DISCUSSION PAPER SERIES

No. 7937

PUBLIC FUNDING OF CHARITIES AND COMPETITIVE CHARITY SELECTION

Kimberley Ann Scharf

PUBLIC POLICY

Centre for Economic Policy Research

www.cepr.org

PUBLIC FUNDING OF CHARITIES AND COMPETITIVE CHARITY SELECTION

Kimberley Ann Scharf, University of Warwick and CEPR

This Discussion Paper is issued under the auspices of the Centre's research programme in **PUBLIC POLICY**. Any opinions expressed here are those of the author(s) and not those of the Centre for Economic Policy Research. Research disseminated by CEPR may include views on policy, but the Centre itself takes no institutional policy positions.

The Centre for Economic Policy Research was established in 1983 as an educational charity, to promote independent analysis and public discussion of open economies and the relations among them. It is pluralist and non-partisan, bringing economic research to bear on the analysis of medium- and long-run policy questions.

These Discussion Papers often represent preliminary or incomplete work, circulated to encourage discussion and comment. Citation and use of such a paper should take account of its provisional character.

ABSTRACT

Public Funding of Charities and Competitive Charity Selection*

Evidence on the price elasticity of private donations to charities and on the crowding out effect of donations by government grants suggests that a redirection of government funds from tax incentives for giving towards direct grants could increase total charity funding. This raises the question of why tax incentives for giving are used instead of direct grants. This paper shows that if government grants to charities face verification constraints, switching from direct grants to donation incentives can produce a pro-competitive effect on charity selection, raising the value of charity provision per dollar of funding.

Kimberley Ann Scharf
Department of Economics
University of Warwick
Coventry
CV4 7AL
UNITED KINGDOM

Email: k.scharf@warwick.ac.uk

For further Discussion Papers by this author see:
www.cepr.org/pubs/new-dps/dplist.asp?authorid=127385

PUBLIC FUNDING OF CHARITIES
AND COMPETITIVE CHARITY SELECTION

ABSTRACT

Evidence on the price elasticity of private donations to charities and on the crowding out effect of donations by government grants suggests that a redirection of government funds from tax incentives for giving towards direct grants could increase total charity funding. This raises the question of why tax incentives for giving are used instead of direct grants. This paper shows that if government grants to charities face verification constraints, switching from direct grants to donation incentives can produce a pro-competitive effect on charity selection, raising the value of charity provision per dollar of funding.

Why are tax incentives for giving used as a central method for delivering public support to charities instead of relying solely on direct government grants? This question has provoked much debate, and still does, especially in light of the steadily increasing size and importance of the charitable sector and the corresponding increase in the level of government support directed to not-for-profit enterprises.

Since tax relief lowers the price of giving for donors,[1] there is a presumption that its rationale is to encourage private giving and boost charity funding – compared to

---

[1] Tax relief can take various forms: deductions of donations from taxable income as in the US; tax credits at the marginal rate of income taxation, a system similar to the one used in Canada; matching government grants for private donations as used in the UK. All of these methods result in a lower price of giving for donors.

direct government grants, tax incentives may result in a higher overall level of charity funding for the same amount of public funds.[2] This, however, does not seem to square with available empirical evidence: recent estimates of the effects of tax incentives for giving on gross donations by private donors find price elasticities of giving to be less than one in absolute value – implying that the cost to the government of raising gross donations by one dollar exceeds one dollar.[3] In itself, this need not imply that subsidies are an ineffective way of delivering public funding to charities: as Roberts (1987) pointed out, even if tax incentives for giving leave net donations unchanged, or reduce them, they may still dominate direct grants as a way of channeling government funds to charities if direct grants crowd out private donations.

Empirical evidence suggests less-than-full crowding out of donations by direct government grants: Andreoni and Payne (2001) estimate crowding out of fundraising by direct grants to be around 25%.[4] When combining this with available estimates on price elasticities of giving, it would seem that there is not a strong prima facie case for tax incentives over direct grants. To see this, consider the case of a charity

---

[2]The question of why governments would want to encourage private giving has been the source of much debate in the economics literature and in the policy debate. Research that has focused attention on this question includes that of Feldstein and Clotfelter (1977), Warr (1982), and Scharf, (2000).

[3]In early studies, price elasticities of giving were found to be negative and greater than one in absolute value (these results are summarized by Clotfelter (1985) and Steinberg (1990) and Triest (1998)), but more recent studies have shown that estimates are highly sensitive to the empirical strategy and to whether or not there are corrections for short term price effects. For example, Randolph (1995) uses panel data to find a long-run price elasticity of giving of $-.51$. Using a longer but similar panel to that used by Randolph but a different estimation technique, Auten, Sieg and Clotfelter (2002), arrive at the significantly higher estimate of -1.26. More recently, Bakija and Heim (2008) find a long-run value of $-.7$ – close to Randolph's estimate. Surveying the empirical literature, Andreoni (2007) concludes that "The sensitivity of the estimates to the estimation technique and the identification strategy has left the literature unsettled as to the true values of price and income elasticities."

[4]When changes in fundraising costs are taken into account this estimate has been shown to be even higher (up to 60% in Andreoni and Payne, 2009).

receiving $1,000 in total funding, $500 from private donations and $500 from direct government grants. If we take a $-.5$ estimate for the price elasticity of giving, and a .25 estimate for the crowding-out effect of fundraising by direct grants, then a back-of-the-envelope calculation suggests that diverting $1 of direct grants to fund subsidies to private contributions, starting from zero subsidies, would generate a net decrease of approximately 25 cents in total funding.[5] One could arrive at a positive net effect by taking upper-range estimates of crowding out and giving elasticities, but this effect remains quite small.[6]

This raises the question of why tax incentives for giving are used as a way of delivering public support to charities instead of direct government grants. In the presence of heterogeneous preferences for collective consumption across individuals, the use of tax incentives could be rationalized on grounds other than the maximization of provision for a given level of government outlay (or, equivalently, the minimization of government outlays for a given level of provision) by invoking political economy arguments – for example, they may be a way of promoting "cultural pluralism" and of offsetting the "tyranny of the majority" in collective consumption choices (Izzo, 1993); or they may be a majority-sanctioned constitutional provision in the presence of distributional conflict (Scharf, 2000). These types of explanations however cannot account for the fact that a large fraction of incentives for giving apply to contributions made to mainstream forms of collective consumption.

This paper provides an alternative, supply-side based argument for the use of

---

[5]Assume that the combined effect of an increase in subsidies and a reduction in grants can be assessed as the combination of the effects from separate changes in subsidies and grant reductions; then the $1 decrease in direct grants would be offset by a $.25 increase in donations stemming from a reduction in the direct crowding-out effects of grants, and by an increase of $.50 in gross-donations stemming from the 1% subsidy that could be funded by $1.

[6]On the basis of the aforementioned elasticity estimates, incorporating second-best optimal tax considerations in the presence of endogenous labour supply decisions (Saez, 2004; Diamond, 2006) does not substantially affect conclusions.

tax incentives for private giving, conjecturing that their use, in alternative to direct government grants, may be rationalized on the basis of a positive effect on charity selection and performance – an effect that remains unmeasured in empirical estimates that focus on effects on the *cost* of provision by charities as measured by their overall budgets (their inputs) rather than the provision itself (their output). As well as being relevant for evaluations of third-sector performance, this selection effect has important implications for public policy – not just in terms of rationalizing existing policies but also for designing new ones.

The standard mechanism through which positive selection is promoted in the provision of private goods is market competition. In the case of competition between for-profit firms producing private goods, the profit maximization objectives of firms are in structural opposition to those of consumers and to those of other firms – an opposition that can nevertheless result in efficiently coordinated choices and in the selection of efficient firms. Competition in the not-for-profit sector, however, is different. In the case of collective goods one would expect the interests of the not-for-profit organizations that provide them to be naturally aligned with those of their private funders as well as with those of other charities. Nevertheless, even in this case one can show that efficiency promoting competition can be still be at work in the not-for-profit sector, so long as the pro-social motivation of charities (or, more precisely, of the individuals running them) is comparatively more focused than that of private donors.

