intercept, ΔG is the change in government support to the organization from year $t-3$ to year $t-1$, and u_{1j} is the organization-specific random slope. Control variables include the change in gross domestic product (GDP) per capita ΔE , the change in the organization's total expenditures on its mission ΔO , the change in the presence of the Labour Party (PvdA) in the national government coalition ΔP , and the change in total government social transfers ΔT .

The data are cross-nested on three levels, and random intercepts were added for respondents and organizations to account for this structure. Furthermore, the model allows slopes to vary between organizations because government support might have different effects across organizations given the large variety in missions, management structures, and donor bases. The first difference regression provides estimates of changes in time, ruling out the between-individuals and between-organization effects. To estimate a lagged effect, changes in government support were measured 1 year preceding the year of donating. However, there may still be confounding factors that influence the coefficient of government support, and four control variables are included to reduce omitted variable bias due to the overall economic cycle, the growth of an organization's budget, a government that is more supportive of social programmes, and the overall change in government spending.

Results

Descriptive Analysis

Figure A1 shows how donations, government support, and organizational fundraising expenditures developed over the years. Donations, not treated for outliers, peaked in 2005 at 4.4 Euro per household per year and then declined to 3.4 in 2009, 3.7 in 2011, and 3.4 in 2013. Government support generally increased between 2002 and 2012, peaking at 3.5 Euro per household in 2008 and then slightly declining in the years that the economic recession hit the Netherlands and a right-wing administration came in charge. To the extent that fundraising expenditures changed they follow a similar curve as government support, with a peak in 2009. Across all organizations there is not much change on average in donations, government support, and fundraising expenditures, but more pronounced patterns are visible when organizations are examined separately.

Several organizations (Dierenbescherming, Longfonds, Nierstichting, Plan Nederland, and Red Cross) had to cope with decreasing levels of donations, whereas others

Table 1. Descriptive statistics

Variable	Measuring	Mean	Standard deviation	Minimum	Maximum
Donations	Amount donated (€)	12.718	36.308	0	1696.353
Δ Donations	Change in amount donated (€)	-0.888	40.863	-2424.242	1128.589
Δ Donations	Change in amount donated (€), treated for outliers	-0.425	10.694	-24.917	24.295
Government support	Government support per household (€)	2.280	6.316	0	34.383
Δ Government support	Change in government support per household (€)	0.127	1.009	-5.168	4.363
Δ Government support	Change in government support per household (€), treated for outliers	0.100	0.683	-1.433	2.592
Δ News items on government support	Number of newspaper articles on government support	0.204	5.885	-31	32
Δ News items on government support	Number of newspaper articles on government support, treated for outliers	0.273	4.217	-10	13
Δ News items on budget cuts	Number of newspaper articles on decreasing government support	0.203	3.072	-24	26
Δ News items on budget cuts	Number of newspaper articles on decreasing government support, treated for outliers	0.145	2.050	-6	6
Δ News items on problems	Number of newspaper articles on organizational problems	0.246	4.450	-22	18
Δ News items on problems	Number of newspaper articles on organizational problems, treated for outliers	0.365	3.752	-10	14
Δ Positive news items	Number of newspaper articles that are positively framed	0.116	1.086	-4	6
Δ Positive news items	Number of newspaper articles that are positively framed, treated for outliers	0.121	0.825	-1	3
Higher educated	Achieved tertiary education (no/yes)	0.274	0.446	0	1
Paid job	Having a paid job (no/yes)	0.554	0.497	0	1
Own home	Owning a home (no/yes)	0.631	0.483	0	1
Altruistic values	Score on altruistic values scale	0.258	0.438	0	1
Empathic concern	Score on empathic concern scale	0.525	0.499	0	1
Trust	Trust in Dutch charities	0.410	0.492	0	1
Fundraising expenditures	Fundraising expenditures per household (€)	0.783	0.489	0.107	1.960
Δ Fundraising expenditures	Change in fundraising expenditures per household (€)	0.021	0.139	-0.601	0.419
Δ Fundraising expenditures	Change in fundraising expenditures per household (€), treated for outliers	0.013	0.098	-0.181	0.186
Subsidy dependency	Government support/total income	0.117	0.212	0	0.922
Social/health	Organization in the field of social services or health (no/yes)	0.565	0.500	0	1
Nature	Organization in the field of nature conservation (no/yes)	0.180	0.384	0	1
International	Organization in the field of international development (no/yes)	0.255	0.436	0	1

(Amnesty International and KWF Kankerbestrijding) seemed successful in attracting more private donations over time. Government support substantially decreased for international aid organizations, Doctors without Borders, Oxfam Novib, and Plan Nederland, but the Salvation Army received more and more government grants over the years. Two organizations, Greenpeace and healthcare association Hartstichting, did not receive

any government funding at all but still experienced volatile fundraising revenues. A clear picture of crowding-out or crowding-in does not emerge from the graphs.

