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Government funding and the location of charities in space and field of activity

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Abstract

The work examining how government funding affects entry and exit decisions by charities mainly focuses on specific cases, a more general empirical assessment has yet to be done. Our paper tries to fill this gap by looking at all the entries and exits of charities over the period 1990 to 2021 in Canada using the CRA T3010 data set. We examine these outcomes by census subdivision (CSD) area, allowing us to control for a wide variety of local influences obtained from confidential censuses. This study offers new empirical evidence on the role of government funding for the charitable sector, distinguishing between past, current, and anticipated funding exposure and how these can shape both formation and dissolution. We also examine how funding influences the mix of charitable services. Charity entry is positively related to the proportion of existing charities in the CSD receiving government support in the current year and the following one, suggesting that charities form when current and anticipated funding environments are favourable. Exit decisions are most sensitive to funding deprivation in the previous year, particularly for charities in the areas of 'Relief of Poverty' and 'Community', highlighting that dissolution tends to reflect lagged financial strain rather than contemporaneous or expected conditions, and the heterogeneous impact of such strain by field of activity.

KEY WORDS: charitable sector, government funding, entry and exit of charities, T3010 data, location decisions of charities.

JEL Classification: H3, H4, H8

1 Introduction

Charities exist to provide benefits to society. As social needs evolve, one might reasonably expect charities to evolve as well – with either more (fewer) services being provided by existing charities or more (fewer) charitable organizations available to provide them. Despite their role in social good provision and meeting social needs, the drivers of charity entry and exit remain poorly understood. Here, we focus on government funding as a potential driver for these decisions.

A small literature has examined the factors influencing the entry and exit of charities. Several factors emerge: poverty and welfare dependency (Twombly, 2003), unemployment (Peck, 2008), and local rental rates (Yan et al., 2014) promote entry by charities. Exit decisions respond to the area of activity, charity age, size, and number of funding sources, with younger charities more likely to exit than more established ones (Bielefeld, 1994); to resource competition (Hager, 1999; Gill et al., 2008), and to financial factors (Lu et al., 2020). Harrison and Laincz (2008) add a theoretical treatment to help better understand the dynamics of charitable organizations by applying a profit-driven model of entry and exit with a non-distribution constraint. They also find that nonprofits enter and exit at a much lower rate than firms in the profit sector and corroborate the negative correlation of age and size on charity exits.

Government policies may affect entry and exit decisions. Twombly (2003), for instance, examines the role of welfare reforms in shaping the evolution of nonprofits in the human services sector in the United States. One government policy essential to the functioning of many charities is funding. Most of the literature looking at government funding investigates whether it displaces (crowding out) or encourages (crowding in) private donations, and concludes that government funding tends to crowd-out private donations, but not always and imperfectly. Existing work has focused on all charities (e.g., Abrams and

Schitz, 1978; Kingma, 1989; Duncan, 1999; Brooks, 2000; Heutel, 2014; Devlin and Planatscher, 2025) or on those providing specific services, like orchestras (Brooks, 2003; Hughes et al., 2014), arts, museums and social services (Hughes and Luksetich, 2003; Andreoni and Payne, 2003; Smith, 2007; Dokko, 2009; Kim and Van Ryzin, 2014), schools (Gordon, 2004), universities (Payne, 2001) and libraries (Nato, 2018). The direction of the crowding effect appears to be context-dependent and can vary by organisational type, policy environment, and regional donor culture.

A much smaller literature examines how government funding affects the composition of charitable organizations. Lecy and Van Slyke (2013) show that government funding contributes more to nonprofit density than private donations, pointing to the role of the state in sustaining sector growth. Clément (2019) reveals how provincial funding priorities shaped the nonprofit sector in British Columbia from 1960 to 2014, documenting the rise of groups focusing on women's issues early in this period, and the shift towards Indigenous groups later on. Devlin and Planatscher (2023) look specifically at government funding to charities that serve Indigenous peoples and find modest evidence that it encourages charities in this area. Government support is equally important for charity survival. Harrison and Laincz (2008) and Harrison and Oxley (2025) show that grants help sustain nonprofits by reducing the likelihood of exit, even in competitive environments. Lu et al. (2020) discuss how reliance on narrow revenue bases and short-term contracts makes nonprofits vulnerable to policy shifts and dissolution. Stick and Ramos (2021) highlight the risks that arise when municipal funding declines despite persistent social needs, leaving high-need organizations exposed.

The work examining how government funding affects entry and exit decisions by charities mainly focuses on specific cases, a more general empirical assessment has yet to be done. Our paper tries to fill this gap by looking at all the entry and exit outcomes of charities

over the period 1990 to 2021 in Canada. We examine these outcomes by census subdivision (CSD) area, allowing us to control for a wide variety of local influences.

This study offers new empirical evidence on the role of government funding for the charitable sector, distinguishing between past, current, and anticipated funding exposure and how these can shape both formation and dissolution. Our data also allow us to dig down and examine how funding influences the mix of charitable services. We found charity entry to be positively related to the proportion of existing charities in the CSD receiving government support in the current year and the following one, suggesting that charities form in response to favourable current and anticipated funding environments. Exit decisions are most sensitive to funding deprivation in the previous year, particularly for charities in the areas of 'Relief of Poverty' and 'Community', highlighting that dissolution tends to reflect lagged financial strain rather than contemporaneous or expected conditions, and the heterogeneous impact of such strain by field of activity.

2 Data

Data on charities are extracted from the publicly available Canada Revenue Agency (CRA) T3010 Registered Charity Information Returns from 1990 to 2021, which include detailed information on sources of revenues and expenditures. We define a charity as government funded if it reports a positive amount of government revenue in its T3010 return. All registered charities in Canada are required to file annually a T3010 return within six months of the end of their fiscal period to receive an income tax exemption and to issue tax receipts for individual donations. Charities also report their national and international activities, and area of activities, classified into eight groups. Failure to submit the information return can result in charitable status being revoked. The T3010 return is the main tool used by the Charities Directorate of the CRA to verify if a registered charity meets its tax requirements.

Over one-third of charities receive government funding, disproportionately skewed towards smaller organizations. The data reveal that of all funded organizations, about 50% of them have revenues under $100,000, and about 80% have revenues under $500,000. Government funding also favours some areas of charitable activities over others. We find that 60% of charities operating in the areas of 'Relief of Poverty' and 'Community' have government funding, followed by 55% of charities in 'Arts' and 53% of those in 'Health'. Only 15% of 'Religious' charities are funded, which makes sense because governments will only fund services that are open to everyone – like religious organizations that run community programs. All of this suggests that it is the smaller, outreach-type programs that are more likely to receive government funds and hence are more susceptible to changing funding priorities.