We construct a model of competition between nonprofit, noncommercial providers of a homogeneous collective good that are heterogeneous with respect to their productive efficiency. In the model, charities are pro-socially motivated but are biased towards their own provision. The selection of productivity types arises in equilibrium as a result of funders' responses to observed charity performance and entry choices by pro-socially motivated charities – a mechanism that, to the best of our knowledge, this is the first paper to highlight.

Using this framework, it is shown that, although the presence of a pro-social mo-

4

tivation can provide a sufficient inducement for the most ineffective charities to exit (or not to enter in the first place), the lack of a price-based mechanism means that selection of charities through competition will be less powerful than the selection of private firms through market competition: a charity that values its activities comparatively more than those of similar charities might choose to stay active even when it is comparatively inefficient, so long as the opportunity cost of doing so, in terms of loss of output relative to the potential output that could be achieved by other, more efficient charities is not too large. In this setting, donors can leverage on the pro-social motivation of charities to improve selection through a contribution pledge that punishes unsuccessful charities by terminating funding to *all* charities, thus raising the opportunity cost to inefficient charities of pursuing their own narrow objectives.

Since private donations are the result of unilateral giving choices, private donors have full latitude to cease their contributions to a charity that they perceive to be unsuccessful, or to increase or decrease their donations to charities depending on (subjective) assessments of their performance. Government, on the other hand, is more constrained in its ability to discriminate amongst charities or to vary its grants – because of legal and political constraints, and specifically because of the stronger verification requirements that are implied in any public funding arrangements, which, by their public nature, cannot be fully discretionary. Then, if private donors can more easily condition funding on performance than government can, they can be in a better position to use such conditioning to promote positive selection of effective charities.[7] To the extent that this is the case, diverting funding from direct funding towards private donations can positively affect private provision – through a pro-competitive

---

[7]Heutel (2009) explores a mechanism that is distantly related to the one presented here, namely the possibility that private contributors may view government grants as a signal of quality – and vice-versa, that government may view private contributions as a signal of quality. This argument may explain the use of matching grants by government, but it cannot explain why public funding would be channeled in the form of contribution subsidies.

selection effect – even when it leaves the level of total funding unchanged.

The theoretical literature on conduct and performance in the not-for-profit sector has mainly focused on the relative advantages of for-profit and non-for-profit organizational forms in terms of information and agency costs (Alchian and Demsetz, 1972; Hansmann, 1980; Easley and O'Hara, 1983; Glaeser and Schleifer, 2001), differential regulatory and tax regimes (Lakdawalla and Philipson, 2006), and access to a pro-socially motivated workforce (Ghatak and Mueller, 2009).[8] This paper is related to that literature, but its focus is on the effects of competition amongst non-commercial charities, and how this is affected by the way charities are funded, rather than on the implications of alternative organizational forms.[9] Overall, the theoretical and empirical aspects of competition between non-commercial charities have not received a great deal of attention in the economics literature, especially when compared with the attention that has been given to market competition, and considering the relative importance of the third sector – which in a number of developed countries accounts for more than 10% of total GDP.

The rest of the paper is organized as follows. Section 1 formalizes the idea of positive charity selection from performance-based contributions. Section 2 focuses on the comparison between private contributions and government grants. Section 3 presents some evidence on the relationship between sources of funding and activity concentration for Canadian charities. Section 4 concludes.

---

[8]Early contributions to this literature are surveyed by Rose-Ackerman (1996).

[9]A study that is close in spirit to this line of analysis – although it comes from a very different angle and from a mainly empirical perspective – is Gertler (1989), which examines how the Medicaid patient subsidy and Certificate of Need cost containment programs have affected quality of provision by US nursing homes.

1 PRIVATE PHILANTHROPY AND COMPETITIVE CHARITY SELECTION

This section develops a simple framework for modelling competition between non-commercial, not-for profit providers of a homogeneous collective good. The setting abstracts from a number of important aspects of real-world competition between charities (e.g., product differentiation, commercial activities, scale economies in provision, contracting problems within charities) in order to highlight the basic structure of the mechanism through which non-commercial, not-for-profit firms compete and are selected. The key features of this selection mechanism are: (i) charities are pro-socially motivated but tend to be biased towards own provision; (ii) charities differ in terms of their productive efficiency but funders are ex ante unable to observe a charity's productivity type; (iii) ex post, upon observing how the charity has performed, funders can choose to divert their funds towards another charity; (iii) charities can choose whether or not to participate in provision. In this framework, the selection of charity types – and the resulting level of productivity of funds directed to them – is an equilibrium outcome, which can be affected by the mode of funding.

CHARITIES AND DONORS

Consider an economy where there are charities and contributors. Suppose that there is a continuum of different charity types, with a constant mass of charities for each type. Charities use resources from private and public contributions to provide a collective good, and differ from each other only with respect to the probability that the provision they carry out will succeed in its aims. A charity of type π ($0 \leq \pi \leq 1$) that uses a given amount of resources to provide a collective good will be successful in provision with probability π and unsuccessful (i.e. no provision follows from the resources used) with probability $1 - \pi$. Assuming, without loss of generality, that the unit cost of provision is equal to unity, then expected provision per unit of expenditure for the charity is thus π. Charities of different types are uniformly distributed in

$(0, \overline{\pi}], \overline{\pi} \leq 1.$[10]

Contributors to the collective good value expected provision – and thus favour more successful charities over less successful ones – but otherwise view provision by one charity to be a perfect substitute for provision by another charity (the extreme case of perfect substitution is a convenient benchmark). Charities, on the other hand, place a relatively higher valuation on their own provision than they do on the provision of other charities.[11] The expected payoff to a charity j of type π_j using funds w_j to provide the collective good is thus equal to

$$(1 + \mu)\pi_j w_j + G_{-j}, \tag{1}$$

where G_{-j} is expected provision by all charities other than j, and $\mu > 0$ is the premium on own provision.

The level of expected provision for an individual, i, contributing an amount c_i is

$$e_i c_i + G_{-i}, \tag{2}$$

where G_{-i} is expected provision through contributions by individuals other than i, and e_i is the expected provision per unit value of i's contribution.

The following focuses on scenarios that involve two time periods. At the outset, i.e. before provision occurs, charities make once-and-for all entry decisions. Provision then takes place in each of the two periods and is funded by private donations as described below.[12] For simplicity, it is assumed that there is no discounting, and that

---

[10]The probability of success, π, plays an analogous role here as provision quality does in other frameworks (e.g., Glaeser and Schleifer, 2001). The main advantage of modelling performance in this way is that – as shown later – this specification yields a simple and convenient representation of informational asymmetries.

[11]Individuals running the charities might receive "ego rents" or some other kind of nonpecuniary benefits from running it. Our argument requires only that the activities of different charities be comparatively more substitutable from the consumers' point of view than from the charities' point of view.

[12]This can be understood as a simplified version of a repeated-interaction setup.

provision in the first period and provision in the second period are perfect substitutes in payoffs – both for charities and for contributors.

PRIVATE CONTRIBUTIONS

Private contributors' payoffs in each period depend positively upon the expected marginal productivity of their own contribution. In turn, this depends upon the number of successful charities. As donors are identical, the focus is on the choices of a representative donor, contributing an amount c in each of the two periods (the same in both periods). For the time being, and to isolate the selection mechanism at work, assume c to be exogenously given (the case where the level of donations is endogenous is examined in Section 2).

If the contributor can identify each charity's probability of success, she will only give to a charity of type $\overline{\pi}$ in both periods – this delivers the highest expected level of provision per unit value of funding.

If the contributor cannot observe charity types, then she cannot identify which charities are the most effective type and so she will have to make a random selection. Suppose that the contributor believes that the set of active charities is $P \subset (0, \overline{\pi}]$ – a belief that will be consistent with charities' behaviour in equilibrium.[13,14] If, after having selected a charity in the first period, the contributor experiences failure, she will switch to another charity in the second period since the expected output, $E_{\pi \in P}[\pi] \equiv E_P[\pi]$, from a new random selection always weakly exceeds that from renewing a contribution to a charity that has failed.[15]

---

[13]For the purposes of defining a charity's incentives, the set P need not be assumed to be an interval. However, as is shown, P is an interval in equilibrium.

