

# Charitable donations by the self-employed

Matthias A. Tietz · Simon C. Parker

Accepted: 21 March 2014 / Published online: 30 March 2014  
© Springer Science+Business Media New York 2014

**Abstract** This article analyzes an important aspect of the social behavior of the self-employed in America. We ask whether the self-employed express their social responsibility to society by giving more to charity than the general population, and if so which charitable causes they give to. We use social identity theory to generate hypotheses about the determinants and objectives of charitable giving among members of this socially and economically important group. Testing these hypotheses with nationally representative, longitudinal US data, we find that the American self-employed are indeed more likely to exhibit social responsibility toward their community by giving to charities than the general population. While the self-employed support broadly similar charities to the general population, they give substantially more to organizations which: address issues in the local community; provide health care; and serve the needy.

---

**Electronic supplementary material** The online version of this article (doi:[10.1007/s11187-014-9580-6](https://doi.org/10.1007/s11187-014-9580-6)) contains supplementary material, which is available to authorized users.

---

M. A. Tietz (✉)  
IE Business School, Alvarez de Baena, 4, 1st Floor,  
28006 Madrid, Spain  
e-mail: [matthias.tietz@ie.edu](mailto:matthias.tietz@ie.edu)

S. C. Parker  
Ivey Business School, Western University,  
1255 Western Road, London, ON N6G 0N1, Canada  
e-mail: [sparker@ivey.ca](mailto:sparker@ivey.ca)

We trace out implications of our findings for scholars, practitioners, and policy-makers.

**Keywords** Charitable giving · Donation · Self-employed · Social identity theory

**JEL classifications** D190 · L26 · L260 · M140

## 1 Introduction

Self-employed individuals are an interesting group to study in the context of socially responsible behavior. In terms of Carroll's (1979) framework for explaining business responsibilities in society, the self-employed enjoy unusual latitude to combine economic and discretionary (e.g., philanthropic) responsibilities. They act as both private individuals and owner-managers of their businesses. As individuals, they may be guided by altruistic preferences similar to, or possibly even stronger than, those of other people (Teal and Carroll 1999), and they operate small ventures, which are deeply rooted in their local communities (Johnstone and Lionaise 2004). Furthermore, in the context of Hannah et al. (2011) emphasis on authentic leadership in communities which impact pro-social behavior through moral courage, the self-employed often play a leading role in the development of their communities and display high levels of personal sensitivity toward ethical issues in their

environment (Fassin et al. 2011; Benavides-Velasco et al. 2013).

Prior research in the nonprofit literature has enhanced our understanding of individual social responsibility along several dimensions. For example, Mesch et al. (2006) have analyzed the effects of ethnicity, gender, and marital status on giving, while Carter and Marx (2007) analyzed race and gender influences on philanthropic behavior. Carter and Marx (2007) reported that African Americans give in more personal ways and make less use of organized federated agencies such as the United Way. For their part, Brown and Ferris (2007) established the influence of social capital and embeddedness on the donation behavior of individuals. These studies have all uncovered important aspects of charitable giving patterns.

Despite this valuable work, few studies have explored the charitable giving patterns of the self-employed. That is despite the central role that the self-employed play in modern economies, they run most of the nation's firms and are responsible for a disproportionate share of job growth and innovation (Parker 2009; Baumol 2005). The premise of this paper is that the self-employed may also generate additional benefits to society, by serving as an important conduit for social responsibility within their communities. While some previous research has explored how corporate donations vary with firm size (Amato and Amato 2007), we lack a detailed understanding of the charitable behavior of the self-employed. The aim of this paper is to fill this gap. Specifically, the paper asks the following questions: Are the self-employed more likely to give to charities than the average employee? And, conditional on giving, do the self-employed give more than others? Furthermore, are the "good causes" to which the self-employed donate similar or different to those to which the non-self-employed donate?

In terms of theory, we develop a conceptual framework that builds on social identity theory (SIT) (Tajfel and Turner 1979; Hogg et al. 1995). SIT explains individual motivations in terms of the degree of identity found in a social setting, i.e., individuals are driven by their feeling of belonging to a particular group and aim to contribute to the overall welfare of the group rather than simply maximizing their personal utility in an exchange. We believe that SIT is a useful framework with which to analyze charitable giving by the self-employed, because of the high degree of social embeddedness of the self-employed in

their local communities (Granovetter 1985) and their high social status (Parker and van Praag 2010). Both of these factors affect the motivations of the self-employed and bear directly on their behavior. We apply arguments from SIT to the current setting to generate several hypotheses about charitable giving. These hypotheses map directly on to the questions outlined in the previous paragraph and are tested empirically using a large, nationally representative sample of American adults drawn from the ongoing Panel Study of Income Dynamics (PSID). In 2000, 2002, 2004, and 2006, dedicated questions were added to the PSID questionnaire relating specifically to how social responsibility is assumed by sharing private wealth with others through monetary donations. We exploit responses to these questions to obtain a detailed picture of charitable behavior among the self-employed in contemporary America.

Our results reveal that the self-employed together with their families are indeed more likely to assume social responsibilities by giving more to charity than the average. Our estimations include economic and socio-demographic control variables, including income per capita and education. On the whole, the self-employed seem to have similar charitable priorities as employees, although they give significantly more to organizations which address issues in the local community; provide health care; and serve the needy.

We believe that our findings carry implications for policy-makers, fundraisers, and scholars interested in the consequences of entrepreneurial wealth creation, including community advancement. We discuss charitable giving as a form of socially responsible practices, by the most common class of businesses—those run by the self-employed. Policy-makers in many countries are actively encouraging both self-employment and greater charitable involvement in the delivery of public sector services (Brooks 2004; Parker 2009). They therefore stand to gain from a deeper understanding of the determinants of social responsibility by the self-employed. Specifically, causes for which private charitable donations can more or less easily substitute for public tax dollars are likely to be of particular interest to governments. Charitable organizations can also benefit from a deeper understanding of the determinants of donations and the special role played by the self-employed in this respect. In particular, our findings might help those organizations to better target their fundraising efforts.

They might also inform scholars seeking to extend theoretical and empirical research about assuming social responsibility via charitable giving and its origins in local community businesses.

The paper is structured as follows. We start with a theoretical discussion, which builds on SIT and generates our hypotheses. We then discuss the data sample and empirical methodology before presenting our findings. The paper closes with a discussion and conclusion.

## 2 Hypothesis development

### 2.1 Social identity theory

Social identity theory (SIT) (Tajfel and Turner 1979; Hogg et al. 1995) aims to explain individual motivations in terms of the degree of identity found in a social setting, whereas other theories tend to argue from the perspective of personal utility maximization. Tajfel and Turner (1979) did not believe that the psychology of individuals is sufficient to explain behaviors favoring the group and therefore proposed a complementary set of processes situated at the *collective psychology* level (i.e., that of a community or society). This opens up the possibility of understanding human behavior in terms of people who simultaneously act as private individuals, as business-professionals, and as members of a community (Abrams and Hogg 2004).

In prior research, SIT has been helpful for understanding the heterogeneity of preferences, for instance as it relates to attitudes toward group fairness (Camerer 2003). Some people are altruistic while others are less so. Altruists exhibit individualistic behaviors, which are consistent with identity theory (IT) (Stryker 1968, 1987; Stryker and Serpe 1982; Burke 1980). But, even among less altruistic people, one can conceive of an individualistic form of altruism—sometimes referred to as “warm glow” altruism (Andreoni 1989). This form of altruism can be thought of as reinforcing an individual’s self-identity—the essence of IT. While SIT also draws on individual-level behaviors, it does so with the purpose of informing behaviors located at the higher social level. SIT thus aligns individual-level constructs with social level constructs. For example, a person’s decision to sponsor her local football team (an individual-level decision, regarding a higher social level) might combine a certain degree of personal gratification (individual identity) with a concern for the

broader community to which the person belongs (social identity).

Hogg et al. (1995) have contrasted SIT and IT along several dimensions, including the level of analysis and the salience of social context and dynamism. With respect to the level of analysis, the two theories differ in the following way: SIT focuses on generative socio-cognitive processes that lead individuals to consider the group/community in their decision, whereas IT is less concerned with processes than with explaining role behavior. It has no direct influence of the socio-cognitive (higher social) level (Hogg et al. 1995). For example, IT might be well placed to explain bequests to individual family members, whereas SIT is capable of explaining bequests to charities from a more inclusive socio-cognitive perspective.

