THE IMPACT OF FISCAL RULES ON THE GRANT-MAKING BEHAVIOR OF AMERICAN FOUNDATIONS[♣]

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Abstract

This paper investigates to what extent the different tax rules applying to community and private foundations in the USA – aimed at guaranteeing that their favorable tax regime is well deserved - influence their behavior. Using tax return data for 2000-2006, we show that the grant-making activities of the two types of foundations are not systematically influenced by tax-regulation. Our results point to a large heterogeneity in the grant-making of both community and private foundations, suggesting that a more effective regulatory approach could benefit from a careful analysis of the nature and of the institutional features of the foundations under scrutiny.

Keywords: community foundations, private foundations, minimum payout requirement, public support test, grant-making behavior

JEL Codes: L31, K20, D22

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1. Introduction

Grant-making foundations represent one of the most peculiar and well-known group of institutions in the nonprofit sector of the USA. Their grant-making activity is so characteristic of the North American culture that these organizations have been considered "a unique American answer to the problem of excess wealth in a society with limited income redistribution" (Anheier and Toepler, 1999). According to the latest available statistics of the Internal Revenue Service[1], their assets exceeded $ 500 billion in 2008, out of the about $ 1.4 trillion net assets held by the entire nonprofit sector[2]. They disbursed more than $ 42 billion in charitable grants, funding many cultural, research and welfare activities and organizations.

From a general point of view, philanthropic grant-making foundations are institutions that pay grants distributing the proceeds of their endowment. More precisely, they are nongovernmental, nonprofit organizations whose assets (the foundation endowment, generally donated by one or more donors) are managed by a board of trustees so as to generate the financial resources that will be distributed (to deserving charitable organizations and individuals) in grants aimed at pursuing a specific goal stated by the donors and codified in the charter of the organization (Andrews, 1956). According to the different sources of their endowment, grant-making foundations can be classified into two different groups. The first group is made by the so called 'private independent foundations', whose assets are generally provided by a very small group of people (sometimes just one single person), usually members of the same family, or by a corporation. More than 76,000 private independent grant-making foundations were operating in the USA in 2008. A very well-known example of this type of organization is the Bill and Melinda Gates Foundation, by far the best endowed foundation in the USA,

[1] All data are available from the IRS website:
http://www.irs.gov/taxstats/charitablestats/article/0,,id=97155,00.html
[2] We refer to tax-exempt 501(c)3 organizations.

with more than $ 32 billion in assets and about $ 2.5 billion giving in year 2010. In 2001, this foundation received a large donation of Microsoft stocks from Bill Gates, and in 2006 it received from Warren Buffett a pledge to donate approximately 10 million shares of its corporation, Berkshire Hathaway. More ancient examples of this group of foundations are the Ford Foundation (the second largest in the USA by assets size), the Robert Wood Johnson Foundation and the W. K. Kellogg Foundation, each of them with assets in the excess of $ 5 billion and more than $ 290 million in grants paid in 2010. The second group of grant-making foundations is made by the so called 'community foundations', whose assets result not from the donations of a single individual but rather from wide groups of donors, both individual and institutional ones, living in the same area and belonging to the same community. Community foundations – more than 700 organizations in 2009 – are far less numerous than private ones, but they include some very large institutions such as the Tulsa Community Foundation (the largest one, with more than $ 4 billion in assets), or the Silicon Valley Community Foundation, the New York Community Trust, and the Chicago Community Trust, all of them with assets exceeding $ 1 billion and grants exceeding $ 100 million in 2009 (Foundation Center, 2011).

Although both groups of institutions are engaged in grant-making, the two types of foundations are usually subjected to different legal and tax provisions. In general, as they all receive a favorable tax treatment, legal rules are aimed at guaranteeing that both types of foundations operate in the 'public interest'; this means assuring that they actually pay out a reasonable amount of grants. In practice, the two pieces of regulation introduced by the American legislator in 1969 try to obtain this goal in very different ways. On the one hand, grant-making foundations defined as 'public charities' by the fiscal law must pass the 'public support test' (PST), stating that they should receive annual donations at least equal to one-third of their aggregate income. Community

foundations generally fall into this group. On the contrary, grant-making foundations defined as 'private' by the fiscal law have to comply with the 'minimum payout requirement' rule (MPR), roughly stating that they should spend at least 5 percent of their assets in charitable grants. Private independent foundations usually fall into this group.

Since its introduction, the MPR has been widely debated by legal scholars and practitioners (e.g., Troyer, 2000; Marsh, 2002, and Billitteri, 2005 for recent discussions and reviews). Some interpret the rule as a useful device to discipline the activities of the foundations and avoid the risk of private appropriation of public benefits. On the contrary, other scholars consider the MPR an excessive public intrusion in the life of fully private institutions, and a rule that could put their very existence into jeopardy. Several studies analyze the impact of this rule on the behavior of private foundations and support one of the two different views (see, for example, Steuerle, 1977; Steuerle and Sullivan, 1995; DeMarche Associates, 1999; Kogelman and Dobler, 1999; Mehrling, 1999; Cambridge Associates, 2000; Deep and Frumkin, 2006; Toepler, 2004; Sansing and Yetman, 2006). On the contrary, the impact of the PST is much less investigated and, to our knowledge, nobody has yet compared the effect of these two different rules on the grant-making behavior of both private independent and community foundations.

The goal of the paper is to fill this gap in the literature. Taking an institutional approach, we examine the effects of the two different sets of fiscal rules on the grant-making behavior of both private and community foundations in the USA. Using tax return data provided by the IRS for the period 2000 to 2006, we estimate the determinants of grants, and test whether the PST and MPR rules have a differential impact on the behavior of the two types of foundations.

We do not find systematic differences in the grant-making behavior of community and private independent foundations, indicating that the differences in regulation do

not exert a direct effect on the behavior of the different types of foundations. Besides this general message, more refined observations arise when controlling for the size of foundations. In particular, we show that the grants paid by the larger community foundations are highly correlated to the volume of donations received, while the grants paid by the larger private foundations are highly correlated to the size of their endowments. Although these results for the larger foundations are consistent with the expected effects on grant-making of the differential regulation of community and private foundations, the same does not hold true for the smaller foundations, whose behavior does not respond to – and is often inconsistent with – the incentives generated by the USA regulatory approach.

All this indicates the existence of other factors – besides their nature of public charities or private foundations – that influence the grant-making behavior of foundations, and are therefore important for the regulator. Further research is needed to identify these factors and to see if (and how) they can be exploited in devising more sophisticated regulatory approaches.

Our exercise may have relevant policy implications, also outside the USA, especially today that grant-making foundations are often called to make up for public spending reductions in several welfare sectors. For instance, in Europe, the idea of introducing (a sort of) MPR has been considered in the framework of the policy idea of the 'Big Society', put forward by the current UK government. In particular, in the recent Green Paper on giving, one can read that "some suggest that foundations should make a minimum payout annually, as is the case in some other countries, as this could result in extra income for charities. Others suggest that a requirement would not help charities in the long term, and could generate unintended consequences. We would like to explore this issue further and welcome views on foundation giving." (H.M. Government, 2010, p.

18). This kind of policy proposals would greatly benefit from a careful scrutiny of the incentives of different tax provisions to the grant-making activity of foundations.

The remainder of the paper is structured as follows. Section 2 describes the most relevant fiscal provisions for the community and private independent foundations in the USA. Section 3 illustrates our data and the stylized facts concerning the industry of grant-making foundations. Section 4 describes the determinants of the pay-out policies for the foundations included in our sample and characterizes the differences in the grant-making behavior of private and community foundations. Section 5 concludes the paper.

2. Fiscal regulation of grant-making foundations in the USA

Given their not-for-profit nature and their attitude to undertake activities that can benefit society as a whole, grant-making foundations – all over the world - benefit from several fiscal incentives (Hopkins, 2007, for the USA; Bater and Habighorst, 2001, for Europe). In many legal systems, foundations are exempt from income and real estate taxation, and donors are often allowed to deduct from their income (part of their) donations to these organizations. These tax advantages can – directly and indirectly - benefit foundations and increase the funds they can raise. However, they imply relevant costs for the public purse, so that governments need to be sure that these provisions are well deserved and balanced by a relevant amount of activity undertaken by the foundations in favor of all of society. When considering operating foundations, the measurement of the activity undertaken in favor of society is not complex, and output measures are relatively easy to produce. One could consider, for instance, the amount of free meals distributed to the poor in a soup kitchen or the number of surgeries carried out in a hospital. Conversely, the measurement of the amount of activities benefiting the general public that are undertaken by a grant-making foundation is more

complex. The main reason is the great variety of actions funded by most grant-making foundations, which makes it almost impossible to produce aggregate output measures. Unsurprisingly, a frequently used proxy of the quantity of activity producing social benefits is the amount of grants paid to deserving grantees.