The description below shows how media coverage developed for three organizations with varying revenue patterns: one with no clear trend in government support, one that gained increasing public funding over the years, and one that faced heavy budget cuts.

No clear trend: the Red Cross

Being one of the most well-known international non-profit organizations, the Red Cross provides aid both in the Netherlands and abroad. Government support increased from 2002 to 2008, after which it fell down until 2010 and then was raised again. Donations followed a declining trend from 2003 to 2013. The drop in government support from 2008 to 2010 was followed by a slight increase in donations. Note that the fundraising expenditures, which are generally very stable over time, decreased in these 2 years, in contrast with the idea of ‘fundraising crowd-out’ (Andreoni and Payne, 2003, 2011).

How did the Red Cross appear in the media? The graphs on the left hand of Figure 1 show the total number of articles in seven newspapers and the number of articles on decreasing and increasing government support. The right-hand graphs display the number of articles discussing problems in the organization, like financial problems, as well as the number of news items with a generally negative or positive tone towards (the work of) the organization. There are two clear peaks. The organization was often named when the Minister of Health, Well-Being and Sports announced a number of budget cuts in 2003, where the Red Cross ultimately escaped the cuts after the plans were discussed in parliament. Around 2010 the organization was named in a series of critical articles on top salaries of board members, which is visible in the peak in negatively framed items.

The actual increases and decreases in government support are not mentioned in the newspapers, making it less likely that they had an effect on individual donor behaviour.

Increasing government support: the Salvation Army

The Salvation Army is a large service provision organization, based on a Christian identity, and, at least in the Netherlands, heavily subsidy dependent (in 2012, public funding accounted for 90 per cent of Salvation Army’s total revenues). The Dutch government provides grants for each client that is helped by organizations like the Salvation Army, so the amount of public funding increases with the number of people that are served. The steady increase in government support from 2002 to 2012 went together with decreasing donations on average from 2003 to 2013.

The number of newspaper articles on the Salvation Army is shown in Figure 1. The Salvation Army appears in the media quite often. There are news items about public funding and fundraising in general and about

specific projects that received government grants across the years. A number of critical articles in 2001 discussed the organization’s definition of ‘homeless’, which was said to include as many people as possible to claim more public money. Problems for the organization appeared in the news in 2003 when the national government announced to cut budgets on a number of non-profit organizations. Also in 2003, an Amsterdam-based project lost its local government funding. In 2005, the Minister of Social Affairs announced to withdraw a 200,000 Euros grant because the organization refused to hire two Muslim women (the Salvation Army aims to hire Christians only). In a similar debate, in 2009, a number of articles discuss a proposal by the city council of Amsterdam to stop subsidizing organizations that discriminate in their employee policy. Some media gave voice to arguments in favour of continuing public funding, which is represented by the spike in positively framed items.

In sum, the media coverage does not reflect the general trend in government support. Although there has been some reporting on the reasons for the Salvation Army to acquire government support, a general increase in public funding does not withhold newspapers from writing about the government cutting specific grants.

Budget cuts: Oxfam Novib

Oxfam Novib receives a large share of its funding from governments, although not as much as the Salvation Army (public funding accounted for 52 per cent of Oxfam’s total revenues in 2012). Government support and donations follow a similar trend in time. There is a clear drop in government support after 2008. Donations increased between 2005 and 2009, after which they decreased. Here, private donations seem to follow government support.

This might be due to media coverage on changing government policies. Figure 1 shows the number of newspaper articles on Oxfam Novib. A first peak in the years 2003–2004 reflects a discussion about the government setting new rules before international aid organizations could receive public funding, resulting in some news items with a rather negative tone. An even higher peak is shown after a right-wing administration came in charge. Dramatic budget cuts on international aid organizations were announced in 2010 and resulted in a lot of media attention for the organization’s problems. Oxfam anticipated on decreasing government funding by firing employees and abandoning all of its projects in Latin America, resulting in even less government funding.