Regarding the prominence of social context and dynamism as another point of contrast, IT posits a relatively stable “self” concept of individual identity (Stryker 1987). SIT in contrast exhibits a more dynamic responsiveness of the social identity to immediate contextual factors such as conditions in the local community (Hogg et al. 1995). In short, one can understand SIT as a socio-cognitive theory that permits individual-level concepts to influence individual decisions situated at the group level. It is arguably a more inclusive theory than IT, because it allows for a conceptual differentiation between roles and identity based on group membership.<sup>1</sup>

Some evidence supports the validity of SIT. Several experiments have demonstrated that individuals are willing to sacrifice individual payoffs for the benefit of the group with which they identify (Brewer 1979; Bourhis and Gagnon 2001; Klor and Shayo 2010). For example, in an experiment on voter preferences for income redistribution, Klor and Shayo (2010) showed that affluent individuals were willing to sacrifice income to help others who belonged to their “group.” This demonstrates the need to incorporate concern for group members into the individual decision process—just as SIT posits.<sup>2</sup> In short, SIT furnishes a distinct

<sup>1</sup> For a sharp contrast between identity theory and social identity theory, see Hogg et al. (1995). For a more moderate comparison of the two theories, see Stets and Burke (2000).

<sup>2</sup> This group identification that expresses itself in caring for one’s kind also consistently shows up in strategic bargaining behavior, such as public goods experiments and the prisoner’s dilemma (Goette et al. 2006; Chen and Li 2008; Fowler and Kam 2007).

socio-cognitive dimension that will prove to be central to our analysis of socially responsible behavior below.

## 2.2 SIT and the self-employed

As noted above, SIT emphasizes the importance of group social identity in understanding individual behaviors. We believe there are two major reasons why SIT is especially applicable for studying charitable behavior among the self-employed. One relates to the high degree of social embeddedness of the self-employed in their local communities (Granovetter 1985). The other relates to the social status enjoyed by the self-employed (Parker and van Praag 2010).

The first consideration, social embeddedness, highlights the special relationships that the self-employed build with their local communities. The self-employed are known to leverage social capital, which, by itself, is conducive to philanthropic behavior (Brown and Ferris 2007). More generally, they draw on a wide range of resources and support mechanisms available in their local communities to establish and sustain their businesses (Hite 2005; Hoang and Antoncic 2003). These include skilled labor, social networks, seed money, and ongoing local financing (Nownes and Neeley 1996; Lechler 2001; Wilson et al. 2009; Michelacci and Silva 2007). The benefits of embeddedness may partly explain why the self-employed are significantly less geographically mobile than wage-and-salary workers (Michelacci and Silva 2007; Figueiredo et al. 2002). Indeed, the self-employed appear to be so deeply embedded that they are willing to bear higher labor costs as a consequence of remaining in their local communities (Figueiredo et al. 2002; Smith and Stevens 2010).

Two implications follow from these considerations. One is that by operating a venture that is part of a local community, the self-employed are likely to have a heightened sensitivity to the well-being of that community, which they have a direct interest in nurturing and sustaining. As noted above, SIT suggests that they will draw on a repertoire of identities, including both the social and the individual. The particular identity chosen by a given self-employed individual may vary over time and space (Klor and Shayo 2010), but one would expect such individuals to take actions which not only reinforce their own identity, but also promote the interests of their social group.

The other implication relates to the notion of reciprocity. Prior research has established that reciprocity is a widespread social norm (Settoon et al. 1996; Perugini et al. 2003). For example, in a set of social experiments, Seinen and Schram (2004) demonstrated how donors take into consideration others' behavior and the levels of reciprocity developed within their society. Evidence shows that people are more likely to give back to their community if they have experienced extraordinary support from that community in the past (Nell et al. 2008). Consistent with SIT, this implies a heightened social awareness among the self-employed who have been major beneficiaries from their communities.

The second reason why SIT may be especially relevant for the self-employed is that this group is known to enjoy high levels of social status (Blanchflower and Oswald 1998; Parker and van Praag 2010). It turns out that social status influences the decision about whether or not to behave charitably (Seinen and Schram 2004). Seinen and Schram (2004) explain that one's social status influences the decision to offer assistance if this status can be passed on to future donors. Such "indirect" effects of charitable behavior contribute to the importance of status as a predictor of charitable actions. Further, Engelmann and Fischbacher (2009) document the importance of strategic reputation building. In their experiment, the authors separate pure altruistic behavior from strategic giving. They find that while both mechanisms exist, strategic giving with the intent to build one's own status has an especially important influence on socially responsible behavior. They went on to argue that Seinen and Schram's (2004) indirect reciprocity might have the greatest impact in medium-sized social groups with well-functioning information exchange, such as business networks and small communities. While direct contacts in larger communities might not be very frequent, the social status of donors is likely known to others because people talk about other peoples' behavior. For all these reasons, the self-employed are more likely to donate than the average.

Moreover, if the self-employed occupy respected positions in their communities, perhaps by exercising a leadership role, they may be better placed to act on their social responsibilities, in accordance with SIT. Kraut's (1973) field experiments suggest that individuals who were seen and saw themselves as charitable were more likely to donate. This evidence combines to

strengthen our proposed application of SIT to the investigation of charitable donations by the self-employed.

### 2.3 Charitable giving as socially responsible behavior by the self-employed

We have argued that SIT posits a high degree of identification with one's social group, which may lead to a desire to reciprocate, and that these effects are likely to be especially pronounced for the self-employed. We now develop and extend these arguments regarding the social behavior of the self-employed, by focusing on their charitable giving. To keep our analysis focused, we will treat neither within-family altruism (such as bequests) nor donations of individuals' time and effort (Coombs et al. 2008).

The thrust of our argument is that while the non-self-employed may also identify with their social groups as per SIT, there are several reasons why the effect for the self-employed is likely to be especially accentuated and more likely to be expressed in ways that impact their charitable giving. First, using the logic of embeddedness, multiple and ongoing social ties are likely to heavily influence actors' expectations, motives, and decision-making processes (Uzzi and Gillespie 1999). Since most employees receive a salary from a single source, while the self-employed have multiple and ongoing points of commercial contact within society (for example, suppliers, customers, and local authorities), we would expect the self-employed to be commercially more deeply embedded in society (Hoang and Antoncic 2003).<sup>3</sup> These numerous points of contact result in a broader social network for the typical self-employed than the average person (Jack and Anderson 2002)—impacting their social identity. Broad social exposure—as well as greater wealth (Carter 2011; Parker 2009)—also helps raise self-employed social status relative to the non-self-employed (Parker and van Praag 2010), which, as argued above, may entail greater responsibility toward their local communities.

A strong social identity and social status among the self-employed combined with the notion of reciprocity

discussed above suggests that they will be unusually predisposed toward charitable giving, compared with the average employee. This argument is consistent with prior research, which suggests that the self-employed will be more “generative” than the non-self-employed (Coombs et al. 2008). Here, “generativity” is defined as concern for guiding and supporting the next generation (Erikson 1982). Generativity can be expressed through such socially responsible actions as mentoring and teaching, as well as charitable giving and philanthropy (McAdams et al. 1993).

Given the fact, noted above, that the self-employed tend to be less geographically mobile than the general population—and so have an extra interest in the long-term prosperity of their communities—the self-employed can be expected to support forward-looking social initiatives whose benefits may only emerge in the long run. Hence, we expect a strong commitment to their communities makes the self-employed more likely to give to community charities, and to give greater amounts when they give, than the average. Independent evidence supports the argument that donors tend to focus their donations on local institutions. For example, Holmes (2009) found that alumni living within 250 miles of their alma mater were more generous than those living further away. In addition, a new report by the Lilly Family School of Philanthropy at Indiana University found that the majority of publicly announced donations of at least one million dollars came from donors living within the same state or the same geographical region (Osili et al. 2013). Combining these arguments yields the following hypotheses:

**Hypothesis 1:** All else equal, the self-employed are more likely to give to charity than the rest of the population

**Hypothesis 2:** All else equal, the self-employed are more likely to give to organizations serving their communities than the rest of the population

**Hypothesis 3:** All else equal, the self-employed will donate larger dollar amounts than the rest of the population

**Hypothesis 4:** All else equal, the self-employed will donate larger dollar amounts to organizations serving their communities than the rest of the population

<sup>3</sup> There are parallels here too with the corporate governance literature, which emphasizes the importance of a CEO's social network for corporate philanthropy (e.g. Geletkanycz and Hambrick 1997).