That of the USA is an interesting case study of how tax rules can be designed in order to balance fiscal advantages with the amount of grants made by foundations. Grant-making foundations are subjected to tax rules that – broadly speaking – divide them into two separate categories: 'public charities' and 'private foundations'[3]. In order to qualify as a public charity, a grant-making foundation should pass the 'public support test' (PST). This test is passed if the organization normally receives at least one-third of its aggregate income from individual contributions, each of which not exceeding 2 percent of the charity's total income. Among the American grant-making institutions, community foundations – usually funded by many individuals every year - generally pass this test, and therefore qualify as public charities. When failing the PST, a grant-making foundation is qualified by the fiscal law as a private foundation and it is subjected to a different rule: the 'minimum payout requirement' (MPR). This rule states that private foundations should make annual eligible charitable expenditures that are at least equal to 5 percent of the average monthly value of their endowment (i.e., the net investment assets calculated the previous year)[4]. If this rule is not met, the foundation should pay a

[3] This distinction was introduced in the tax legislation of 1969 as "a proxy for the amount of control the donor retained over her gift after dedicating it to philanthropy and taking the corresponding tax deduction" (Marsh, 2002, p. 139). Accordingly, public charities are institutions over which donors retain a lower degree of control with respect to private foundations.

[4] More precisely, charitable expenditures include both grants paid to deserving organizations and administrative expenses incurred by the foundation and related to its charitable purpose, such as salaries, rents, travel costs, and grant-monitoring expenditures. Grant-making foundations making use of large staffs and expensive locations may therefore pay much less than 5 percent in grants. Critics of this legal provision argue that "reducing or eliminating administrative expenses from the payout calculation would free up billions of additional dollars for charities." (Billitteri, 2005, p. 16). On the contrary, supporters of the provision state that "foundations might seek to reduce their administrative costs by cutting back on efforts to screen grant applications, monitor grantees' efficiency and provide guidance to grant recipients. That, they contend, especially could hurt fledgling charities and those with innovative programs." (Billitteri, 2005, p. 16).

penalty excise tax, the value of which is approximately equal to 30 percent of the shortfall. Private independent grant-making foundations created by individuals or families are typically "cold" institutions (Sansing and Yetman, 2006), endowed in the past by their founders but no longer receiving new donations; therefore, they generally fall into the legal group of private foundations.

Community foundations as public charities benefit from a more generous fiscal status than private foundations. In fact, although both types of foundations are exempt from income and real-estate taxes, the private foundation status carries some disadvantages such as a 2 percent excise tax on the investment income gained by the foundation[5], as well as penalty excise taxes on "certain taxable expenditures", on "self-dealing", on "excess business holdings", and on "jeopardizing investments"[6]. Moreover, also an indirect benefit - such as the deductibility of individual contributions - is subjected to different rules: tax deductions for donations to public charities cannot exceed 50 percent of the donor's income, while those to private foundations are generally limited to 30 percent of that income.

Organizations that institutionally perform the same task (making grants) comply with two different sets of rules, both intended to balance their fiscal advantages with a relevant amount of grants: community foundations observe the PST, while private

[5] Foundations whose "qualifying distributions exceed their historical average in any given year receive a favourable 1 percent rate" (Marsh, 2002, p. 156).

[6] 'Taxable expenditures' are amounts paid or incurred by private foundations: a) to carry on propaganda, or otherwise attempt to influence legislation (IRC 4945(d)(1)); b) to influence the outcome of any specific public election, or to carry on a partisan voter registration drive (directly or indirectly) (IRC 4945(d)(2)); c) as a grant to an individual for travel, study, or other similar purposes, unless the grant meets certain requirements (IRC 4945(d)(3)); d) as a grant to an organization unless such organization is a public charity or unless the grantor private foundation exercises "expenditure responsibility" over the grant (IRC 4945(d)(4)); and e) for any purpose other than one specified in IRC 170(c)(2)(B). 'Self-dealing' is the conduct of a foundation trustee that takes advantage of his position and acts for his own interests rather than for the interests of the beneficiaries of the foundation. The 'excess business holdings' of a foundation are the amount of stock or other interest in a business enterprise that exceeds the permitted holdings. A private foundation is generally permitted to hold up to 20 percent of the voting stock of a corporation, reduced by the percentage of voting stock actually or constructively owned by disqualified persons. 'Jeopardizing investments' are investments that show a lack of reasonable business care and prudence in providing for the long- and short-term financial needs of the foundation for it to carry out its exempt function (www.irs.gov).

foundations are subjected to the MPR. While the grant-making activity of private foundations is directly regulated by the government through the MPR, the grant-making activity of community foundations is only exposed to an indirect constraint. In fact, the rationale behind the PST is that, in order to collect donations from a large set of individual donors, a community foundation should build its reputation through an effective and abundant grant-making activity. Our empirical analysis tests whether these two mechanisms aimed at assuring a reasonable amount of grants in exchange of fiscal benefits produce different effects on the grant-making behavior of foundations in the USA.

3. Sample description and stylized facts

Our econometric exercises are based on a pooled cross-section of grant-making foundations, including both private and community foundations active in the USA between 2000 and 2006. Our dataset is built upon information released by the Statistics of Income (SOI) division of the Internal Revenue Service (IRS) and combined with data published by the Council on Foundations. The sampling procedures adopted by the IRS are different between the two groups of grant-making institutions. As for private foundations, the SOI provides a sample of forms 990-PF that this group of organizations must file with the IRS every year. Note that "the SOI sample of private foundations is stratified based on both the size of fair market value of total assets and the type of organization (…). The private foundation sample is designed to provide reliable estimates of total assets and total revenue. To accomplish this, 100 percent of returns filed for foundations with fair market asset value of $10 million or more are included in the samples (…). The remaining foundation population is randomly selected for the sample at various rates, ranging from 1 percent to 100 percent, depending on asset

size"[7]. Forms 990-PF are filed by several types of private foundations. In order to get information referring to independent tax-exempt grant-making foundations only, we excluded from the SOI sample: a) all operating foundations (identified through codes Q030 and Q100 of the 990-PF form); b) foundations that did not distribute any grants; c) all foundations that were not 501(c)3 tax-exempt charitable organizations, such as non-exempt charitable trusts (identified through code E050 of the 990-PF form); d) foundations using a 'cash' and not an 'accrual' accounting method (identified through code E090 of the 990-PF form). Table 1a illustrates the SOI sample and population counts, as well as their composition in terms of (tax-exempt) private foundations and (nonexempt) charitable trusts.

<Table 1a about here>

As for community foundations, the analysis is based on a SOI sample of forms 990 that 501(c)3 tax-exempt organizations must file with the IRS each year. Forms 990 are filed annually by a huge number of organizations, which qualify as public charities. In order to make sure that we consider community foundations only, we selected data referring to community trusts exclusively, identified through code S100 (11b) of the 990 form. Moreover, given that some community trusts are not 'community foundations', we checked each record with the list of community foundations published by the Council of Foundations[8] and ruled out all inappropriate records. Statistics on population count, SOI sample and excluded organizations are in Table 1b.

<Table 1b about here>

[7] See the website: http://www.irs.gov/taxstats/charitablestats/article/0,,id=212357,00.html.
[8] The list can be found at the website: www.cof.org.

Our final sample includes - over the entire time period - 44,046 observations, largely private foundations. Given that community foundations are substantially less common than private ones, our sample mirrors quite well the actual distribution of the number of these two types of institutions in the USA nonprofit sector, as illustrated in Table 2.

