How do nonprofits use cash windfalls? Evidence from $5B in unrestricted donations*

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Abstract

How do nonprofits use unrestricted gifts? Donations to 501(c)(3)'s are increasingly given unrestricted due to concerns that restrictions on use unduly constrain nonprofits. I study the effect of such funding on recipients using a $5B sample of MacKenzie Scott's gifts from 2019-2022 to 567 nonprofits. I find that, within two years of receiving the gift, nonprofits received 64% of the average gift in additional contributions and spent the entirety of the average gift compared to similar untreated nonprofits. After giving away 26% as grants to individuals and other nonprofits, recipients spent these funds proportionally to their previous activities. Two years after the gift, CEO compensation increased by $20.9K (9%), average director compensation increased by $12K (12.1%), and average compensation of non-senior employees increased by $2.7K (5.8%) compared to similar untreated nonprofits. For every dollar of unrestricted gift and additional contributions, the present value of executive compensation increased by $0.23. Recipient nonprofits do not become less constrained in allocating their revenue to indirect costs or savings. In sum, nonprofits that receive this set of unrestricted gifts do not behave in the hypothesized liquidity-constrained manner.

Keywords: charitable giving, nonprofit operations, capital budgeting

JEL Codes: L31, G31, G35, H41

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Large gifts to U.S. 501(c)(3)'s (nonprofits) are typically given with restrictions on usage, but unrestricted gifts have increased from 30% to 42% of foundation grants to nonprofits from 2016-2022. Unrestricted gifts, as their name suggests, offer recipient nonprofits full discretion over the use of funds across their portfolio of charitable projects and across their direct and indirect costs. This flexibility stands in contrast to traditional, project-based gifts, which earmark funds for direct costs or for particular projects within the nonprofit.

How will nonprofits use the liquidity of unrestricted funds? On the one hand, releasing restrictions on allocation may allow the nonprofit to allocate money in the most productive way. Along these lines, restricted giving could fuel a "nonprofit starvation cycle" that underfunds the nonprofit's indirect "overhead" expenses (Gregory and Fall, 2009).[1] On the other hand, releasing restrictions, from the perspective of external stakeholders, could lead to the misallocation of funds toward internal stakeholders (Fama and Jensen, 1983). Evaluating these theories has been difficult because it requires the unanticipated provision of unrestricted gifts. Philanthropist MacKenzie Scott's unanticipated unrestricted gifts, which ranged from less than $1M to $50M given to hundreds of nonprofits between 2019-2022, provide an ideal setting. Because her gifts were unanticipated, numerous, and large, the true effect of unrestricted gifts on the decisions of recipient nonprofits can be easily identified from panel data.

Using a sample of Ms. Scott's gifts to 567 nonprofits, I find that nonprofits grew donations and spending following the gift. Nonprofits received a cumulative $0.64 per dollar of the average gift in new donations and government grants in the two years afterward, giving the average nonprofit access to funds totaling 164% of the initial gift. Recipients contemporaneously spent the entirety of the gift in the following two years and grew annual spending by $0.50 per dollar of the average gift. Direct service nonprofits shifted some operations from producing and distributing goods and services to giving the cash away – increasing grants to individuals and other organizations by as much as 2.5 pp of annual spending, despite giving few grants prior to the gift. 32% of the average gift was devoted to increasing employee compensation. Nonprofits hired 2.9% more employees but also paid their employees more. Compensation of the chief executive officer increased by 9%, average compensation of the other top five employees increased by 12.1%, and average non-senior employee compensation increase by 5.8%. I discuss three potential mechanisms for the relative increase in the compensation: pay for performance, implicit equity financing from employees, and misallocation from agency frictions. I do not find evidence that restricted donations worsened a "nonprofit

[1]The ability to save funds or invest them in indirect expenses could be especially helpful in the reality where 45% of nonprofits lack an emergency fund and have reported dramatically reduced indirect expenses (*COVID-19 & Cash Reserves: How Government Funding Practices Left Nonprofits Unprepared*, 2020; Lecy and Searing, 2015).

starvation cycle" for recipients. Recipients kept their indirect cost ratio and expense to asset ratios constant, which could be due either to a lack of pre-existing liquidity constraints or a reflection of their intertemporal spending and saving decision. Recipients hire more employees and pay employees more. The present value of compensation increases for the five highest paid individuals is $0.37 per dollar of the original gift principal, which is of the same magnitude as analogous estimates at for-profit firms.

The size and unanticipated nature of MacKenzie Scott's gifts make studying her recipients a natural way to assess the impact of unrestricted gifts. Ms. Scott's blog posts corroborate that these gifts had no strings attached, as they were explicitly advertised to cede control to the nonprofit's internal stakeholders on the use of funds. News reports also confirm that nonprofits were unaware of the gift until shortly before receiving it. The mean gift amount in my sample was $8.4M, and, for 88% of nonprofits, Scott's gift was the largest unrestricted gift they had ever received (Buteau et al., 2021).

I limit analysis to a sample of gifts reported by Mackenzie Scott's foundation, Yield Giving, and assess the effect on their recipients using the full universe of 501(c)(3) federal tax returns, the Form 990. This form includes comprehensive financial information at the nonprofit level such as detailed breakdowns of revenue sources (e.g., contributions, program services, investment income) and expenses on a granular level including grants to other organizations, employee compensation, and indirect costs such as office and travel expenses. This allows for a nuanced analysis of financial health and operations of nonprofit organizations. I further limit the sample to recipients who received at exactly one gift, whose Form 990's were most likely to cover their entire operations, who received gifts between 2020 and 2022 to see a sufficient post-period, and who were sufficiently reliant on donations that I could interpret results to assess how donation restrictions may change nonprofit behavior.

In order to identify the average effect of the gift, I match each recipient to four financially comparable nonprofits then used difference-in-differences between recipients and the matched population. Nearest neighbor matching on expenses, donations, dollars allocated to grants, and number of employees yields a sample of recipients that evolved in parallel to the matched control between 2012 and receipt of the gift. With the assumption of parallel trends, difference-in-differences identifies the average effect of the gift on the 567 recipient nonprofits. This identification relies on the assumption that nothing simultaneous to receiving a gift from Ms. Scott differentially affected treated nonprofits versus untreated nonprofits. The variation in gift years between 2019-2022 and lack of anticipation bolsters the credibility of this identification strategy.

I find that nonprofits received 64% of the average gift size in donations in addition to Ms. Scott's original gift in the two years afterward. Changes in fundraising spending were only

weakly correlated with the growth in contributions, which I interpret as a growth in supply of donations exogenous to recipients' fundraising efforts. Nonprofits grew annual spending by 50% of the average gift size two years following the gift, scaling up annual spending as they received additional donations. The growth over this time period was equivalent to spending more than the entirety of the gift (106%).

How was this new spending allocated? The unrestricted gift changed the nonprofit's allocation of charitable activities toward giving grants. 1 pp more of annual spending was spent on grants from a baseline of 12%. Grant giving comprised 26% of new spending and occurred not only at grantmaking organizations but also at direct service organizations (DSO's) who did not previously give grants. Compensation comprised 32% of new spending, and other costs comprised the remaining 47%. Nonprofits hired more employees and increased wages especially for senior employees. The chief executive's compensation increased by 9%, or \$20.9K two years after the gift. The next four highest paid directors were paid on average \$12K more after the gift – a 12.1% increase. Non-senior wages increased by \$2.7K (5.8%). I discuss three potential mechanisms for the differential increase in senior employee compensation: pay for performance, implicit equity financing by employees, and agency frictions.

Despite loosening the restrictiveness of the nonprofit's donations, I do not find evidence that restricted donations have worsened a "nonprofit starvation cycle." Neither indirect spending nor financial stability, as measured by expenses as a percent of assets saved, increased as predicted. This is true even for nonprofits whose revenue was more restricted prior to Ms. Scott's gift. This cuts against the hypothesis that nonprofits have experienced a "starvation cycle" that under-funds indirect expenses. From the funder's perspective, this paper suggest that lifting donor restrictions does not improve the allocation of funds substantially as hypothesized. However, removing restrictions could be successful in bringing nonprofit wages closer to similar for-profit companies, which could have other benefits such as increased employee retention or quality.

Optimal contract structure for donations: The nonprofit starvation cycle, paternalism, and agency frictions. This paper informs a debate amongst funders and academics about the optimal structure for charitable donations and the drivers of this optimal structure. Theories of the nonprofit's objective function classically raise the threat of reallocation by internal stakeholders (nonprofit executives) who hold residual claims to the nonprofit's cash flow (donations). Indeed, Fama and Jensen (1985) state that, "For nonprofits the survival value of such decision systems is due to the assurances they provide that donations are used effectively and not easily appropriated." Hansmann (1996)'s canonical justification for nonprofit status is the enforcement of a "nondistribution constraint" that allows nonprofits to commit to their social cause without appropriating funds,

echoed by Bilodeau and Slivinski (1998); Glaeser and Shleifer (2001); Ghatak and Mueller (2011); Easley and O'Hara (1983). This threat of appropriation implies that nonprofits hold lower than optimal liquid reserves and under-fund anything that could be misconstrued as perquisites to signal their commitment to service (Jensen and Meckling, 1976; Core et al., 2006; Calabrese, 2011; Fisman and Hubbard, 2003, 2005). This theory is supported by empirical evidence that donations are elastic with respect to the percentage diverted to "indirect cost" (Gneezy et al., 2014; Meer, 2017; Perroni et al., 2019; Hung et al., 2023; Exley, 2020), a category that contains cost items (e.g., office, travel, IT) that could be construed by prospective donors as private benefits that do not produce social welfare. Parsa et al. (2022) uses IRS's 2008 roll out of increased nonprofit governance disclosure requirements to show that donations and indirect cost ratios become less negatively associated after the onset of governance information.

However, an emerging empirical literature suggests that the under-funding of liquid reserves and indirect expenses blunts the nonprofit's efficient production of charitable activities. Nonprofits do not increase spending during economic downturns as much as donors would hope (Exley et al., 2023), and one key determinant of that phenomenon could be their lack of precautionary savings (Fisman and Hubbard, 2005), which would prevent them from spending sufficiently during a downturn. In other words, nonprofits are "liquidity constrained." They lack sufficient savings to spend up to optimal level and capital markets have enough frictions that they cannot borrow enough to compensate. Altamimi and Liu (2022) shows that for-profits doing similar work to nonprofits have higher reported indirect costs, suggesting that the pressure to reduce indirect costs could make nonprofit production inefficient. The welfare impact of increasingly unrestricted giving comes from weighing the threat of appropriation with the literature that suggests that under-funding of liquid reserves and indirect costs blunts the nonprofit's efficient production of charitable activities. Public perception on the balance of these two forces relates to a growing behavioral literature on the drivers of paternalism (Ambuehl et al., 2021).

My findings are more consistent with the earlier theoretical literature. I do not find evidence of the nonprofit starvation cycle, and one of three interpretations of the wage increases for the most highly paid employees is that donation restrictions reduced the likelihood of agency frictions. In present value terms, the estimates of executive wage increases are in the same range as estimates at for-profit organizations who receive cash windfalls (Blanchard et al., 1994; Bertrand and Mullainathan, 2001; Howell and Brown, 2023; Ohrn, 2023).

Announcements of support and donation crowd in. This paper also validates a corpus of previous work that shows that attention drives donations to nonprofits. The theoretical literature has rationalized huge donation crowd in with the provision of infor-

mation about the nonprofit (Vesterlund, 2003; Andreoni, 2006). These theories have been empirically validated by field experiments with seed money, matching campaigns, and even announcement of support without the promise of a donation, including List and Lucking-Reiley (2002); Landry et al. (2010); Kessler (2017). Under the premise of prior work that fundraising increases subsequent donations (Andreoni and Payne, 2011), the fact that I find a weak correlation between fundraising increases and donation crowd in points to the role of the gift as a public, positive signal of nonprofit quality – sometimes referred to as an "announcement of support" – rather donations rising as a result of increased fundraising. My empirical setting shows that the public signal is relevant not just in a socially connected workplace but in a nationwide news environment. The fundraising increase I find is different from the typical fundraising crowd out found in the government grant context (Andreoni and Payne, 2003).

Large gifts. Lastly, this work is the first holistic quantitative study of the average financial allocation of MacKenzie Scott's 2019-2022 grants. Lee et al. (2023) describes the size of the gifts and spatial distribution of her giving around the United States, some facts that I reproduce here for gifts limited to 2019-2022 excluding universities and hospitals. The Center for Effective Philanthropy performed surveys that solicited recipient nonprofits' expectations and plans for how to use their gifts from MacKenzie Scott (Buteau et al., 2021, 2022; Arrillaga et al., 2025). The last of these reports quantifies the total spending and reserves of recipients compared to a set of untreated nonprofits between 2020-2024. My estimate for the effect of the gift on financial stability of recipients is far smaller than found in Arrillaga et al. (2025), potentially because of a marked trend toward increasing financial stability for all nonprofits during the 2020-2023 time period that my matching strategy differences out in estimation. In addition, I find significant crowd in of additional donations and report the allocations to charitable spending, grant giving, wages, and reserves in detail, along with evaluating potential mechanisms. Mayo (2021) uses bequests to study the effect of large gifts on recipients and their rival charities, but the restrictions on these gifts were unknown, and hence their allocation cannot be interpreted as reflective of the nonprofit's private objective function. The scale and unrestricted nature of Scott's gifts isolate actions as driven by the nonprofit's internal stakeholders and also allow me to evaluate the effects of unrestricted giving.[2]

[2]The marginal propensity to consume out of large cash windfalls has been studied extensively for consumers, reviewed in Golosov et al. (2024) and to a limited extent for firms. Ohrn (2023) reviews literature on tax-related windfalls, Blanchard et al. (1994); Bertrand and Mullainathan (2001); von Beschwitz (2018) use other positive financial shocks, and Howell and Brown (2023) uses grants.