Table 1 reveals significant differences in the amount of government funding by area across the ten provincial jurisdictions. 'Health' and 'Education' take the top spots when it comes to aggregate per capita government funding, with 'Health' dominating in five provinces and 'Education' in the other five. Across the board, 'Arts', 'Religion', and 'Other', are the lowest funded areas.

TABLE 1 HERE

As we are focusing on entries and exits, we note that some charities disappeared from the data for multiple years and then re-appeared under the same business number. Among all charities in the sample, 21.09% have gaps in their reporting years. The CRA has a 'Closed Charities' data file which records a single registration and closure date for each business number. Comparing these data with the main data file revealed that, among charities with reporting gaps, only 0.43% of business numbers resumed reporting after their official closure dates. We therefore did not treat reappearing entities as new entrants. Table 2 provides the numbers of entries and exits by year and field. A steady decline in the number of new entrants

is apparent from 1991 to about 2001 (with a couple of small exceptions), then we see not much of a pattern to about 2011, thereafter entries seem to drift downwards again. The years 1991 and 2009 stand out as having large entries of charities, driven largely by religious organizations. Exits increase more or less steadily from 1991 to 1998, then hover around 1,100 until a spike in 2002 which returns to 'normal' the following year; two other spikes present in 2008 and 2020. All spikes appear to be caused by religious organizations (we remove religious organizations as a robustness check, discussed later).

TABLE 2 HERE

Obtaining data on demographic and geographic information pertinent to the decision by charities to enter or exit is challenging. We use census data. One big advantage of these data is that they provide accurate measures of a wide variety of characteristics at one point in time at the census subdivision (CSD) level. The big disadvantage is that they are only available every five years. Nevertheless, we use the confidential files for the census years 1991, 1996, 2001, 2006, 2016, and 2021, and the National Household Survey for 2011 (hereafter referred to as a census), all accessed through Statistics Canada's Research Data Centre network.[1,2]

We need to assign each charity to the appropriate CSD in a way that is consistent across time so that we can calculate entries and exits and link them to local demographic and geographic characteristics. We considered two approaches. The 'Static CSD Allocation' approach, converts postal codes into CSDs using the most recent Canada Post Postal Code Conversion File (PCCF+) and assumes that CSD boundaries are constant over time. This method allows for the continuous tracking of charity entries from 1991 to 2021, facilitates a

[1] At the time of the 2011 census, the Government of the day decided not to make the long-form census survey mandatory. Instead, it distributed a voluntary National Household Survey to 4.5 million households which yielded an unweighted 68.6% response and a weighted 77.2% response. National Household Survey: Final response rates

[2] Access to Statistics Canada RDCs is granted upon application approval and security clearance.

straightforward merge with census-year-based geographic data, and avoids complications arising from shifting administrative boundaries. However, it assumes that a charity's geographic classification remains unchanged, even as census boundaries evolve, potentially introducing misclassification, particularly in cases where CSDs are merged, split, or redefined. A more accurate but computationally intensive alternative, the 'Dynamic CSD Allocation' method, employs the geo-spatial platform ArcGIS and geocodes each charity based on its postal code, assigning it to the appropriate CSD using historical boundary shapefiles for each census year. This approach ensures that the spatial classification of charities reflects boundary changes, allowing entry counts to be precisely aligned with the corresponding geographic definitions used in demographic and distance calculations. However, this method limits the analysis to quinquennial census years and requires significant geospatial processing.

To balance spatial accuracy with temporal coverage, we adopt the Static CSD Allocation method as the primary approach for constructing a continuous panel of charity entries and exits from 1991 to 2021. To validate this approach, we implement the Dynamic CSD Allocation method for census years and compare the resulting charity entry counts by CSD. The comparison reveals no significant differences in entry numbers between the two methods for the census years (1991, 1996, 2001, 2006, 2011, 2016, and 2021). This suggests that potential misclassification arising from boundary changes is minimal in practice, and that the static assignment procedure provides a reasonable approximation of charities' geographic locations over time. Our annual entry and exit panel consists of 30,609 CSD-year observations, covering an average of 957 CSDs per year..

Shapefiles for CSDs and census metropolitan areas (CMAs) allow us to include variables reflecting geographic context. The distance between each CSD centroid and the urban core of the nearest CMA proxies spatial access to urban resources and population

centres. The PCCF+ links six-digit postal codes and provides coordinates and identifiers for CSDs and CMAs. Each charity is first assigned to a CSD, and the corresponding centroids and distance to the nearest CMA core are then computed. Although six-digit postal codes are available for each charity, we use the CSD level distance measure because the analysis is conducted at the CSD level rather than at the individual charity level.

Table 3 reports summary statistics for the census-year CSD panel, including charity entry and exit and socio-demographic characteristics. The panel contains 5,760 CSD-year observations. On average, 1.41 charities entered a CSD and 0.94 exited – reflecting growth in the sector – although table 2 is more informative as it provides total counts, counts by charitable area, and by year. As expected, the average share of charities with government funding does not vary much each year, hovering just over one-third of charities. The share of people with at least a high school diploma is 0.572, the average unemployment rate is 10.2%, the average income is $27,735, and 8.4% of people fall below the low-income cutoff.

TABLE 3 HERE

3 Empirical Strategy

The dependent variable is a count of charity entries (exits) in each CSD in each census year. The analysis faces three core empirical challenges: (i) 66% of CSD-year observations record no new entry or exit of charities and 73% have zero exits. In 58% of cases, both entry and exit are zero in the same year; (ii) unobserved time-invariant heterogeneity across CSDs; and (iii) common shocks across years that may affect all regions simultaneously.

To address these challenges, we estimate a Poisson pseudo-maximum likelihood model with high dimensional fixed effects (PPMLHDFE). This estimator is well-suited for count data with many zeros and is robust to model misspecification, including heteroskedasticity and violations of distributional assumptions that commonly affect traditional Poisson models (Silva and Tenreyro, 2006). In contrast to linear models, the PPML

does not require the assumption that the variance of the outcome equals its mean, making it a flexible and consistent estimator under weaker distributional assumptions.

The PPMLHDFE allows for the inclusion of both CSD and census year fixed effects, controlling for time-invariant regional characteristics (such as geographic or institutional features) and for national-level shocks that vary across census years (such as macroeconomic cycles or changes in federal policy). This structure isolates within-CSD variation over time, allowing for more credible inference on the association between government funding, local demographic and economic variables, and charity dynamics. All regressions are clustered at the CSD level to allow for arbitrary serial correlation within regions over time.

To examine the role of government funding in charity dynamics, we construct a variable indicating the proportion of existing charities in each CSD that received government funding at time *t-1*, *t*, and *t+1*. This variable captures the local funding environment faced by potential entrants. Note that we cannot use a binary indicator of whether an individual charity receives funding because the analysis is conducted at the CSD level. The proportion is calculated using existing charities before new entrants are counted, and it provides a stable and interpretable measure of the overall accessibility of such funding within a given locality, avoiding concerns related to skewness and outliers that can arise if average government funding were employed.