<Table 2 about here>

Both for community and private foundations, our sample covers approximately about 10 percent of the overall population. Conversely, in terms of endowment and grants, the percentage of the population represented by the sample of private foundations is about three times larger than that of community foundations. This characteristic of our sample follows directly from the sampling procedure of the SOI data. In particular, the SOI data should include all the public charities with endowments above $ 50 million, but only a fraction of the smaller organizations. As the largest community foundations are on average smaller than the largest public charities, community foundations are necessarily under-represented in the SOI sample of 990 forms.

The two types of organizations included in the sample are quite different in size, with community foundations that are on average larger than the private ones (Table 3).

<Table 3 about here>

In particular, the average endowment of community foundations is more than 2.5 times that of private foundations, while the median is about four times larger. Note that, in the absence of the sample bias discussed above, the observed differences would have been even larger. Disparities between the two groups emerge also when considering

grants paid and sources of income, with average grants being three times larger, and donations six times larger, for community foundations than for private ones[9]. Furthermore, note that the median of received donations is zero for private foundations.

In order to properly account for differences in size, Figure 1a shows grants as a share of total assets using box-plots[10].

<Figure 1a about here>

Community foundations pay out larger amounts of resources than private foundations also when accounting for differences in size, given that the median of the grants-to-asset ratio is always above the median for private foundations. However, this median behavior hides a large variability, which again appears to be much bigger for community than for private foundation. This is true both observing the boxes and the whiskers. Moreover, the (average) behavior of private foundations remains close to the 5 percent threshold in all years, while that of community foundations appears to be more volatile over time. Note, in particular, that the 5 percent floor is always included in the box.

Figure 1b shows the grant-to-assets ratio for quintiles of the distribution of foundations by assets size.

<Figure 1b about here>

[9] Following Mehrling (1999), we did not include administrative expenses in the calculation of grants paid by private foundations. This is consistent both with the idea of comparing the grant-making behavior of the two classes of foundations (as comparable data on administrative expenses for community foundations are not available), and with Mehrling's idea that "society does not care how much foundations are spending on their rent, or how much they are giving to their top executives. What is in the social interest is actual charitable giving".

[10] In all box-plots, boxes include all observations in the second and the third quartiles, with the line in each box denoting the median value, and whiskers include all observations, but for the extreme values.

Quite interestingly, variability in the grant making behavior sharply decreases for the largest private foundations, meaning that the smallest institutions are those that contribute the more to the variability observed for this group of foundations. On the contrary, for community foundations, a large variability is observed in all quintiles, with the largest variance at the two ends of the distribution.

Looking at the income of the two types of foundations, there are two sources of revenues that need to be explored: the returns from the financial management of the endowment, and the donations collected from individuals and private firms. As for returns from financial management (defined as the income-to-assets ratio), it appears that the median value for private foundations is slightly larger than that for community foundations, indicating that the former are better at managing their resources (Figure 2a).

<Figure 2a about here>

Note, however, that the risk profile of private foundations' investments is likely to be higher than that of community foundations, as they are characterized by a larger variability of returns. In particular, the returns of community foundations are much more clustered around the median than those of private foundations. Furthermore, when looking at the evolution of returns over time, we observe a similar pattern for the two types of foundations that closely mirrors the evolution of the stock market indices: from the peak of the dot-com bubble in 2000 to the market recovery in the second half of our sample period, passing through the burst of the dot-com bubble in 2002.

Figure 2b, illustrating the income-to-assets ratio for quintiles of the distribution of foundations by assets size, shows that the variability of returns is almost always larger for private than for community foundations.

<Figure 2b about here>

Furthermore, the variability of returns is clearly increasing in assets size for private foundations, while community foundations behave very differently. Indeed, in this case, the highest (smallest) variability of returns is observed for the smallest (largest) foundations.

Finally, focusing on the donations-to-assets ratio for the two types of foundations, we find (unsurprisingly) that community foundations rely more heavily on this source of income than private foundations. Figure 3a shows that the median of the donations received by private foundations is zero for all the years considered in the sample, while it is about 10 percent for community foundations.

<Figure 3a about here>

Furthermore, the variability of donations received by private foundations appears to be significantly lower than that observed for community foundations.

The same findings are confirmed when looking at the cross-sectional variability of the donations-to-assets ratio (Figure 3b).

<Figure 3b about here>

In particular, the variability of the ratio for private foundations is very limited and decreasing across quintiles (being essentially nil for the largest foundations). A similar pattern is observed for community foundations where, however, the variability of the donations-to-assets ratio remains significantly larger than for private foundations.

Overall, the descriptive empirical evidence summarized by the figures above suggests that community foundations tend to specialize in fund-raising activities while private foundations do the same in asset management. Moreover, it appears that most private foundations, especially the largest ones, apply a 'fixed rule' in their grant-making activity, strictly complying with the MPR. This stylized fact is consistent with the findings of both Deep and Frumkin (2006) and Sansing and Yetman (2006)[11]. Conversely, community foundations specialize in fund-raising and in most cases they appear to be successful in collecting donations, a behavior that could be deemed as a result of the PST. Moreover, the collection of donations is likely to be the reason why community foundations pay more grants than private foundations, a fact that - to the best of our knowledge - has not been pointed out in the literature. However, despite a distinct specialization of the two groups of foundations, there remains a wide *within-group* heterogeneity that needs to be taken into account in the following empirical analysis.

4. Empirical analysis

Our empirical analysis focuses on the determinants of the amount of grants paid by private and community foundations. The main goal of our econometric specifications is to test whether different tax rules generate different incentives for the grant-making behavior of foundations. Two hypotheses seem natural, based on the constraints imposed by the PST and the MPR. As for the former, one may expect that the PST determines a positive correlation between grant-making activities and donations received. This follows from the observation that, in order to attract the volume of

[11] Deep & Frumkin (2006) analyze a panel of 290 private foundations for the period 1972 to 1996 finding that "most foundations simply pay out the mandated minimum amount each year, regardless, of other relevant considerations". Furthermore, they argue that "the minimum rate has gone from being a floor when it was enacted decades ago to a ceiling today". Sansing and Yetman (2006), using a larger sample of about 3,800 foundations between 1994 and 2000, show that "the minimum distribution requirement is a binding constraint for foundations that are ''passive'' in terms of management expenditures and 'cold' (as opposed to 'hot') in the sense of having no source of new donations and a relatively low rate of asset growth" (Sansing and Yetman, 2006, p. 365).

donations needed to pass the test, a foundation must find ways to signal its quality. The effectiveness and extent of its grant-making activities are natural ways to provide such a signal. Therefore, also consistently with the descriptive evidence presented in Section 3, one may expect to find a stronger positive correlation between grants paid and donations received for community foundations than for private foundations. In fact, only the former need to comply with the requirements of the PST not to lose their public charity status, while the latter - not qualifying as public charities - are not subjected to such a constraint.

As for the minimum payout rule, it can be expected to establish a direct correlation between grant-making activities and the size of a foundation's endowment, since pay-out requirements are measured precisely against it. In particular, the correlation between grant-making and endowment is expected to be stronger for private foundations than for community ones, as the former are subjected to the MPR while the latter are not (unless they lose their status as public charities). One could also conjecture that the MPR rule gives private foundations strong incentives not to increase grants above the minimum level stated by the law, and at the same time, to manage effectively their assets, so as to avoid depleting their endowments after paying out the minimum amount of grants required by the law. In fact, any ineffective management of their financial assets may affect the integrity of a foundation's endowment, jeopardizing its ability to benefit from a favorable tax treatment. Although our data do not allow us to test how effective foundations are in managing their financial assets, the descriptive evidence provided in Section 3 is consistent with the idea that private foundations stick to the 5 percent rule imposed by the MPR.

4.1. The empirical strategy

In order to test our hypotheses we use OLS to estimate the following log-log model:

$$GRANTS_{it} = \beta_0 + \beta_1 ENDOWMENT_{it} + \beta_2 DPF_i + \sum_j \beta_{3j} X_{jit} + \sum_j \beta_{4j} Z_{jit} + \sum_t \beta_{5t} T_t + \varepsilon_{it}\,, \qquad (1)$$

where the dependent variable $GRANTS_{it}$ is the amount of grants paid by the i-th foundation in year t; $ENDOWMENT_{it}$ is the size of the i-th foundation measured by its total assets in year t; DPF_i is a dummy variable taking value 1 if the i-th foundation is a private foundation and value 0 in the case of a community foundation; X_{jit} is a set of covariates capturing the sources of revenues of the i-th foundation in year t; Z_{jit} is a set of dummy variables allowing us to explicitly control whether the i-th foundation in year t does not receive donations or it misses one or more of the j-th sources of income detailed below; finally, T_t is a set of dummy variables for years 2001 to 2006 (with year 2000 as a reference) - controlling for time fixed effects - that takes value 1 in year t and value 0 in any other year.