1 Setting

The size and unanticipated nature of MacKenzie Scott's gifts to hundreds of nonprofits between 2019-2022 make these gifts an ideal setting in which to study the impact of unrestricted grants. News reports and Ms. Scott's blog posts corroborate that nonprofits were unaware of the gift until shortly before receiving it.

1.1 "Transformative" gifts

Since 2019, philanthropist MacKenzie Scott has given $16B to 1,900 nonprofits. With the exception of the open call gifts of November 2023 that I exclude from my sample, these gifts were unanticipated and almost all unrestricted. These gifts were large on an absolute and relative scale. Figure 1 shows the distribution of relative gift sizes for my sample of 2019-2022 gifts. This shows that the average gift received was $8.4M and 97% of all donations the recipient had received in 2019. Scott's gifts often referred to as a "game-changer", "significant", and "transformative" for recipients (*Meals on Wheels America Receives Largest Single Unrestricted Contribution Ever from MacKenzie Scott*, 2020; Turtinen, 2022; Nash, 2023; *Hired Receives A Transformative Donation From MacKenzie Scott*, 2024). Appendix Figure A2 shows that these gifts focused on "Direct Service Organizations" – food, housing, and human services organizations like the YMCA, Communities in Schools, and Meals on Wheels that spend money to provide goods and services directly to individuals in need. 28% of gifts in my final sample were given to funders and philanthropy support or "grant giver" organizations who primarily collect donations then distribute them via grants within particular specialty areas, such as LiftFund, the Hispanic Scholarship Fund, or the Pittsburgh Foundation[3]. For 88% of nonprofits, her gift was the largest unrestricted gift they had ever received (Buteau et al., 2021).

1.2 MacKenzie Scott's gifts were unrestricted and unanticipated

MacKenzie Scott's gifts allow us to assess the impact of a large, unrestricted gift on a nonprofit recipient because her gifts were unanticipated and not fundraised for. Ms. Scott has been public about the lack of restrictions associated with her gifts. In announcing one round of gifts, she mirrors the language of the "nonprofit starvation cycle". She states, "not only are non-profits chronically underfunded, they are also chronically diverted from their work by fundraising, and by burdensome reporting requirements that donors often place on them." As a result, "the entire commitment would be paid upfront and left unrestricted

[3]I define these organizations as those that, prior to receiving a gift from MacKenzie Scott, devoted at least 9% of their expenses to grants to organizations and individuals.

in order to provide them with maximum flexibility" (Scott, 2020b). Specifically, the team "welcomed them to spend the funding on whatever they believe best serves their efforts."

Her process between 2019-2022 also left gifts unanticipated. She describes a process of "quiet research" culminating in sharing the gift with the nonprofit leadership "for the first time over the phone", specifically with the goal to "give them an immediate gift for use however they choose." Buteau et al. (2021) reports that only 44% had an interview with Scott's team, and 28% had to provide financial documents. Despite the possibility that half of recipients had some advance notice, news reports emphasize the shock of nonprofit executives because of the short vetting process. Reporting on these gifts include quotations such as:

- *"When I first received an email, it just said, "There's a donor who's potentially interested in giving money to the college. Would you have time to have a conversation with me?" And that's really all it said... So it was kind of, Is this real? Is this fake? What's the deal? But I did have a conversation with somebody doing some research for [Scott]. By the end of the conversation, she basically said that MacKenzie would be giving us $8 million."* (Olmstead, 2021)

- *"In a seemingly random act of kindness, a nonprofit C.E.O. receives an email from one of Scott's aides"* (Schleifer, 2023)

That shock is important to identification because it means that executives had little time and inclination to spend out of the gift before receiving it. Panel data can identify the effect on nonprofits of the gift as long as the date at which they began to act on the gift was simultaneous with the date that MacKenzie Scott reported the gift as being given. Appendix Figure A3 shows that the time series of key outcome variables for recipients and their matched control nonprofits look similar in the years prior to the gift then experience a noticeable break in trend.

Lastly, unlike most previous documentation of large gifts, the gifts were not fundraised for. The benefit of this lack of fundraising is that spending should not be subject to a flypaper effect. In other words, the gift is a windfall, not a direct result of effort expended by certain aspects of the organization like fundraisers. Consequently, resources have no a priori reason to flow to those areas.

The primary limitation of this study's ability to measure the impact of large, unrestricted gifts on 501(c)(3)'s is the endogeneity of the choice of recipients. While precise scoring has been kept opaque to prevent fundraising for her gifts, Ms. Scott describes the diligence process as "data-driven and rigorous." Selected nonprofits have "high potential for sustained positive impact, including stable finances, multi-year track records, measurement and

evidence of outcomes, and experienced leadership representative of the community served" (Scott, 2020b). This assignment mechanism had at least two measurable implications. First, the recipients are far larger organizations than the median 501(c)(3) (Table 1). Their size could be a result of higher productivity and could make their responses to a cash windfall non-representative of the full population of charitable organizations. Second, recipient nonprofits skew toward human services and grantmaking (Appendix Figure A2). Consequently, I match each recipient to an untreated nonprofit and invoke an assumption about parallel trends to identify the counterfactual path of spending and saving of just the treated nonprofits. Details on this approach are left to Section 3.

2 Data

This paper uses MacKenzie Scott's public disclosures on her unrestricted giving on YieldGiving and financial information of U.S. nonprofits from the IRS Form 990 tax returns posted online by the Internal Revenue Service in order to identify the gift recipients and then the impact of the unrestricted grant on their finances.

2.1 Observing the behavior of nonprofits

The Form 990 provides a detailed annual financial record of each nonprofit's activities that will reveal the impact of unrestricted gifts on nonprofit finances. I use two sources of Form 990 filings.

I use the annual Form 990 microdata extracts for the years 2012-2023 on IRS.gov for most financial variables. All firms tax-exempt under Section 501(c)(3) with gross receipts exceeding $200,000 or assets exceeding $500,000 during their fiscal year are required to file a Form 990 to the Internal Revenue Service. These extracts report each nonprofit's revenue, expenses, assets, and liabilities by fiscal year. Revenue is broken down by source, including contributions, membership dues, investment income, and program service revenue – revenue generated from providing goods and services for their tax-exempt activity.[4] Contributions are the sum of government grants and donations that come from all other sources, such as grants from foundations and gifts from individuals and corporations. Expenses are broken down by source, including grants provided to individuals, grants provided to organizations and governments domestically and abroad, employee salaries, employee benefits, pension contributions, office expenses, IT expenses, and travel expenses. The breakdown of assets and liabilities has similar detail, including non-interest bearing savings, public and private

[4]For instance, the Goodwill's program service revenue comes almost entirely from selling clothing in brick and mortar stores.

securities investments, land, building, and equipment capital stock, depreciation, and secured and unsecured loans. Nonprofits also report the number of individuals employed in that year per their W-3.[5] In some cases, I show results separately for grant making organizations and direct service organizations (DSO's). This classification, common in the literature, distinguishes nonprofits who give cash grants to other organizations from nonprofits who provide goods or services directly. I operationalize this classification quantitatively by defining DSO's as nonprofits whose grant funding comprises 9% or less of their annual spending. The remaining recipients are grant makers.

I supplement this panel with the full Form 990 for electronic filers ("EFilers"), whose full tax returns are posted on IRS.gov in full for fiscal years ending from 2016 to June 2024. These are digitally available on IRS.gov only when a nonprofit has filed their tax-return electronically in the year. Filings are added periodically throughout the year as they are received, and the panel includes filings uploaded on or before February 1, 2025. EFiler returns provide additional compensation information, employee counts, and additional detail on the sources of nonprofit revenues, and the allocation of expenses into Program Service, Management and General, and Fundraising. Program Service spending is spending directly related to the tax-exempt "program" of the nonprofit, and one minus the fraction of spending allocated to Program Service will be the nonprofit's "indirect cost ratio", consistent with prior literature on the nonprofit starvation cycle, such as Altamimi and Liu (2022). These full returns provide the compensation of each of their "directors, officers, and key employees."[6] Using this list, I report the compensation of the highest paid employee, who I assume is the CEO. The quotient of the total salaries plus employee benefits and pension contributions, minus the number of individuals with positive wages on this list, yields the average compensation per non-senior employee. I compute the average director compensation as the average total compensation of the second through fifth highest paid employees on this list. I define employee compensation as the total compensation for workers at the nonprofit. It is the sum of several reported items on the Form 990: the compensation of "directors, officers, and key employees", " other salaries and wages", "other employee benefits", pension plan accruals and contributions, and payroll taxes. When testing predictions of the nonprofit starvation cycle, I compute the expense to asset ratio as the total annual expenses divided by the total assets at the end of the year prior. I compute the expense to liquid asset ratio by limiting assets to the value of non-interest bearing savings, interest bearing savings, and

[5] I do not use these estimates for any nonprofit classified as with NTEE code Q, "International, Foreign Affairs, & National Security", because many of these organizations have multiple locations outside the United States whose employees need not be reported on W-3 forms.

[6] Inclusion in this list as an executive is complicated in that it is not entirely exhaustive, but anyone who is truly an "executive" but classified as an employee will have their salary included in employee salaries.

publicly traded securities only. The overhead ratio or "indirect cost ratio" is the amount of spending reported as "Program Service" out of all spending the nonprofit does in the year, where spending could also be considered "Management and General" or "Fundraising" expenses.

In order to have industry codes for all treated and control nonprofits, I limit my population of 501(c)(3) organizations to organizations that survived through 2022 using the Exempt Organizations Business Master File (EO BMF). The National Center for Charitable Statistics (NCCS) uses the National Taxonomy of Exempt Entities (NTEE) classification system to divide nonprofits into 26 nonprofit groups, similar to a NAICS code for for-profit firms, and the IRS provides this classification publicly only through the routinely updated EO BMF. The resulting dataset of nonprofits is an unbalanced panel of 232K nonprofits and constitutes the Form 990 population to which I merge in unrestricted gift information.

Distribution of gift amounts relative to recipient size

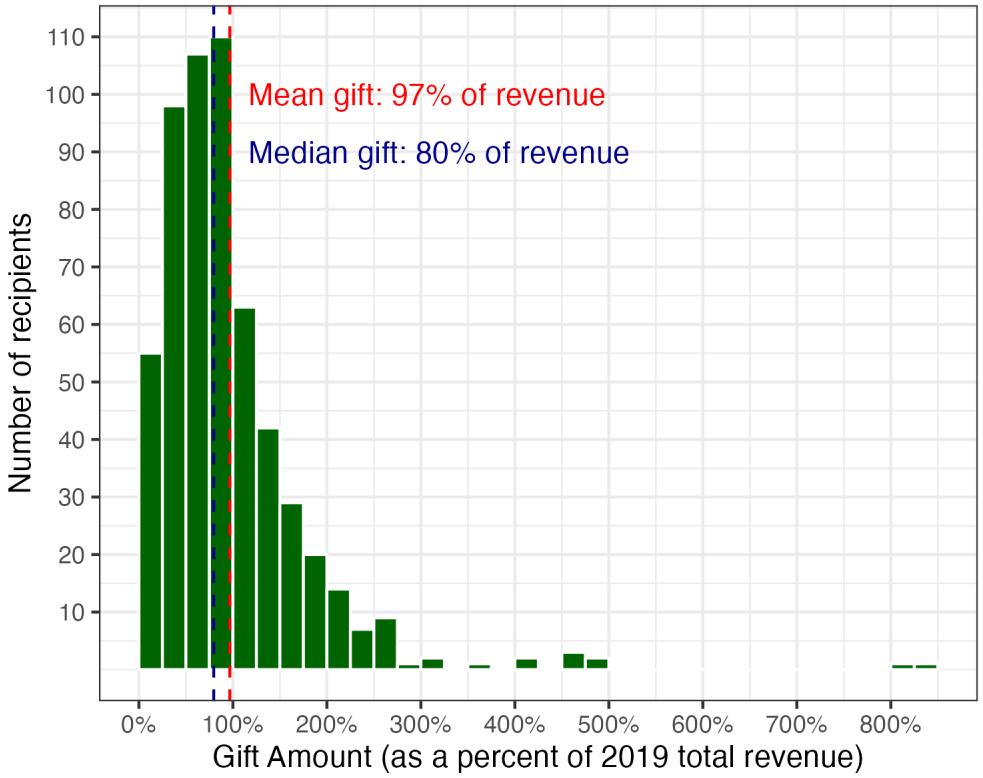


Figure 1: This figure shows the distribution of MacKenzie Scott's gifts as a fraction of the total revenue of recipients in 2019.

2.2 Identifying unrestricted gifts

My sample of unrestricted gifts is gifts listed on MacKenzie Scott's Yield Giving's website that were directed to the entire organization and disclosed a gift amount between 2019-2022, with a handful of other limitations. Yield Giving's website provides the only comprehensive list of recipient organizations names paired with the year and size of each unrestricted gift and forms my sample. This list of donations provides the name, service area, and URL of the organization alongside the calendar year of donation. 27% of recipients did not list a gift amount and were consequently excluded from the sample.