We investigate the relationship between government funding and charity exit by using the proportion of existing charities not receiving government funding at time *t-1*, *t*, and *t+1* as the main explanatory variable, again excluding the exiting charity. This formulation allows us to test whether lack of public support is associated with higher exit rates over time.

The basic estimating equations are thus:

$$E(EN_{c,t+i}|Fund_{c,t+i+l}, Control_{c,t}, \gamma_i, \tau_t) = exp(\alpha + \beta_1 Fund_{c,t+i+l} + \beta_2 Control_{c,t} + CSDFE_i + TIMEFE_t) + error_t \quad (1)$$

$$E(EX_{c,t+i} | NoFund_{c,t+i+l}, Control_{c,t}, \gamma_i, \tau_t) = \exp(\alpha + \lambda_1 NoFund_{c,t+i+l} + \lambda_2 Control_{c,t} + CSDFE_i + TIMEFE_t) + error_t \quad (2)$$

Equation (1) estimates the count of charity entrants (*EN*) in each CSD (*c*) at time *t*+*i*, where *t* reflects the census year, and *i* = 0,1,2,3,4 denotes the five years between censuses. In effect, our panel data stacks entry in time *t*+0, *t*+1 …, *t*+4. We estimate five separate regressions, one for each value of *i*. In each regression, the outcome year is fixed relative to the census year *t*, while the census year *t* provides many of the CSD controls.

The key independent variable is the proportion of charities in the CSD that received government funding ($Fund_{c,t+i+l}$). Here, the indexing is a little tricky as we add '*l*' to the time indicator to capture 'leads' or 'lags' of either -1, 0 or 1. So for the year 1991, we estimate three equations, one where $Fund_{c,1991+0+l}$ is calculated for 1990 (*l* = -1), for 1991 (*l* = 0) and for 1992 (*l* = 1). As already described, we also estimate five equations, one for each of *i*=0 to 4. In total, therefore, equation (1) requires 15 estimations. A parallel process occurs for equation (2) for charity exits (EX).

Control variables for CSD *c* in census year *t* include the proportion of individuals aged 15 and older living below the low-income cutoff (LICO), the proportion of the population with at least a high school diploma, the unemployment rate, average monthly rent, the share of the population that is immigrant, the share of the population considered as a visible minority, and total population. We also include a binary indicator for geographic remoteness, coded as 1 if the distance between the centroid of a CSD and the centroid of the nearest CMA exceeds 100 kilometers. CSD and year fixed effects control for time-invariant local characteristics and year-specific shocks, respectively. Equation (2) adopts the same control variables.

To explore heterogeneity in the relationship between government funding and organisational dynamics, equations (1) and (2) are further estimated by charitable activity (*k*=1-8). The number of entries by charity type (*k*) is expressed as a function of the

proportion of charities within the same type that received government funding at times *t-1*, *t*, and *t+1* and the covariates already discussed, expressed in equation (3). This approach captures how type-specific funding environments may be associated with entry decisions differently across sectors. A similar strategy is applied to charity exits by type, using the proportion of existing charities within each type that did not receive government funding at times *t-1*, *t*, and *t+1*, equation (4).

$$E(EN_{k,c,t+i}|Fund_{k,c,t+i+l}, Control_{c,t}, \gamma_i, \tau_t) = exp(\alpha + \beta_1 Fund_{k,c,t+i+l} + \beta_2 Control_{c,t} + CSDFE_i + TIMEFE_t) + error_t \quad (3)$$

$$E(EX_{k,c,t+i}|NoFund_{k,c,t+i+l}, Control_{c,t}, \gamma_i, \tau_t) = \exp(\alpha + \beta_1 NoFund_{k,c,t+i+l} + \beta_2 Control_{c,t} + CSDFE_i + TIMEFE_t) + error_t \quad (4)$$

The resulting estimated coefficients denote the natural logarithmic change in the expected count of the dependent variable (entries or exits) associated with a one-unit increase in that covariate, holding other variables constant (Silva and Tenreyro, 2006). When the estimated coefficient is very small (less than one), it approximates the percentage change in the outcome count from a one unit change in the covariate. Since most of our variables are ratios ranging from 0 to 1, we report effects for a one percentage point increase, which corresponds to a 0.01 increase in the covariate. The associated percent change in the expected count is therefore calculated as $100[exp(0.01\beta) - 1]$ (Halvorsen and Palmquist, 1980).

4 Results

PPMLHDFE estimates of equation (1) are provided in table 4 for entry at time (census year) *t+0*. Beginning with our variable of interest, $Fund_{c,t+i+l}$, we see that the proportion of charities in CSD *c* with government funding at time *t+0+0* and *t+0+1*, is positively associated with the number of new entrants, but the proportion at time *t+0-1* is not. Specifically, a one percentage point increase in the share of charities with funding at time *t* is associated with a 1.61% increase in the number of charity entries at time *t*. The estimated

coefficient on $Fund_c$ measured at time $t+1$ suggests that anticipated funding opportunities are also associated with a 1.46% increase in entries at time t.

TABLE 4 HERE

The correlation between entry and government funding exists even though we control for a host of relevant factors. We see from table 4 that, in order of importance, the proportion of individuals living below the LICO and the proportion of visible minorities and unemployment rate in the CSD, are all positively correlated with entry. A one percentage point increase in those living below the LICO is associated with a 1.8% increase in the number of charities: Communities with higher poverty (greater needs) are more likely to see new charitable organizations form relative to richer communities, consistent with the idea that charities enter in response to local needs. This point is further corroborated by the association between unemployment and charity formation, whereby a one percentage point increase in the proportion of individuals unemployed in the CSD is associated with a 1.66% increase in the entries of charities. The link between charity entry and visible minorities in the CSD is of a similar magnitude. Average rent in the CSD has a very small statistical effect on entries in the specification with previous period funding, but the correlation is tiny. Finally, there is a consistently positive but small link between the remote CSD indicator and the entry of charities. Funding may be a more important driver of charity entry in remote/rural communities.

While table 4 reports estimated coefficients on the model entry at time t, we also ran the model for i years *after* the census year t (i = 1 to 4) We found that the proportion of charities with funding at time $t+i$ and $t+i+1$ was always statistically associated with entry at time $t+i$, however, the size of the estimated effect monotonically decreased with i: from a high of 1.61 when $i=0$ (reported in table 4) to a low of 1.1 when $i=4$. This means that the proportion of existing charities with funding at any given time t ($Fund_{c,t}$), has a diminishing

correlation with entry the further into the future it occurs, *suggestive* of a causal link between local success with government funding and the local entry of charities.