The set of covariates X_{jit} includes the level of donations raised by the i-th foundation (*DONATIONS*), as well as all other sources of income. The latter comprises the total amount of interests and dividends stemming from the management of the foundation's assets (*INTERESTS*), the total amount of rents gained (*RENTS*), the amount of capital gains (*CAPGAIN*) and capital loss (*CAPLOSS*), and any other positive (*OTHER*) or negative income (*MINUSOTHER*). Descriptive statistics for all the variables used in the empirical analysis are in Appendix Table 1.

In order to provide a better characterization of the different behavior of private and community foundations, we augment the empirical model in Equation (1) by interacting the variables *ENDOWMENT* and X_j with the *DPF* dummy. This augmented model is represented by the following Equation (2):

$$GRANTS_{it} = \beta_0 + \beta_1 ENDOWMENT_{it} + \beta_2 ENDOWMENT_{it} \times DPF_i + \beta_3 DPF_i + \sum_j \beta_{4j} X_{jit} + \quad (2)$$

$$+ \sum_j \beta_{5j} X_{jit} \times DPF_i + \sum_j \beta_{6j} Z_{jit} + \sum_t \beta_{7t} T_t + \varepsilon_{it} .$$

Given the use of a number of group dummy variables, we do not rely on a fixed-effects panel specification because of the large correlation between the individual fixed effects and the group variables, which would result in inefficient estimators. In order to control for unobserved heterogeneity among foundations, Equations (1) and (2) are estimated using a pooled regression model with cluster-corrected standard errors.

However, Equations (1) and (2) do not allow to fully disentangling the impact of the different variables on the grant-making behavior of the two types of foundations we are dealing with. According to the descriptive evidence discussed in the previous section, one may in fact conjecture that the size of a foundation influences its granting behavior, in ways that cannot be directly captured by a unique size coefficient only. Therefore, we enrich our econometric specification splitting both private and community foundations into three groups – 'small', 'medium' and 'large' foundations - on the basis of the size of their endowment. In particular, for each type of foundation, we consider as 'small' those with total assets lower than the 25th percentile of their asset distribution, and as 'large' those with assets higher than the 75th percentile of their asset distribution[12]. In order to identify specific effects for the different types of foundations, we define with *DSIZE* the set of dummy variables for each group (i.e., *DCF-SMALL*, *DCF-MEDIUM*, *DCF-LARGE* for, respectively, the small, medium, and large community foundations, as well as *DPF-SMALL*, *DPF-MEDIUM* for the small and medium private foundations, with large private foundations being used as the benchmark group), and interact them with the variables *ENDOWMENT* and X_j. This enriched model is

[12] The 25th and 75th percentile thresholds are of $ 19,793,978 and $ 122,467,728 for community foundations and of $ 6,184,155 and $ 32,208,116 for private foundations.

described by the following Equation (3), where k indicates the group to which each foundation belongs:

$$GRANTS_{it} = \beta_0 + \beta_1 ENDOWMENT_{it} + \Sigma_k \beta_{2k} ENDOWMENT_{kit} \times DSIZE_{ki} + \Sigma_j \beta_{3j} X_{jit} + \quad (3)$$

$$+ \Sigma_j \Sigma_k \beta_{4jk} X_{jkit} \times DSIZE_{ki} + \Sigma_j \beta_{5j} Z_{jit} + \Sigma_k \beta_{6k} DSIZE_{ki} + \Sigma_t \beta_{7t} T_t + \varepsilon_{it} .$$

Given the arbitrariness in the definition of the three foundation sizes, as a further robustness check of our results, we also explore the effects of different thresholds in the definition of small, medium and large foundations in the estimate of Equation (3)[13].

4.2. Results

Our econometric exercises deliver several results on the major determinants of the grant-making behavior of foundations, which are consistent with common wisdom[14]. First, we find that *size matters*, as the amount of grants paid-out by foundations is strongly positively correlated to the magnitude of their endowments. In our baseline model (Table 4, Model 1), in which we include the *DPF* dummy for the type of foundations (private and community) but do not control for their different class sizes, a 1 percent increase in the size of the endowment is associated with a 0.67 percent increase in grants paid by the foundation; this correlation is statistically significant at the 1 percent level. A similar effect is shown also by Model (2) of Table 4 where we allow for the interaction effects between the main covariates and the *DPF* dummy. In

[13] We use the 20th and the 30th percentiles, together with the 80th and 70th percentiles, as alternative thresholds for small and large foundations, respectively. The 20th and 80th percentile thresholds are of $ 12,800,000 and $ 161,000,000 for community foundations and of $ 3,900,000 and $ 40,100,000 for private foundations. Correspondingly, the 30th and 70th percentile thresholds are of $ 24,700,000 and $ 101,000,000 for community foundations and of $ 10,200,000 and $ 26,600,000 for private foundations.

[14] Although we do not report them in the paper, in all our econometric specification we control for time-effects by means of year dummies, finding that they capture quite closely the impact of the stock market cycle which is not controlled for by the other variables.

this case we find that the elasticity of grants to the endowment is 0.52, again statistically significant at the 1 percent level.

<Table 4 about here>

Second, we show the existence of a *positive correlation between grants and donations received* that, although quantitatively small, is strongly statistically significant at the 1 percent level, with a coefficient of 0.04 in the baseline model (Table 4, Model 1). The elasticity of grants to donations increases to 0.07 when interacting the covariates with the type of foundations, a result statistically significant at the 10 percent level (Table 4, Model 2).

Third, turning to all income sources different from donations, we find evidence of a *positive relationship between income and grants*. In both Models (1) and (2) of Table 4, interests and dividends (*INTERESTS*) and capital gains (*CAPGAIN*) - which are among the most important sources of revenues for foundations besides donations - show a strong correlation with grants. More precisely, the elasticities of grants to interests are 0.15 in the baseline model and 0.25 in the interacted model, while those of capital gains are 0.08 and 0.11, respectively. All coefficients are statistically significant at the 1 percent level.

All the above results are consistent with the standard view of the determinants of the grant-making behavior of foundations. However, when focusing on the main goal of our empirical analysis, we do not find any evidence of a different behavior of private and community foundations. In fact, in both Models (1) and (2), the *DPF* dummy variable has no statistically significant impact, neither on the intercept nor on the slope coefficients. This is starkly at odds with our expectations on the effects of the different

tax-rules to which the two types of foundations are subjected. We will extensively discuss this finding in the next section of the paper.

To better understand the key determinants of the grant-making behavior of the two types of foundations, the models in Table 5 provide a more refined analysis dividing the sample in different class sizes based on the thresholds discussed above.

<Table 5 about here>

As for the correlation between grants and endowments, the effect of size seems to be larger for private than for community foundations, a result that is particularly strong for large foundations. In particular, while a 1 percent increase in endowment is associated with a 0.74 percent increase in grants for large private foundations, this coefficient diminishes by 0.45 percent for large community foundations. Analogous results are obtained when adopting different thresholds for class sizes as shown in the second and third column of Table 5. Interestingly, we also find that small private foundations behave much more as community foundations than as the other private foundations (with an elasticity coefficient of 0.51 against that of 0.74 of large private foundations), a point we will return to below.