I further restricted the recipient population to nonprofits who could be matched to my Form 990 population. Using the SOI Tax Stats tool on IRS.gov, I looked up the Employer Identification Number (EIN) for each of MacKenzie Scott's recipients on Yield Giving that allows me to find their Form 990. When these matches were ambiguous, I confirmed the match using URLs listed on Yield Giving with Guidestar Pro, which provides EINs, names, and URLs for this population of 501(c)(3) organizations. I dropped all gifts given to particular funds within organizations because these gifts were unlikely to be unrestricted for use across the organization.

Using these NTEE codes, I exclude gifts that MacKenzie Scott gave to churches, hospitals, and universities, since these organizations frequently have multiple subsidiaries that makes tracking the full finances of these organizations challenging. I limit the population of untreated 501(c)(3) organizations used for this analysis to those that were active or not classified by NTEE as of November 2023 using the NCCS's Nonprofit Masterfile so that I limit analysis to nonprofits that survived through the intervention to be comparable to the treated nonprofits.[7] Because my intent is to estimate how restrictedness of donations affect nonprofits, I limit my sample to recipients where donations are at least 20% of their revenue. In order to report effects on employee compensation, I limit the sample to recipients with more than two employees. This focus limits the sample to 567 nonprofits who received funding from MacKenzie Scott between 2019 and 2022. The treated nonprofits were far larger in assets and expenses, more reliant on contributions, and had higher average wages for employees, directors, and CEOs (Table 1, panels 1 and 3).

I validate the timing of the gift using MacKenzie Scott's blog dates, news articles, and gifts of the same size from tax-exempt organizations linked to her. Many nonprofits have fiscal years that end after their calendar year, and this ambiguity prevents the direct match of Yield Giving calendar year dates and the fiscal year that the gifts were realized in Form 990's. I ameliorate this ambiguity in two ways. MacKenzie Scott announced three waves

[7] Interesting further analysis of these gifts could examine how the gifts changed the survival of other nonprofits, but this is not the focus of this paper.

of gifts via blogposts (Scott, 2020a,b, 2022b,a). I use the precise dates of the blog posts to ensure that the gift falls in the correct fiscal year.[8] Next, I use the full universe of grants reported in all Form 990 Schedule I's and Private Foundation returns (Form 990-PF) between 2019-2023 to find gifts that matched Scott's in size. News coverage has cited Scott's transfer of funds through other tax-exempt organizations, such as a DAF through Fidelity Charitable, the Chicago Community Trust, and the National Philanthropic Trust (Schleifer, 2023). Consistent with this reporting, I match the majority of my 567 gifts to a gift from one of these organizations, as well as the Silicon Valley Community Foundation, and use their fiscal date to update treatment timing. As shown in Appendix Figure A1, the final sample of gifts range in size from less than $1M to 50M.

2.3 Calculating exposure to restricted donations

How nonprofits use unrestricted windfall donations depends on how constrained they were prior to the windfall. As a result, I study the dosage effect of restrictions on their revenues by defining a measure of a nonprofit's "restrictedness". I define the nonprofit i's "restrictedness" in a given year t as the dollars of government grants and restricted foundation grants D_{fit} from foundations f that the nonprofit receives divided by its total revenue.

$$R_{it} = \frac{\text{Government Grants}_{it} + \sum_f D_{fit}}{\text{Total Revenue}_{it}} \tag{1}$$

A higher percent of revenue that comes from restricted revenue sources corresponds to more constraints on the nonprofit's ability to fund indirect expenses and save. The Efilers dataset lists contributions coming from government grants for each nonprofit. Because I cannot see government-grant-level information in Form 990 data, I assume that government grants are all restricted funds based on the fact that the typical award requires an application to meet a specific request and standardized follow on reporting (*The Grant Lifecycle | Grants.gov*, n.d.). Schedule I lists every grant a nonprofit i received from a filing foundation annually, so each listed grant is a D_{fit}. Using these two pieces of data, I compute restrictedness for every nonprofit.

[8] I updated the gift date to one fiscal year prior for two nonprofits that did not have sufficient contributions in their assigned fiscal year: YWCA Evanston North Shore (EIN: 362193618) and ICIVICS (EIN: 383796793). Since Scott announced gifts after she had already allocated them to recipients, the announcement is an overestimate of the date that the nonprofit actually received their gift.

Table 1: This table lists the unweighted summary statistics of my sample of nonprofits who received a gift from MacKenzie Scott compared to the full set of 501(c)(3) charities and the matched control nonprofits. The control nonprofits were selected with nearest neighbors matching on expenses, donations, grants given, and number of employees in the four years prior to receiving a gift. Nonprofits targeted by MacKenzie Scott were far larger in employee count and annual expenses, but the matched control is far closer in my outcomes of interest.

	Treated		**Matched control**				**All Form 990 501(c)(3)'s**			
	Mean	Std. Dev.	Mean	Std. Dev.	Diff in Means	Std. Err.	Mean	Std. Dev.	Diff in Means	Std. Err.
Assets ($M)	34.6	117.1	51.3	321.4	-16.6*	8.4	8.1	128.2	26.6***	4.9
Donations and Grants ($M)	19.1	118.8	16.5	65.9	2.6	5.2	1.9	35.7	17.3***	5.0
Expenses ($M)	22.3	122.5	19.0	60.0	3.3	5.3	3.6	44.2	18.7***	5.1
Employees	196.2	544.5	160.3	325.7	35.8	23.9	48.1	283.1	148.1***	22.9
Avg. Employee Comp. ($K)	46.9	31.7	42.7	31.3	4.2**	1.6	29.8	31.8	17.1***	1.4
Avg. Director Comp. ($K)	99.0	112.1	94.0	122.6	5.0	5.4	27.9	106.5	71.1***	4.8
Highest Comp. ($K)	231.9	194.6	238.3	272.5	-6.4	10.1	100.1	315.9	131.8***	8.3

3 Empirical Strategy

To identify the impact of the gift on each recipient, I match each recipient to four financially comparable nonprofits. The recipient sample and comparable nonprofits move in parallel between 2012-2019. With the assumption of parallel trends in the post-period supported by this pre-period co-movement, I can use difference-in-differences to identify the average effect of the gift on the 567 recipient nonprofits.

3.1 Matching recipients to a comparable nonprofit

Because gifts were not necessarily assigned randomly to recipients, I use a matched sample to estimate all my results. I match each recipient of a gift from MacKenzie Scott to another 501(c)(3) using nearest-neighbors-matching. Using expenses, grants given, donations received annually, and number of employees in the four years prior to the gift, I find four non-recipient nonprofit for every recipient nonprofit. The intent of matching on multiple pre-period years stems from the fact that recipients were faster growing than the average 501(c)(3), and so matched controls have similarly larger growth rates than if matching on a single year of financial data. The resulting matched 501(c)(3) organizations are closer in activity and closer in key variables to the treated nonprofits than to the full population of 501(c)(3) organizations (Table 1, panels 1 and 2). Appendix Figure A3 shows that the mean outcomes of the matched sample also mirror the pre-period trend in key variables in the years prior to MacKenzie Scott's gifts.

3.2 Identifying the effect of gifts on recipients

Assuming (1) that the treated and control nonprofits would have had parallel trends absent treatment and (2) that gifts were unanticipated as suggested by news reports (Section 2) allows me to use difference-in-differences to identify the average effect on the treated (ATET) nonprofits from the gifts.

I explain the utility of these two assumptions with a potential outcomes framework. Define a financial outcome Y_{it} for nonprofit indexed by i and year indexed by t. Assume a potential outcomes framework as in Abadie and Imbens (2006) such that the binary treatment $D_{it} = \{0, 1\}$ affects Y_{it} via $Y_{it} = D_{it}Y_{it}(1) + (1 - D_{it})Y_{it}(0)$ for every period t. The parameter of interest is the effect of the gift, $D_{it} = 1$, k years after the gift for treated nonprofits occuring in year c, $\theta_k \equiv \mathbb{E}_i[Y_{i,c+k}(1) - Y_{ic+k}(0)|D_{i,c+k} = 1]$. The challenge in identifying this treatment effect is the inability to observe the counterfactual outcome in period t, $\mathbb{E}_i[Y_{i,c+k}(0)|D_{i,c+k} = 1]$.

Assuming parallel trends in the matched control and treated nonprofits solves this identification challenge. The following explanation follows Abadie and Imbens (2006) and Rambachan and Roth (2023) to clarify that parallel trends are sufficient in this case. The parallel trends assumption is written formally as:

$$\mathbb{E}_i[Y_{i,c+k}(0)|D_{i,c+k} = 1] = \\ \mathbb{E}[Y_{i,c+k}(0)|D_{i,c+k} = 0] + (\mathbb{E}_i[Y_{i,c+l}(1)|D_{i,c+l} = 0] - \mathbb{E}_i[Y_{i,c+l}(0)|D_{i,c+l} = 0])\, \forall l \neq k \tag{2}$$

This equation says that the expected counterfactual outcome for the treated group is equal to the expected control outcome plus the pre-period difference between the treated and control groups. This amounts to assuming that the expected path of the treated organizations would have continued to move in parallel to their matched control, absent MacKenzie Scott's gift. This assumption requires time to affect the mean of treated and matched control groups equally, so it is misspecified if time trends affect treated and untreated nonprofits differently. For example, if COVID-19 related shutdowns affected the treated and untreated nonprofits differently, then parallel trends would not hold. Matching is intended to find nonprofits that will most likely have parallel trends in the post-period by creating parallel trends in the pre-period. If nonprofits anticipated the gift, then matching would distort the selection of a control that meets the parallel trends assumption.

With these assumptions, the following regression equation then estimates θ_k:

$$Y_{it}^c = \alpha_i + \delta_t + \sum_{k=k_{\min}, k\neq -1} \theta_k 1(t - c = k, D_i = 1) \tag{3}$$

In empirical results that measure the percent of the average gift that outcome Y_{it} comprises, I will make two adjustments to Equation 3. For ease of interpretation, I normalize treatment by the average size of the gift G in each fiscal year cohort c, G^c, in Equation (4) similar to recent work estimating consumers' marginal propensity to consume (such as Golosov et al. (2024)):

$$Y_{it}^c = \alpha_i + \delta_t + \sum_{k=k_{\min}, k\neq -1} \tau_k G^c 1(t - c = k, D_i = 1). \tag{4}$$

This can be read as the average marginal propensity to consume in Y_{it} out of the average gift, assuming that the timing of the gift was random. As implied by Table 1, recipients varied greatly in size. Consequently, for regressions with Y_{it} measured in dollars or percent of average gift, I weight regressions by inverse average pre-period revenue of nonprofits to correct for heteroskedasticity to improve the precision of my estimates (Solon et al., 2015). The argument for revenue-related heteroskedasticity based revenue is based stems from the fact that annual spending by nonprofits closely matches annual revenue and that for equivalent percent deviations from year-to-year in revenues, expenses of any category will vary on a dollar basis by significantly more for nonprofits that have more revenue. But, because I do not also weight the average gift size by average pre-period revenue and larger gifts are given to larger nonprofits, this estimation without adjustments would bias down estimates of τ_k. As a result, I estimate Equation (4) by quartiles of nonprofit size in a fully interacted regression, then use the delta method to compute my final τ_k. Appendix B explains this approach in more detail.

3.3 Identifying the differential effect of restricted revenue on recipients

In testing the existing literature's predictions about restricted giving, Section 5 tests for larger treatment effects based on how restricted the nonprofit was prior to the receipt of MacKenzie Scott's unrestricted gift. The specification used for these tests is:

$$Y_{it}^c = \delta_t + \alpha_D 1(D_i = 1) + \alpha_R \bar{R}_i + \beta 1(t \geq c, D_i = 1) + \phi \bar{R}_i 1(t \geq c, D_i = 1) \tag{5}$$

where $\bar{R}_i$ is the average restrictedness of recipients prior to receiving a gift from MacKenzie Scott, calculated as in Section 2.3. A significant ϕ is interpreted as a the additional treatment

effect from Scott's gift on restricted nonprofits for nonprofits with 1 percentage point more restrictedness.

4 Adding up the full impact of the cash windfall: contribution crowd in and spending

I find that the size of the cash windfall is 164% of the original gift amount because nonprofits receive 64% of the average gift amount in additional contributions: donations from foundations, individuals, and corporations and grants from governments. Funded by these additional contributions, nonprofits save the gift then increase their annual expenditures so that they spend the equivalent of the entirety of the gift principal within two years. Grants to other organizations and individuals became an increasing fraction of total spending.

4.1 Additional contributions

Nonprofits received 64% of the average gift in additional contributions and grants in the first two years after the gift. I find large heterogeneity between grant givers and direct service organizations (DSO)'s in the types of contributions that crowd in to the recipient. Concurrent increases in fundraising expenses explain only a small portion of the increase.