### 3 Methodology and data

#### 3.1 Dataset and principal independent variable

Data are drawn from the Panel Study of Income Dynamics (PSID). The PSID comprises a representative sample of individual Americans and their families. Every year since 1968 (and biannually since 1994), the PSID has interviewed between 4,800 and 7,000 families, interviewing and re-interviewing respondents whether or not they were living in the same dwelling or with the same people. Data were originally compiled mainly for the primary adults heading a family unit, known as “household heads.” However, since 1968, many original household members became independent individuals with new households. PSID follows these so-called split-off families as well. Our analysis below makes use of the full array of individual responses from original and “split-off” families. The PSID collects detailed individual-level data on a wide range of socio-demographic variables, including (since 2000) donations to charities and good causes. We focus on charitable donations as the most directly measured manifestation of socially responsible behavior by the self-employed, and to this end utilize all four available waves representing the years: 2000, 2002, 2004, and 2006.

We restricted the sample to working individuals over 18 years of age, who earned positive incomes. Respondents who declared themselves as self-employed in their main job and not receiving any employment income were identified separately from other members of the population. The binary variable indicating self-employment status,  $S$ , is the principal independent variable in the analysis below. Table 1 summarizes information about the sample sizes used in the analysis below. In any year, about 12 % of respondents classify as self-employed: This proportion is stable across the sample period and is consistent with other analyses of US self-employment (Parker 2009).

#### 3.2 Dependent and control variables

##### 3.2.1 Dependent variables

We utilize four dependent variables to test the four hypotheses developed in the previous section. These variables are based on data relating to self-reported

**Table 1** Sample sizes

Wave	No. self-employed	No. non-self-employed	Total sample size
2000–2001	313 (10 %)	2,792 (90 %)	3,105
2002–2003	452 (12 %)	3,286 (88 %)	3,738
2004–2005	457 (12 %)	3,319 (88 %)	3,776
2006–2007	455 (12 %)	3,400 (88 %)	3,855
All waves	1677 (12 %)	12,797 (88 %)	14,474

monetary donations to various charitable causes.<sup>4</sup> The PSID records whether or not respondents donated more than \$25 *in total* to charitable organizations in the preceding calendar year. Donations to *individual charities* are not limited by this cut-off value. This \$25 cut-off value captures 95 % of dollar donations precisely by excluding “cheap talk” claims of small donations (Lasby and Sperling 2007). Hence, our first, binary, dependent variable *Donate* takes the value of one if respondents donated more than \$25 and zero if they did not. In our sample, 80 % of all self-employed respondents have values of  $Donate = 1$ , compared to 71 % of all non-self-employed.

Our second dependent variable is a binary donor variable, *Community*, which takes the value of one if respondents donated any amount to neighborhood and community charities and zero if they did not. In our sample, 8 % of all self-employed respondents donated to community charities, compared to 6 % of all non-self-employed.

Our third dependent variable measures dollar amounts donated, *Amount*, as the total sum of donations made by respondents (whether self-employed or not) to various charities and to religious organizations. *Amount* is a continuous variable, censored from below at \$25. The categories comprising *Amount* are as follows: (1) religion, (2) multi-purpose organizations (for example the United Way or Catholic Charities), (3) organizations serving the needy, (4) education, (5) health, (6) youth and family organizations, (7) culture, arts and ethnic organizations, (8) community and neighborhood organizations, (9) environmental

<sup>4</sup> It is possible that respondents might overreport donations to interviewers. But there is no reason to believe that the self-employed misreport (that is exaggerate) their donations any more than other members of the population do (Feldman and Slemrod 2007).

organizations, (10) international peace, and (11) others not mentioned above. The nomenclature for these charitable causes was taken directly from the PSID as per the publicly available codebook. *Amount* was expressed in real 2010 dollars using the consumer price index.

Finally, our fourth dependent variable is dollar amounts donated to individual charities in the list above. Given Hypothesis 4, our main focus will be on amounts donated to community organizations (8 above), but other major recipients will also be analyzed for the sake of comparison.

### 3.2.2 Control variables

Several control variables were included in our econometric analysis. First, having a spouse is associated with self-employment (Wellington 2006) and more diverse sources of income, which can promote financial security that is conducive to charitable giving in general (Burgoyne et al. 2005). We define *Spouse* as a binary control variable taking the value 1 if an individual has a spouse and zero otherwise.

Second, children compete with charitable donations on at least two levels. It is costly to raise children, and they may satisfy their parents' altruistic impulses and social responsibilities, which might otherwise express themselves in charitable donations. For both reasons, children could be substitutes for extra-family giving. In support of the homily "charity begins at home," Adloff (2009) reported evidence that charitable contributions are especially attractive to childless people, both as a way to ensure their personal "legacy" and as means to organize their bequests. We therefore add a control variable *Kids*—a count variable of the number of children in the household.

Third, previous research by Yen (2002) estimated that a 1 % increase in income is associated with a .38 percentage point increase in the likelihood of a donation. Earlier work by Reece and Zieschang (1985) based on US Consumer Expenditure data estimated that a one percent increase in income led to a 1.43 percentage point increase in charitable donations. Consequently, we control for *Income per capita*, defined as the natural logarithm of per capita household income, i.e., household income divided by the number of family members in the household.

Fourth, previous research has estimated significant positive effects of age on the tendency to give to

charities (Schlegelmilch et al. 1997; Mathur 1996; Midlarsky and Hannah 1989). In line with a generative role, retired people may harbor a wish to "give back" after a successful career, as well as wanting to sustain their social networks within their communities and put their assets to work on new projects. We therefore control for the *AGE* of donors (in years), including also a squared term to capture potential nonlinear effects.

Fifth, the link between education and charitable giving is also well documented in the literature (Brown and Lankford 1992; Yen 2002; Peterson and Jun 2009; Showers et al. 2011). Highly educated people are likely to be especially well placed to both identify and address social needs in their communities. We use the number of years of formal education attained per individual as a control variable, *Education*. Finally, we also include dummy variables for *Female*, *Black*, and *Asian* to control for possible differences by gender and ethnicity (Hughes et al. 2012; Sepulveda et al. 2011; Shelton 2010).

### 3.3 Econometric specification

We estimate a random-effect probit panel data model (REPPDM) to specify (1) the probability,  $\Pr(\text{Donate} = 1)$ , that a donation is made. That is, letting  $\text{Donate}_{it}^*$  be a  $(n \times 1)$  vector of observations of a latent variable at time  $t$  (where  $n$  is the number of observations), we have the following model:

$$\begin{aligned} \text{Donate}_{it}^* &= X_{it}\alpha + \mu_i + \varepsilon_{it}, \quad \varepsilon_{it} \sim N(0, 1) \\ X_{it} &= (S_{it}, \text{SPOUSE}_{it}, \text{KIDS}_{it}, \text{INCOME}_{it}, \\ &\quad \text{PER\_CAPITA}_{it}, \text{AGE}_{it}, \text{AGE}_{it}^2, \text{EDUCATION}_{it}, \\ &\quad \text{FEMALE}_i, \text{BLACK}_i, \text{ASIAN}_i) \\ \text{Donate}_{it} &= \begin{cases} 1 & \text{if } \text{Donate}_{it}^* > 0 \\ 0 & \text{otherwise} \end{cases} \\ \Pr(\text{Donate}_{it} = 1) &= \Pr(X_{it}\alpha + \mu_i + \varepsilon_{it} > 0) \\ &= \Phi(X_{it}\alpha + \mu_i) \end{aligned} \quad (1)$$

Here,  $X_{it}$  is a  $(n \times k)$  matrix of  $n$  observations on  $k$  independent variables, including  $S_{it}$ : a binary independent variable taking the value of 1 if individual  $i$  is self-employed at time  $t$  and zero otherwise. Also,  $\alpha$  is a  $(k \times 1)$  vector of coefficients;  $\Phi(\cdot)$  is the cumulative distribution function of the standard normal distribution, denoted by  $N(0, 1)$ ;  $\varepsilon_{it}$  is an error term; and  $\mu_i$  denotes random effects.

We also use a second REPPDM to specify (2) the probability,  $\Pr(\text{Community}_{it} = 1)$ , that a donation is made by  $i$  to a community charity at time  $t$ :

$$\begin{aligned} \text{Community}_{it}^* &= X_{it}\beta + \xi_i + \eta_{it}, \quad \eta_{it} \sim N(0, 1) \\ \text{Community}_{it} &= \begin{cases} 1 & \text{if } \text{Community}_{it}^* > 0 \\ 0 & \text{otherwise} \end{cases} \\ \Pr(\text{Community}_{it} = 1) &= \Pr(X_{it}\beta + \xi_i + \eta_{it} > 0) \\ &= \Phi(X_{it}\beta + \xi_i) \end{aligned} \tag{2}$$

where  $\beta$  is a  $(k \times 1)$  vector of coefficients;  $\eta_{it}$  is an error term; and  $\xi_i$  denotes random effects. The coefficient vectors  $\alpha$  and  $\beta$  can be used to test Hypotheses 1 and 2 with Eqs. (1) and (2), respectively.