Looking at the relationship between grants and donations, our estimates reveal the existence of a stronger correlation for medium and large community foundations than for the group of private foundations. In our baseline specification, a 1 percent increase in donations to large and medium community foundations is associated with a 0.38 percent and a 0.55 percent increase in grants, respectively, while the same effect is only 0.04 percent for the benchmark group of large private foundations. These results are qualitatively robust to our alternative definitions of class sizes. In particular, we obtain the same result for large community foundations, but a weaker (and not

statistically significant) correlation for medium size community foundations. Our findings about the correlation between grants and donations are consistent with the idea that the world of community foundations – at least the large ones - is more and more dominated by 'donor advised funds', i.e. money coming from donors that use the community foundation as a simple and convenient pass-through for their donations, with no intention of building an endowment. In this case, the constraint of perpetuity, that influences the life of many – but not all of - private foundations[15], is simply much less present. We may therefore conclude that, while community foundations directly transfer their donations to beneficiaries increasing the level of their grants, private foundations (at least the 'hot' ones) accumulate donations for future grants, increasing the size of their endowments. This is also consistent with the idea that the managers of private foundations compete with their peers on the basis of the size of their endowment; by spending more than the minimum required by the tax rules, they might risk losing "their relative standing in the pecking order, as defined by net worth" (Billitteri, 2005, p. 5).

According to the results of all our specifications of Model 3, small private foundations represent an exception to this behavior, as the correlation between donations and grants is systematically larger than that observed for the benchmark group of large private foundations. This may be due to the fact that, given the limited size of their endowments, these foundations need to rely on donations to pay out a significant level of grants.

Focusing on the relationship between income and grants, we find no evidence of a differential impact of the different sources of income on the grant-making behavior of foundations of different type and size, but for the effects of interests and dividends (*INTERESTS*) and of capital gains (*CAPGAIN*). More precisely, on the one end, the effect

[15] For a discussion of 'limited life foundations', see Ostrower (2009).

of *INTERESTS* on grants is stronger for large community foundations than for all other groups, with a 1 percent increase in *INTERESTS* being associated to a 0.37 percent increase in grants. This finding suggests that the simple picture of a community foundation solely involved in collecting donations, acting as a pass-through for large donors or as a pool of funds for the large public, needs to be better qualified. In fact, large community foundations also seem to actively manage their financial assets, so that their grant-making behavior turns-out to be sensitive to the returns of their investments. On the other end, capital gains have a strong impact on grants for small private foundations with an elasticity coefficient of 0.07 in the baseline specification and, although with lower statistical significance, for medium size community foundations, with an elasticity coefficient of 0.12. Interestingly, as already observed for donations and endowment, small private foundations seem to behave more similarly to community foundations than to all other private foundations.

Finally, more puzzling results are obtained when looking at the coefficients of *CAPLOSS* and *MINUSOTHER*, which indicate an unexpected positive correlation between losses and grants. Although many factors may concur in explaining these surprising results, we conjecture that they mainly depend on the fact that foundations making losses are forced to pay-out grants in order to comply with legal regulations, possibly by exploiting accumulated reserves.

4.3. Discussion

As we highlighted in the previous section, Models (1) and (2) in Table 4 show that there is no evidence of a systematic difference in the grant-making behavior of private and community foundations[16]. This finding suggests that the different tax-rules to which

[16] Recall that the *DPF* dummy variable for private foundations is never statistically significant at the usual levels in any of our econometric exercises.

private and community foundations are subjected in the USA do not systematically impact on their activities. This does not mean that the tax-rules are necessarily always ineffective, but it suggests that their effectiveness is likely to depend on the interplay between the regulation and the specific underlining characteristics of different foundations, which seem to drive their grant-making behavior more than the tax-rules *per se*. Although our dataset does not allow for an in-depth analysis of these characteristics, more refined implications already arise when controlling for different groups of foundations based on their size (as shown in Table 5). In particular, we have shown that the grant-making activities of large and medium-sized community foundations are more correlated to donations, while those of large and medium-sized private foundations are more correlated to the size of their endowments. Hence, at least for these types of foundations, the differences in the grant-making behavior of community and private foundations seem to be consistent with the different regulations to which they are subjected[17]. Entirely different implications arise when focusing on small size foundations. Two results are particularly interesting in this respect. First, the grant-making activities of small community foundations rely less on donations and more on endowment than that of large community foundations. Thus they appear to behave more similarly to large private foundations than to the other community ones. This may be due to the fact that small community foundations often still have to build a solid reputation, which prevents them from collecting a sufficient amount of donations and consequently forces them to rely on their endowments to support their grant-making activities. Second, the grant-making of small private foundations seems to rely more on donations and less on endowment than that of large private foundations, which makes

[17] The PST - by requiring community foundations to receive yearly donations for at least one-third of their aggregate income in order to maintain the status of public charity - establishes an immediate link between donations and grant-making activities. Analogously, the MPR - by requiring all private foundations to distribute approximately 5 percent of its assets yearly in charitable grants – establishes a clear link between grants and endowment for this type of foundations.

them more similar to community foundations. To make sense of this finding, note first that small private foundations are, on average, smaller than their community counterparts (the average level of assets being about $ 2.2 million for the former and $ 8.5 million for the latter), which makes it difficult for them to rely on endowment to support grants. Furthermore, small private foundations are often either corporate foundations, or single donor foundations still building-up their endowments. In the first case, the grant-making activity is almost entirely financed by the annual donations made by the parent company. In the second one, it is supported by the occasional donations made by the founder that are typically targeted – at least partially - to new grants.

The USA regulator has so far concentrated on regulatory schemes building on the *nature* of public charity (for community foundations) or private foundation of the different institutions performing the same grant-making activity, imposing to pass the PST to the former and to comply with the MPR to the latter. The overall ineffectiveness of this regulatory scheme, as well as the large heterogeneity in the grant-making behavior of both private and community foundations belonging to different class sizes documented above, suggest the need for a more refined model of regulation. This approach should complement the one based on the nature of the foundation by appropriately taking into account other characteristics (simply proxied by size in our analysis) that impact on grant-making. It is worth underlining again that the differences among foundations belonging to distinct class sizes captured by our econometric specifications may indeed reflect relevant characteristics not captured by tax-return data that are correlated to size. The discussion above on corporate and "single-donor" foundations well exemplifies the importance of the issue[18].

[18] For instance, corporate foundations – treated as private foundations by the law and typically with a small endowment – can legally distribute only a limited amount of grants to charitable activities. This allows parent corporations to use a non-negligible share of the donations made to their foundations to distribute perks. This indicates that the minimum payout requirement may not be an effective device for this type of foundations to foster grant-making activities, suggesting the opportunity of different kinds of

5. Conclusions

In the USA, the legislator awards fiscal privileges to grant-making institutions to the extent that they operate in the 'public interest'. To guarantee that these institutions effectively contribute to social welfare, they are subjected to specific forms of regulations. In this paper, we show that the regulatory approach followed by the USA legislator does not systematically influence the behavior of grant-making foundations through the different incentives induced by the PST and the MPR, the two fundamental tools of regulation. In fact, private and community foundations do not appear to respond directly to these incentives. This does not mean that the adopted regulatory approach does not work well for certain types of foundations. Indeed, some of the evidence we find are in line with the expected effect of the regulations. In particular, on the one hand, the amount of grants paid by large private foundations - subjected to the MPR - is positively correlated with the size of their endowment and (although to a more limited extent) with the level of their income. On the other hand, the grants made by large community foundations - subjected to the PST - are positively correlated with the level of donations they collect. Nonetheless, and perhaps more interestingly, our analysis shows a large heterogeneity in the behavior of the two groups of private and community foundations, with smaller foundations behaving very differently with respect to the largest ones. This illustrates that other characteristics of grant-making institutions (proxied here by the size of their endowments) – besides the group they belong to – are important in explaining their behavior, and may therefore be exploited to devise more refined regulatory schemes, complementing - or, in some cases, even substituting - the traditional regulatory approaches discussed above.

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regulations (e.g., requiring them to distribute a large share of the donations received by their parent corporations).

The lessons learnt from the analysis of the USA case may be helpful in guiding the action of the regulators in other countries, where there is not an established regulatory tradition of grant-making foundations. Although grant-making foundations - an archetypical American institution - were traditionally not so common outside the USA, they are now spreading in continental Europe and in other regions as a consequence of different developments (such as privatization processes, inter-generational transfers of wealth, and reductions in public expenditures for the welfare state)[19]. While valuable from an economic point of view[20], quite often these foundations – because of lack of tradition - operate in legal and fiscal environments not as developed as the North American one. Therefore, while many of them benefit from a favorable fiscal treatment (that is costly for the public purse), not so many of them are the object of careful scrutiny regarding the benefits they create for their communities.