On average, 1.41 charities enter CSDs every year. Our estimate of 1.61% represents a small average increase in entries per CSD associated with a one percentage point increase in funded charities. Given the average of 957 CSDs in our data set per year, this result suggests that government funding is associated with the entry of about 22 charities per year, *ceteris paribus*. This number is comparable to the entries associated with a one percentage point increase in the proportion of individuals living below LICO in the CSD (25), and a one percentage point increase in the CSD unemployment rate (25).

We undertake a similar empirical analysis for the number of exiting charities. Table 5 presents the estimated coefficient from the PPMLHDFE procedure where exits represent the outcome and the proportion of organizations *not* receiving government funding at times *t+0-1*, *t+0*, and *t+0+1* are the independent variables of interest. The findings suggest that a lack of funding in the recent past (*t+0*-1) is a statistically significant predictor of exit. Specifically, a one percentage point increase in the share of charities without government funding at time *t*-1 is associated with a 0.98 percent increase in the number of exits, which translates into about nine exits per year. By contrast, the proportion of unfunded charities at times *t+0* and *t+0*+1 shows no significant association with exit: Exit decisions are more responsive to past funding conditions than to contemporaneous or anticipated funding availability.

TABLE 5 HERE

The local poverty rate, the proportion of visible minorities, and the remote CSD indicator are statistically *insignificant* across all specifications, suggesting these factors do not link to exit patterns. Unlike for entry, exits are statistically associated with the percentage of immigrants in the CSD, with a one percentage point increase being linked to about a 1.5% increase in exits; the proportion of visible minorities is not associated with exits. The

unemployment rate is positively correlated with both the exit and entry of charities, likely due to its heterogeneous effect on charities in different areas of service.

Disaggregating charitable entry and exits into eight fields of activity, reveals significant heterogeneity in responses to government funding. Table 6 presents the results of charity entry regressions by type of activities, corresponding to equation (3). The main explanatory variable, again, is the proportion of existing charities within the same type that received government funding at time *t*. (For space considerations, we do not report the results for $Fund_{k,c,t+0-1}$ and $Fund_{k,c,t+0+1}$, but, like before, the latter is positively associated with entry while the former is not). This disaggregated approach allows for a closer examination of how type-specific funding environments influence entry behaviour across sectors.

TABLE 6 HERE

Table 6 reports that the proportion of charities of type *k* with government funding in CSD *c* at time *t* is positively associated with charity entry for all but religious organizations. The largest estimated effect is for 'Community' charities; the coefficient of 2.589 implies that a one percentage point increase in the share of charities being funded in CSD *c* providing community services is associated with a 2.6 percent increase in the number of entries of these charities, followed by Health (2.5%), Relief of Poverty (2.2%), Arts (1.81%) and Education (1.3%) charities. Foundations and 'Other' charities have very small responses. These numbers suggest that government funding has heterogeneous links to entry depending upon field of charitable operation. Education and Relief of Poverty charities react positively to the proportion of the CSD population living below LICO, reinforcing the link between community need and new charitable activity in these sectors. The remote CSD indicator is positively associated with the entry of Relief of Poverty and Community charities, indicating that these organizations are more likely to enter remote areas. These results suggest that

current public funding is associated with the geography of charitable activity, especially for organizations addressing poverty, community development, and health.

Finally, we examine government funding and exits by type of charity, where the key independent variable is the proportion of existing charities within the same type without government funding at times *t-1*, *t*, and *t+1*. Table 7 shows that the proportion of unfunded charities at time *t-1* is positively associated with exit except for those in Arts and Foundations, where the relationship is not statistically significant.[3] Community and Relief of Poverty charities are sensitive to lagged funding conditions. Past funding reductions seems to predict charity exits, especially in sectors dependent on external support. Notably, LICO remains unrelated to exit across most types, except for Education charities, for which higher poverty is associated with increased exit when lagged funding is accounted for.

TABLE 7 HERE

Religious charities and donors to religious charities are known to be different than other charities (e.g., see Khanna et al., 1995; Andreoni et al., 2016; Sneddon et al., 2020; Fraser, 2022). In addition, only those religious organizations that provide outreach services accessible to anyone, are eligible for government funding. Table 2 reveals some high entries and exits of religious charities. To ensure that our results are not an artifact of these factors, we ran all the models without religious organizations. Table 8 provides the estimated coefficients from the model expressed in equation (1) (comparable to table 4) when all religious charities are removed from the sample. In this case, we see that a one percentage point increase in the proportion of charities funded in CSD *c* is associated with a slightly higher increase in charitable entries: 1.78% relative to 1.61% when religious organizations are included. Table 9 provides the estimates of equation (2) when religious charities are removed from the sample, and the number of charitable exits is the dependent variable. We

[3] There was no association between the share of unfunded charities and charity exits at *t* and *t+1*.

corroborate the findings from the full sample (table 5) but find that the estimated association with the proportion of charities without government funding in the previous period is larger when religious charities are removed; a one percentage point increase in the proportion of charities without government funding in the previous period is associated with a 1.28% increase in exits, as compared to the 0.98% increase reported earlier.

TABLES 8 & 9 HERE

We explored if the size of the charity mattered, and if that influenced the association between government funding and entry. To this end, charities were split into those below ('small') and above ('large') annual median expenditures, and equations (1) and (2) were estimated for each group. Table 10 provides these estimates for the entry of charities. Note that the regression results for $Fund_{t-1}$ are not available due to small numbers and RDC release rules; but, like reported in table 4, this was not statistically correlated with the entry decision. From table 10 it would seem that most of the link between entry and government funding is for small charities: A one percentage point increase in the proportion of charities funded in CSD *c* at time *t* is associated with a 2.36% increase in entries, whereas it is not statistically significant for the larger group.

TABLE 10 HERE

Table 11 provides the estimated coefficients associated with the exit of small and large charities, comparable to the results of table 5. For this case, small charities respond comparably to the full sample when it comes to the correlation between funding at time t-1 and exit. However, we see that larger charities are a bit more responsive: a one percentage point increase in the proportion of charities in a given CSD without funding in the previous year is associated with a 1.43% increase in exits, up from 0.86% for the small charities. These numbers are still quite comparable, but it would certainly be worth exploring why the size of the charity matters when it comes to exit decisions and government funding. Finally, it is

worth noting that the exit of larger charities is also associated with the proportion of charities without funding in the next period, a statistical link that is lost in the aggregate sample. One could speculate that larger charities are more likely to have significant fixed costs (contractual staff, facilities) and hence are more forward looking when it comes to exit decisions and government funding. An interesting avenue for future exploration.