Because PSID censors donation amounts below some cut-off  $A_L$  (where  $A_L = \$25$  for total donations), we use a random-effect tobit panel data model (RETPDM) to specify (3) the amounts donated, *Amount*. The econometric model for this uses a latent variable  $\text{Amount}_{it}^*$ . The model for observations at time  $t$  is:

$$\begin{aligned} \text{Amount}_{it}^* &= X_{it}\gamma + \zeta_i + v_{it}, \quad v_{it} \sim N(0, \sigma^2) \\ \text{Amount}_{it} &= \begin{cases} \text{Amount}_{it}^* & \text{if } \text{Amount}_{it}^* > A_L \\ A_L & \text{if } \text{Amount}_{it}^* \leq A_L \end{cases} \end{aligned} \tag{3}$$

where  $\gamma$  is a  $(k \times 1)$  vector of coefficients;  $v_{it}$  is an error term; and  $\zeta_i$  denotes random effects. The coefficient vector  $\gamma$  can be used to test Hypotheses 3 and 4 with Eq. (3) where we substitute total amounts donated and amounts donated to community charities for the variable *Amount*. To deal with skewness in the donations data, we use a log transformation of the form  $\ln(1 + \text{Amount})$ , implementing the cut-offs,  $A_L$ , of 3.258 ( $= \ln 26$ ) and 0 ( $= \ln 1$ ) for total and individual charitable amounts, respectively.

The error terms in brackets in Eqs. (1), (2), and (3) include individual-level effects  $\mu_i$ ,  $\xi_i$ , and  $\zeta_i$ . These effects control for unobserved heterogeneity among respondents. Two practical reasons led us to treat these as random effects rather than fixed effects. First, several of our measures are either *intrinsically* time invariant (*Education, Female, Black, and Asian*) or *effectively* time invariant for most respondents (*S, Spouse, and Kids*). Intrinsically, time-invariant variables are perfectly collinear with fixed effects and so cannot be included in a fixed-effects model. And observations on effectively time-invariant variables

must also be dropped from a fixed-effects model, leaving only a (nonrepresentative) sample of those cases that experienced changes in all variables over the duration of the panel. A random-effect model does not suffer from these drawbacks. Second, the cross-section dimension (several thousand: see Table 1) is very large relative to the time-series dimension (i.e., four). Hence, the fixed-effects estimator loses efficiency relative to random effects. Both considerations favor the use of random effects. All results below are reported for this estimator.

A linear time trend is also included in all models below, and standard errors are adjusted for possible heteroscedasticity using White’s formula. Parameter estimates are reported for the REPPDM and RETPDM.

## 4 Empirical results

### 4.1 Descriptive statistics

Table 2a and b provides details about the amounts donated to individual charities. Table 2a includes donations of zero US dollars, while Table 2b does not. In Table 2b, the mean donation to religion, excluding donations of zero dollars, is just above USD 2,600 with a standard deviation of \$5,634. This indicates substantial heterogeneity in charitable giving. Religious organizations attract the most donors, followed by organizations serving the needy and then multi-purpose organizations, such as the Red Cross or the United Way. In terms of mean amounts given, religion again comes out first, followed by multi-purpose organizations, the needy, and then education.

Table 3 compares the average donations of self-employed (*S*) and non-self-employed (*NS*), per charity and in terms of total donations *Amount*. The self-employed give more on average than the non-self-employed for all charities. All differences are statistically significant apart from three: culture, environment, and the “other” category. The largest absolute difference in a single category is for religion, to which the self-employed donate an average of \$662 more per year than non-self-employed. Relative differences (that is as a proportion of mean donations) are highest for Education, Health, Youth, and Community. In these four categories, the self-employed have an



**Table 2** Descriptive statistics on amounts donated per charity (a) including donations of zero US dollars (b) excluding donations of zero US dollars

	<i>N</i>	Minimum	Maximum	Mean	SD	25 % percentile	Median	75 % percentile
<i>a</i>								
Religion	14,295	0	115,000	1,196.92	4,033.17	0	0	757
Multi-purpose	14,345	0	49,306	243.83	1,210.88	0	0	120
Needy	14,282	0	23,000	209.57	864.60	0	0	109
Education	14,417	0	34,500	108.53	997.88	0	0	0
Health	14,362	0	16,200	89.33	562.30	0	0	14
Youth	11,323	0	11,500	39.83	286.23	0	0	0
Culture	11,350	0	11,500	21.66	165.07	0	0	0
Community	11,353	0	11,500	15.49	187.68	0	0	0
Environment	11,349	0	6,480	23.42	204.66	0	0	0
Int. peace	11,349	0	5,400	17.36	171.02	0	0	0
Other donations	11,351	0	49,450	49.74	857.54	0	0	0
<i>b</i>								
Religion	6,568	1	115,000	2,605.05	5,633.61	346	1,022	2,761
Multi-purpose	4,787	1	49,306	730.68	2,009.63	116	255	606
Needy	4,784	1	23,000	625.64	1,404.14	109	243	576
Education	2,660	1	34,500	588.23	2,261.94	61	128	363
Health	3,659	3	16,200	350.63	1,072.21	59	116	255
Youth	1,744	1	11,500	258.60	689.61	37	87	231
Culture	1,031	5	11,500	238.49	498.45	61	116	232
Community	706	1	11,500	249.68	713.22	55	109	231
Environment	1,186	1	6,480	224.10	596.75	33	87	176
Int. peace	1,110	1	5,400	327.42	665.94	54	108	324
Other donations	807	2	49,450	699.60	3,146.48	64	231	553

**Table 3** Differences in average donations between self-employed (*S*) and non-self-employed (*NS*) per Charity and for total Donations (including donations of zero US dollars)

	<i>S</i> (\$)	<i>NS</i> (\$)	<i>MD</i> (\$)	Test statistic	<i>Sig.</i>
Religion	1,783.84	1,121.33	662.51	-6.766	.000
Multi-purpose	442.10	217.99	224.10	-2.405	.016
Needy	344.89	191.94	152.95	-6.457	.000
Education	324.91	80.20	244.70	-2.707	.007
Health	229.02	71.18	157.84	-5.849	.000
Youth	100.96	31.51	69.45	-5.360	.000
Culture	24.00	21.35	2.65	-1.489	.136
Community	37.23	12.57	24.66	-3.135	.002
Environment	31.34	22.34	9.00	-.181	.856
Int. peace	23.33	16.29	7.04	-1.964	.049
Other donations	54.33	49.11	5.22	.221	.825
Total donations (amount)	3,247.92	1,796.37	1,451.55	-11.376	.000

*S* self-employed, *NS* non-self-employed, *MD* mean difference; test statistics reports nonparametric *z* values of Wilcoxon rank-sum (Mann-Whitney) tests, where we do not assume normal distribution of underlying values; *Sig.* significance value of Prob > |*z*|

**Table 4** Descriptive statistics on covariates of giving

Self-employed ( <i>S</i> )	<i>N</i>	Mean			SD		
		Overall	<i>S</i>	NS	Overall	<i>S</i>	NS
	14,474	.12			.32		
Spouse	14,367	.66	.71	.66	.47	.45	.48
Kids	14,288	1.57	1.74	1.55	1.34	1.33	1.34
Income per capita <sup>a</sup>	14,474	25,158.89	37,390.85	23,574.90	42,336.93	88,591.40	31,300.75
Age	14,474	38.80	43.13	38.23	13.59	15.27	13.25
Education	13,764	9.86	9.81	9.86	6.31	6.41	6.29
Female	14,474	.51	.48	.51	.50	.50	.50
Black	14,474	.06	.04	.06	.23	.21	.24
Asian	14,474	.01	.01	.01	.09	.08	.09

Source PSID, waves 2000–2006

*S* self-employed, *NS* non-self-employed

<sup>a</sup> Income per capita is reported as annual household income divided by the number of family members in that household, before taking the natural logarithm

average donation over 190 % higher than that of the non-self-employed.