[14]Linearity of costs and payoffs implies that the structure of the problem is independent of whether a charity is receiving donations from multiple donors, or of whether different donors are giving to different charities.

[15]If a new charity is picked at random, its expected type (and expected level of output) is $E_P[\pi]$.

COMPETITION AND SELECTION

Given their probability of success, charities choose to be active in providing the collective good only if the expected payoff from doing so exceeds the expected payoff from not participating. This entry choice is made by charities once-and-for-all, at the outset (i.e. at the beginning of the first period).[16]

Consider a charity of type π'' that chooses to be active and believes that the set of active charities is P. If the charity is selected to receive funding at the outset, it will receive a payoff of $(1 + \mu)\pi''c$ in the first period; in the second period, it will be selected again with probability π'' (and so will obtain a further expected payoff of $(1 + \mu)\pi''c$) but with probability $1 - \pi''$ another charity will be selected, which will result in a further expected payoff equal to c times the expected level of provision per unit of funding of a random selection from the set of participating charities (which equals the expected type, $E_P[\pi]$, of those charities). If it chooses not to be active, another charity from P will be selected at the outset. Thus, the charity will choose to be active if the expected provision it obtains from doing so, adjusted for the premium it places on its own provision, exceeds the (unadjusted) expected level of provision

---

The expected type of a charity that has been picked at random *and* has been observed to fail (using Bayes' Rule and after taking expectations) is $E_{\pi' \in P}\big((1 - \pi')\pi'/E_{\pi \in P}[1 - \pi]\big)$. This can be expanded as $E_P[(1 - \pi)\pi]/E_P[1 - \pi]$, which is equal to $\big(E_P[\pi] - E_P[\pi^2]\big)/\big(1 - E_P[\pi]\big)$; this is less than or equal to $\big(E_P[\pi] - E_P[\pi]^2\big)/\big(1 - E_P[\pi]\big) = E_P[\pi]$ – since $E_P[\pi^2] \leq E_P[\pi]^2$ (given $0 \leq \pi \leq 1$) – implying that the contributor is made no worse off by switching. If P consists of the single point $\pi = 1$ the above updating rule is formally degenerate, but no Bayesian updating following failure will occur in equilibrium.

[16]In this setting, a single collective good is provided. This implies that a charity that chooses not to enter is fully inactive. In a less abstract setting where multiple forms of collective provision are present (e.g. social services, support to arts and culture, education), a charity may be engaged in multiple activities and may choose to enter certain areas and not others depending on its comparative productivity in each of those areas. As discussed in Section 3, in such a setting "exit" by a charity may just mean that the charity stops providing one form of collective good in order to concentrate on others.

that it faces if it chooses not to be active.

A continuous interval of charity types that will choose to be active in provision can be identified:

Proposition 1 *When information about charity types is private, the range of charity types that choose to participate in collective provision consists of an interval that includes the most productive charity type and some less productive types.*

PROOF: The sequence of choices is as follows: (i) each charity decides whether or not to enter, given its beliefs about the entry/exit choices of other charities; (ii) a charity is selected at random and receives funding, c, in the first period; (iii) the realization of first-period provision is observed by the donor, who can renew funding to the same charity, or fund another charity newly selected at random; (iv) the realization of second-period provision is observed.

The expected payoff to a charity of type π'' that chooses to enter and is selected is $c\big((1+\mu)(\pi'' + (\pi'')^2) + (1 - \pi'')E_{\pi \in P}[\pi]\big)$. If the charity chooses not to enter, it always faces an expected payoff of $E_{\pi' \in P}\big[(\pi' + (\pi')^2) + (1 - \pi')E_{\pi \in P}[\pi]\big]c \equiv \Phi(P)c$.

Consider a charity type, $\widetilde{\pi}$, that is indifferent between entry and non-entry, i.e. such that

$$(1+\mu)(\widetilde{\pi} + \widetilde{\pi}^2) + (1 - \widetilde{\pi})E_P[\pi] - \Phi(P) \equiv \Gamma(\widetilde{\pi}, \Phi(P)) = 0. \tag{3}$$

Then $\partial\Gamma(\pi, \Phi(P))/\partial\pi = \pi[3(1+\mu) - E_P[\pi]]$ is strictly positive for all π since $E_P[\pi] < 1$. This implies that $\Gamma(\pi, \Phi(P)) \geq 0$ for all $\pi \geq \widetilde{\pi}$, and $\Gamma(\pi, \Phi(P)) < 0$ for all $\pi < \widetilde{\pi}$. Thus, if a charity of type $\widetilde{\pi}$ is indifferent between participating or not, then all charities of type $\pi \in (\widetilde{\pi}, \overline{\pi}]$ will choose to participate. In turn, this means that P, if non-empty, must consist of the interval $[\widetilde{\pi}, \overline{\pi}]$.

Next, it can be shown that for $\mu > 0$, the set P is non-empty, i.e. $\widetilde{\pi}$ is strictly less than $\overline{\pi}$. First note that the mean charity type in the interval $[\widetilde{\pi}, \overline{\pi}]$ is

$$m(\widetilde{\pi}) = E_{[\widetilde{\pi}, \overline{\pi}]}[\pi] = (\widetilde{\pi} + \overline{\pi})/2, \tag{4}$$

and that, for $P \equiv [\widetilde{\pi}, \overline{\pi}]$, the expression $\Phi(P)$ equals

$$E_P\big[(\pi + \pi^2) + (1 - \pi)m(\widetilde{\pi})\big] = \frac{1}{\overline{\pi} - \widetilde{\pi}} \int_{\widetilde{\pi}}^{\overline{\pi}} \big((x + x^2) + (1 - x)m(\widetilde{\pi})\big)dx \equiv \widetilde{\Phi}(\widetilde{\pi}). \tag{5}$$

11

Let then

$$\widetilde{\Omega}(\pi) \equiv (1+\mu)(\pi + \pi^2) + (1-\pi)m(\pi) - \widetilde{\Phi}(\pi). \tag{6}$$

Since $\widetilde{\Omega}(0) = -(\overline{\pi} + \overline{\pi}^2/6)/2 < 0$, $\widetilde{\Omega}(\overline{\pi}) = \mu(\overline{\pi} + \overline{\pi}^2) > 0$, and $\partial\widetilde{\Omega}/\partial\pi = (5/6)\pi + \mu(1 + 2\pi) + (3 - 2\overline{\pi})/6 > 0$, then by continuity, for $\mu > 0$, a value $\widetilde{\pi} \in (0, \overline{\pi})$ for which $\widetilde{\Omega}(\widetilde{\pi}) = 0$ will exist. This identifies an interval $[\widetilde{\pi}, \overline{\pi}]$ of charity types that will choose to participate. $\square$

Note that the resulting level of expected provision per unit of contribution is increasing in $\widetilde{\pi}$. Thus, from the point of view of the contributor, charity selection is better the larger is the interval, $(0, \widetilde{\pi}]$, of low-productivity charity types that choose not to enter. That is, charity selection is better the higher is $\widetilde{\pi}$.

To put the above mechanism into perspective, compare this scenario with one that features for-profit firms that also differ from one another only in terms of the quality of their output – represented in terms of the probability with which the goods they produce deliver actual "consumption services" to buyers.[17] Even if the success rate of a firm's output is unobservable to consumers, if the outcome of first-period purchases is observable before second-period purchases are made, fully efficient selection of firms can result from competitive bidding via the price mechanism, as long as some of the costs of second-period provision are incurred in the first period:[18] if, after observing failure in the first period, a consumer switches to a different provider, then expected revenues (and thus profits) will be comparatively lower for less effective firms. Competition between firms for profits will then bid down the price of the good until only the most effective firms remain and break even. In the case of competition between charities, the absence of a price mechanism means that switching to an alternative charity after perceived failure cannot produce the same degree of selection

---

[17]If success is interpreted as quality, then in this setting quality would only observed after a private purchase is made.