TABLE 11 HERE

5 Conclusion

Government funding correlates with both the entry and exit of charitable organizations, but in different ways. The entry of charities is positively associated with contemporaneous and future funding, but not with past funding, while exits are only associated with the lack of government funding in the past. The impact of a one percentage point increase in the share of charities with government funding on entry (22 entries) is about as economically meaningful as that of a one percentage point increase in the CSD unemployment rate (25 entries) or in households living in poverty (25 entries). The lack of government funding in the period before exit is associated with about nine charities leaving. The asymmetric link between government funding and entry and exit suggests that charity formation is guided by expectations, while exit is shaped by prior funding shortfalls.

The type of service provided by charities affects the link between government funding and entry and exit. Entry is most sensitive to funding for charities in the community development, health and poverty-relief sectors. For charity exit, the absence of funding in the year prior to observed exit is associated with charity closure in poverty-relief and community services. Taken together, our results suggest that government funding contributes to a level of precarity in services geared to local needs in comparison to other types of charities.

Government funding appears to affect small and large charities differently. The entry of small charities is more strongly correlated the availability of government funds than is

larger charities. Exit, however, is a different story. In addition to the correlation between the lack of government funds in the previous period and exit, for larger charities, the anticipation of a government funding shortfall also correlates with exit. More and better data, especially of a long time-series nature, would help enhance our understanding of the link between government funding and location.

Other factors are associated with entry and exit. We highlight the importance of socio-economic indicators – the proportion of the population living below the 'poverty line'; the area unemployment rate; the proportion of immigrants and minorities in the population – all of which contribute to the size of the sector. In addition, it looks like the remote CSD indicator correlates positively with the entry of charities, potentially pointing to greater precarity for charities serving rural and remote communities.

Undoubtedly, a host of unobservable or unmeasurable factors are behind the decisions to enter or exit the charitable sector, including the influence of key individual supporters, local causes, and national and international events. Our analyses cannot capture these specifically, although the inclusion of CSD fixed effects helps to account for local heterogeneity. Robust but small associations between government funding and charity formation and dissolution suggest that these factors are related. More research would be helpful, especially with longer time series that could help establish whether these associations are causal. There are some hints that it might be. We see that the correlation between the proportion of charities funded in the CSD in time t and entry at t+i (i=1…4) monotonically diminishes. Additional evidence is required and is the challenge for future work.

References

Abrams, B. A., and M. D. Schitz (1978). The 'crowding-out' effect of governmental transfers on private charitable contributions. *Public Choice* 33(1), 29-39

Andreoni, J., and A.A. Payne (2003). Do government grants to private charities crowd out giving or fund-raising?, *American Economic Review* 93, 792-812.

Andreoni, J., & Payne, A. A. (2011). *Crowding-out charitable contributions in Canada: New knowledge from the north* (No. w17635). National Bureau of Economic Research.

Andreoni, J., & Payne, A. A. (2013). *Crowding Out: The effect of government grants on donors, fundraisers, and foundations in Canada*. McMaster University, Department of Economics.

Andreoni, J., Payne, A. A., Smith, J., & Karp, D. (2016). Diversity and Donations: The Effect of Religious and Ethnic Diversity on Charitable Giving. *Journal of Economic Behavior and Organization 128*, 47–58. https://doi-org.proxy.bib.uottawa.ca/10.1016/j.jebo.2016.05.010

Bielefeld, W. (1994). What affects nonprofit survival?. *Nonprofit Management and Leadership* 5(1), 19-36.

Brooks, A.C. (2000). Public subsidies and charitable giving: crowding out, crowding in, or both?. *Journal of Policy Analysis and Management* 19, 451-464.

Brooks, A.C. (2003). Do government subsidies to nonprofits crowd out donations or donors?. *Public Finance Review* 31, 166-179.

Clément, D. (2019). How the state shaped the nonprofit sector: Public funding in British Columbia. *Canadian Review of Sociology/Revue Canadienne de Sociologie* 56(3), 299-328.

Devlin, R. A., & Planatscher, M. (2023). Government funding of charities serving Indigenous peoples. *Canadian Tax Journal/Revue Fiscale Canadienne* 71(3), 701-730.

Devlin, R. A., & Planatscher, M. (2025). *Crowding Out of Private Contributions by Government Funding: The Importance of Charitable Activities and Population Served* (Working Paper No. 2506E). Department of Economics, University of Ottawa.

Dokko, J.K. (2009) "Does the NEA crowd out private charitable contributions to the arts?," *National Tax Journal* 62, 57-75.

Duncan, B. (2004). A theory of impact philanthropy. *Journal of Public Economics* 88, 2159-2180.

Fraser, C. D. (2022). Faith? Hope? Charity? Religion Explains Giving When Warm Glow and Impure Altruism Do Not. *Manchester School (1463-6786)*, *90*(5), 500–523.

Gill, C., McTiernan, H., & Thériault, L. (2008). *Charitable Organizations in New Brunswick (Canada): Understanding the Landscape in Human Services Delivery*. 8th International Conference of the ISTR.

Gordon, N. (2004) "Do federal grants boost school spending? Evidence from Title I," *Journal of Public Economics* 88, 1771-1792.

Hager, M. A. (1999). *Explaining demise among nonprofit organizations*. University of Minnesota.

Halvorsen, R. & Palmquist, R. (1980). The interpretation of dummy variables in semilogarithmic equations. *American Economic Review* 70(3), 474-475.

Harrison, T. D., & Laincz, C. A. (2008). Entry and exit in the nonprofit sector. *The B.E. Journal of Economic Analysis & Policy* 8(1), 1-41.

Harrison, T. D., & Oxley, J. (2025). Nonprofit entry, exit, and implications for sector growth. *Nonprofit Management and Leadership* https://doi.org/10.1002/nml.21650

Heutel, G. (2014). Crowding out and crowding in of private donations and government grants. *Public Finance Review* 42, 143-175.

Hughes, P. & Luksetich, W. (2003). The Relationship Among Funding Sources for Art and History Museums. *Nonprofit Management & Leadership* 10. 21-37.

Hughes, P., Luksetich, W. & Rooney, P. (2014). Crowding-out and fundraising efforts: The impact of government grants on symphony orchestras. *Nonprofit Management & Leadership* 24(4), 445-464.

Khanna, J., Posnett, J., & Sandler, T. (1995). Charity Donations in the UK: New Evidence Based on Panel Data. *Journal of Public Economics*, *56*(2), 257–272.

Kim, M., & Van Ryzin, G. G. (2013). Impact of government funding on donations to arts organizations: A survey experiment. *Nonprofit and Voluntary Sector Quarterly* 43(5) 910–925.

Kingma, B. R. (1989). "An accurate measurement of the crowd-out effect, income effect, and price effect for charitable contributions." *Journal of Political Economy* 97 No.5): 1197-1207.