Figure 2 reports τ_k from Equation (4) for $k = -8$ to $k = 2$ years after receiving a gift from MacKenzie Scott. These results suggest that, in the year of MacKenzie Scott's gift, treated nonprofits received on average of 13% of the average gift ($8.4M) concurrently from the combination of (1) donations from other individuals and organizations and (2) government grants. This rose to 25% of the gift for the next two years, tallying to 64% of the original gift. Appendix Figure A6 shows that these contributions derivevd from both government grants and new donations from other sources. The breakdown differed for grantmakers and direct service organizations. Appendix Figure A7 shows the effect on these organizations separately. Grantmakers received 41% of the average gift in donations within two years. For grantmakers, crowd in initially came from new donations, but two years after the gift, these donations had been replaced by an in-kind increase in government grants. Two years after receiving the gift, grantmakers who received a gift from Ms. Scott actually had $0.20 fewer incremental donations per dollar of the average gift received. The transience of donation crowd in at grantmakers supports an interpretation that the gift was a supply shock – a positive signal to donors – but as attention faded, so did the benefits of the gift. Donations are typically preferred to government grants, which are typically restricted for specific uses and administratively taxing. This dynamic could even imply that the grantmakers had to seek the funding to support the expansion they had made in the first 24 months. For direct

service organizations, this crowd in was larger – 91% of the gift – and almost entirely due to non-government donations. There was a smaller concurrent increase in government grants.

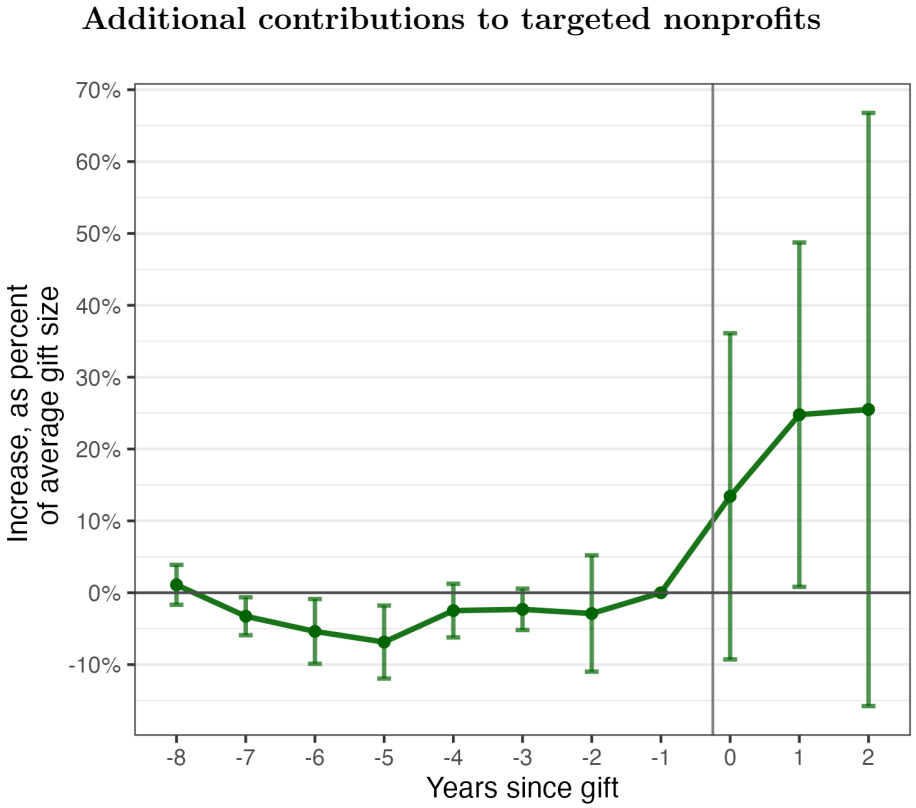


Figure 2: Contribution crowd in at nonprofits who received gifts from MacKenzie Scott. The y-axis shows the estimate of τ_k from Equation (4) for total contributions reported in addition to MacKenzie Scott's gift, measured as a percent of the average gift ($8.4M), with 95% confidence intervals. The x-axis tracks years k since the gift was received. Ms. Scott's gift coincided with a $1.1M increase in donations and grants from other individuals and organizations, rising to $2.1M in the following two years.

Changes in fundraising corroborate the hypothesis that the gift was primarily a donation supply shock. Appendix Figure A8 shows the percent change in contributions versus the percent change in reported fundraising expenses. Each observation is a nonprofit's percent increase compared to its four matched controls. Observations have been grouped into 18 equally sized bins. While the best fit line is positive, the correlation between the change in fundraising and contributions is only 0.16. In other words, if fundraising is the input good to "producing" donations, exogenous changes in the marginal donations collected per dollar of fundraising seemed to have explained crowd in more than increases in the input good did. I conclude that while fundraising also contributed to the contribution crowd in, it did not fully explain it.

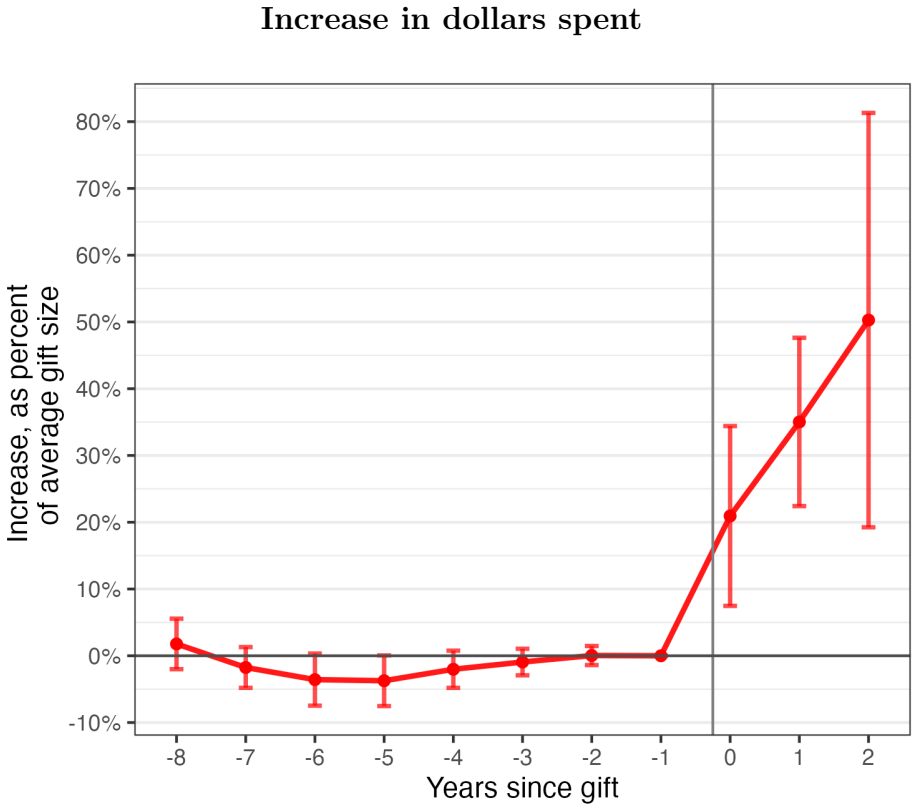


Figure 3: Total spending out of the gift, as a fraction of average gift size. The X-axis tracks years k since the gift was received. The Y-axis shows the estimate of τ_k from Equation (4) for expenses relative to gift year, with 95% confidence intervals. The point estimates imply that the gift coincided with an increase in expenses equivalent to \$0.21 per dollar of the average gift, rising to \$0.35, \$0.50 after the gift. In other words, two years after the gift, recipients had spent the entirety of their gift, on average.

4.2 Total spending

Concurrent with additional donations, nonprofits increased up spending in the two years after the gift and spent the entirety of the gift in the first two years. Figure 3 plots the fraction of the average gift by which nonprofits increased annual expenditures. I find that annual spending increased steadily starting in the year of the gift from 21% in the year of receipt to 35% and 50% one and two years after the gift. The cumulative effect of this spending is equivalent to spending 106% of the gift within two years. These estimates are larger than the contribution crowd in for each year meaning that a continuing gap would cause the nonprofit ultimately to spend down the entirety of new contributions and the gift in future years.

To investigate whether the growth in spending was associated with the donation crowd in, I plot the relationship between growth in donations and in total expenses for recipients from

before the gift to the average of the three years inclusive of receiving the gift in Appendix Figure A8. I find that percent increases in spending were highly correlated with crowd in, with a linear trend having a correlation of 0.77. The strong correlation in growth (unlike the relationship between fundraising and donations) suggests that nonprofits chose how much they expanded based on the crowd in they received. The one-time gift was a starting point, but contribution crowd in played a role in the resulting size of the nonprofit.

The estimates imply that nonprofits not only spent the principal of the gift but also will deplete the contribution crowd in within five years if crowd in does not grow further. Consider a hypothetical where new contributions and spending are permanent. In this hypothetical, recipients would continue to collect \$0.26 and spend \$0.50 per dollar of the average gift every year. Projecting this forward, recipients would deplete the average gift by five years after receipt and would have to reduce annual expenses. If contributions future years then the contraction would happen even sooner.

4.3 Allocation of spending

By two years after the gift, 26% of the average gift was spent on grants to individuals and other organizations, 32% was spent on compensation, and 47% was spent on other costs. In relative terms, while grant giving comprised more of spending than prior to the gift, other spending remained closely in line with pre-existing allocations.

4.3.1 Grant giving

Figure 4, shows the allocation of spending to grant giving by nonprofits in two ways. In panel (a), grant giving comprises \$0.06, \$0.06, and \$0.14 per dollar of the average gift, reporting τ_k from Equation (4). Panel (d) shows that this increase was more than proportional to the spending that recipients had on grant giving prior to Ms. Scott's gift. It reports the binary treatment effect of the gift, θ_k from Equation (3), on the percent of annual spending given as grants to organizations and individuals. In the years after receiving the gift, nonprofits allocated 1 pp more of spending toward giving grants. This measure is the total dollar amount given in grants and does not include any supporting costs of selecting grantees and administering the grant. In other words, this spending is the dollars of cash given directly in the tax-exempt purpose either to related organizations or to the population to whom the nonprofit typically provides goods and services.

Appendix Figure A11 shows this change in allocation is observable only in DSO's. Two years after the gift, 2.5 pp more of DSO spending went to grants (panel (a)), which more than doubles the percent of annual spending devoted to grants prior to the gift. In contrast,

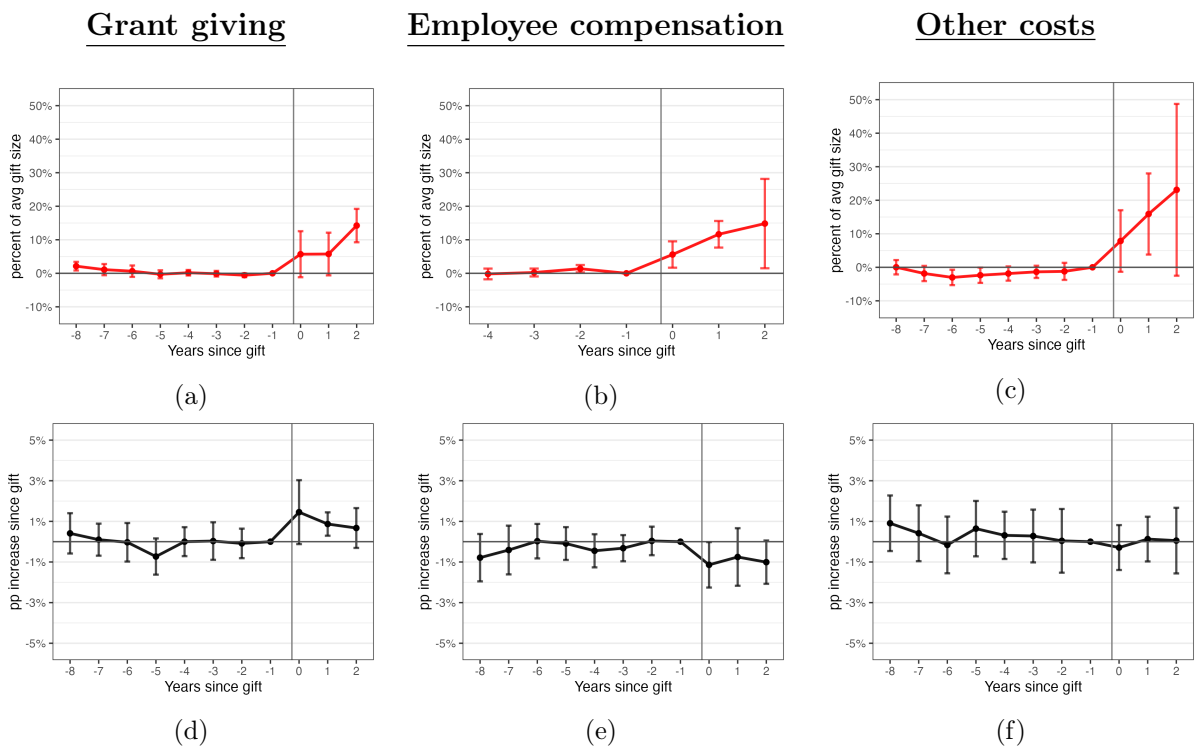


Figure 4: (a, b, c) As treated nonprofits increased their annual spending, they spent more money on grants, compensation, and all other costs. (d, e, f) Grants became 1.5 pp (at 90% significance level), 0.9 pp (at 95% significance level), and 0.7 pp (insignificant) more of total spending in years after the gift. Compensation reduced commensurately, and other expenses remained proportional to their previous amounts. The y-axis range is the smallest interquartile range of these three fractions (percent of grants).

the relative allocation toward grants remained constant for grantmakers, who were already spending more than 9% of annual expenses on grants. This change in allocation pairs with the high marginal propensity to consume out of the gift. Despite having the opportunity to save an unrestricted gift, DSO recipients spent readily and gave funds away.