Descriptive statistics about the independent variables appear in Table 4. Mean annual income per capita in the sample is US \$25,159. The average age of the sample is just under 39. The majority of respondents are married. Correlations among all variables used in this study are generally small in magnitude and indicate no concerns with collinearity. Correlations among the different charities are significant, but small (.044) to moderate (.344) in absolute size. Correlations between having a spouse and all types of donations are positive, small (ranging from .045 to .137), and significant at the 1 % level. Conversely, being female does not correlate significantly with donations to any type of charity. This suggests that female donors might not have distinguishable donation patterns from their male counterparts. The correlation matrix for the variables used in this study is available in a supplementary online appendix.

## 4.2 Estimation results

Column 1 of Table 5 presents the results of estimating the REPPDM given by Eq. (1) above. The parameter estimate for the self-employment status variable, *Self-Employed* (*S*), is positive and statistically significant. It suggests that the probability of the self-employed to donate is significantly larger on average than for non-

self-employed. The *Spouse* and *Kids* coefficients are statistically significant, supporting their inclusion as a control variable. As expected, we observe positive effects from *Income per capita* on the probability to donate. Gender, ethnicity, and time effects are insignificant. Our results also confirm the well-established positive correlation between higher *Education* and charitable giving (Brown and Lankford 1992; Showers et al. 2011). Although *Age* seems to have a U-shaped relationship with giving, the estimated values actually imply that the probability to donate is strictly increasing in age for all those aged 28 and older. These results are broadly consistent with our theorizing based on SIT, and in particular support Hypothesis 1.

Column 2 of Table 5 presents the results of estimating the REPPDM, model (2) above, for the probability to donate to community charities. The parameter estimate for *S* is positive but statistically insignificant, which does not support Hypothesis 2. The effects of the control variables are mostly similar to those in column 1.

Column 3 of Table 5 presents the results of estimating the RETPDM, model (3) above, for overall charitable donations. The parameter estimates are broadly similar to those observed in column 1 for the probability to donate to charities. Most notably, the self-employed give significantly more on average than the non-self-employed. Thus, we obtain support for Hypothesis 3.

**Table 5** Random-effect probit and tobit models: parameter estimates for models (1–3)

	1 REPPDM Model (1)	2 REPPDM Model (2)	3 RETPDM Model (3)
Dependent variable	Pr( $Donate_{it} = 1$ )	Pr( $Community_{it} = 1$ )	$Amount_{it}^*$
Independent variables			
Self-employed (S)	.340*** (.068)	.125 (.081)	.492*** (.070)
Spouse	.735*** (.061)	.281*** (.074)	1.147*** (.083)
Kids	-.056** (.023)	-.074* (.027)	-.094** (.031)
Income per capita	.303*** (.020)	.221*** (.029)	.401*** (.022)
Age	-.039*** (.011)	-.029* (.012)	-.056*** (.013)
Age <sup>2</sup>	.001*** (.000)	.000*** (.000)	.001*** (.000)
Education	.011** (.004)	.015** (.005)	.004 (.003)
Female	.072 (.053)	.065 (.059)	.084 (.071)
Black	-.051 (.109)	.090 (.132)	.079 (.151)
Asian	-.154 (.310)	-.205 (.322)	-.204 (.410)
Time effects	.007 (.010)	.044+ (.022)	-.005 (.010)
Constant	-17.112 (20.206)	-91.802* (44.826)	11.986 (20.223)
<i>N</i> (observations)	13,524	10,737	13,173
<i>N</i> (individuals)	4,644	4,628	4,625
<i>N</i> left censored			3,884
<i>N</i> uncensored			9,289
$\chi^2$ (11)	613.410***	137.780***	833.340***
Log likelihood	-6,396.131	-2,388.830	-23,375.167
Pseudo $R^2$	.105	.067	.172

REPPDM random-effect probit panel data model, RETPDM random-effect tobit panel data model  
+  $p < 0.1$ ; \*  $p < 0.05$ ;  
\*\*  $p < 0.01$ ;  
\*\*\*  $p < 0.001$ ; standard errors in parentheses.  
Pseudo- $R^2$  based on a comparison of fitted and base log likelihood statistics

Table 6 analyzes the determinants of charitable giving to the top five causes in terms of the receipts tabulated in Table 2a and b—plus community organizations (to test Hypothesis 4). Each column of Table 6 uses the same specification as used in Table 5. The first column of Table 6 shows that the self-employed give significantly more to religious causes than the non-self-employed. Similar to before, married, high-earning, older people give significantly more to religious causes than the average individual

does. Showers et al. (2011) found similar results in their study on charitable giving to religion, where they established that donations to religious purposes seem to be regarded more as a “necessity” than giving to other causes, which are understood to be more of a “luxury.” We suspect that tithing, the regular donation of a fixed percentage of one’s income to the church, might play a role in this.

Turning to the second of Table 6, the parameter estimate of  $S$  for “multi-purpose charities” (e.g., the

**Table 6** Random-effects tobit panel data model: parameter estimates total US dollar amounts donated to each major charity

Independent variables	Religion	Multi-purpose	Needy	Education	Health	Community
Self-employed ( <i>S</i> )	.684*** (.154)	.239 (.189)	.619*** (.184)	.504* (.239)	.482* (.189)	.886* (.422)
Spouse	2.140*** (.208)	1.761*** (.187)	1.101*** (.171)	1.298*** (.251)	1.222*** (.183)	1.510*** (.392)
Kids	.139+ (.076)	-.266*** (.070)	-.065 (.063)	-.015 (.092)	-.278*** (.068)	-.383** (.141)
Income per capita	.356*** (.048)	.857*** (.062)	.863*** (.061)	.823*** (.080)	.877*** (.065)	1.193*** (.154)
Age	-.183*** (.030)	-.108*** (.031)	-.074* (.029)	-.043 (.041)	-.118*** (.030)	-.144* (.065)
Age <sup>2</sup>	.002*** (.0003)	.002*** (.0004)	.001*** (.0003)	.0008+ (.0005)	.002*** (.0003)	.002** (.0007)
Education	.005 (.007)	-.005 (.010)	.008 (.011)	.038** (.013)	.044*** (.010)	.080** (.028)
Female	.106 (.175)	.142 (.155)	.243+ (.142)	.192 (.204)	.134 (.151)	.314 (.311)
Black	1.108** (.365)	.665* (.337)	-.481 (.318)	-.673 (.466)	-.887* (.351)	.502 (.698)
Asian	-3.070** (1.104)	-1.086 (.894)	-.747 (.801)	-3.528** (1.363)	-.076 (.833)	-1.176 (1.709)
Time effects	-.098*** (.021)	-.151*** (.029)	.083** (.031)	.059 (.038)	.162*** (.031)	.240* (.117)
Constant	194.676*** (42.790)	293.434*** (57.533)	-174.800** (61.781)	-132.389+ (75.429)	-335.012*** (61.398)	-502.322* (235.142)
N left censored <sup>a</sup>	7,228	8,979	8,929	11,051	10,044	10,054
N uncensored <sup>a</sup>	6,241	4,521	4,514	2,522	3,470	685
N (observations)	13,469	13,500	13,443	13,573	13,514	10,739
N (individuals)	4,648	4,652	4,650	4,659	4,651	4,629
$\chi^2(11)$	372.520***	418.160***	371.250***	202.200***	420.880***	134.670***
Log likelihood	-21,773.736	-17,943.556	-18,344.298	-11,299.034	-14,398.745	-3,876.365
Pseudo $R^2$	.179	.120	.095	.132	.114	.080

+  $p < 0.1$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; standard errors in parentheses. Pseudo- $R^2$  based on a comparison of fitted and base log likelihood statistics

<sup>a</sup>N left censored refers to the total number of non-donations, N uncensored refers to the total number of donations for each charitable cause

United Way) is positive but not estimated precisely enough to achieve statistical significance at the five percent level. Other significant determinants of charitable giving to multi-purpose charities are the control variables *Spouse*, *Income per capita*, *Age*, and *Kids* as well as ethnicities (*Black* and *Asian*) and *Time effects*.

The generosity of the self-employed is more pronounced again for charities helping the needy (third column), education (fourth column), and health organizations (fifth column of Table 6). The

parameter estimates of *S* are positive and significant for these three charities. We observe a slightly different pattern regarding the influence of children. It seems children compete more with charities supporting health organizations than with religious causes or charities supporting the needy or educational institutions. It is also notable that individuals of all ages are likely to give to education, but married, better educated and higher-income per capita individuals give more to this cause.