Lecy, J. D., & Van Slyke, D. M. (2013). Nonprofit sector growth and density: Testing theories of government support. *Journal of Public Administration Research and Theory* 23(1), 189-214.

Lu, J., Shon, J., & Zhang, P. (2020). Understanding the dissolution of nonprofit organizations: A financial management perspective. *Nonprofit and Voluntary Sector Quarterly* 49(1), 29-52.

Neto, A.B.F. (2018). Charity and public libraries: does government funding crowd out donations?. *Journal of Cultural Economics* 42, 525-542.

Payne, A.A. (2001) "Measuring the effect of federal research funding on private donations at research universities: is federal research funding more than a substitute for private donations?," *International Tax and Public Finance* 8, 731-751.

Peck, L. R. (2008). Do antipoverty nonprofits locate where people need them? Evidence from a spatial analysis of Phoenix. *Nonprofit and Voluntary Sector Quarterly* 37(1), 138-151.

Sneddon, J. N., Evers, U., & Lee, J. A. (2020). Personal Values and Choice of Charitable Cause: An Exploration of Donors' Giving Behavior. *Nonprofit and Voluntary Sector Quarterly*, *49*(4), 803–826.

Silva, J. S., & Tenreyro, S. (2006). The log of gravity. *The Review of Economics and Statistics* 88(4), 641-658.

Stick, M., & Ramos, H. (2021). Does municipal funding of organizations reflect communities of need? Exploring trends in Halifax, 1996-2016. *Urban Research & Practice* 14(2), 157-179.

Twombly, E. C. (2003). What factors affect the entry and exit of nonprofit human service organizations in metropolitan areas? *Nonprofit and Voluntary Sector Quarterly* 32(2), 211-235.

Yan, J., Guo, C., & Paarlberg, L. E. (2014). Are nonprofit antipoverty organizations located where they are needed? A spatial analysis of the greater Hartford region. *The American Statistician* 68(4), 243-252.

Table 1 Provincial Averages of Aggregate Government Funding to Charities Per Capita by Field and Key Economic Indicators, 1990-2021

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	BC	AB	SK	MB	ON	QU	NB	NS	PEI	NF
Real GDP ($M)	210,000	250,000	64,710	56,320	660,000	350,000	31,359	37,918	5,442	27,733
Real GDPC ($K)	49.64	71.28	61.41	46.40	52.85	44.80	41.66	40.49	38.58	52.55
Total ($)	824	1,075	1,711	1,267	1,119	986	579	987	305	895
Poverty ($)	132.73	97.13	154.81	234.06	168.78	87.91	183.54	167.82	63.33	103.25
Education ($)	368.19	726.85	752.93	432.45	297.34	371.57	56.44	416.41	144.79	186.78
Religion ($)	3.87	3.00	3.36	4.20	2.82	1.72	4.02	2.78	4.01	4.16
Health ($)	240.40	200.12	738.75	526.27	586.02	477.43	293.40	345.15	61.30	571.54
Community ($)	70.22	39.55	51.37	57.90	55.58	34.79	33.68	47.39	26.38	26.02
Art ($)	7.37	7.24	8.20	10.41	7.64	12.07	5.72	6.88	3.28	2.58
Other($)	1.56	1.15	1.13	2.03	1.01	0.43	1.72	0.57	1.44	0.26

Note: Real GDP denotes provincial values of real GDP (base year 2017) in million Canadian dollars. Total, Relief of Poverty, Education, Religion, Health, Community, Art, and Other represent the real government funding to charities per capita (base year 2017) in unit dollar in total and by field in 10 provinces, calculated by authors from the T3010 data set. Real GDPC represents real GDP per capita (base year 2017) in thousand dollars.

Table 2: Entry and Exits of Charities by Year and Field of Service																		
	Entry									Exit								
year	Total	Poverty	Educ	Rel	Health	Comm	Arts	Found'ns	Other	Total	Poverty	Educ	Rel	Health	Comm	Arts	Found'ns	Other
1991	**3783**	827	518	1003	256	598	256	305	20	**467**	85	70	107	30	90	47	35	3
1992	**2412**	525	332	703	160	390	132	156	14	**423**	63	53	104	33	67	46	56	1
1993	**2462**	605	340	714	113	371	128	169	22	**408**	75	56	97	24	69	52	32	3
1994	**2334**	530	272	665	140	385	137	183	22	**698**	118	84	212	57	110	53	62	2
1995	**2266**	456	358	610	160	377	125	161	19	**1064**	201	148	286	105	166	76	73	9
1996	**2218**	455	341	598	161	332	123	190	18	**1316**	258	190	345	163	195	67	95	3
1997	**2483**	475	380	683	209	356	125	242	13	**1124**	210	175	248	193	157	53	82	6
1998	**2086**	404	342	550	177	322	86	182	23	**1202**	194	210	323	96	191	65	113	10
1999	**2169**	416	293	537	186	357	133	225	22	**1125**	185	178	334	92	156	70	100	10
2000	**1954**	385	244	488	145	331	113	214	34	**1115**	164	174	360	75	163	65	107	7
2001	**1816**	414	222	508	120	240	102	179	31	**1094**	169	135	377	96	142	53	107	15
2002	**1899**	376	219	538	155	281	104	192	34	**2091**	293	311	695	173	274	107	222	16
2003	**1525**	311	151	482	107	208	105	139	22	**1170**	181	171	419	94	136	63	97	9
2004	**1622**	330	217	475	118	222	88	143	29	**1093**	156	157	377	96	153	56	89	9
2005	**1816**	357	209	543	103	241	131	198	34	**1105**	184	181	369	85	137	55	86	8
2006	**1841**	384	228	514	102	252	135	196	30	**1170**	184	156	443	88	135	70	87	7
2007	**1556**	308	181	475	106	187	90	181	28	**1047**	164	150	422	69	100	48	81	13
2008	**1428**	266	178	430	100	148	100	185	21	**2136**	173	167	1370	89	147	65	114	11
2009	**2629**	317	173	1437	129	234	103	196	40	**1414**	165	170	644	102	158	54	103	18
2010	**1704**	273	199	705	99	163	89	150	26	**1035**	177	127	384	69	126	48	94	10
2011	**1413**	283	161	440	90	146	80	179	34	**1169**	183	137	456	77	122	72	107	15
2012	**1479**	251	160	473	97	178	88	196	36	**1710**	204	147	940	95	138	63	110	13
2013	**1424**	209	214	481	149	143	14	165	49	**1156**	137	168	439	109	144	29	112	18
2014	**1139**	141	181	379	102	119	14	151	52	**1185**	143	200	444	102	129	30	115	22
2015	**1054**	138	145	336	108	120	16	146	45	**1246**	162	166	496	138	114	34	109	27
2016	**1222**	140	166	465	108	116	30	157	40	**1231**	142	186	505	117	125	31	105	20
2017	**1202**	152	175	420	127	97	15	170	46	**1226**	142	172	485	120	127	26	136	18

2018	**1158**	148	181	381	115	109	25	148	51	**1561**	162	211	677	128	174	33	138	38
2019	**1462**	167	220	555	147	109	29	179	56	**1517**	191	239	554	119	187	31	161	35
2020	**988**	131	118	303	119	100	27	141	49	**2493**	291	393	867	214	337	87	255	49

Source: All calculations made by authors from the T3010 data set.