The experience of the USA suggests that quantitative and automatic regulatory mechanisms such as those implied by the PST and the MPR - although relatively inexpensive and easy to implement (and therefore quite attractive) – could fail capturing some characteristics of foundations that may bear a significant impact on their grant-making behavior. This indicates that an effective regulatory approach should not abstract from a careful analysis of the nature and of the institutional features of the foundations under scrutiny.

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[19] Examples of this burst of new grant-making institutions are the foundations of banking origin (created in Italy, New Zealand, and Austria) as a result of the transformation of the former savings-banks, or the many new community foundations – relevant welfare players at the local level - created in England, Italy, Germany and the countries of the former Soviet Union.

[20] For example, the 88 Italian foundations of banking origin boast an aggregate assets level of about € 50 billion, more than 54 percent of the whole assets of the 5,000 Italian foundations.

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Tables

Table 1a: population and SOI sample size for organizations filing forms 990-PF (Private Foundations)

Tax Year	All Forms 990-PF		Excluded from the sample		Final sample
	Population count	SOI sample count	Nonexempt Charitable Trusts	Private foundations excluded based on rules a)-d)	
2000	72,605	8,202	966	955	6,281
2001	75,643	6,465	821	697	4,947
2002	79,333	6,301	794	1,038	4,469
2003	81,962	10,537	3,235	1,333	5,969
2004	84,216	11,451	3,646	1,000	6,805
2005	86,896	12,003	3,759	1,074	7,170
2006	88,886	12,741	3,629	1,190	7,922

Source. Own elaborations based on IRS data available at:
http://www.irs.gov/taxstats/charitablestats/article/0,,id=212357,00.html

Table 1b: population and SOI sample size for organizations filing forms 990 (Community Foundations)

Tax Year	All Forms 990		Excluded from the sample	Final sample
	Population count	SOI sample Count		
2000	233,816	16,353	16,277	76
2001	244,129	17,003	16,922	81
2002	255,732	17,569	17,491	78
2003	267,490	14,415	14,372	43
2004	279,415	15,070	15,007	63
2005	290,094	15,862	15,796	66
2006	305,133	16,872	16,796	76

Source. Own elaborations based on Foundation Center (various years) and IRS data available at:
http://www.irs.gov/taxstats/charitablestats/article/0,,id=212608,00.html

Table 2: Sample size as a percentage of total population

Year	**Community foundations**			**Private foundations**			**Total foundations in sample** (absolute values)
	Number (%)	**Endowment (%)**	**Grants paid (%)**	**Number (%)**	**Endowment (%)**	**Grants paid (%)**	
2000	13.6	26.2	26.6	11.3	61.0	56.8	6,357
2001	13.5	25.7	24.6	8.4	61.5	58.1	5,028
2002	11.8	21.8	18.8	7.3	59.4	56.1	4,547
2003	6.2	18.6	17.9	9.2	62.8	58.4	6,012
2004	9.0	23.4	18.2	10.7	65.0	64.0	6,868
2005	9.3	21.9	18.8	10.6	69.5	64.2	7,236
2006	10.6	28.0	29.7	11.5	68.3	62.1	7,998

Source. Own elaborations.

Table 3: Summary statistics (million $)

Type of foundation	**Observations** (number)	**Mean**	**Median**	**Std. Dev.**	**Min**	**Max**
Endowment						
Community	483	127	55	227	1	2,040
Private	43,563	50	15	399	0	32,800
Grants paid						
Community	483	9	3	19	0	232
Private	43,563	3	1	17	0	1,570
Donations received						
Community	483	12	5	21	0	228
Private	43,563	2	0	25	0	3,690
Total income (w/out donations)						
Community	483	6	1	14	-17	146
Private	43,563	3	1	30	-401	2,250

Source. Own elaborations.

Table 4: the determinants of GRANTS

	Model 1		Model 2	
	Coefficient	Robust SE	Coefficient	Robust SE
ENDOWMENT	.67***	.018	.52***	.178
*ENDOWMENT*DPF*			.15	.178
DONATIONS	.04***	.004	.07*	.040
*DONATIONS*DPF*			-.03	.040
INTERESTS	.15***	.014	.25***	.079
*INTERESTS*DPF*			-.10	.078
RENTS	.03***	.010	.02	.015
*RENTS*DPF*			.01	.012
CAPGAIN	.08***	.005	.11***	.021
*CAPGAIN*DPF*			-.03	.021
CAPLOSS	.06***	.005	.10***	.023
*CAPLOSS*DPF*			.04**	.023
OTHER	.02***	.004	.04***	.013
*OTHER*DPF*			-.02	.012
MINUSOTHER	.01*	.008	-.01	.049
*MINUSOTHER*DPF*			.03	.046
NO-DONATIONS	.90***	.114	.87***	.113
NO-INTERESTS	4.06***	.404	4.10***	.399
NO-RENTS	.81***	.227	.81***	.228
NO-CAPGAIN	2.14***	.132	2.12***	.131
NO-CAPLOSS	1.53***	.142	1.49***	.142
NO-OTHER	.49***	.080	.47***	.079
NO-MINUSOTHER	.31*	.186	.32*	.184
DPF	.01	.119	-.64	2.070
CONSTANT	-2.55***	.205	-1.89	2.079
Year dummies	Yes		Yes	
N. obs.	44046		44046	
R-squared	.73		.73	
F	1525.20		1163.15	
Prob > F	.000		.000	

All variables in log
Significance levels: *>90%; **>95%; ***>99%
Robust standard errors adjusted for 10086 clusters

Table 5: the determinants of GRANTS (different size thresholds)