4.3.2 Employee compensation

Panels (b) and (e) of Figure 4 show the analogous exercise to document the level and relative allocation of compensation of workers at recipient nonprofits. Panel (b) shows the estimate of τ_k from Equation (4) for total employee compensation. This estimate is the total wage bill at the nonprofit, including salaries and wages of non-senior and senior employees, plus other employee benefits, pension contributions and accruals, and payroll taxes. Recipients spent an increasing amount on compensation after receiving a gift: \$0.06 per dollar of the average gift in the gift year, then \$0.12 and \$0.15 annually, comprising 32% of the gift principal two years later. Panel (e) shows the estimate of θ_k from Equation (3) for percent of spending

allocated to employee compensation. Relative spending on compensation declined slightly as a counterweight to increased grant giving.

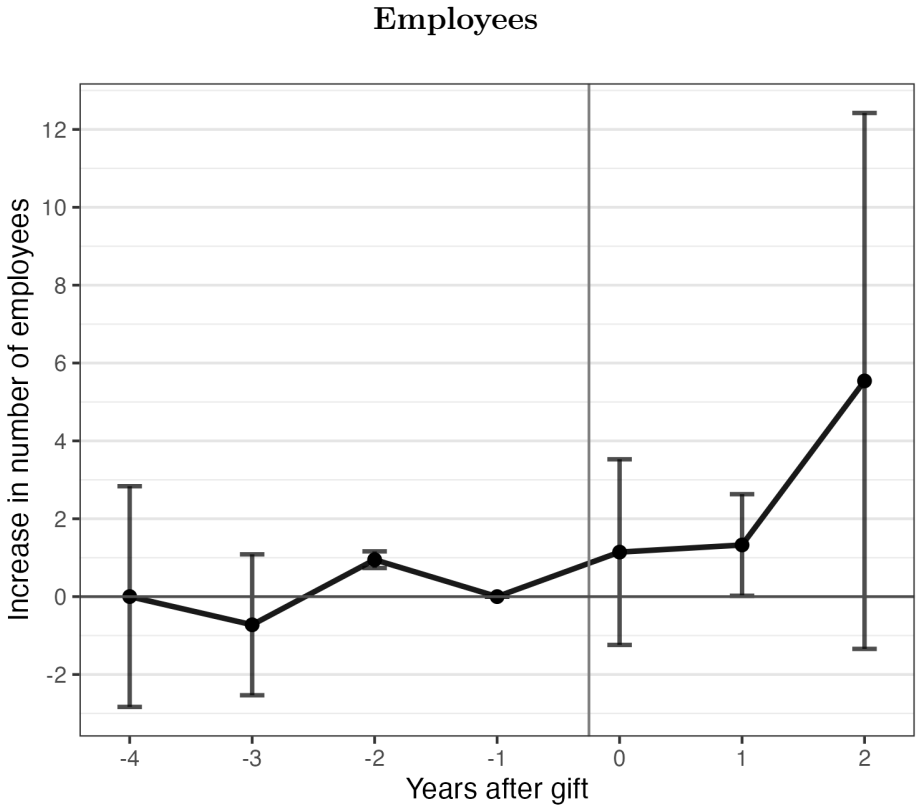


Figure 5: This figure shows the increase in employees at recipients of Ms. Scott's gift. The y-axis shows the estimate of τ_k for number of employees, with 95% confidence intervals, from Equation (3), weighted by inverse pre-period revenue for the number of employees reported. The x-axis tracks years k since the gift was received. Two years after the gift, the average nonprofit has 5.5 additional employees.

The increase in compensation stemmed from hiring and from higher pay for existing workers. Figure 5 shows the estimate of θ_k from Equation (3) weighted by inverse pre-period revenue. Nonprofits hired 5.5 more employees two years after the gift – a 2.9% increase. The remaining increase in compensation accrued through increasing compensation of workers. Figure 6 shows the increase in wages using (3) for three types of employees: the highest paid employee (my proxy for the chief executive officer), directors (the average wage of the second through fifth highest paid workers), and the average non-senior employee. I measure the increase in their wages by reporting θ_k from Equation (3), where observations are unweighted. This figure shows that compensation of the highest paid employee increased \$20.9K two years after the gift. The compensation increase for directors is a smaller \$12K, but a larger 9% relative increase due to the smaller baseline compensation. The compensation of the average employee increased only \$2.7K. These estimates are increases off of different

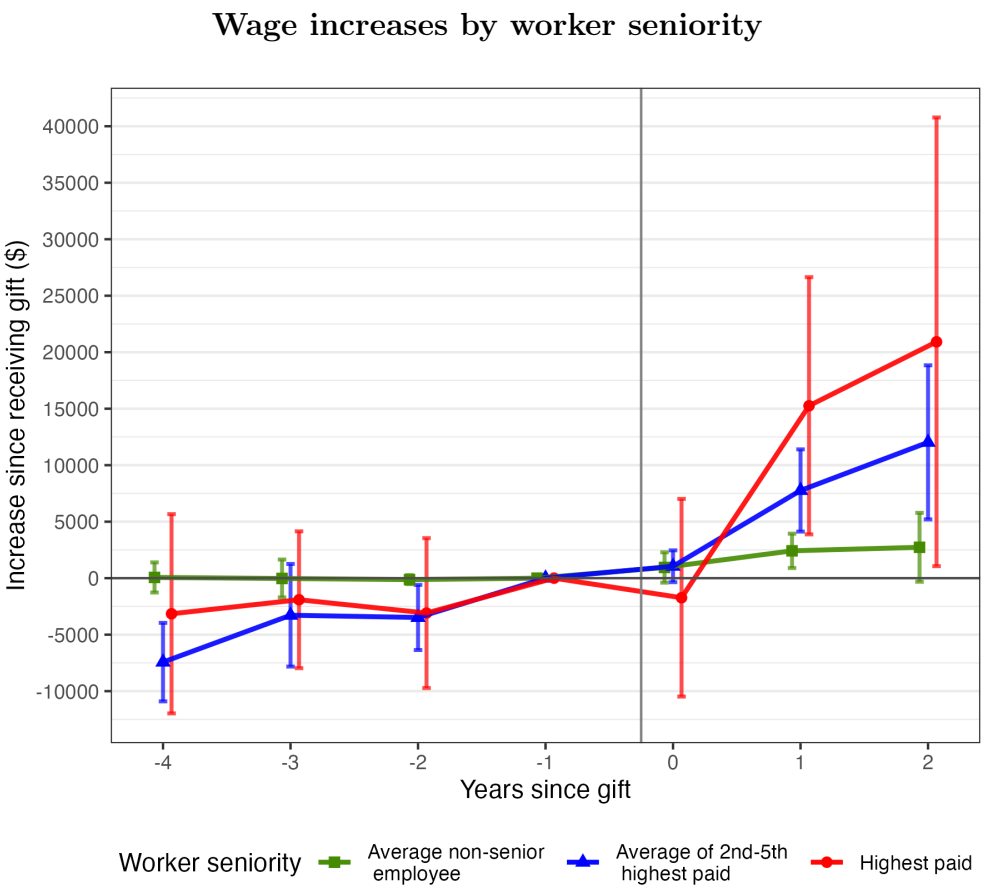


Figure 6: This figure shows the increase in wages at recipients for three types of employees: the chief executive officer, the average director, and the average non-senior employee. In red, the compensation of the chief executive (proxied by the highest paid employee at the nonprofit) increases to $20.9K compared to matched controls two years after receiving a gift from Ms. Scott. In blue, the compensation of average director (proxied by the average compensation of the second through fifth highest paid individuals) increases $12K. In green, the average compensation of a non-senior employee increases by $2.7K.

baselines – highest compensation increased 9% from the average 2019 value, versus 12.1% for directors and 5.8% for the average non-senior employee. Appendix Figure A10 shows that the aggregate annual incidence of director compensation of annual spending peaks at $0.017 per dollar of the average gift two years after receipt.

Appendix Table A1 shows that there were no significant differential increases in compensation based on the restrictedness of the targets nonprofits. Appendix Figure A12 shows these estimates weighted by the inverse of nonprofit size – the weighting used for all other outcome variables in the paper up to this point. Unweighted is my preferred specification because employee wages and do not exhibit the same size-related heteroskedasticity that the other spending-related outcomes do as discussed in more detail in Section 3.2.

4.3.3 Comparing incidence with for-profits using present value

The most intuitive way to understand the estimates for senior wage increases are in terms of the present value of cash flows. Compensation for the five highest paid employees accounted for \$0.017 of every dollar of the average gift. The translation of this estimate to the present value of those costs requires an assumption for the nonprofit's discount rate r, as shown here:

$$PV_{\tau} = \tau_0 + \frac{\tau_1}{1+r} + \sum_{s=2}^{\infty} \frac{\tau_2}{(1+r)^s} \tag{6}$$

As a result with an assumption of the prevailing interest rate $r = 4.5\%$, the gift arriving one-time with once-and-for-all wage increases means that the top five executive wage increase actually comprised \$0.37 of every dollar of the average gift. Using the interest rate at the onset of Scott's gift giving in 2020, $r = 0.10\%$, this estimate is far larger, exceeding the size of the gift. Assuming nonprofits budgeted contribution crowd in as part of the initial windfall, dividing this result by \$1.605 (the present value of the contribution crowd in) yields \$0.23 per dollar.

The estimate for top five wages is design to be precisely analogous to Ohrn (2023)'s most recent estimate of executive compensation after cash windfalls at for-profit, publicly traded firms. His analysis of two tax changes suggests that \$0.17-0.25 of every windfall dollar is allocated toward the pay of the five highest paid employees. My analogous estimate, \$0.37, is larger but in the same range when adding contribution crowd in to the denominator. In sum, the windfall-related senior compensation increases at recipient nonprofits are quite similar to estimates seen at for-profit publicly traded firms.

4.3.4 Discussion

The increase in senior wages has three potential mechanisms: implicit compensation contracts, pay for performance, and agency frictions. The implicit employer-employee contract would take the form of employees temporarily lending funds to the firm on the condition of receiving bonuses in liquid times. Howell and Brown (2023) presents evidence of this mechanism for implicit equity financing for liquidity constrained firms in describing the wage increases at for-profit firms receiving research grants. Liquidity constrained firms, by definition, have a borrowing limit because of imperfect capital markets. As a result in this mechanism, firms find it easier to borrow from their employees. In that context, wage increases are not a function of effort but simply a contracted bonus written for firms with pre-existing liquidity constraints. The phenomenon predicts wage increases to scale with tenure at the firm, which is related to the seniority I find. Without seeing these contracts

explicitly, I cannot rule out this mechanism from consideration. However, this mechanism necessitates pre-existing liquidity constraints at recipients and the gift relieving those constraints. In Section 5, I find scant evidence from relative choices to spend and save that recipients were liquidity constrained prior to the gift. Furthermore, if this mechanism were responsible, I would expect to see wage increases come primarily in the form of temporary bonuses in the year of the gift then diminish in the subsequent years. Instead, wages increase consistently starting in the year of the gift.

Another explanation of the wage increases is pay for performance: that the raises fairly rewarded the increase in worker's marginal product of labor. Production permanently and dramatically increased at nonprofits who received a gift. With the sizable increase in nonprofit spending, the marginal product per worker increased dramatically and workers could have rightfully been paid more. However, this explanation does not address why non-CEO executive pay still increased more than employee pay. Furthermore, spending does not equate to the total social output of the nonprofit, so the ratio does not have a portable interpretation as an "marginal product" as this ratio does at for-profit firms (Gabaix and Landier, 2008). Consequently, this relative increase would have to be explained by recipients seeing the gift as a reward for past effort. Although the gift was unexpected, recipient nonprofits could have seen Ms. Scott's attention as a reward for the past strong performance of the organization. Under this hypothesis, the marginal benefit of the efforts expended by directors and the CEO was larger than by employees. The differential benefits could have been due to the primary role executives play in fundraising Pagnoni (2023), something I could validate in future work by investigating the job titles that experienced wage increases.

The remaining potential explanation is that the differential increase in senior wages was due to agency frictions on the part of internal nonprofit stakeholders. This interpretation is supported by the differential increase to senior employees and aligns with empirical research in for-profit firms. This phenomenon is also central to arguments for restricted giving, which could be an indicator that it is a realistic concern.

5 Testing predictions about unrestricted giving

In this section, I show that the predictions of the nonprofit starvation cycle did not transpire for recipients of gifts from MacKenzie Scott. I find that recipients do not increase relative indirect costs after the gift and do not increase their relative asset reserves.

The starvation cycle mechanism implies that nonprofits are constrained by donor demand for restricted donations so that all line items except for core "Program Service" expenses could be underfunded. Using the indirect ratio: one minus Program Service expenses divided by

Table 2: This table shows the outcome of Equation (5) for overhead ratio, expense to asset ratio, and expense to liquid asset ratio (columns (I), (III), (V)). If recipients had suboptimal overhead ratios or too large expense to asset ratios due to donation restrictions, then a large unrestricted gift should change their level. No coefficients in those specifications are significant. This friction should affect nonprofits with higher restricted donations more, and so columns (II), (IV), and (VI) interact receiving a gift with the fraction of prior revenues that were restricted. This coefficient on this new term is also not significant.