[18]Investment costs have been abstracted from in the model because, given the other assumptions, the presence of such costs is inconsequential for the case of competition between charities.

– a less effective charity can still choose to enter even if it faces a lower probability of raising funds in the second period.

Fully mimicking the selection effects of competition in private goods markets would require charities to run a surplus of which they are interested residual claimants. This would mean departing from a not-for-profit objective – in the absence of a profit motive, any potential surplus is devoted to provision, and therefore cannot give rise to price competition – which in this context may lead to contracting problems (hidden action): if failure in provision is indistinguishable from the effects of a diversion of funds towards the generation of surplus for the provider, then a provider motivated by profit faces incentives to misuse funds whereas a pro-socially motivated provider does not (Hansmann, 1980).

CONDITIONAL PLEDGES

Although the absence of a price mechanism is an obstacle to positive selection, it is possible to leverage on the pro-social motivation of charities to improve selection above that which can be achieved through the competitive switching mechanism that has been described above. Suppose that, instead of making an unconditional contribution in both periods, the contributor offers charities a "contribution contract" that conditions the amount contributed in the second period on the outcome observed in the first period. Specifically, the contributor pledges a basic amount b in both periods which is fully withdrawn – for all charities – in the second period if the charity to which the donor gave in the second period is unsuccessful. Thus, a charity that has been selected in the first period will receive an amount b in the second period if successful in the first period; if the charity is unsuccessful, the contributor will stop contributing altogether. If the level of funding can be credibly conditioned on success in this way, then, by choosing to participate, ineffective charities lower the overall expected level of funding. As they care about provision by *any charity*, not just their own, this affects their decision to participate. Then, a pro-socially motivated charity that knows it is ineffective but still chooses to participate when the overall level of

funding is unconditional, may choose to stay out when funding is made to depend on success because it realizes that its participation can "hurt the common cause". Notice that this concern would be absent in the case of markets for private goods – as a private firm does not care about the volume of expected sales enjoyed by other firms once has exited.

The ability to offer such conditional contracts can help the contributor to improve selection:

Proposition 2 *When information about charity types is private, performance-related contribution levels result in a narrower interval of active charity types, and a higher level of expected provision per unit value of contributions, than unconditional contributions do.*

PROOF: The payoff to a charity of type π'' from choosing to be active and being selected equals $b\big((1+\mu)(\pi'' + (\pi'')^2)\big)$. If the charity chooses not to be active instead, it always faces an expected payoff $E_{\pi' \in P}\big[\pi' + (\pi')^2\big]b \equiv \widehat{\Phi}(P)b$. Proceeding as in the proof of Proposition 1, we can define

$$\widehat{\Omega}(\pi) \equiv (1+\mu)(\pi + \pi^2) - \check{\Phi}(\pi), \tag{7}$$

and note that, since $\widehat{\Omega}(0) = -(\overline{\pi} + 2\overline{\pi}^2/3)/2 < 0$, $\widehat{\Omega}(\overline{\pi}) = \mu(\overline{\pi} + \overline{\pi}^2) > 0$, and $\partial\widehat{\Omega}/\partial\pi = (4/3)\pi + \mu(1 + 2\pi) - (3 - 2\overline{\pi})/6 > 0$, a value $\widehat{\pi}$ such that $\widehat{\Omega}(\widehat{\pi}) = 0$ will exist, and will identify an interval $[\widehat{\pi}, \overline{\pi}]$ of charity types that will choose to participate.

In order to compare $\widehat{\pi}$ with $\widetilde{\pi}$ (which refers to a scenario with an unconditional contribution level, c, in both periods), it is necessary to identify a level of basic pledge, b, that results in the same expected average, per-period contribution level, c. This can be computed as $b(\widehat{\pi}) = c/(1 + m(\widehat{\pi}))$. Since

$$\widetilde{\Omega}(\pi) - \widehat{\Omega}(\pi) = \left((1 - \pi) - (1/(\overline{\pi} - \pi))\int_{\pi}^{\overline{\pi}}(1 - x)d\pi\right)m(\pi) > 0, \tag{8}$$

thus, $\widehat{\pi} > \widetilde{\pi}$. □

Punishing *all* charities for failure can thus promote positive selection and improve efficiency in provision. The basic idea is simple: charities have a narrower focus than

users have, and they place a premium on their own provision, which implies that even less effective charities may still choose to engage in provision. A commitment to condition the level of funding on performance can improve selection by leveraging on a charity's pro-social motivation: as charities care about collective provision (of other charities as well as their own), a credible commitment to increase funding only in the case of success raises the opportunity cost to a less effective charity of pursuing its own narrow objectives, and can thus promote positive selection.

This specification abstracts from the presence of heterogeneity in preferences across contributors with respect to the form of provision that is carried out by charities – donors here are only concerned in differences in the level of expected provision delivered by different charities charities. Nevertheless, the argument would carry over to a setup that incorporates product differentiation, i.e. where different donors view the services provided by different charities as being imperfect substitutes.[19]

2 GOVERNMENT GRANTS AND INCENTIVES FOR PRIVATE GIVING

GOVERNMENT FUNDING AND VERIFICATION CONSTRAINTS

The word "contracts", used above to describe conditional contribution pledges by private donors, is borrowed from the theoretical literature on screening. However, a crucial aspect of these conditional pledges is that they are not contracts in the sense of being bilaterally binding and enforceable arrangements. These are unilateral commitments on the part of donors, and as such they impose minimal verification requirements on donors. Private contributors are free to condition their contributions

---

[19]In this kind of setting, there would be an optimal tradeoff between preferences for variety and the costs associated with supplying multiple varieties, and the mechanism described in the simpler setup would result in too much entry (too many varieties) relative to the optimum.

on performance without facing any legal constraints: contributions are fully discretionary, and there is nothing preventing private contributors from increasing or reducing their contribution according to any signal they choose to use; and once the signal is chosen, they unilaterally determine its realization, and this determination cannot be questioned by the charity.

This is not the case for government. Any conditional government granting arrangement would need to specify explicit performance criteria and include a formal verification process.[20] This makes performance-related, direct funding arrangements by government more akin to actual bilateral contracts, involving bilateral obligations and bilaterally binding verification criteria; and so, even if government can observe the same signals of performance that contributors can, these signals may be difficult or too costly to verify for government, even if they are perfectly observable.

A case in point is given by medium-term funding arrangements. Charities typically seek ongoing funding arrangements that are not one-off, as these provide them with the financial stability that is required to meet cost commitments with respect to capital and labour inputs. In the case of government grants this need often translates into multi-period awards with intermediate verification requirements (e.g. progress reports) that tie the recipient to specific, measurable targets but also prevent arbitrary termination. Medium-term funding needs can also be met by private donations through implicit medium-term "contribution contracts"; in such arrangements, however, termination of funding remains fully discretionary.

Then, to the extent that private contributions can be conditioned on performance more easily than government grants can – because they do not face verification constraints – channeling funding through private contributions, by granting them tax relief, could promote positive selection and thus raise expected provision and welfare

---

[20]There are many examples of this relating to the funding of both private and public organizations. For example, public funding of educational institutions is conditioned on measures of performance, and involves formal verification through testing, monitoring, and inspections.

even when net contributions are unaffected.

This mechanism can be highlighted by focusing on an extreme case where charities receive a combination of private contributions, C, and government grants, Z, but where the latter, because of verification constraints, must be fully unconditional, whereas private contributions can occur through performance-related contributions as described earlier. In this setting, any shift of funding from government grants towards subsidies to private donors, by increasing the overall conditional element of funding, improves selection and raises the level of expected provision per unit of funding.

To show this, consider a scenario with a given level, C, of private contributions, c, and suppose that the government disposes of some funds, F, to be used for supporting provision by a charity. If it engages in direct funding, it can supplement the total private contribution C with direct grants to the charity, $Z = F$. Alternatively, it can use a fraction, $F - Z$, of the funds to subsidize private contributions at a rate $s = (F - Z)/C$ per unit value of contribution,[21] dispersing the remaining funds as direct grants.