The greatest difference between the self-employed and the rest of the adult population relates to giving to community organizations (Column 6 in Table 6). The parameter estimate for  $S$  is positive and statistically significant at the 5 % level, supporting Hypothesis 4. Although the number of observations is smaller than for other charitable causes, the representation of the self-employed among the individuals who donated positive dollar amounts to community charities is actually higher (17 % compared to 12 % in the sample as a whole). Overall, these results are consistent with our theorizing based on SIT, which emphasized the importance of embeddedness in local networks and reciprocity in the community.

Overall, the estimates from Table 6 suggest that it is fruitful to disaggregate total donations into individual causes. This disaggregation revealed how the social embeddedness of the self-employed appears to translate into accepting their social responsibility toward their communities. Nevertheless, consistent with our theoretical reasoning, the self-employed do not confine greater charitable donations only to community causes.

#### 4.3 Robustness checks

We conclude this section by describing three robustness checks. First, we re-estimated Tables 5 and 6 using fixed-effects rather than random-effects estimators. Only limited comparisons could be performed because, as noted earlier, fixed-effects models cannot be estimated for full specifications of our models. Despite this and the other drawbacks of fixed effects, we found remarkable similarity in the models that we were able to run.

Second, we substituted the variable *Income per capita* with a measure of total income for the responding individual, without dividing it by the number of family members in the household. The results were very similar in all important aspects.

Third, we investigated whether the effects of  $S$  manifest themselves purely via a “shift” dummy—as supposed so far—or whether they also affect charitable giving via interactions with the other covariates in models (1), (2), and (3). The testing of interactions was worthwhile because of the possibility that donation tendencies of the self-employed might be context dependent. We re-ran all of the models to explore this possibility. Overall, we found that the

interaction terms and interaction effects (which do not necessarily have identical signs and significance levels (Ai and Norton 2003)) were invariably statistically insignificant. This suggests that self-employment status in and of itself has greater explanatory power than its interaction with other variables. Out of all possible interactions, only two (*Income per capita* and *Education*) had significant effects, suggesting that better educated self-employed who earned higher per capita income were more likely to donate (and conditional on donating, also donated higher amounts).

## 5 Discussion and conclusion

This article applied social identity theory (SIT) to analyze how the self-employed adopt social responsibility within society via charitable donations. We argued that the self-employed are not only more likely to donate, but also are more generous than the general population when they donate. Our basic argument was that the self-employed are well integrated in their societies, display high embeddedness, and enjoy social status in their own community. This predisposition, combined with their sensitivity toward ethical issues in their environment and potentially high rewards for their business activity, makes the self-employed an interesting group to study in the context of charitable giving.

We derived and tested four hypotheses about self-employed charitable giving using nationally representative data from the US Panel Study of Income Dynamics. In line with our theorizing, we found that compared with others, the self-employed are both more likely to donate (Hypothesis 1) and give more dollars on average if they do (Hypothesis 3). Furthermore, although the self-employed are not significantly more likely to donate to charities supporting neighborhoods or communities (Hypothesis 2), they do give significantly more resources to their local communities when they do donate (Hypothesis 4). These results were robust to controlling for several personal characteristics known to be associated with charitable giving.

We believe the present article contributes to the literature on social responsibility in general and to that of entrepreneurs and their philanthropy in particular (Acs and Phillips 2002). Hitherto, several researchers

have studied charitable giving by individuals, but this paper is one of the first to focus on the self-employed as a distinct group. It did so from a theoretical standpoint by suggesting that charitable behavior by the self-employed can be understood in terms of their social embeddedness and social status. We were able to make an empirical contribution by utilizing a unique dataset on individual giving, which being longitudinal in nature allowed us to control econometrically for unobserved heterogeneity.

Our findings have implications for practitioners tasked with raising money for charities. The self-employed appear to be an attractive group for fundraisers to target, as they appear to be more generous than the average. As we discovered, the self-employed are particularly likely to give above-average contributions to religion, organizations serving the needy, providing education, health care, and addressing issues in the local community. To the best of our knowledge, the idea of specifically targeting the self-employed for charitable contributions is not widespread, at least outside the realm of universities seeking to raise funds from their alumni. More generally, our findings identify several factors associated with donations to particular charities, which could help fundraisers to “profile” the donor market based on a set of personal characteristics. One particularly promising specific profile from fundraisers’ perspective could be elderly self-employed individuals, who are married, but do not have children. More research is needed to further clarify and develop such a profile.

Policy-makers might also be interested in our results. Governments often seek to promote entrepreneurship on the grounds that the self-employed play an important role in our societies by creating wealth, pioneering innovations, and employing others (Parker 2009). Our results suggest that this group apparently generates an additional benefit too, by recycling their wealth to society via charitable donations. By doing so, the social value of self-employment may be even greater than previously thought. This may furnish another argument for pro-local business policies (Lundstrom and Stevenson 2005) and strengthen arguments for creating an “entrepreneurial society” (Audretsch 2009). For example, a policy of giving the self-employed additional tax relief on charitable contributions is one way that governments could conceivably move away from state funding toward greater private substitution. Clearly, additional

research needs to estimate how responsive charitable donations are to changes in marginal tax rates—an issue which falls outside the scope of the current article.

This article is subject to several limitations. We deliberately focused this paper on the donation of money to charitable causes. This runs the risk of omitting important aspects of socially responsible actions, such as the donation of time. In fact, monetary donations turn out to be related to other kinds of socially oriented activities (for example volunteering), which are often researched together (Cnaan et al. 2011). That may dispel fears of misleading results, particularly if individuals substitute between different manifestations of giving, such as giving time instead of money. Nevertheless, we must refrain from claiming that our measurement of charitable donations is in any sense a complete representation of pro-social behavior.

Second, the PSID interviewers asked respondents whether they donated more than \$25 during the preceding calendar year. From a statistical standpoint, this kind of data censoring is not ideal. To assess the importance of this for the PSID, Wilhelm (2007) compared six datasets on giving and found the group of individuals who donate less than \$25 per year to comprise no more than 6.6 % of total donors (see also Lasby and Sperling 2007, for similar estimates based on Canadian data). Such evidence suggests that the PSID’s data censoring might not materially impact our data and might even reduce measurement error associated with very small donations. Nevertheless, it would still be interesting to obtain more complete information about charitable giving, to be absolutely sure that our results are not unduly exposed to bias.

Third, we did not consider another potential avenue for giving by the self-employed, namely by participating in social and community enterprises (Tracey et al. 2005). These are ventures especially designed to generate both profits and wider social benefits, such as putting hard-to-employ people to work or improving the living standards of the vulnerable (Chell 2007; Fitzgerald et al. 2010). We are unaware of any theorizing which bridges social and business spheres by linking charitable giving and social enterprise, though here again SIT might form the basis of a useful conceptual framework addressing such a question. We conjecture that SIT could be a useful framework for analyzing a range of broader questions relating to how

the self-employed handle their social responsibilities more generally.

Fourth, we acknowledge that our sample size is not always as large as we would ideally like, nor is the list of questions on donations entirely free of ambiguity. The inclusion of several control variables considerably reduced the final sample size for some types of charitable contributions, such as community contributions. Our findings here should therefore be interpreted with caution. Furthermore, questions about donation behavior reflect either an individual's donation behavior, or the donation behavior of the entire household of which the individual is a part. If donation values did refer mostly to the entire family, that should weaken the relationship between individual self-employment status and giving. But the fact that we find significant and sizeable effects for individual-level variables suggests to us that if anything we may have underestimated the importance of self-employment for understanding donations.

Fifth, self-employment is not a precise measure of "entrepreneurship," especially if entrepreneurs are taken to be successful innovators (Parker 2009). Self-employment data typically oversample people running economically marginal businesses as an escape from unemployment, and undersample creators of high-value-adding ventures who can later give back to society vast fortunes in the manner of Bill Gates, Andrew Carnegie, and Warren Buffett. This naturally limits what we can say about entrepreneurial philanthropy among the very wealthy. Although rare, the very wealthiest philanthropic entrepreneurs make an enormous impact on human welfare, out of all proportion to their numbers.

Finally, our theorizing encountered limits regarding how the self-employed balance their personal and corporate lives. Even though we were able to substantiate several connections between these two spheres in our theorizing about SIT and the social responsibility of the self-employed, we would ideally want to have matched individual firm data that covers individual personal characteristics and characteristics of the firms these self-employed run. For example, it might be the case that some ventures are more conducive to charitable giving than others. This line of enquiry might also shed further light on the question, tentatively explored by the empirical analysis herein, why some of the self-employed

favor some charities over others. We are also aware that these findings might be specific to the USA: The single country focus of the paper can be regarded as another limitation. More detailed data are also needed to reveal the extent to which donations by the self-employed are truly local: that could facilitate a more powerful test of our theoretical framework.