	Overhead ratio		Expense to liquid asset ratio		Expense to asset ratio	
	(I)	(II)	(III)	(IV)	(V)	(VI)
Post	0.00753	0.00841	-2.03	-1.52	0.0226	0.0678
	(0.00572)	(0.00738)	(1.56)	(2.60)	(0.1360)	(0.1346)
Post x (Percent of revenue restricted)		-0.00312		-1.81		-0.171
		(0.00931)		(5.60)		(0.312)
Num.Obs.	17636	17636	17925	17925	25967	25967
R2	0.663	0.663	0.251	0.251	0.552	0.552

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

total expenses, I find that indirect did not decline, and nonprofits saved no more assets as a proportion of their spending as they did prior to the gift. These results somewhat cut against the narrative that nonprofits have experienced a "starvation cycle" that underfunds indirect expenses and consequently cash balances.

Indirect cost ratio. Table 2 shows that the indirect cost ratio at recipient nonprofits neither increased nor responded differentially based on the percent of revenue that was restricted prior to the gift. In column (I), when applying Equation (5) for nonprofit's indirect ratio without the α_R and ϕ terms, the coefficient β is insignificant, so nonprofits did not increase their indirect spending after receiving Ms. Scott's gift as a fraction of all spending. Next, increasing the amount of restricted revenue for the nonprofit had prior to receipt did not differentially increase indirect spending. Column (II) shows all terms in (5). The term with an interaction between being treated and the percent of revenue restricted shows the higher treatment effect that restricted recipients could have had prior to the gift. The coefficient ϕ is insignificant, suggesting that a higher prior exposure to restrictions – a possible hallmark of underfunding – makes them no more likely to fund indirects. The lack of increase suggests that nonprofits were not constrained in their allocation to indirect costs prior to the gift.

Expense to liquid asset ratio. Nonprofits, like consumers and firms, hold a reserve of liquid assets for emergencies or large changes in investment opportunities. The starvation cycle literature states that donors' elasticity to the percentage of their gift used directly on charitable activities could drive suboptimal liquid savings. A large unrestricted donation should reduce that constraint and allow nonprofits to hold more buffer stock. I test relative

spending out of total wealth and out of liquid wealth to create marginal propensity to consume (MPC) estimates analogous to estimates in Kaplan and Violante (2022). Table 2 shows that the gift did not change the average amount of buffer stock relative to annual spending for treated nonprofits by either definition. In column (III), the coefficient is insignificant on treatment for the expense to liquid asset ratio, defined as the sum of non interest bearing and interest bearing savings and investments on public markets. In column (IV), the interaction with percentage of revenue previously restricted did not create any differential effect. The lack of change implies recipients did not seem to have dire liquidity constraints prior to the gift. This is robust to treating the nonprofit's buffer stock as their full asset balance, as shown in columns (V) and (VI). The resulting lack of evidence for liquidity constraint contrasts the narrative that nonprofits are at the edge of financial distress from restricted donations. That said, my empirical strategy describes only the average effect on the treated nonprofits, so the persistence of liquidity constraints at other nonprofits is certainly possible.

6 Conclusion

MacKenzie Scott's gifts were massive – in the initial gift size and in the ability for nonprofits to raise additional funds in the years following the gift. While previous work has made a series of predictions about how other donors will react to this large allocation of money, much less is known about the ways that nonprofits will allocate these funds. I document that the income effects of this gift altered the allocation of their spending but not their financial stability. Nonprofits spent out of the gift proportional to their other pre-existing liquid and illiquid assets and did not demonstrate the liquidity constraints that much of the literature has previously focused on. Program spending increased drastically, grant making increased as if nonprofits had a diminishing productivity of their core spending within a year, and supporting indirect costs increased much less as a fraction of total spending. This allocation suggests that indirect is not underfunded unless pressure (Lecy and Searing, 2015) to under-report indirect expenses remained quite robust.

Instead, one potential interpretation of these findings is that internal stakeholders did receive additional funds. CEO compensation, typically used as a bellwether of this reallocation (Blanchard et al., 1994; Bertrand and Mullainathan, 2001; Ohrn, 2023), increases, and so do employee wages as in Howell and Brown (2023). As a percentage of the windfall, the estimates are smaller in magnitude than estimates at for-profit firms but could suggest that agency frictions present at for-profits persist at nonprofits. Importantly however, wage growth could have also been a result of pay-for-performance and still occurred off of a low baseline (annual total compensation of $232K for executives, $99K for directors, and $47K

for non-senior employees). In sum, discussions of misallocation stem from a concern that noncharitable spending will be spent not only on indirect costs but also on compensation for employees: the internal stakeholders of the nonprofit. In one interpretation, my results corroborate these concerns. Regardless of its mechanism, wage increases have the potential to accrue in size in the long-run. I estimate that $0.37 of every dollar of the original gift accrues to the top five executives. Nonprofit spending surges are often temporary when caused by exogenous swings in the popularity of particular causes (Greenstone, 2020; Dervishi, 2023). The observed contribution crowd in could be subject to similar concerns, and large wage adjustment costs would prevent wages from decreasing as crowd in and spending fades. Without a larger operation to justify increasing executive pay, recipients would have used a measurable portion of the present value of the gift to pay top employees.

This analysis informs normative questions on the optimal form of giving to nonprofits with positive analysis on what happens after large windfalls. Should donations be restricted? Should they require follow up reporting? Ms. Scott's gifts comprised the largest set of unrestricted gifts in years. This gift could be an opportunity to rebrand and pivot completely, but results from tax-return data show little evidence of this happening. Instead, the nonprofit simply became, across the board, larger. When they became large, they gave grants instead of more goods and services and raised executive and employee pay, but they did not become less liquidity constrained. Taken together, the benefits of unrestricted gifts flow to higher output and higher wages but not to the financial health of the organization.

A MacKenzie Scott's gifts: additional details

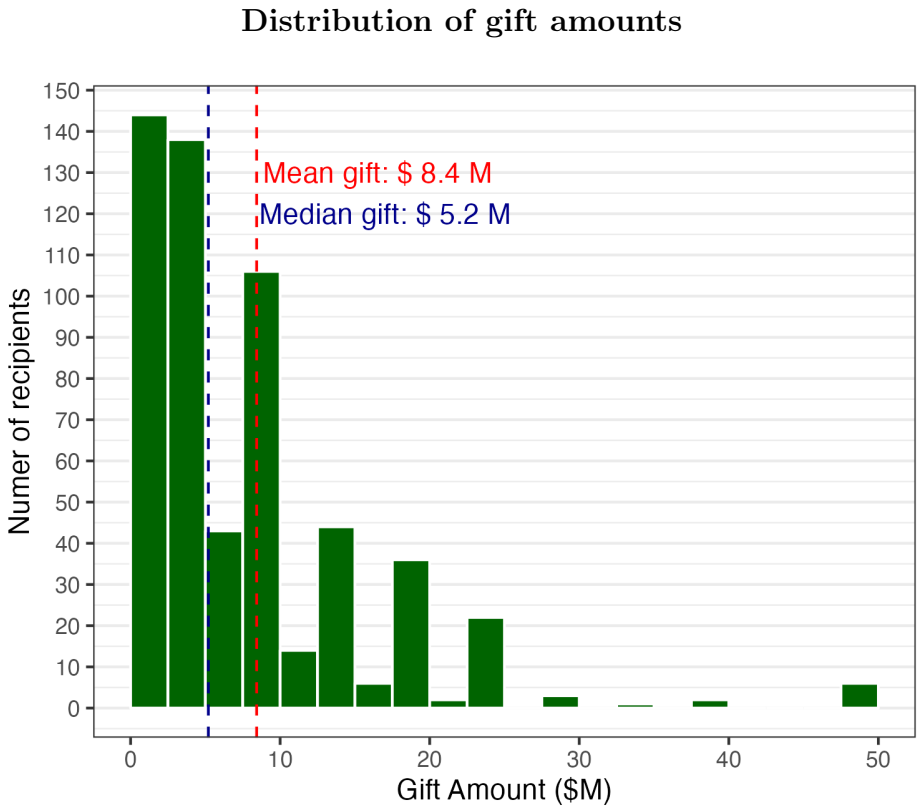


Figure A1: This figure shows the distribution of MacKenzie Scott's gift amounts in millions of dollars.

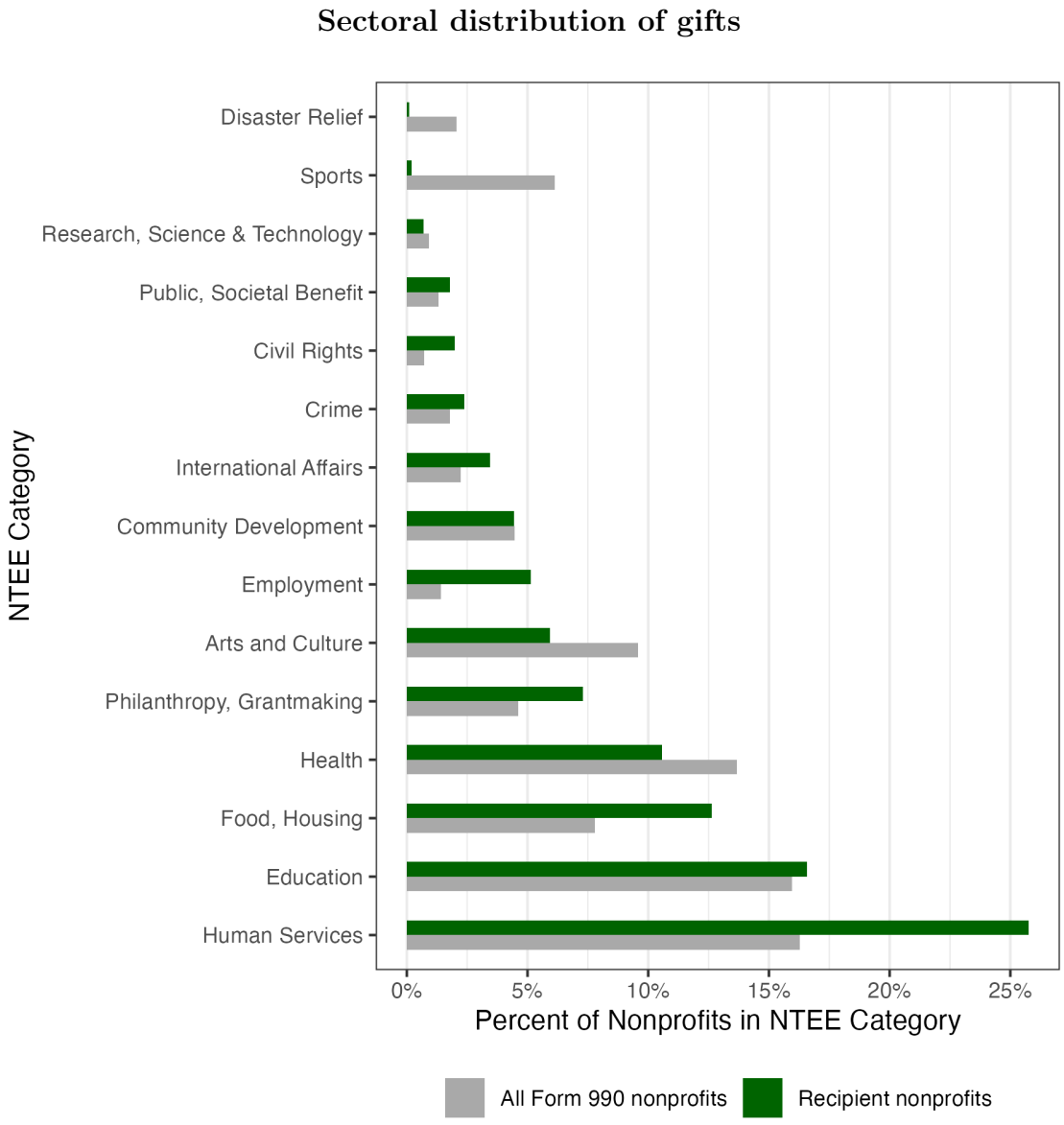


Figure A2: This figure shows the sectoral distribution of recipient nonprofits versus the full population of nonprofits who filed a Form 990 in 2019. On the y-axis is the NTEE category: the first letter of the NTEE code for the organization. The x-axis plots the percent of nonprofits in each category for two populations: all nonprofits filing a Form 990 and nonprofits in my sample of gift recipients.