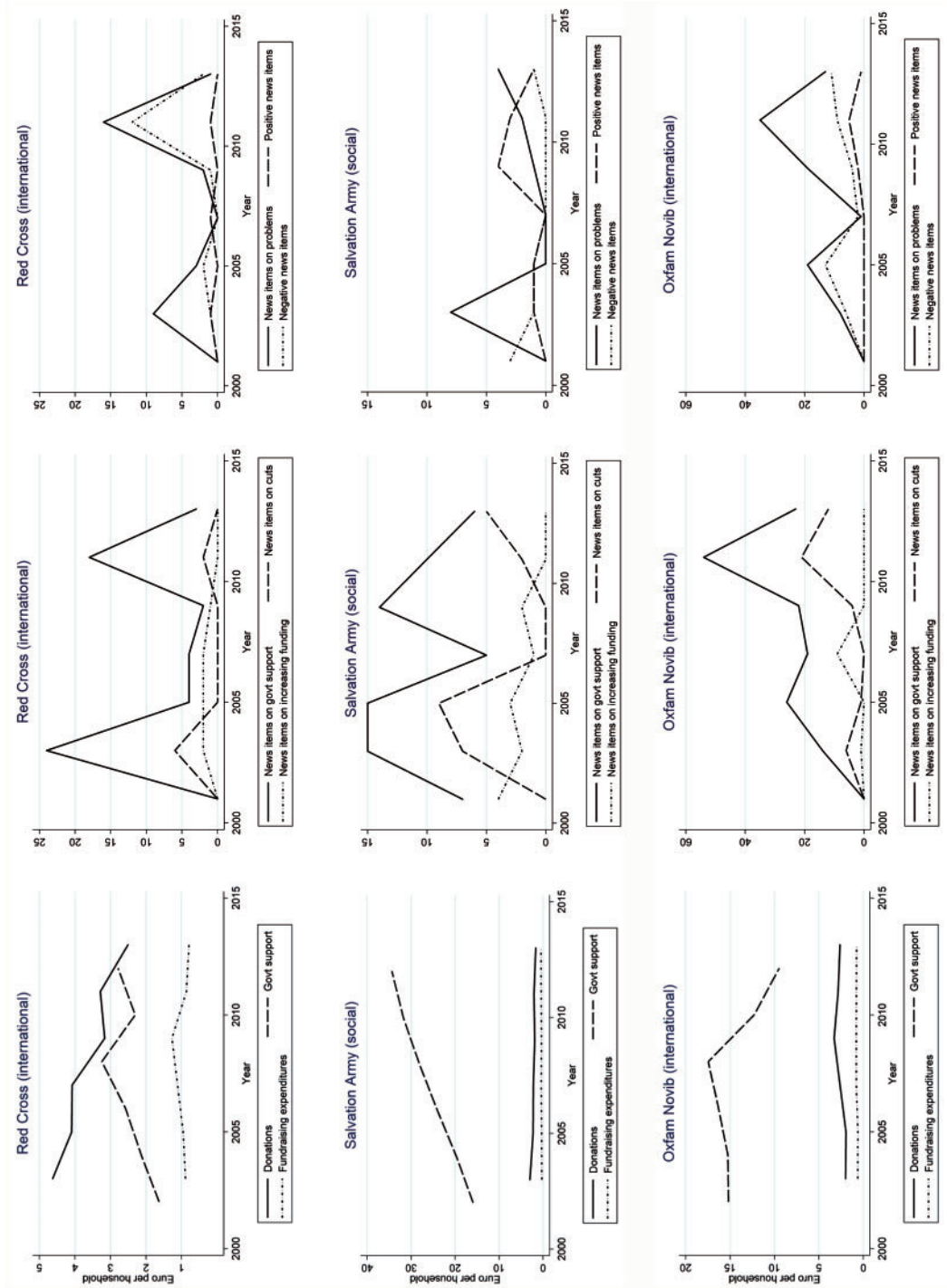


Figure 1. Revenues from and newspaper articles on the Red Cross, the Salvation Army, and Oxfam Novib (2002–2013)

Private donations decreased in the years after the budget cuts, suggesting that donors follow the government in its policy choices, which they were likely to know about since they have been reported across all newspapers in the sample.

A more systematic analysis of the suggested mechanisms is provided in the regression analyses below.

Regression Analyses

Government support and private donations

A formal test of the relation between government support and private donations is presented in the regression models on the change in donations in Table 2. The coefficient indicates that each Euro extra government support is generally associated with a 0.09 Euro decrease in donations, which is not statistically significant (Model I).