Future researchers may be able to address some of these limitations directly. For example, it would be desirable to repeat the empirical analysis using data from other countries, to examine cross-cultural differences in charitable donations by the self-employed. It would also be useful to verify our findings with data on other forms of charitable giving—for example donations of time, or the running of social enterprises, which have a strong philanthropic purpose—and to analyze these modes of giving alongside financial donations. Detailed data would also help us to dig more deeply into social group effects on donors in particular communities, thereby shedding more direct light on the role of SIT considerations as influencing charitable and socially responsible behavior. Future conceptual and empirical work could also try to explore the implications of business organizations for charitable giving, including funneling donations through ventures (for example for tax purposes)—and more generally the extent to which individual giving competes with corporate giving among the self-employed.

To conclude, the present article has added to our understanding of how the self-employed exercise social responsibility toward society through their charitable contributions. We eagerly anticipate further theorizing as well as the arrival of new datasets, which enable us to uncover even more of the factors driving this important social and economic phenomenon.

## References

- Abrams, D., & Hogg, M. A. (2004). Metatheory: Lessons from social identity research. *Personality and Social Psychology Review*, 8, 98–106.
- Acs, Z. J., & Phillips, R. J. (2002). Entrepreneurship and philanthropy in American capitalism. *Small Business Economics*, 19, 189–204.
- Adloff, F. (2009). What encourages charitable giving and philanthropy? *Aging and Society*, 29, 1185–1205.
- Ai, C., & Norton, E. C. (2003). Interaction terms in logit and probit models. *Economic Letters*, 80, 123–129.

- Amato, L. H., & Amato, C. H. (2007). The effect of firm size and industry on corporate giving. *Journal of Business Ethics*, 72, 229–241.
- Andreoni, J. (1989). Giving with impure altruism: applications to charity and Ricardian equivalence. *Journal of Political Economy*, 97, 1447–1458.
- Audretsch, D. B. (2009). The entrepreneurial society. *Journal of Technology Transfer*, 34(3), 245–254.
- Baumol, W. J. (2005). Education for innovation: Entrepreneurial breakthroughs versus corporate incremental improvements. In A. B. Jaffe, J. Lerner, & S. Stern (Eds.), *NBER innovation policy and the economy* (Vol. 5, pp. 33–56). Cambridge, MA: MIT Press.
- Benavides-Velasco, C. A., Quintana-García, C., & Guzmán-Parra, V. F. (2013). Trends in family business research. *Small Business Economics*, 40, 41–57.
- Berman, S. L., Wicks, A. C., Kotha, S., & Jones, T. M. (1999). Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance. *Academy of Management Journal*, 42, 488–506.
- Blanchflower, D. G., & Oswald, A. J. (1998). What makes an entrepreneur? *Journal of Labor Economics*, 16(1), 26–60.
- Bourhis, R. Y., & Gagnon, A. (2001). Social orientations in the minimal group paradigm. In R. Brown & S. Gaertner (Eds.), *Intergroup processes* (Vol. 4, pp. 89–111). Blackwell handbook in social psychology Oxford: Blackwell.
- Brewer, M. B. (1979). In-group bias in the minimal group situation: A cognitive-motivational analysis. *Psychological Bulletin*, 86, 307–324.
- Brooks, A. (2004). The effects of public policy on private charity. *Administration & Society*, 36(2), 166–185.
- Brown, E., & Ferris, J. M. (2007). Social capital and philanthropy: An analysis of the impact of social capital on individual giving and volunteering. *Nonprofit and Voluntary Sector Quarterly*, 36(1), 85–99.
- Brown, E., & Lankford, H. (1992). Gifts of money and gifts of time—Estimating the effects of tax prices and available time. *Journal of Public Economics*, 47, 321–341.
- Burgoyne, C., Young, B., & Walker, C. (2005). Deciding to give to charity: A focus group study in the context of the household economy. *Journal of Community & Applied Social Psychology*, 15, 383–405.
- Burke, P. I. (1980). The self: Measurement requirements from an interactionist perspective. *Social Psychology Quarterly*, 43, 18–29.
- Camerer, C. F. (2003). *Behavioral game theory: Experiments on strategic interaction*. Princeton, NJ: Princeton University Press.
- Carroll, A. B. (1979). A three-dimensional conceptual model of corporate social performance. *Academy of Management Review*, 4, 497–506.
- Carter, S. (2011). The rewards of entrepreneurship: Exploring the incomes, wealth, and economic well-being of entrepreneurial households. *Entrepreneurship Theory and Practice*, 35(1), 39–55.
- Carter, V. B., & Marx, J. (2007). What motivates African-American charitable giving: Findings from a national sample. *Administration in Social Work*, 31(1), 67–85.
- Chell, E. (2007). Social enterprise and entrepreneurship—Towards a convergent theory of the entrepreneurial process. *International Small Business Journal*, 25(1), 5–26.
- Chen, Y., & Li, S. X. (2008). Group identity and social preferences. *American Economic Review*, 99, 431–457.
- Cnaan, R. A., Jones, K. H., Dickin, A., & Salomon, M. (2011). Estimating giving and volunteering: New ways to measure the phenomena. *Nonprofit and Voluntary Sector Quarterly*, 40, 497–525.
- Coombs, J. E., Shipp, A., & Christensen, L. (2008). Entrepreneur as change agent: Antecedents and moderators of individual-level philanthropic behavior. *Frontiers of entrepreneurship research 2008*. Accessed on October 22, 2011 at SSRN under: <http://ssrn.com/abstract=1348127>.
- Engelmann, D., & Fischbacher, U. (2009). Indirect reciprocity and strategic reputation building in an experimental helping game. *Games and Economic Behavior*, 67(2), 399–407.
- Erikson, E. H. (1982). *The life cycle completed*. New York, NY: Norton.
- Fassin, Y., Van Rossem, A., & Buelens, M. (2011). Small-business owner-managers' perception of business ethics and CSR-related concepts. *Journal of Business Ethics*, 98, 425–453.
- Feldman, N. E., & Slemrod, J. (2007). Estimating tax non-compliance with evidence from unaudited tax returns. *Economic Journal*, 117, 327–352.
- Figueiredo, O., Guimaraes, P., & Woodward, D. (2002). Home-field advantage: Location decisions of Portuguese entrepreneurs. *Journal of Urban Economics*, 52, 341–361.
- Fitzgerald, M. A., Haynes, G. W., Schrank, H. L., & Danes, S. M. (2010). Socially responsible processes of small family business owners: Exploratory evidence from the national family business survey. *Journal of Small Business Management*, 48, 524–551.
- Fowler, J. H., & Kam, C. D. (2007). Beyond the self: Social identity, altruism, and political participation. *Journal of Politics*, 69, 813–827.
- Geletkanycz, M. A., & Hambrick, D. C. (1997). The external ties of top executives: Implications for strategic choice and performance. *Administrative Science Quarterly*, 42, 654–681.
- Goette, L., Huffman, D., & Meier, S. (2006). The impact of group membership on cooperation and norm enforcement, evidence using random assignment to real social groups. *American Economic Review*, 96, 212–216.
- Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, 91, 481–510.
- Greene, W. H. (2003). *Econometric analysis*. Upper Saddle River, NJ: Prentice Hall.
- Hannah, S. T., Avolio, B. J., & Walumbwa, F. O. (2011). Relationships between authentic leadership, moral courage, and ethical and pro-social behaviors. *Business Ethics Quarterly*, 21, 555–578.
- Hite, J. M. (2005). Evolutionary processes and paths of relationally embedded network ties in emerging entrepreneurial firms. *Entrepreneurship Theory and Practice*, 29, 113–144.
- Hoang, H., & Antoncic, B. (2003). Network-based research in entrepreneurship: A critical review. *Journal of Business Venturing*, 18(2), 165–188.
- Hogg, M. A., Terry, D. J., & White, K. M. (1995). A tale of two theories: Critical comparison of identity theory and social identity theory. *Social Psychology Quarterly*, 58, 255–269.
- Holmes, J. (2009). Prestige, charitable deductions and other determinants of alumni giving: Evidence from a highly