Trends in key outcome variables for recipients and matched control nonprofits

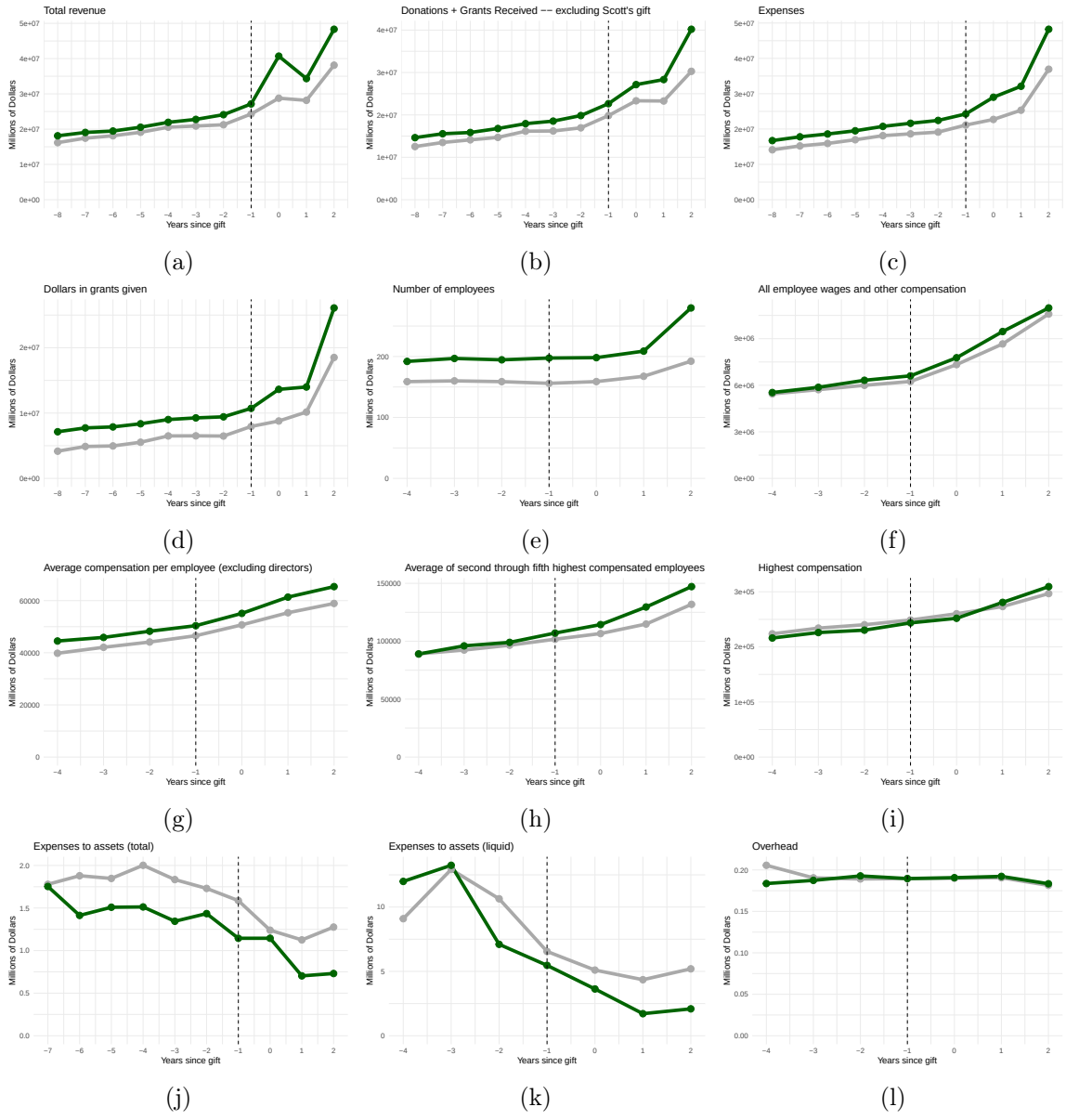
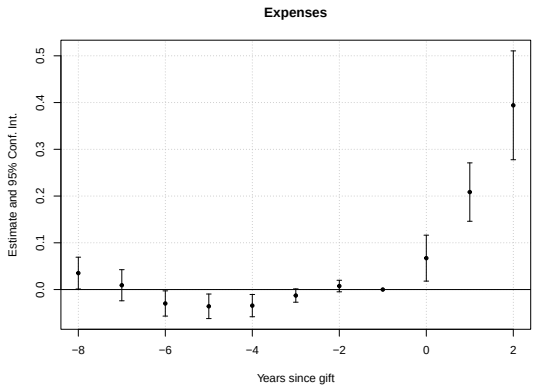


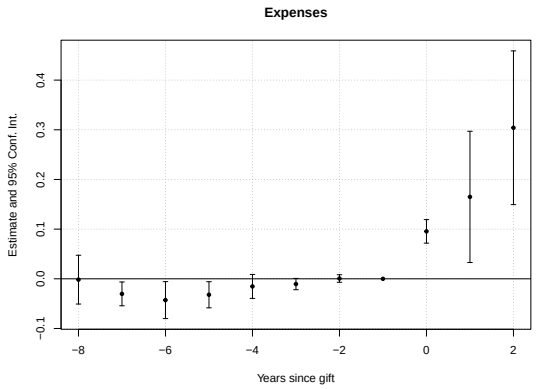
Figure A3: These panels plot the time series of annual mean outcomes for nonprofits who received an unrestricted gift from MacKenzie Scott (green) and nonprofits in the matched control (gray), relative to the gift year. (a) reports the dollars of revenue that the nonprofit received. (b) reports the dollars of donations and grants that the nonprofit received, in excess of MacKenzie Scott's gift, if treated, or total for the matched control. (c) plots the total expenses the nonprofit reported. (d) reports the dollars of grants given to other organizations and to individuals by the recipient nonprofit or control nonprofit. (e) plots the average number of employees reported on the nonprofit's W-3, (f) plots dollars allocated to compensation of employees. Compensation equals the sum of all salaries, benefits, and pension contributions of the nonprofit. (g)-(i) plot average compensation for all non-director employees, director employees and the highest paid employee. (j) reports the average expense to lagged asset ratio. (k) reports this ratio limiting to liquid assets only. (l) reports the percent of total annual spending devoted to "indirect cost" or "overhead" cost.

B Estimating percent of average gift consumed

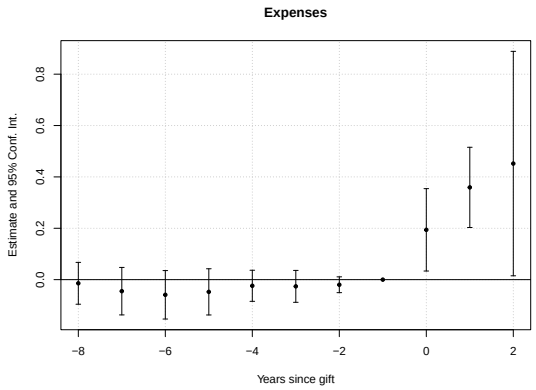
As discussed in Section 3.2, weighting while adding the average gift G_c into Equation (4) biases estimates of the percent of average gift consumed on outcome Y. Intuitively, the regression is weighted and G_c is not, and so G_c is "too large" due to larger nonprofits receiving larger gifts and the right skew of the gift size distribution. As as a result, I perform this regression separately for each revenue quartile of nonprofit. Figure A4 shows this regression estimated by quartile for total spending by nonprofits. Without this procedure, Equation (4) produces Figure A5 – estimates that are outside of the range of the four quartiles. Instead, estimating each quartile as a separate interaction term and computing their average using the delta method produces the convex combination of the four estimates that is shown in Figure 3.



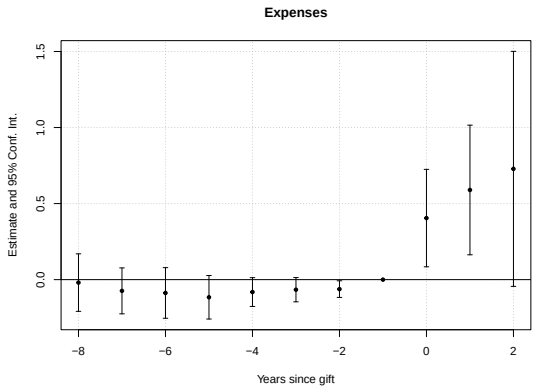
(a) Recipients in pre-period revenue quartile 1



(b) Recipients in pre-period revenue quartile 2



(c) Recipients in pre-period revenue quartile 3



(d) Recipients in pre-period revenue quartile 4

Figure A4: This figure shows the estimate for the increase in expenses at recipient nonprofits, τ_k from Equation (4), as a fraction of average gift size, estimated separately for four quartiles of recipients by average pre-period revenue. Taking the average of these four estimates (by running a fully interacted regression and using the delta method) yields a more realistic answer than A5, which evaluate Equation (4) for the entire population simultaneously. Because of the right skewed distribution of gift amounts, the normalization by average gift amount is in essence "too large".

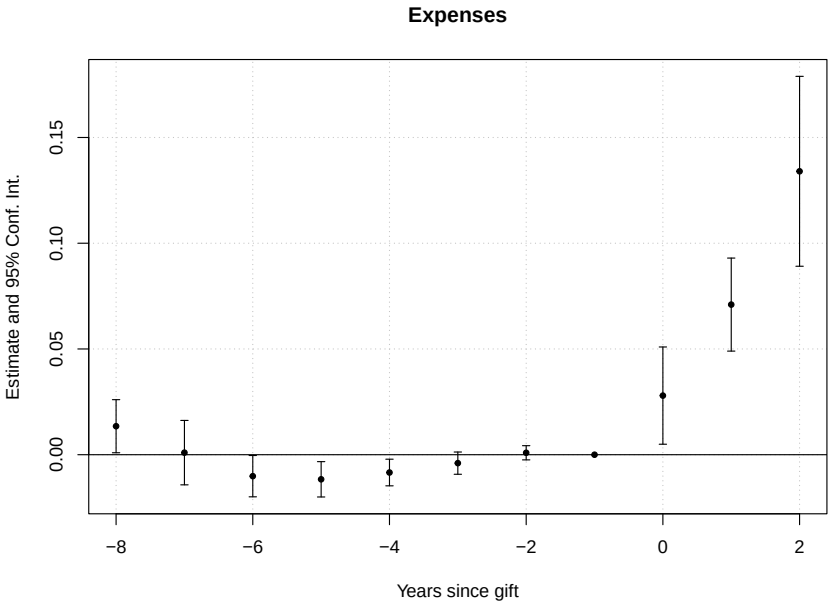


Figure A5: This figure shows Equation (4) for the entire population simultaneously. Because of the right skewed distribution of gift amounts, the normalization is in essence "too large".

C Appendix Tables and Figures

C.1 Contribution crowd in

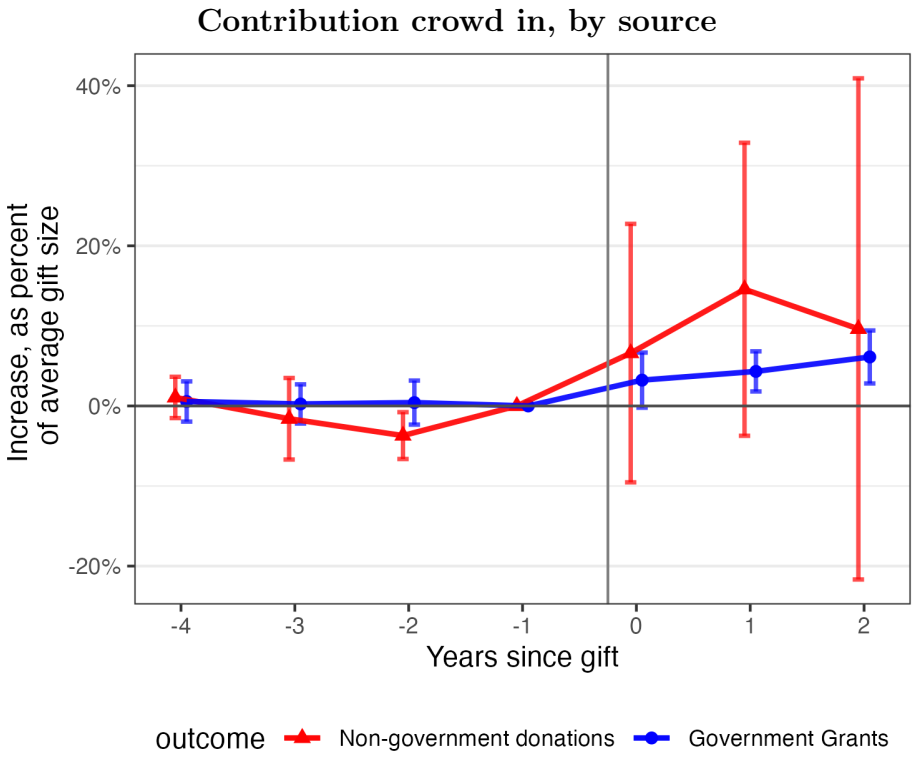


Figure A6: This figure shows the breakdown of contribution crowd in, by the source of the contribution. The Y-axis shows the estimate of τ_k from Equation (4) for two outcomes: donations and government grants reported in addition to MacKenzie Scott's gift, measured as a fraction of the average gift, with 95% confidence intervals. The x-axis tracks years k since the gift was received. Estimates for the crowd in of government grants are precise and positive while crowd in of additional donations is insignificant at the 95% confidence level.