If the level of net private contributions, C, is taken as exogenous, then the two alternatives would result in the same level of total funding. However, subsidies to private contributors may have an advantage at promoting positive selection:

Proposition 3 *When verification requirements constrain direct government funding to be unconditional, a redirection of government funds from direct funding of charities towards subsidies to private contributions results in a narrower range of participating charity types.*

PROOF: The expected payoff of a charity of type π'' that has chosen to be active and has been

---

[21]This is actually how tax relief is implemented in the UK, where private contributions are augmented by government funding that is granted at a matching rate that corresponds to the basic rate of income taxation. Irrespectively of how it is formally implemented, tax relief can always be equivalently modelled as a contribution subsidy.

selected can be expressed as

$$(1+\mu)\pi\Big(Z+(1+\pi'')b\Big),\tag{9}$$

where b is the basic pledge made by private donors. In equilibrium, by the same arguments presented in earlier proofs, the set of participating charities will consist of an interval, $[\hat{\pi},\overline{\pi}]$, and so, for given levels Z and C, the basic pledge level of private donors will be $b(\hat{\pi})=C/e_C(\hat{\pi})$, where $e_C(\pi)\equiv(1/(\overline{\pi}-\pi))\int_\pi^{\overline{\pi}}(1+x)d\pi=1+m(\pi)$, with $m(\pi)\equiv(\pi+\overline{\pi})/2$. As in earlier proofs, define

$$\widehat{\Omega}(\pi)=(1+\mu)\pi\Big(Z+(1+\pi)b(\pi)\Big)-\frac{1}{\overline{\pi}-\pi}\int_\pi^{\overline{\pi}}x\Big(Z+(1+x)b(\pi)\Big)dx$$

$$=T\Big(\theta_Z\Psi_Z(\pi)+(1-\theta_Z)\Psi_C(\pi)\Big);\tag{10}$$

where $T=Z+C$ and $\theta_Z=Z/T$; and where

$$\Psi_Z(\pi)\equiv(1+\mu)\pi-\frac{1}{\overline{\pi}-\pi}\int_\pi^{\overline{\pi}}x\,dx=(1+\mu)\pi-m(\pi),\tag{11}$$

$$\Psi_C(\pi)\equiv\frac{1}{1+m(\pi)}\left((1+\mu)\pi(1+\pi)-\frac{1}{\overline{\pi}-\pi}\int_\pi^{\overline{\pi}}x(1+x)dx\right)$$

$$=\frac{1}{1+m(\pi)}\left((1+\mu)\pi(1+\pi)-\frac{1}{\overline{\pi}-\pi}\Big((\overline{\pi}^2-\pi^2)/2+(\overline{\pi}^3-\pi^3)/3\Big)\right).\tag{12}$$

Then

$$\frac{\partial\widehat{\Omega}(\pi)}{\partial\theta_Z}=T(\Psi_Z(\pi)-\Psi_C(\pi))=T\frac{(\overline{\pi}+5\pi+6\mu\pi)(\overline{\pi}-\pi)}{12(1+m(\pi))}>0,\tag{13}$$

which implies

$$\frac{d\hat{\pi}}{d\theta_Z}=-\frac{\partial\widehat{\Omega}/\partial\theta_Z}{\partial\widehat{\Omega}/\partial\pi}<0.\tag{14}$$

Since private donations are exogenously given, government subsidies to private donations will have no effect on net donations (the case where they do is discussed in the next section). Thus, for a given level of (expected) net private funding C and a given level of total government funding, a redirection of one dollar from direct government funding towards subsidies to private contributions lowers Z by an amount S and increases expected gross private funding by S, and thus has exactly the same effect as that shown in (14).[22] $\qquad\square$

---

[22]This argument can be generalized to scenarios where both government and private donors face

It could be argued that government funding arrangements that are formally direct grants but are awarded to charities only if they are able to attract private funds (matching grants) should produce the same effect on selection as subsidies to private contributions. Upon closer scrutiny, however, there is still a significant gap between the structure of matching grants and that of contribution subsidies. Even when a government grant is awarded to match private funds that are initially secured by a charity, the flow of funds paid over time following a successful award may remain unconditioned on subsequent fluctuations in private funding – indeed, one of the main attractions of government grants from the point of view of charities is that they can be relied upon to cover long-run "core" costs, which private donors are reluctant to fund (Scott, 2003). We do observe arrangements where continuation of government funding *is* conditioned on continued private fundraising; but given that government cannot commit indefinitely to match private funds, such arrangements can never be as "open-ended" as can an implicit contract with a private funder. In addition, matching government grants affect the price of giving faced by private contributors only to the extent that there is a firm ex-ante commitment on the part of government to provide a match and that this commitment is widely advertised to potential contributors before private contributions are made. Finally, a significant fraction of government funding remains unlinked to private donations.

---

verification constraints, but they do so to different degrees. Suppose that both government and charity can perfectly observe the first-period provision outcome. Failure, however, only produces a verifiable signal with probability γ_Z $(1 \leq \gamma_Z \leq 1)$, whereas with probability $1 - \gamma_Z$ no verifiable signal of failure is produced even if failure has been observed by both parties. In turn, if failure occurs but no verifiable signal of failure is produced, government is forced to renew its funding to the charity. Thus, a charity of type π that is selected and receives funding b_Z in the first period, with probability $\pi + (1 - \pi)(1 - \gamma_Z)$ will receive funding of b_Z in the second period; whereas, with probability $(1 - \pi)\gamma_Z$, funding will stop in the second period (for all charities). Private donors face analogous verification constraints, but with $\gamma_C > \gamma_Z$.

Iₙfₒᵣₘₐₜᵢₒₙₐₗ ₐdᵥₐₙₜₐgₑₛ ₒf ₚᵣᵢᵥₐₜₑ dₒₙₒᵣₛ

INFORMATIONAL ADVANTAGES OF PRIVATE DONORS

In addition to verification constraints making conditionality in government grants more difficult to achieve, as end users of the collective goods provided by charities, private contributors may be in a better position to judge performance.[23] This idea can be captured by a specification where funders only observe a signal that is positively correlated with actual success, and must condition second-period funding upon this signal. The signal corresponds to the actual first-period realization with probability $\eta > 1/2$, and goes counter to it with probability $1 - \eta$. So, if a contributor observes the signal, then, with probability η, the charity actually succeeded and with probability $1 - \eta$ it did not; whereas if the signal is not observed, with probability $1 - \eta$, the charity actually succeeded and with probability η it did not. The signal is therefore sent with probability $\pi\eta + (1 - \pi)(1 - \eta) = (2\eta - 1)\pi$, and is thus positively correlated with a charity success type, π.

Assume that, conditional on actual realized performance, the signal received by government and that received by private contributors are statistically independent – i.e. although the signals are positively correlated with performance (and hence are correlated with one another), the noise component attached to each signal is uncorrelated across signals. In addition, suppose that the precision with which an observable signal conveys information about actual performance – as captured by the parameter η – is greater for the signal that can be observed by private contributors than it is for the signal that can be observed by government, i.e. that $\eta^C > \eta^Z$, where η^C applies to private contributions and η^Z applies to government grants.

As previously, an increase in government grants will worsen selection, whereas an increase in government support to private contributions will improve it.

Proposition 4 *When the signal about performance that is received by private contributors is*

---

[23]This would be particularly true for charities that deliver local public goods and receive donations from the local users of those goods.

more informative than the corresponding signal received by government, an increase in direct government funding of charities widens the range of participating charity types, whereas an increase in gross private contributions lowers it.

PROOF: The proof is analogous to that of the previous proposition, and is omitted. □

On the other hand, on can think of situations where government has an informational advantage. Think, for example, of contributions towards charitable activities that are carried out in foreign lands and specifically in war zones. One could argue that in these cases government is in a better position to monitor how funds are used than are private contributors.[24] Then, it could be that, despite the intrinsically tighter verification constraints government faces, the monitoring advantage of government could make channeling funds through direct government grants more effective than channeling them through private contributors.

VARIABLE CONTRIBUTIONS

The discussion so far has assumed expected private contributions to be constant. Here the previous setup (and conclusions) is generalized to the case where contributions vary endogenously, and may thus be sensitive to changes in the price of giving.