- selective liberal arts college. *Economics of Education Review*, 28(1), 18–28.
- Hughes, K. D., Jennings, J. E., Brush, C., Carter, S., & Welter, S. (2012). Extending women's entrepreneurship research in new directions. *Entrepreneurship Theory and Practice*, 36(3), 429–442.
- Jack, S. L., & Anderson, A. R. (2002). The effects of embeddedness on the entrepreneurial process. *Journal of Business Venturing*, 17, 467–487.
- Johnstone, H., & Lionaise, D. (2004). Depleted communities and community business entrepreneurship: Revaluing space through place. *Entrepreneurship & Regional Development*, 16, 217–233.
- Klor, E. F., & Shayo, M. (2010). Social identity and preferences over redistribution. *Journal of Public Economics*, 94, 269–278.
- Kraut, R. E. (1973). Effects of social labeling on giving to charity. *Journal of Experimental Social Psychology*, 9(6), 551–562.
- Lasby, D., & Sperling, J. (2007). Giving and volunteering for sports and recreation organizations in Alberta—Findings from the 2004 Canada survey of giving, volunteering and participating. Imagine Canada. Found May 20th 2013 under [http://www.imaginecanada.ca/files/www/en/library/nsgvp/sports\\_and\\_recreation\\_short\\_report\\_-\\_alberta.pdf](http://www.imaginecanada.ca/files/www/en/library/nsgvp/sports_and_recreation_short_report_-_alberta.pdf).
- Lechler, T. (2001). Social interaction: A determinant of entrepreneurial team venture success. *Small Business Economics*, 16(4), 263–278.
- Lundstrom, A., & Stevenson, L. A. (2005). *Entrepreneurship policy: Theory and practice*. New York, NY: Springer.
- Mathur, A. (1996). Older adults' motivations for gift giving to charitable organizations: An exchange theory perspective. *Psychology & Marketing*, 13(1), 107–123.
- McAdams, D. P., de St. Aubin, E., & Logan, R. L. (1993). Generativity among young, midlife, and older adults. *Psychology and Aging*, 8, 221–230.
- Mesch, D. F., Rooney, P. M., Chin, W., & Steinberg, K. S. (2002). Race and gender differences in philanthropy: Indiana as a test case. *New Directions for Philanthropic Fundraising*, 37, 65–77.
- Mesch, D. J., Rooney, P. M., Steinberg, K. S., & Denton, B. (2006). The effects of race, gender, and marital status on giving and volunteering in Indiana. *Nonprofit and Voluntary Sector Quarterly*, 35(4), 565–587.
- Michelacci, C., & Silva, O. (2007). Why so many local entrepreneurs? *Review of Economics and Statistics*, 89, 615–633.
- Midlarsky, E., & Hannah, M. E. (1989). The generous elderly: Naturalistic studies of donations across the life span. *Psychology and Aging*, 4, 346–351.
- Nell, G., Sherk, J., & Winfree, P. L. (2008). Free-market philanthropy: The social aspect of entrepreneurship. Center for data analysis: Report #08-07.
- Nownes, A., & Neeley, G. (1996). Toward an explanation for public interest group formation and proliferation: "Seed money", disturbances, entrepreneurship, and patronage. *Policy Studies Journal*, 24(1), 74–92.
- Osili, U., Kou, X., Ackerman, J., Ward, J., Copple, M., Li, Y., et al. (2013). A Decade of million-dollar gifts. Report by the Lilly Family School of Philanthropy at Indiana University. Found on May 29th 2013 under [http://philanthropy.iupui.edu/files/research/report\\_w\\_appendix\\_april\\_2013.pdf](http://philanthropy.iupui.edu/files/research/report_w_appendix_april_2013.pdf).
- Parker, S. C. (2009). *The economics of entrepreneurship*. Cambridge: Cambridge University Press.
- Parker, S. C., & van Praag, M. (2010). Group status and entrepreneurship. *Journal of Economics & Management Strategy*, 19, 919–945.
- Perugini, M., Callucci, M., Presaghi, F., & Ercolani, A. P. (2003). The personal norm of reciprocity. *European Journal of Personality*, 17(4), 251–283.
- Peterson, R. T., & Jun, M. (2009). Perceptions on social responsibility: The entrepreneurial vision. *Journal of Business & Society*, 48(3), 385–405.
- Reece, W. S., & Zieschang, K. D. (1985). Consistent estimation of the impact of tax deductibility on the level of charitable contributions. *Econometrica*, 53, 271–293.
- Schlegelmilch, B., Love, A., & Diamantopoulos, A. (1997). Responses to different charity appeals: The impact of donor characteristics on the amount of donations. *European Journal of Marketing*, 31, 548–560.
- Seinen, I., & Schram, A. (2004). Social status and group norms: Indirect reciprocity in a repeated helping experiment. *European Economic Review*, 50, 581–602.
- Sepulveda, L., Syrett, S., & Lyon, F. (2011). Population superdiversity and new migrant enterprise: The case of London. *Entrepreneurship and Regional Development*, 23(7–8), 469–497.
- Settoon, R. P., Bennett, N., & Liden, R. C. (1996). Social exchange in organizations: Perceived organizational support, leader-member exchange, and employee reciprocity. *Journal of Applied Psychology*, 81(3), 219–227.
- Shelton, L. M. (2010). Fighting an uphill battle: Expansion barriers, intra-industry social stratification, and minority firm growth. *Entrepreneurship Theory and Practice*, 34(2), 379–398.
- Showers, V. E., Showers, L. S., Beggs, J. M., & Cox, J. E., Jr. (2011). Charitable giving expenditures and the faith factor. *American Journal of Economics and Sociology*, 70, 152–186.
- Smith, B. R., & Stevens, C. E. (2010). Different types of social entrepreneurship: The role of geography and embeddedness on the measurement and scaling of social value. *Entrepreneurship and Regional Development*, 22(6), 575–598.
- Stets, J. E., & Burke, P. J. (2000). Identity theory and social identity theory. *Social Psychology Quarterly*, 63, 224–237.
- Stryker, S. (1968). Identity salience and rote performance: The importance of symbolic interaction theory for family research. *Journal of Marriage and the Family*, 30, 558–564.
- Stryker, S. (1987). Identity theory: Developments and extensions. In K. Yardley & T. Honess (Eds.), *Self and identity* (pp. 89–104). New York, NY: Wiley.
- Stryker, S., & Serpe, R. T. (1982). Commitment, identity salience, and role behavior. In W. Ickes & E. S. Knowles (Eds.), *Personality, roles, and social behavior* (pp. 199–218). New York: Springer.
- Su, J., & He, J. (2010). Does giving lead to getting? Evidence from Chinese private enterprises. *Journal of Business Ethics*, 93, 73–90.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.),

- The social psychology of intergroup relations* (pp. 33–47). Monterey, CA: Brooks-Cole.
- Teal, E. J., & Carroll, A. B. (1999). Moral reasoning skills: Are entrepreneurs different? *Journal of Business Ethics, 19*, 229–240.
- Tracey, P., Phillips, N., & Haugh, H. (2005). Beyond philanthropy: Community enterprise as a basis for corporate citizenship. *Journal of Business Ethics, 58*, 327–344.
- Uzzi, B., & Gillespie, J. (1999). Corporate social capital and the cost of financial capital: An embeddedness approach. In J. Lenders & S. Gabbay (Eds.), *Corporate social capital* (pp. 446–459). New York: Kluwer.
- Weber, P., & Shaper, M. (2004). Understanding the grey entrepreneur. *Journal of Enterprising Culture, 12*(2), 147–164.
- Wellington, A. J. (2006). Self-employment: The new solution for balancing family and career. *Labour Economics, 13*(3), 357–386.
- Werhane, P. H. (2010). Principles and practices for corporate responsibility. *Business Ethics Quarterly, 20*, 695–701.
- Wilhelm, M. O. (2007). The quality and comparability of survey data on charitable giving. *Nonprofit and Voluntary Sector Quarterly, 36*, 65–84.
- Wilson, K. E., Vyakarnam, S., Volkmann, C., Mariotti, S., & Rabuzzi, D. (2009). Educating the next wave of entrepreneurs: Unlocking entrepreneurial capabilities to meet the global challenges of the 21st century. World economic forum: A report of the global education initiative, working paper, retrieved on October 13, 2011 under: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1396704](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1396704).
- Wood, D. J., & Jones, R. E. (1995). Stakeholder mismatching: A theoretical problem in empirical research on corporate social performance. *International Journal of Organizational Analysis, 3*, 229–267.
- Yen, S. T. (2002). An econometric analysis of household donations in the USA. *Applied Economics Letters, 9*, 837–841.