Table 3 Descriptive Statistics of Socio-demographic information by CSD, 1991-2021

Variable	Mean	SD	N
Entry	1.410	6.831	5760
Exit	0.941	5.140	5760
Proportion of funded charities to existing charities at t-1	0.345	0.270	5760
Proportion of funded charities to existing charities at t	0.349	0.269	5760
Proportion of funded charities to existing charities at t+1	0.355	0.268	5760
Proportion of highest school or above	0.572	0.125	5760
Average monthly rent by cash	112	103	5760
Proportion of immigrants	0.080	0.085	5760
Unemployment rate	0.102	0.073	5760
Average income	27,735	11,610	5760
Proportion of people below LICO	0.084	0.071	5760
Proportion of visible minority	0.042	0.082	5760
Total population	28,073	116,836	5760

Note: All statistics are based on weighted values from the Census of Population. In the 1991 census, the weight variable is compw4; for 1996 to 2021, it is compw2. The variables in the first column are calculated at the CSD level: number of charity entry, the number of charity exit, the proportion people whose highest degree is high school or above, average monthly rent by case, the proportion of immigrants, unemployment rate, average income, proportion of people below low income cutoff (for those who aged 15 or older), proportion of visible minority, and total populations.

Table 4 PPMLHDFE Regression Results: Dependent Variable = the Number of Charity Entries by CSD at time t; Controlling for the Proportion of Charities Funded at t – 1, t, and t + 1, by CSD 1991-2021

Variables	$Entry_t$	$Entry_t$	$Entry_t$
$Fund_{t-1}$	-0.048		
	(0.240)		
$Fund_{t+0}$		1.609***	
		(0.265)	
$Fund_{t+1}$			1.460***
			(0.249)
LICO	1.895***	1.847***	1.803***
	(0.569)	(0.576)	(0.559)
High School or Above	0.867	-0.131	-0.115
	(0.949)	(0.976)	(0.959)
Average rent	0.001*	0.001	0.001
	(0.000)	(0.000)	(0.000)
Immigrants	-0.003	-0.006	-0.006
	(0.004)	(0.004)	(0.004)
Unemployment Rate	1.781*	1.659*	1.683*
	(1.000)	(1.007)	(0.991)
Visible Minority	1.872***	1.786***	1.792***
	(0.450)	(0.449)	(0.448)
Population	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)
Distance	0.809**	0.838**	0.841**
	(0.351)	(0.351)	(0.350)
Constant	0.381	0.405	0.455
	(0.630)	(0.638)	(0.629)

Note: ***, ** and * denote a significance level of 1%, 5% and 10%. Standard errors are clustered at CSD level.

Table 5 PPMLHDFE Regression Results: Dependent Variable = the Number of Charity Exits by CSD at time t; Controlling for the Proportion of Charities Not Funded by Government at t – 1, t, and t + 1, by CSD 1991-2021

Variables	$Exit_t$	$Exit_t$	$Exit_t$
$NoFund_{t-1}$	0.984***		
	(0.243)		
$NoFund_{t+0}$		0.270	
		(0.230)	
$NoFund_{t+1}$			0.292
			(0.227)
LICO	1.173	1.120	1.109
	(0.753)	(0.739)	(0.746)
High School or Above	2.103*	1.927*	1.774
	(1.081)	(1.095)	(1.097)
Average rent	-0.001	-0.001	-0.001*
	(0.000)	(0.000)	(0.000)
Immigrants	0.016***	0.014***	0.015***
	(0.005)	(0.005)	(0.005)
Unemployment Rate	2.388**	2.254**	2.139**
	(0.955)	(0.947)	(0.952)
Visible Minority	0.174	0.185	0.182
	(0.450)	(0.459)	(0.461)
Population	0.000**	0.000**	0.000**
	(0.000)	(0.000)	(0.000)
Distance	-0.001	-0.016	0.029
	(0.376)	(0.368)	(0.359)
Constant	-0.019	-0.567	0.091
	(0.818)	(0.810)	(0.821)

Note: ***, ** and * denote a significance level of 1%, 5% and 10%. Standard errors are clustered at CSD level.

Table 6 PPMLHDFE Regression Results on Entry by Type of Charity, with Proportion of Charities Receiving Fund at t, 1991-2021

Variables	$Poverty_t$	Edu_t	$Religion_t$	$Health_t$	$Comm_t$	Art_t	$Found_t$	$Other_t$
Fund_t	2.202***	1.318***	0.423	2.463***	2.589***	1.805***	1.097***	0.742*
LICO	5.735***	0.854	-0.353	5.666**	-0.629	2.274	0.624	-0.648
High School or Above	-0.610	-0.791	0.170	4.215	-1.042	-1.229	0.508	5.212
Average rent	0.002**	0.000	-0.000	0.002**	0.000	-0.001	0.003***	0.000
Immigrants	0.009	-0.002	-0.008	-0.017	-0.014	-0.019	-0.004	-0.046
Unemployment Rate	3.662	-4.776	4.458**	-8.655**	3.322	3.455	0.342	10.415*
Visible Minority	0.242	2.519**	2.374***	1.331	0.929	-1.451	0.967	-0.420
Population	0.000***	0.000**	0.000	0.000	0.000	0.000	0.000	0.000
Distance	1.922**	-0.051	-0.950	-	2.589***	-	0.333	-
Constant	-3.373**	-0.195	0.496	-5.421**	-1.545	-0.463	-1.929	-5.622

Note: ***, ** and * denote a significance level of 1%, 5% and 10%. Distance dummy is omitted from the Health, Arts, and "Other" columns due to collinearity. Standard errors are clustered at CSD level.