With reference to a representative contributor, with income y and making an individual contribution c, consider the following general specification of preferences for expected private consumption, $x = y - c$, and expected collective provision, G:

$$U(y - c, G), \tag{15}$$

where U is quasiconcave.[25] The following abstracts from any additional "warm-

---

[24]For example, there are recurring allegations of scandals and corruption in international aid programmes, prompting calls for monitoring by national and international governmental organizations.

[25]Although U is assumed to be quasi-concave, the fact that expected provision, G, and expected consumption $y - c$ enter U directly as one of its argument implies risk neutrality. Allowing for risk aversion complicates the analysis but does not undermine the general arguments.

glow" component of giving, which may need to be invoked to rationalize non-negligible levels of giving in large groups (Andreoni, 1988; 1990). All of the arguments can nevertheless be readily generalized to a specification incorporating warm glow.

Let p represent the unit price of expected provision from the point of view of a donor – corresponding to the price of giving in a setting without uncertainty. This depends on the expected unit cost of expected provision, which in turn is a decreasing function, $q(\widehat{\pi})$, of the charity type cutoff point, $\widehat{\pi}$, and of the subsidy, s:

$$p \equiv q(\widehat{\pi})/(1+s). \tag{16}$$

The expected gross unit cost of expected provision, $q(\widehat{\pi})$, is the ratio of the expected contribution per unit of basic contribution pledge to the corresponding expected provision; i.e.,

$$q(\widehat{\pi}) = \frac{1 + E_{[\widehat{\pi},\overline{\pi}]}[\pi]}{E_{[\widehat{\pi},\overline{\pi}]}[\pi] + E_{[\widehat{\pi},\overline{\pi}]}[\pi^2]} = \frac{1 + (\widehat{\pi} + \overline{\pi})/2}{(1/2)(\widehat{\pi} + \overline{\pi}) + (1/3)\big((\overline{\pi})^3 - (\widehat{\pi})^3\big)/(\overline{\pi} - \widehat{\pi})}. \tag{17}$$

A symmetric Nash equilibrium in contributions, given entry choices by charities, is then characterized by

$$\frac{\partial U/\partial G}{\partial U/\partial(y - c)} = p, \tag{18}$$

with $G = \big(Z + nc(1+s)\big)/q(\widehat{\pi}) = \big(Z(1+s) + nc\big)/p$. An overall equilibrium in private contributions and entry decisions by charities is then identified by (18) and by the equilibrium selection condition, $\Omega(\widehat{\pi}) = 0$.

Even when $q(\widehat{\pi})$ is constant, an increase in s has an ambiguous sign on c. This follows from general principles, and is a standard theoretical prediction in the literature. Nevertheless, the preceding analysis directly yields the following result:

Proposition 5 *An increase in the subsidy combined with a corresponding budget-neutral decrease in direct grants can raise expected provision even when it leaves net contributions unchanged.*

PROOF: The government budget constraint is $Z + ncs - \bar{B} \equiv Y(Z,s) = 0$, where $\bar{B}$ is the overall budget. A budget-neutral increase in s then requires $(\partial Y/\partial s)ds + (\partial Y/\partial Z)dZ = 0$, i.e.

$$\frac{dZ}{ds} = \frac{n\,(c + s\,dc/ds)}{1 - ns\,dc/dZ}. \tag{19}$$

The effect $d\hat{\pi}/ds$ of an increase in s on $\hat{\pi}$, is found by totally differentiating the two equilibrium conditions (18) and $\Omega(\hat{\pi}) = 0$. The total effect on net contributions is then

$$\frac{dc}{dp}\frac{dp}{ds} + \frac{dc}{dZ}\frac{dZ}{ds} = \frac{dc}{dp}\left(\frac{q'(d\hat{\pi}/ds)}{1+s} - \frac{q}{(1+s)^2}\right) + \frac{dc}{dZ}\frac{dZ}{ds}. \tag{20}$$

The first term measures the change in contributions stemming from the change in the subsidy, and includes a direct price effect of the subsidy change (the expression $q/(1+s)^2$) as well as an indirect effect that stems from induced changes in charity selection (the expression $q'(d\hat{\pi}/ds)/(1+s)$). The second term accounts for the crowding-in effect of a reduction in Z that makes the corresponding increase in the subsidy budget neutral (dZ/ds is defined as in (19)).

Consider then a scenario where the overall effect on c, as measured by (20), is zero. In this case, the total amount of funding available to charities $Z + nc(1+s)$ remains unchanged. Nevertheless, the effect on $\hat{\pi}$ is just as described earlier (Proposition 3), and so an increase in s combined with a decrease in Z that leaves both the government budget and the total funding of charities unchanged lowers $q(\hat{\pi})$ and raises G. $\qquad \square$

Induced effects on selection will affect contribution levels and will thus be included in empirical measurements of responsiveness of contributions with respect to tax incentives. There will also be, however, an unmeasured effect on the efficiency of provision – the level of expected provision per unit of funding. Thus, even when the total measured effect on net contributions is zero, effective provision will rise by more than the value of the tax relief received. Therefore, there can be a rationale for offering tax relief to private giving even when a switch from direct grants to tax incentives produces no measurable effect on total funding.

When charities pursue objectives that are aligned with those of contributors but have a comparatively more narrow focus, they can choose to operate even when

they are relatively inefficient. Private donors can vary contributions according to perceived performance, punishing unsuccessful charities and inducing less efficient charities to exit. As government faces more constraints with respect to its ability to vary its funding, channeling government funding through private contributors (in the form of tax relief) may raise the output of charities even when total funding is unaffected.[26] On the other hand, there may be areas where government has a significant advantage over private donors with respect to the monitoring of charities' activities, and where channeling government funds through private contributors may discourage positive selection.

Whether or not private contributors are better at detecting performance than government is ultimately an empirical question. Nevertheless, the key element underlying the mechanism that has been described is discretion in funding choices; and, even if private donors have no informational advantage over government, or even if they are at a disadvantage, there are strong reasons to expect that they have more discretion to vary their funding than government does.

3 PRIVATE SUPPORT AND ACTIVITY FOCUS BY CHARITIES: SOME EVIDENCE FOR CANADA

This analysis predicts that an exogenous increase in the proportion of funds that originate from private donors (either as net donations or as tax relief attached to net donations) improves efficiency in provision through a pro-competitive selection mechanism. Direct evidence on this positive selection effect on performance is difficult to obtain – not least because of the problems that are inherent to the measurement of

---

[26]In addition to the positive selection mechanisms we have described, there may be others. For example, it could be conjectured that a large numbers of small contributors is, in aggregate, better at monitoring performance than a single large funder. The presence of such an informational advantage by private donors could give rise to predictions that are analogous to those presented in the last section.

collective output in both the public and third sectors (Atkinson, 2005). One could attempt to make inferences from evidence on market structure, but the mapping between selection and market structure is not a priori clear. This is because selection can manifest itself not just as charities ceasing to operate, but also as a rationalization of charities' activities: individual charities are typically involved in multiple activities – across which they may have varying degrees of comparative advantage in relation to other charities; then selection may consist of charities choosing to abandon or reduce their involvement in activities where they are comparatively ineffective to concentrate on activities where they are comparatively more effective.[27] This implies that selection could translate into higher market concentration – if it induces exit by smaller, less effective charities – or into lower market concentration – if it induces larger charities to vacate areas of activities to accommodate entry by smaller, more effective charities. Thus, making inferences on selection from evidence on market structure would require specific assumptions and a fully articulated structural model of competition and entry with heterogeneous firm characteristics, predicting how selection would map into concentration, together with sufficient information to allow for structural estimation of the model's parameters. Nevertheless, a partial picture can be obtained from focusing on the activities of individual charities as reflected in charities' tax returns.