Media coverage

There is no clear relationship between the number of newspaper articles that are published on an organization

and the amount that donors give to this organization (Model II). To examine the effects of media coverage with a different content, Model III shows the coefficients of changes in news items about budget cuts, news items about organizational problems, and positively framed news items. The coefficients are positive but none of them is statistically significant. Interestingly, the coefficient of a change in total news items is negative and significant in this model, indicating that there is content in the news other than budget cuts, organizational problems, and positive framing that discourage donors.

Individual heterogeneity

Do reactions to changes in government support depend on individual characteristics like financial resources, educational level, or one's values? We included interaction effects with six individual characteristics, and graphically show the interactions that are statistically significant in Figure 2.

People with stronger altruistic values are more inclined to follow government support with their donations (see the left panel of Figure 2). This is contrary to

Table 2. Maximum likelihood estimation on Δ donations

	I	II	III	IV
Δ Government support	-0.089 (0.195)	-0.113 (0.184)	-0.157 (0.178)	-0.120 (0.192)
Media coverage				
Δ News items on government support		-0.024 (0.019)	-0.074** (0.034)	
Δ News items on budget cuts			0.047 (0.051)	
Δ News items on problems			0.027 (0.030)	
Δ Positive news items			0.123 (0.110)	
Fundraising				
Δ Fundraising expenditures				2.378*** (0.772)
Constant	0.057 (0.153)	0.061 (0.153)	0.090 (0.154)	0.007 (0.152)
Akaike information criterion	206,662	206,663	206,666	206,655
Bayesian information criterion	206,725	206,731	206,751	206,723
Observations	27,284	27,284	27,284	27,284
Organizations	19	19	19	19
Respondents	2,201	2,201	2,201	2,201

Standard errors in parentheses.

* $P < 0.1$,

** $P < 0.05$,

*** $P < 0.01$.

Controlled for changes in GDP per capita, whether the Labour Party is in the government coalition, total social transfers from government, and total expenditures on the organization's mission.

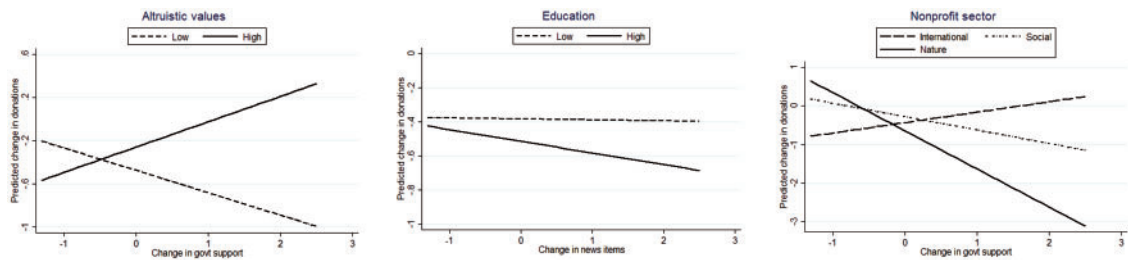


Figure 2. Linear prediction for Δ government support and Δ news items on government support

our reasoning that people with stronger prosocial values would substitute government support. It rather suggests that those are the people that perceive changes in government support as a signal of non-profit quality. However, although the slopes are significantly different between groups, the separate coefficients for government support in each group are not statistically significant. This means that there is no significant crowding-in or crowding-out among people with lower or higher altruistic values.

The association between the number of newspaper articles and charitable donations is significantly negative among the higher educated (the marginal effect among the higher educated is $\beta = -0.069$ with $P = 0.024$, see the centre panel of Figure 2). The higher educated are generally larger donors and are more likely to read the newspapers, so this finding suggests that informed donors are more responsive to changes in government support.

Fundraising

Fundraising efforts might explain a part of the relationship between government support and charitable donations. As one might expect, fundraising expenditures are positively related to the amount people donate to an organization (Model IV). Compared to Model I, the coefficient of government support is more strongly negative in this model, indicating that fundraising is positively correlated with both government support and donations. Rather than to support the idea of ‘fundraising crowding-out’, the Dutch data suggest that organizations use government funding to increase their fundraising success in the private market.

Organizational heterogeneity

Next, we examine the extent to which the impact of changing government support systematically differs across organizations.

We included an interaction between government support and the degree to which organizations are dependent of public funding in the year under study, which is positive and not statistically significant (not shown).