Table 7 PPMLHDFE Regression Results on Exit by Type of Charity, with Proportion of Charities Not Receiving Fund at t–1, 1991-2021

Variables	$Poverty_t$	Edu_t	$Religion_t$	$Health_t$	$Comm_t$	Art_t	$Found_t$	$Other_t$
NoFund_t-1	1.215***	0.748***	0.852**	1.085***	1.323***	0.323	0.405	1.988***
LICO (%)	1.207	4.288*	0.060	1.793	2.302	-4.043	-0.317	10.158
High School or Above	2.851	0.693	3.069	3.509	1.992	-3.799	-6.709*	18.093
Average rent	-0.001	-0.001	-0.000	0.002	-0.001	-0.002	0.001	-0.003
Immigrants	0.001	0.034**	0.028**	-0.018	0.040**	-0.023	0.014	-0.025
Unemployment Rate	0.392	-2.284	3.027*	3.381	-0.202	12.983**	5.157	12.525
Visible Minority	-1.039	0.318	0.602	-0.144	-0.547	2.334	-1.837	-4.208
Population	0.000**	0.000**	0.000	-0.000	0.000	-0.000**	0.000	0.000
Distance	-0.567	-	-0.819	-	0.242	-	0.072	-
Constant	-2.434	-1.971	-2.297	-2.838	-2.121	4.594	4.219	-14.896

Note: Distance dummy is omitted from the Education, Health, Arts, and "Other" columns due to collinearity. Standard errors are clustered at CSD level.

Table 8 PPMLHDFE Regression Results: Dependent Variable = Number of Charity Entries by CSD at Time t; Controlling for the Proportion of Funded Charities at t − 1, t, and t + 1, by CSD, 1991 to 2021, Excluding Religious Charities

Variables	$Entry_t$	$Entry_t$	$Entry_t$
$Fund_{t-1}$	0.137		
	(0.222)		
$Fund_{t+0}$		1.775***	
		(0.256)	
$Fund_{t+1}$			1.443***
			(0.235)
LICO (%)	1.657**	1.942**	1.719**
	(0.759)	(0.763)	(0.760)
High School or Above (%)	0.104	-0.180	-0.369
	(1.209)	(1.247)	(1.179)
Average rent	0.002***	0.002***	0.002***
	(0.000)	(0.000)	(0.000)
Immigrants (%)	-3.256***	-3.174**	-3.276***
	(1.238)	(1.247)	(1.230)
Unemployment Rate	1.119	1.435	1.746
	(1.442)	(1.424)	(1.382)
Visible Minority (%)	3.416***	3.152***	3.312***
	(1.025)	(1.025)	(1.018)
Population	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Distance	1.558**	1.486**	1.495**
	(0.623)	(0.632)	(0.628)
Constant	0.832	0.068	0.386
	(0.931)	(0.932)	(0.896)

Note: ***, ** and * denote a significance level of 1%, 5% and 10%. Standard errors are clustered at CSD level.

Table 9 PPMLHDFE Regression Results: Dependent Variable = Number of Charity Exits by CSD at Time t; Controlling for the Proportion of Non-Funded Charities at t − 1, t, and t + 1, by CSD, 1991 to 2021, Excluding Religious Charities

Variables	$Exit_t$	$Exit_t$	$Exit_t$
$NoFund_{t-1}$	1.283***		
	(0.239)		
$NoFund_{t+0}$		0.325	
		(0.253)	
$NoFund_{t+1}$			0.426*
			(0.251)
LICO (%)	1.251	1.436	1.636*
	(0.886)	(0.886)	(0.912)
High School or Above (%)	-0.154	0.037	0.006
	(1.308)	(1.298)	(1.296)
Average rent	-0.001*	-0.001*	-0.001*
	(0.001)	(0.001)	(0.001)
Immigrants (%)	-3.008**	-3.300***	-3.226**
	(1.227)	(1.265)	(1.263)
Unemployment Rate	1.313	1.470	1.041
	(1.179)	(1.173)	(1.177)
Visible Minority (%)	1.456	1.611*	1.531*
	(0.917)	(0.922)	(0.926)
Population	0.000	0.000	0.000*
	(0.000)	(0.000)	(0.000)
Distance	0.262	0.161	0.153
	(0.501)	(0.482)	(0.484)
Constant	1.332	1.651	1.596
	(1.015)	(1.032)	(1.028)

Note: ***, ** and * denote a significance level of 1%, 5% and 10%. Standard errors are clustered at CSD level.

Table 10 PPMLHDFE Regression Results: Dependent Variable = Number of Charity Entries by CSD at Time t; Controlling for the Proportion of Funded Charities at t − 1, t, and t + 1, by CSD, 1991 to 2021, for Small and Large Charities

Variables	$Entry_t$	$Entry_t$	$Entry_t$	$Entry_t$
	Small Charities		Large Charities	
$Fund_{t-1}$	n/a	n/a	n/a	n/a
$Fund_{t+0}$	2.364***		0.588	
$Fund_{t+1}$		2.187***		0.557
LICO (%)	0.532	0.456	3.097***	3.013**
High School or Above (%)	0.054	-0.039	-2.463	-2.730
Average rent	0.001	0.001	0.002**	0.002**
Immigrants (%)	0.253	0.281	0.167	0.153
Unemployment Rate	1.928	1.925	2.920	3.088
Visible Minority (%)	2.182*	2.225*	0.982	0.963
Population	0.000	0.000	0.000	0.000
Distance	-0.412	-0.404	0.887*	0.886*
Constant	-0.244	-0.094	2.480*	2.674*

Note: ***, ** and * denote a significance level of 1%, 5% and 10%. Standard errors are clustered at CSD level. Small charities are those with annual expenditure less than or equal to the annual median; large are those above. n/a refers to the fact that the regressions using $Fund_{t-1}$ (column (1) in table 4) were suppressed because of small numbers and the residual disclosure rules in the RDC.

Table 11 PPMLHDFE Regression Results: Dependent Variable = Number of Charity Exits by CSD at Time t; Controlling for the Proportion of Non-Funded Charities at t − 1, t, and t + 1, by CSD, 1991 to 2021, for Small and Large Charities

Variables	$Exit_t$	$Exit_t$	$Exit_t$	$Exit_t$	$Exit_t$
	Small Charities			Large Charities	
$NoFund_{t-1}$	0.855**			1.428***	
$NoFund_{t+0}$		-0.232			
$NoFund_{t+1}$			-0.124		0.921**
LICO (%)	1.471	1.270	1.322	-0.641	-0.699
High School or Above (%)	2.937	2.675	2.236	0.919	0.845
Average rent	-0.000	-0.000	-0.000	-0.001	-0.001
Immigrants (%)	-3.730*	-3.628	-3.855*	-1.521	-1.583
Unemployment Rate	1.994	2.117	1.920	2.561*	1.965
Visible Minority (%)	1.783	1.587	1.703	2.154*	2.275*
Population	0.000	0.000	0.000	-0.000	-0.000
Distance	-	-	-	0.077	0.190
Constant	-0.668	0.121	0.451	0.578	0.958

Note: ***, ** and * denote a significance level of 1%, 5% and 10%. Standard errors are clustered at CSD level. Small charities are those with annual expenditure less than or equal to the annual median; large are those above. For the large charity sample, the specification with $NoFund_{t+0}$ was suppressed because of small numbers and the residual disclosure rules in the RDC.