DATA

Not-for-profit entities operating in Canada and registered as charities for tax pur-

---

[27]Exit rates for charities are indeed quite low: once charities are set up, it is rare for them to formally exit. For example, Canadian panel data on charitable organizations suggests that very few charities formally terminate, wind-up or dissolve operations. In 1997 the number of active registered organizations was 63,764 with only 536 of these formally terminating, winding up or dissolving their operations. Since then, even smaller proportions of charities have chosen to formally cease their operations – over the period 1997 to 2007, there were a total of 756,429 registered active charities and only 4,817 of these became inactive, about 0.006 of the total.

poses are required to file an annual return (form T3010), reporting information on assets, expenditures, and sources of funding – including support received from government at the municipal, provincial and federal levels, and support received from the private sector in the form of cash donations or gifts of assets – and on whether a charity's activity has primarily a municipal, provincial, or national focus, and on the charity's sector of activity, as defined by the Canada Revenue Agency (CRA).[28] This financial information allows for derivation of a measure of private funding relative to total (private plus public) funding received by each individual charity – the charity's *private support ratio*.

In order to relate this measure to the theoretical predictions it is necessary to identify a source of exogenous variation. The selection mechanism identified in this paper links charities' entry choices to the composition of their funding, taking the latter as exogenous. In reality, the composition of funding sources is something that is largely endogenous – something that charities can influence through their choices. Different sources of funds have different costs and benefits from the point of view of a charity. Private funding requires costly fundraising; involves direct accountability to donors; may force the charity to focus on certain programmes and not others; is less stable through time; and cannot be relied upon to cover core costs because (as private donors typically want their donations to be spent on programmes). Government funding involves dealing with the grant application process and with more formalized reporting and accountability requirements; might require some (more or less explicit) lobbying of granting bodies; may also condition what programmes the charity can run; and can be relied on to cover core costs more than private funding can. Dif-

---

[28]Religious organizations are excluded from our analysis. Although these do receive some government funding for activities that are not directly related to religious worship, their core activities are exclusively funded by members, which results in a systematically larger ratio of private funding to total funding for them in comparison with other types of charities: over the period 1997-2007, the mean ratio is .98 for religious organizations versus .63 for non-religious organizations.

ferent charities will resolve these trade-offs differently depending on their aims and their characteristics, and will alter their fundraising choices accordingly. Although charities' fundraising choices are undoubtedly an important determinant of the observed composition of funding, the focus in this paper is on a mechanism that links charities provision choices to exogenous variation in the source of their funding. Accordingly, the aim must be on variation in the composition of funding across charities that is not attributable to differences in charities' fundraising choices.

To this end, the Forward Sortation Area (FSA) of the locality where a charity is based can be linked to tax return information and to community-level socio-economic and demographic indicators from the 2001 Census. This information is then used to instrument for the private support ratio for those charities whose activities have a primarily local focus – as detailed below – isolating a source of variation in the composition of funding which can be reasonably taken as exogenous.

Return forms contain information on different categories of expenditures, including a breakdown between programme expenditures and other expenditures (i.e. general management and administration expenditures). Unfortunately, without more information on the characteristics of the technologies adopted by charities, such cost measures do not allow us to say much about selection and performance – for example, it may be that the most cost-effective way of delivering a certain service involves a technology featuring small fixed costs; or it may be that a technology with relatively higher fixed costs and relatively lower marginal costs delivers the lowest average cost for the chosen size of the programme. Return forms in selected years (from 1997 to 2005) also contain self-reported measures of "emphasis" for each of the charity's four "most important fields of activity", expressed as percentage shares. In some cases, charities report a one-hundred percent emphasis in a single area; in other cases, charities report positive shares for all of the four options. While there is too little charity specific time variation in this reported measure to allow for panel estimation (over the period 1997 to 2007 most charities report no change), cross-sectional comparisons are possible. Activity concentration does not in itself measure performance, but it

relates to the degree of operational rationalization within individual charities, which the model predicts to be positively correlated with positive selection and productivity. In the sample, activity concentration is positively and significantly correlated to the ratio of programme to total expenditures, suggesting that this self-reported concentration measure reflects actual technology-relevant choices.

REGRESSION RESULTS

Using returns data for 2001, we ran cross-sectional regressions for the measure of a charity's emphasis on their most important field of activity (sample mean .87, standard deviation .21) against the private support ratio (sample mean .59, standard deviation .42).[29] As activity concentration could be expected to be negatively related to charity size – with larger charities more likely to be involved in multiple activities – there is a control added for charity size (as measured by a charity's total expenditures), and the regression equation includes a self-reported indicator for whether a charity has organizational links with other charities. Table 1 reports results for alternative specifications. The first column refers to single stage (GMM) regressions with clustering-robust errors, where clusters are defined by combinations of sectors of activity (identified by thirty-one different CRA-defined sectors as listed in Table 2) and broad geographical areas (identified by the 13 different Canadian provinces and territories listed in Table 3), for a total of 24,828 observations and 287 non-empty clusters. The coefficient for the private support ratio is positive and significant at the 1% level.[30]

To account for the possibility that private funding may be endogenous with re-

---

[29]We also explored specifications where the dependent variable is given by an index obtained as the sum of the squared shares of the first more important fields as reported by charities. Results are very similar to those reported here.

[30]We ran the same specification on the full 1997-2007 sample – including year fixed effects – and obtained analogous results.

Table 1: Regression Results

Dependent variable: Proportional emphasis for most important field of activity
Cluster-robust GMM estimator

	(1) Charities with municipal focus	(2) Charities with municipal focus – *PSR* instrumented	(3) All charities
Ratio of Private to Total Support			
Charities with:			
Municipal focus (P-value)	.0394 ($<$ .001)	.1999 ($<$ .001)	.0379 ($<$ .001)
Provincial focus (P-value)			.0167 (.413)
National focus (P-value)			.0301 (.006)
Total expenditures and gifts (P-value)	$<$ .0001 (.019)	$<$ .0001 (.001)	$<$ .0001 (.002)
Organizational links:			
Yes=1/No=0 (P-value)	$-$.0395 ($<$ .001)	$-$.0605 ($<$ .001)	$-$.0221 (.008)
Intercept			
Charities with:			
Municipal focus (P-value)	.8900 ($<$ .001)	.7646 ($<$ .001)	.8213 ($<$ .001)
Provincial focus (P-value)			.8213 ($<$ .001)
National focus (P-value)			.8238 ($<$ .001)
Observations	24,815	24,651	33,068
R^2	.01	.94	.93
First-stage F-statistic for excluded instruments (P-value)		12.27 ($<$ .001)	
Hansen's J overidentification χ^2 statistic (P-value)		3.0 (.224)	

Notes:

- All values refer to 2001 calendar year.

- Clusters defined by combinations of activity sector and province/territory (see Tables 2 and 3).

- For specification (2) excluded instruments in first-stage regression are: (i) proportion of individuals with no post secondary school educational qualifications (%); (ii) proportion of occupied dwellings that are not owner-occupied (%); (iii) proportion of households identified as low income in 2001 Census (%). All excluded instruments refer to the Forward Sortation Area where the charity is based.

- The first-stage F-test statistic refers to the null hypothesis that the first-stage coefficients for the instruments are jointly insignificant; the Hansen J statistic refers to the null hypothesis that the chosen instruments are exogenous.