The right panel of Figure 2 shows interaction effects between non-profit sectors and changing government support. Among organizations in the field of health and social services ($\beta = -0.349$, $P = 0.010$) as well as in the field of nature ($\beta = -0.991$, $P = 0.006$), government support is negatively associated with charitable donations. In the field of international development the association is positive and not significant ($\beta = 0.271$, $P = 0.174$). These results are in line with the expectation that crowding-out is more likely in sectors where both public and private money fund similar public goods.

Robustness

Because the results in the regression analyses can be mainly driven by one exceptional organization, all models have been re-estimated excluding one organization each time and excluding the two organizations that did not receive any government funding. Not surprisingly, the sample of 19 organizations is not large enough to draw robust conclusions about systematic effects across the non-profit sector. Full results of the robustness checks are available at <https://osf.io/you735/>.

Discussion and Conclusion

There is much uncertainty about the effects of government efforts on the fundraising income of non-profit organizations. Despite the large body of literature on crowding-out, there is no conclusive evidence, and the availability of information, individual donor characteristics, and organizational characteristics are understudied. The current study offers a mixed-method design in which longitudinal micro-level data are matched with data on media coverage and financial information from annual reports of voluntary organizations. Although

previous studies combined survey data with data on firms at one point in time (Kingma, 1989; Manzoor and Straub, 2005), we are not aware of any previous study that uses longitudinal micro-level data to test for crowding-out effects.

We found no significant crowding-in or crowding-out among any of the social groups. This can be interpreted as evidence for behavioural models based on substantive rationality (Weber, 1987), in which social action is mainly driven by values, and donors are not responsive to changes in organizational finances. However, it could also be that some donors are willing to substitute government support while others perceive it as a signal of organizational quality, and that both effects rule each other out. Further research could examine individual heterogeneity in crowding-out effects across more dimensions than we tested for here.

The validity of the crowding-out hypothesis is largely dependent on the organizational context. In the field of social services and health as well as in the field of nature, donations substitute government support, suggesting that crowding-out is most likely to occur in sectors that are close to the individual donor and where public and private revenues are in direct competition (Stadelmann-Steffen, 2011). In the field of international development, on the contrary, crowding-out is not likely to occur. This is in line with previous crowding-in findings in international development (Nunnenkamp and Öhler, 2012; Herzer and Nunnenkamp, 2013). A striking example is Oxfam Novib. After the central government announced large budget cuts on several international aid organizations, which were widely reported in newspapers, donations to Oxfam decreased.

Across all organizations, donors are not responsive to media coverage of policy changes. This confirms previous findings among charitable donors who are informed about a national fundraising campaign (Yoruk, 2012) and public funding to non-profit organizations (Horne et al., 2005). However, a multivariate analysis controlling for media content suggests that an increase in neutral information about non-profit funding is associated with declining levels of giving to those organizations. Furthermore, there are some exceptional social groups that might be more responsive to information about policy changes. The higher educated, who are larger consumers of newspapers, are more likely to reduce donations when more articles are published about public funding. Information that is channelled through news media only affect a small group of interested donors, which calls for more research on how media coverage of non-profit organizations affects different segments of charitable donors.

It would be highly interesting to see whether these findings can be replicated with similar research designs in other contexts. Most crowding-out research comes from the United States. Although it is likely that differences in legislation and culture account for different findings between countries, it might very well be that replications of the current study in other countries confirm the heterogeneity in crowding-out effects.

Although the data have considerable quality, the sample suffers from a few limitations. The analysis only concerns people who participate in at least one wave of the study and people who donated at least once to an organization, so the sample under study consists of people who are willing to participate in surveys and to donate to charitable organizations. The analysis only estimates changes in amounts donated and does not allow for conclusions about people who start and stop donating. With 19 organizations in the regression sample it is hard to make strong claims about the entire population of charitable organizations in the Netherlands. Also, there are aspects of media coverage that are associated with donations other than those in our analyses, and future research on media coverage and charitable giving should be more fine grained.

Despite these limitations, the findings offer valuable conclusions for managers in the non-profit and public sector. To the extent that policy changes have direct consequences for public awareness and participation, their effects are highly dependent on the organizational context. In the fields of nature, health, and social services, there is partial crowding-out. This means that decreasing government spending leads to decreasing total contributions to non-profit output because the overall increase in donations do not offset the overall decrease in public support. In the field of international development, donations are not likely to substitute government support at all. Governments should be careful with large budget cuts like the one on development aid in the Netherlands, which was widely covered in news media and followed by decreasing donations to development aid organizations.

Supplementary Data

Supplementary data are available at *ESR* online and at <https://osf.io/yy735/>.

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