	Model 3 (Threshold 25%, 75%)		Model 3 (Threshold 30%, 70%)		Model 3 (Threshold 20%, 80%)	
	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
ENDOWMENT	.74***	.022	.74***	.021	.75***	.025
*ENDOWMENT*DCF-Small*	-.47	.433	-1.21	.856	.19	.260
*ENDOWMENT*DCF-Medium*	-.32	.237	.13	.328	.004	.497
*ENDOWMENT*DCF-Large*	-.45***	.134	-.39***	.122	-.40**	.167
*ENDOWMENT*DPF-Small*	-.23***	.031	-.19***	.028	-.26***	.035
*ENDOWMENT*DPF-Medium*	.03	.030	.01	.038	.02	.028
DONATIONS	.04***	.004	.04***	.004	.04***	.004
*DONATIONS*DCF-Small*	.04	.029	.09*	.050	.01	.019
*DONATIONS*DCF-Medium*	.51*	.287	.19	.174	.26	.317
*DONATIONS*DCF-Large*	.34***	.051	.33***	.057	.37***	.051
*DONATIONS*DPF-Small*	.02***	.002	.01***	.001	.02***	.002
*DONATIONS*DPF-Medium*	.001	.001	.001	.001	.001	.001
INTERESTS	.15***	.013	.14***	.016	.13***	.018
*INTERESTS*DCF-Small*	-.0008	.017	.15	.124	.003	.021
*INTERESTS*DCF-Medium*	.12	.140	-.004	.014	.12	.113
*INTERESTS*DCF-Large*	.22**	.104	.22**	.091	.26**	.122
*INTERESTS*DPF-Small*	-.02	.013	.003	.015	.0001	.019
*INTERESTS*DPF-Medium*	-.02	.015	.02	.015	.02	.018
RENTS	.02**	.009	.02**	.009	.021**	.009
*RENTS*DCF-Small*	-.08	.069	-.03	.036	.003	.012
*RENTS*DCF-Medium*	.003	.009	.001	.010	-.01	.015
*RENTS*DCF-Large*	.002	.004	.002	.004	-.0001	.004
*RENTS*DPF-Small*	.0001	.005	.0001	.004	-.00003	.007
*RENTS*DPF-Medium*	-.002	.002	-.001	.002	-.001	.002
CAPGAIN	.06***	.005	.07***	.005	.06***	.005
*CAPGAIN*DCF-Small*	.002	.020	.03	.038	.02	.016
*CAPGAIN*DCF-Medium*	.06*	.031	.05	.031	.05*	.028
*CAPGAIN*DCF-Large*	-.003	.011	-.004	.008	-.02	.025
*CAPGAIN*DPF-Small*	.01***	.004	.01***	.003	.01***	.004
*CAPGAIN*DPF-Medium*	.002	.003	.001	.003	.002	.004
CAPLOSS	.04***	.006	.05***	.006	.04***	.006
*CAPLOSS*DCF-Small*	.03	.025	.06*	.033	.02	.015
*CAPLOSS*DCF-Medium*	.06*	.034	.04	.031	.06**	.031
*CAPLOSS*DCF-Large*	-.0004	.012	.0001	.008	-.02	.026
*CAPLOSS*DPF-Small*	.01***	.004	.01***	.004	.01**	.004
*CAPLOSS*DPF-Medium*	.001	.003	-.0004	.003	.0001	.004
OTHER	.01***	.004	.01***	.004	.01***	.004
*OTHER*DCF-Small*	.04*	.022	.06**	.024	.02*	.013
*OTHER*DCF-Medium*	.02	.019	.0003	.008	.03*	.020
*OTHER*DCF-Large*	.0004	.004	.001	.004	.001	.004
*OTHER*DPF-Small*	.007***	.002	.006***	.002	.008***	.002
*OTHER*DPF-Medium*	.003***	.001	.002*	.001	.004***	.001
MINUSOTHER	.004	.008	.008	.008	.003	.008
*MINUSOTHER*DCF-Small*	.07***	.022	.06***	.021	.07***	.026
*MINUSOTHER*DCF-Medium*	-.04	.059	-.06	.060	-.03	.059
*MINUSOTHER*DCF-Large*	.001	.007	.002	.007	.002	.006
*MINUSOTHER*DPF-Small*	.003	.004	.007**	.003	-.0006	.004
*MINUSOTHER*DPF-Medium*	.002	.002	.001	.002	.003	.002
NO-DONATIONS	1.14***	.117	1.10***	.116	1.18***	.117
NO-INTERESTS	3.53***	.359	3.62***	.364	3.34***	.358
NO-RENTS	.61***	.22	.64***	.215	.66***	.220
NO-CAPGAIN	1.80***	.121	1.89***	.122	1.74***	.120
NO-CAPLOSS	1.28***	.148	1.31***	.147	1.19***	.146
NO-OTHER	.37***	.084	.38***	.083	.36***	.084
NO-MINUSOTHER	.13	.202	.22	.201	.10	.199
DCF-Small	6.65	5.99	17.18	12.264	-1.85	3.866
DCF-Medium	-4.38	4.093	-5.71	4.469	-6.19	4.755
DCF-Large	-0.29	1.379	-1.03	1.108	-2.20	1.603
DPF-Small	3.39***	.419	3.01***	.376	3.80***	.468
DPF-Medium	-.84*	.450	-.56	.596	-.61	.389
CONSTANT	-3.07***	.281	-3.08***	.260	-3.04***	.308
Year dummies	Yes		Yes		Yes	
N. obs.	44046		44046		44046	
R-squared	.74		.74		.74	
F	1048.68		1046.01		1098.24	
Prob > F	.000		.000		.000	

All variables in log
Significance levels: *>90%; **>95%; ***>99%
Robust standard errors adjusted for 10086 clusters

APPENDIX TABLE 1: Summary statistics

Variable	Observations (number)	Mean	Std. Dev.	Min	Max
GRANTS	44,046	2,861,057	16,800,000	0	1,570,000,000
ENDOWMENT	44,046	50,900,000	397,000,000	28	32,800,000,000
DONATIONS	44,046	2,191,085	24,700,000	0	3,690,000,000
INTERESTS	44,046	1,197,152	11,600,000	0	1,240,000,000
RENTS	44,046	40,519.75	632,699.6	0	64,700,000
CAPGAIN	44,046	2,158,351	20,400,000	0	1,280,000,000
CAPLOSS	44,046	267,348.8	3,266,175	0	417,000,000
OTHER INCOME	44,046	215,711.3	3,093,682	0	362,000,000
MINUSOTHERINCOME	44,046	22,989.22	394,293.4	0	29,800,000

Source. Own elaborations.

Figures

Figure 1a: ratio between Grants paid and Total Assets

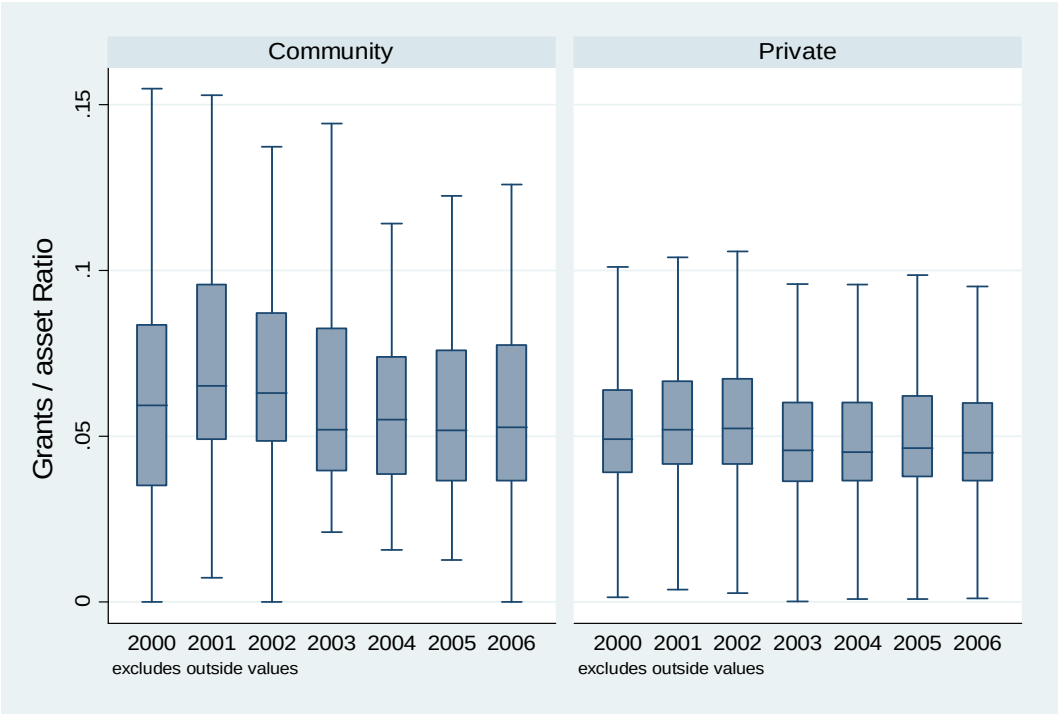

Figure 1b: ratio between Grants paid and Total Assets (cross-section)