Table 2: Canada Revenue Agency Activity Codes

Social Services	
Organizations Providing Care Other than Treatment	1
Welfare Charitable Corporations	3
Welfare Charitable Trusts	5
Welfare Organizations (not elsewhere classified)	9
Health	
Hospitals	10
Services Other Than Hospitals	11
Health Charitable Corporations	13
Health Charitable Trusts	15
Health Organizations (not elsewhere classified)	19
Education and Research	
Teaching Institutions or Institutions of Learning	20
Support of Schools and Education	21
Education Charitable Corporations	23
Education Charitable Trusts	25
Education Organizations (not elsewhere classified)	29
Culture, Arts	
Cultural Activities and Promotion of the Arts	22
Registered National Arts Service Organization	81
Libraries, Museums and Other Repositories	50
Preservation of Sites, Beauty and Historical	52
International Aid	
Disaster Funds	2
Animal Welfare	
Protection of Animals	54
Community	
Community Charitable Corporations	53
Community Charitable Trusts (other than Service Clubs and Fraternal Societies)	55
Community Organizations (not elsewhere classified)	59
Service Clubs and Fraternal Societies' Charitable Corporations	63
Service Clubs and Fraternal Societies' Charitable Projects	65
Miscellaneous	
Military Units	51
Recreation, Playgrounds and Vacation Camps	56
Temperance Associations	57
Corporation Funding Registered Canadian Amateur Athletic Association	83
Trust Funding Registered Canadian Amateur Athletic Association	85
Miscellaneous Charitable Organizations (not elsewhere classified)	99

Table 3: Canada's Provinces and Territories

Alberta
British Columbia
Manitoba
New Brunswick
Newfoundland and Labrador
Northwestern Territories
Nova Scotia
Nunavut
Ontario
Prince Edward Island
Quebec
Saskatchewan
Yukon

spect to the degree of concentration of charities' activities, a specification was run that was restricted to those charities whose activities are focused at the municipal level and where the private support ratio is instrumented by community characteristics at the FSA level, for a total of 1403 FSAs.[31] The excluded instruments used in the first-stage regression positively correlate with socio-economic deprivation in the FSA where the charity is based: (i) the proportion of individuals with no post secondary school educational qualifications; (ii) the proportion of occupied dwellings that are not owner-occupied; (iii) proportion of households identified as low income in the 2001 Census. As for the OLS regressions, a cluster-robust estimator was used. Results from the first-stage regression (not reported) show that all excluded instruments are negatively correlated with the level of private support received by charities – as would be expected. The last two rows of Table 1 report the first-stage statistic for instrument relevance as well as the relevant overidentification statistic: these indicate that the chosen instruments are valid and relevant. In the IV regression results,

---

[31]For charities that have a provincial and national focus, the local community characteristics of the location where their headquarters are based should not have much bearing on funding outcomes.

the coefficient for the private support ratio remains positive and significant at the 1% level.

Finally, in the third column of Table 1, results are reported of single-stage regressions for a specification that includes all charities but separately estimates private support ratio coefficients for those charities that have a primarily municipal, provincial, or national focus (33,085 observations), incorporating fixed effects for each of these three categories. The relevant coefficient is positive and significant at the 1% for charities with primarily municipal and national focus, but is insignificant for charities with a primarily provincial focus. Interpreted in light of the theoretical discussion, this suggests that it may be comparatively easier to assess charity performance for charities whose activities have either a local or a national scope.

All the results reported above are for linear, uncensored specifications that abstract from the fact that the dependent variable is bounded upwards to 100%. As is well known, abstracting from the presence of censoring in the data results in coefficient estimates that are biased towards zero. Results of regressions for specifications that explicitly incorporate bounds (generalized Tobit; not reported) confirm this prior, and exhibit the same patterns albeit with systematically larger (and statistically significant) estimates for the coefficients of interests.

4   CONCLUSION

This paper has presented a novel, supply-side related argument for why channeling government funding through subsidies to private donations may be preferred to direct government grants: private donors face weaker verification constraints and can therefore engage in implicit funding contracts with charities that offer stronger positive selection incentives. Cross-sectional evidence on the relationship between funding composition and activity concentration from the Canadian charitable sector is consistent with this prediction.

In recent years, there has been a growing interest in the policy and literature de-

bates on the measurement of performance in the provision of collective goods, both with respect to government and third sector providers (Atkinson, 2005; Behn, 2003). A key motivation for this focus is the determination of the relative effectiveness of government and charities at providing public goods and services, which in turn could help answer the question of whether public funds should be diverted towards charities. An affirmative answer to this question, however, can tell us nothing about the separate question of how charity performance is affected by the channel through which they are funded – whether directly or through tax relief on private donations. On the other hand, an answer to this latter question has a crucial bearing on the determination of whether third sector provision of collective goods is more efficient than direct government provision. The findings thus point to the need for refocusing this debate to account for the implications of competition and market structure in the third sector.

References

Alchian, A., and Demsetz, H., 1972. "Production, information costs, and economic organization." *American Economic Review* 62, 777-95.

Andreoni, J., 1988. "Privately provided public goods in a large economy: the limits of altruism." *Journal of Public Economics* 35, 57-73.

Andreoni, J., 1990. "Impure altruism and donations to public goods: a theory of warm-glow giving." *The Economic Journal* 100, 464-77.

Andreoni, J., and Payne, A., 2001. "Do government grants to private charities crowd out giving or fundraising?" *American Economic Review* 93, 792-812.

Andreoni, J., 2007. "Charitable giving." In the *New Palgrave Dictionary of Economics, 2nd Edition*, 2007.

Andreoni, J., and Payne, A., 2009. "Is crowding out due entirely to fundraising? Evidence from a panel of charities." (formerly titled "Crowding out both sides of the philanthropy market: evidence from a panel of charities"). Forthcoming, 2010, *Journal of Public Economics*.

Atkinson, T., 2005. *Atkinson Review: Final Report – Measurement of Government Output and Productivity for the National Accounts*. London: Palgrave.

Auten, G., Sieg, H., and Clotfelter, C., 2002. "Charitable giving, income, and taxes: an analysis of panel data." *American Economic Review* 92, 371-82.

Bakija, J., and Heim, B., 2008. "How does charitable giving respond to incentives and income? Dynamic panel estimates accounting for predictable changes in taxation." NBER Working Paper No. W14237.

Behn, R. 2003. "Why measure performance? Different Purposes Require Different Measures." *Public Administration Review* 63, 586-606.

Clotfelter, C., 1985. *Federal tax policy and charitable giving*. Chicago: University of Chicago Press.

Diamond, P., 2006. "Optimal tax treatment of private contributions for public goods with and without warm-glow preferences." *Journal of Public Economics* 90, 897-919.

Easley, D., O'Hara, M., 1983. "The economic role of the nonprofit firm." *The Bell Journal of Economics* 14, 531-38.

Feldstein, M. and C. Clotfelter, 1976. "Tax incentives and charitable contributions in the united states: a microeconometric analysis." *Journal of Public Economics* 5, 1-26.

Ghatak, M., and Mueller, H., 2009. "Thanks for nothing?" Mimeo, London School of Economics.

Gertler, P., 1989. "Subsidies, quality, and the regulation of nursing homes." *Journal of Public Economics* 38, 33-52.

Glaeser, E., and A. Schleifer, 2001. "Not-for-profit entrepreneurs." *Journal of Public Economics* 81, 99-115.

Hansmann, H., 1980. "The role of the non-profit enterprise." *Yale Law Journal* 89, 835-901.

Heutel, G., 2009. "Crowing out and crowding in of private donations and government grants." NBER Working Paper No. 15004.

Izzo, T., 1993. "A full spectrum of light: rethinking the charitable contribution deduction." *University of Pennsylvania Law Review* 141(6), 2371–2402.

Lakdawalla, D., and Philipson, T., 2006. "The nonprofit sector and industry performance." *Journal of Public Economics* 90, 1681-98.

Randolph, W., 1995. "Dynamic income, progressive taxes, and the timing of charitable contributions." *Journal of Political Economy* 103, 709-38.

Roberts, R., 1987. "Financing public goods." *Journal of Political Economy* 95, 420-37.

Rose-Ackerman, S., 1996. "Altruism, non-profits, and economic theory." *Journal of Economic Literature* 34, 701-29.

Saez, E., 2004. "The optimal treatment of tax expenditures." *Journal of Public Economics* 88, 2657-84.

Scharf, K., 2000. "Why are tax expenditures for giving embodied in fiscal constitutions?" *Journal of Public Economics* 75, 365-87.

Scott, K., 2003. *Funding Matters: The Impact of Canadas New Funding Regime on Nonprofit and Voluntary Organizations*. Ottawa: Canadian Council on Social Development.

Steinberg, R., 1990. "Taxes and giving: new findings." *Voluntas* 1, 61-79.

Triest, R., 1998. "Econometric issues in estimating the behavioral response to taxation: a nontechnical introduction." *National Tax Journal* 51, 761-72.

Warr, P., 1982. "Pareto optimal redistribution and private charity." *Journal of Public Economics* 19, 131-38.