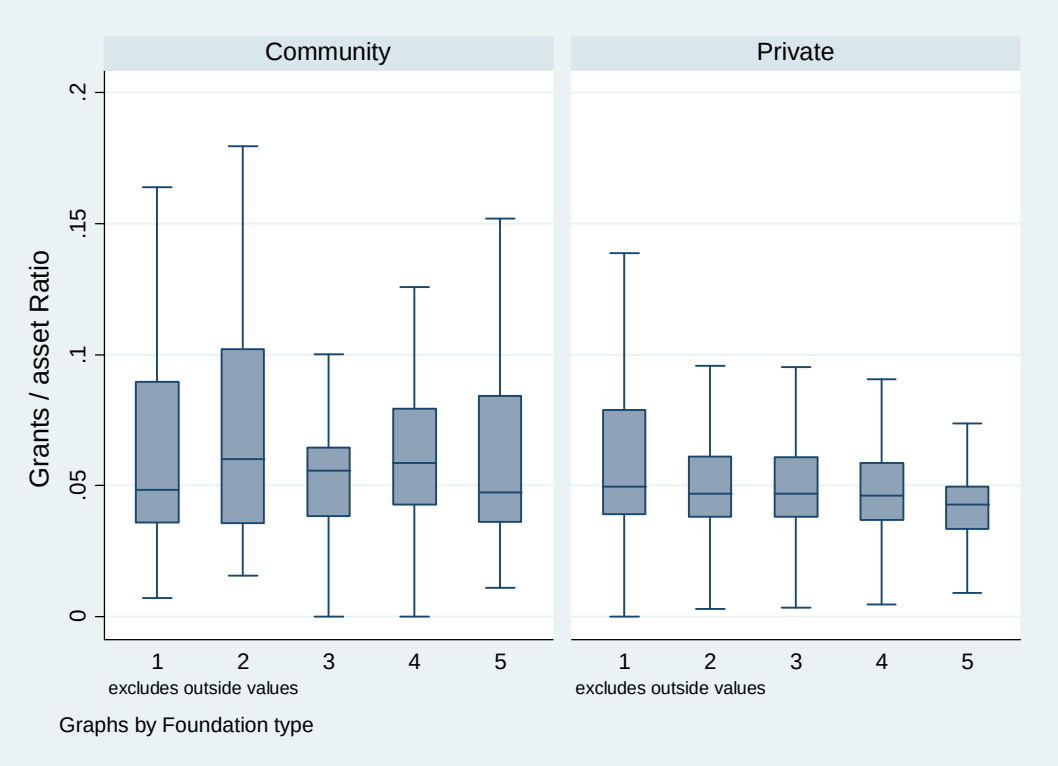

Figure 2a: ratio between Income (excluded donations) and Total Assets

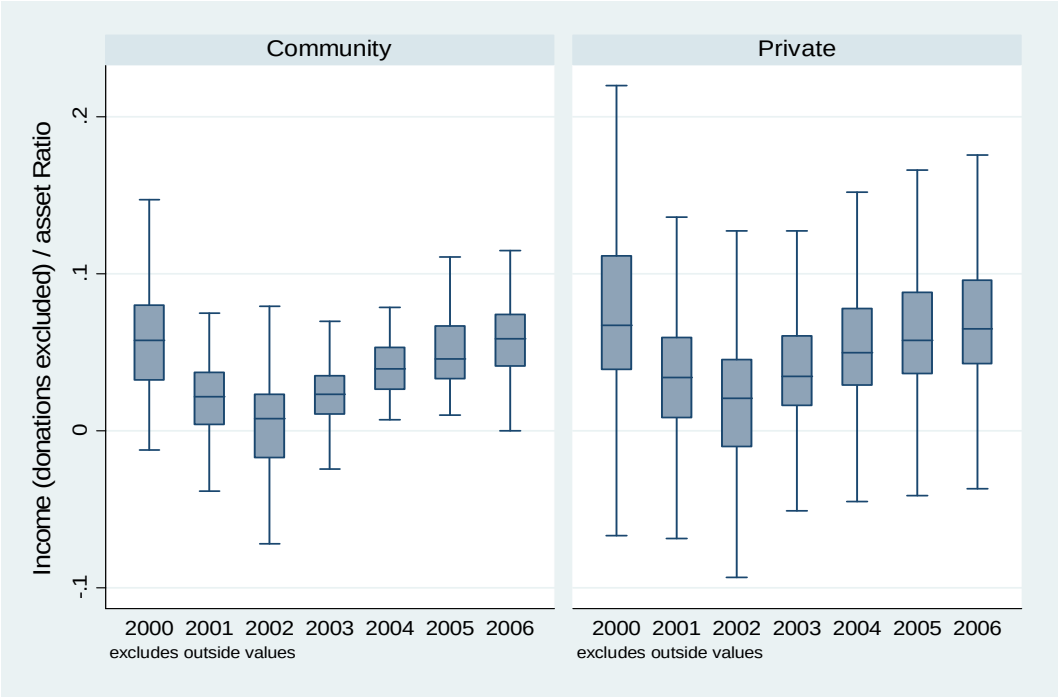

Figure 2b: ratio between Income (excluded donations) and Total Assets (cross-section)

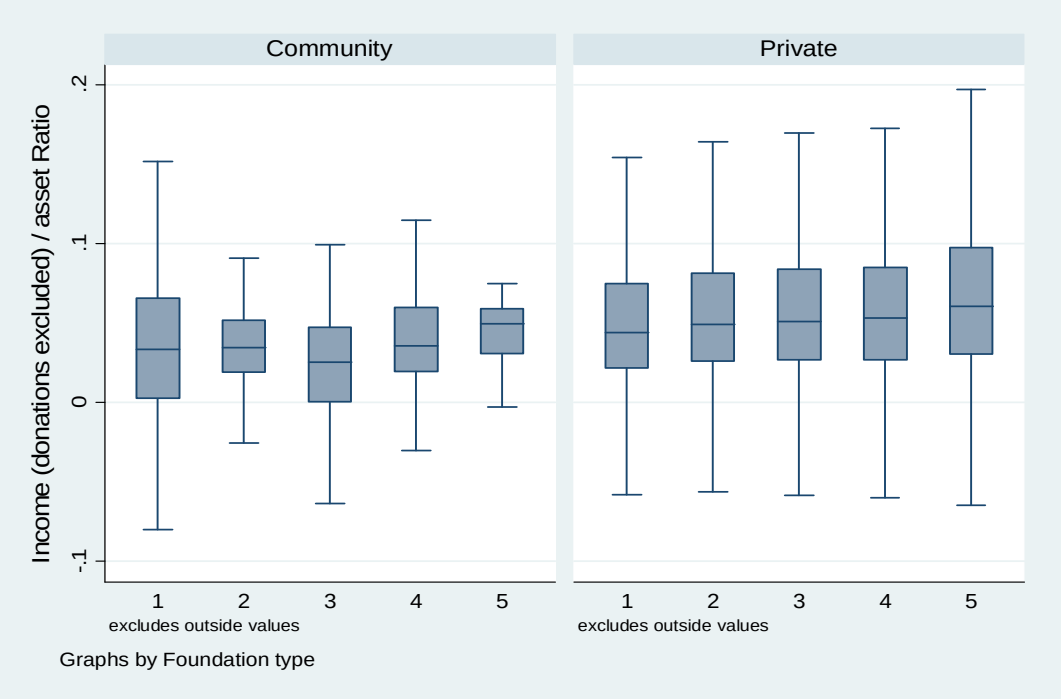

Figure 3a: ratio between Donations and Total Assets

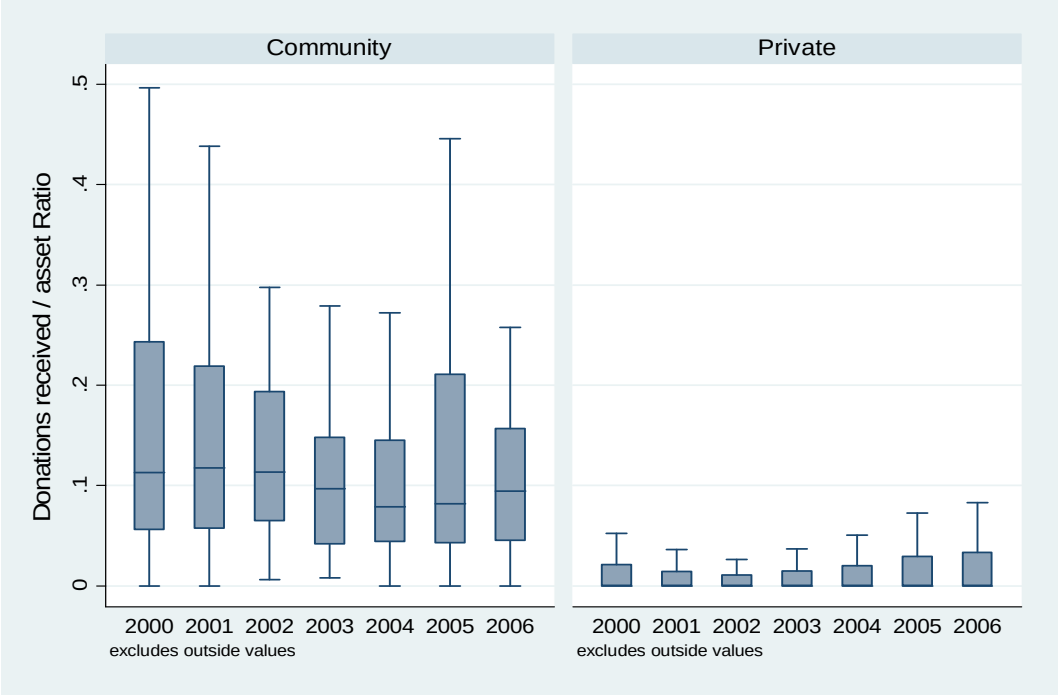

Figure 3b: ratio between Donations and Total Assets (cross-section)