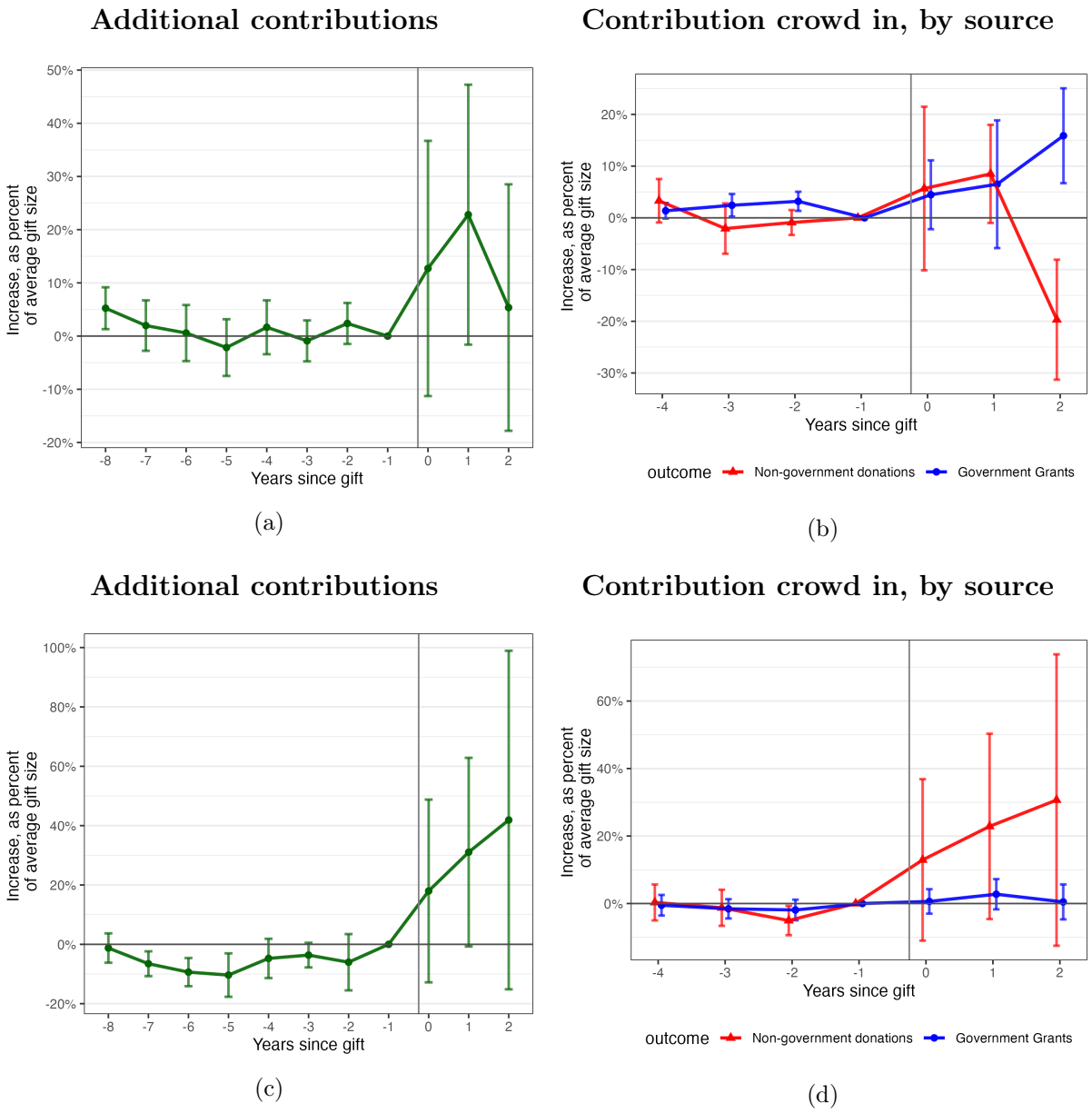
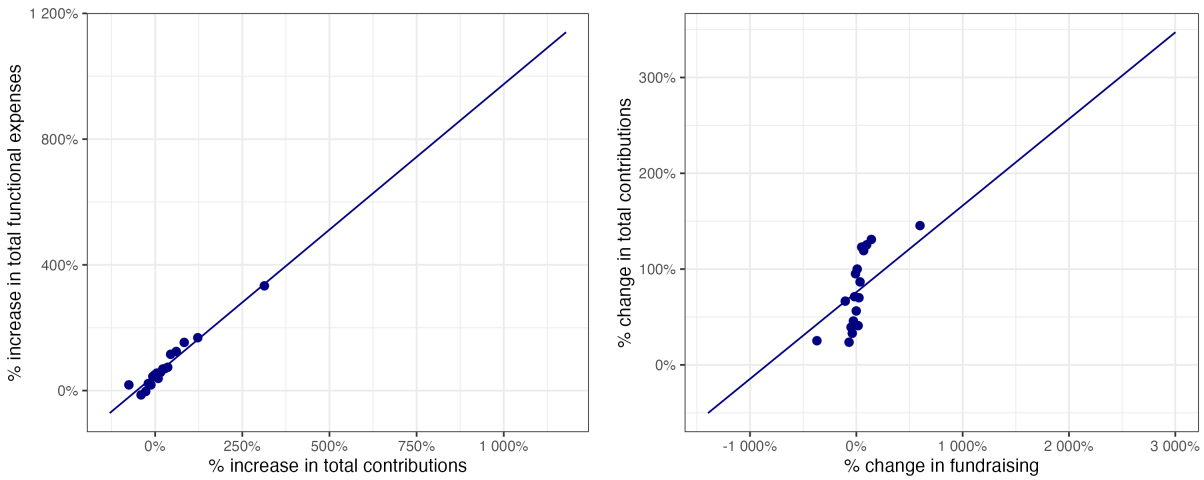


Figure A7: Crowd in at grant makers (a, b) and direct service organizations (DSO's) (c, d) who received donations from MacKenzie Scott. Grant makers are defined as any recipient whose grants totaled more than 10% of their charitable expenses in 2019. Y-axis shows the estimate of τ_k from Equation (4) for total contributions (donations plus government grants) reported in addition to MacKenzie Scott's gift, measured as a fraction of the average gift, with 95% confidence intervals. The x-axis tracks years k since the gift was received. Crowd in at DSO's was far larger than at grantmakers. DSO's had small and insignificant crowd in of government grants two years after the gift, with large and noisy estimates of donation crowd in. In contrast, grantmakers experienced a crowd out of donations amounting to \$0.20 of the gift two years after receipt.



(a) (b)

Figure A8: (a) This panel shows the percent change in total expenses versus percent change in donation and government grants incremental to Ms. Scott's gift. There is a strong relationship between the growth in spending of recipients and their growth in contributions (correlation = 0.73). (b) This did not seem to be due to fundraising alone, as the relationship between growth in contributions and growth in fundraising is quite weak (correlation = 0.16).

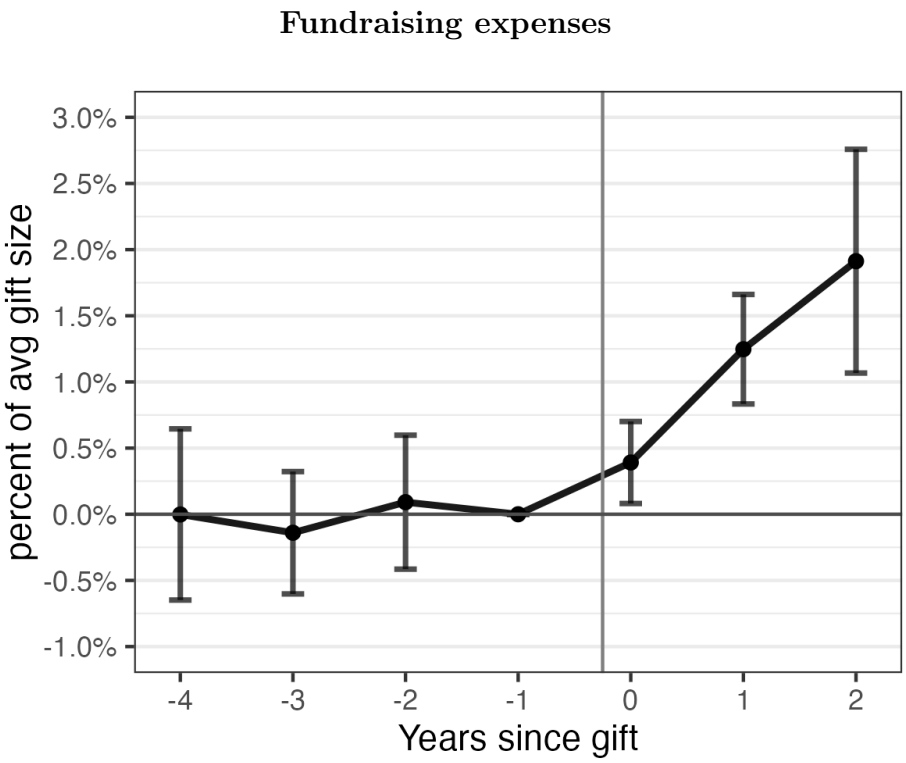


Figure A9: This figure shows the increase in total fundraising expenses at recipient nonprofits compared to treated nonprofits. Fundraising spending increased steadily to peak at 2% of the average gift size two years after the gift.

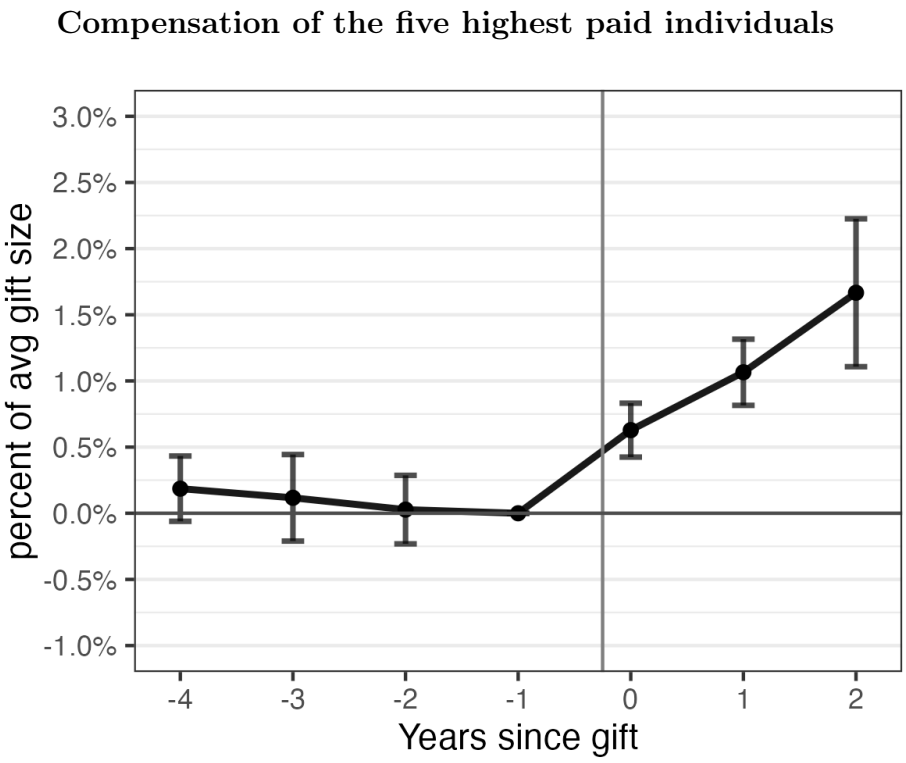
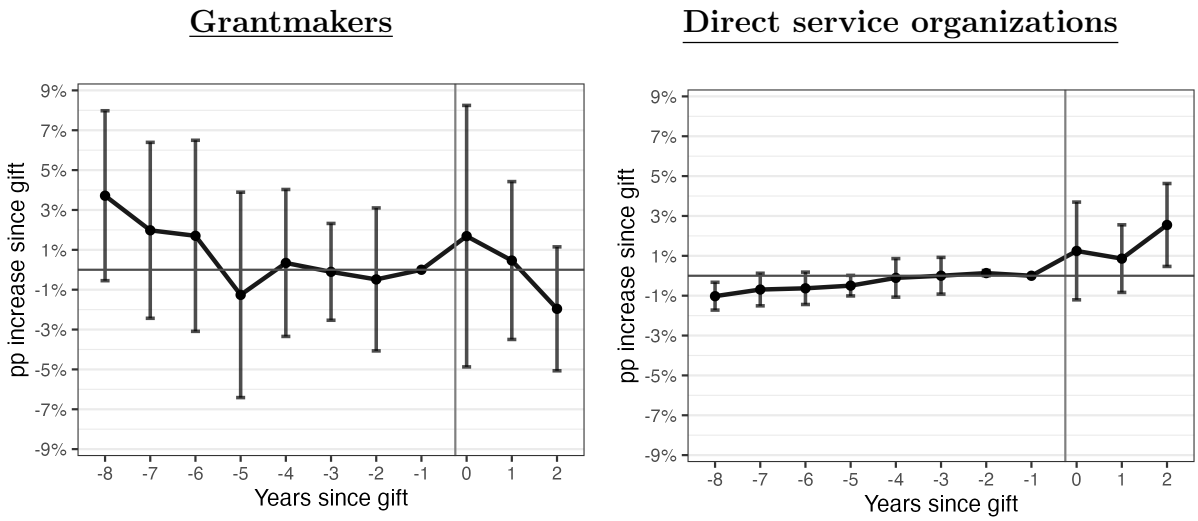


Figure A10: This figure shows the increase in the sum of total compensation for the five highest paid at recipients, as a fraction of the average gift size.

C.2 Allocation of spending



(a) (b)

Figure A11: (a) This figure shows the result of Equation (3) for percent of total expenses comprised of grants to other organizations. Grant givers did not change the percent of their annual expenses devoted to these grants at the 95% significance level. In the year prior to the gift, grants comprised 45% of annual spending. (b) In contrast, DSO's increased the percent of their expenses devoted to grants by 1 pp in the year of and year after Scott's gift (insignificant at the 95% confidence level), then 2.5 pp two years afterward. In the year prior to the gift, grants comprised 2% of annual spending.

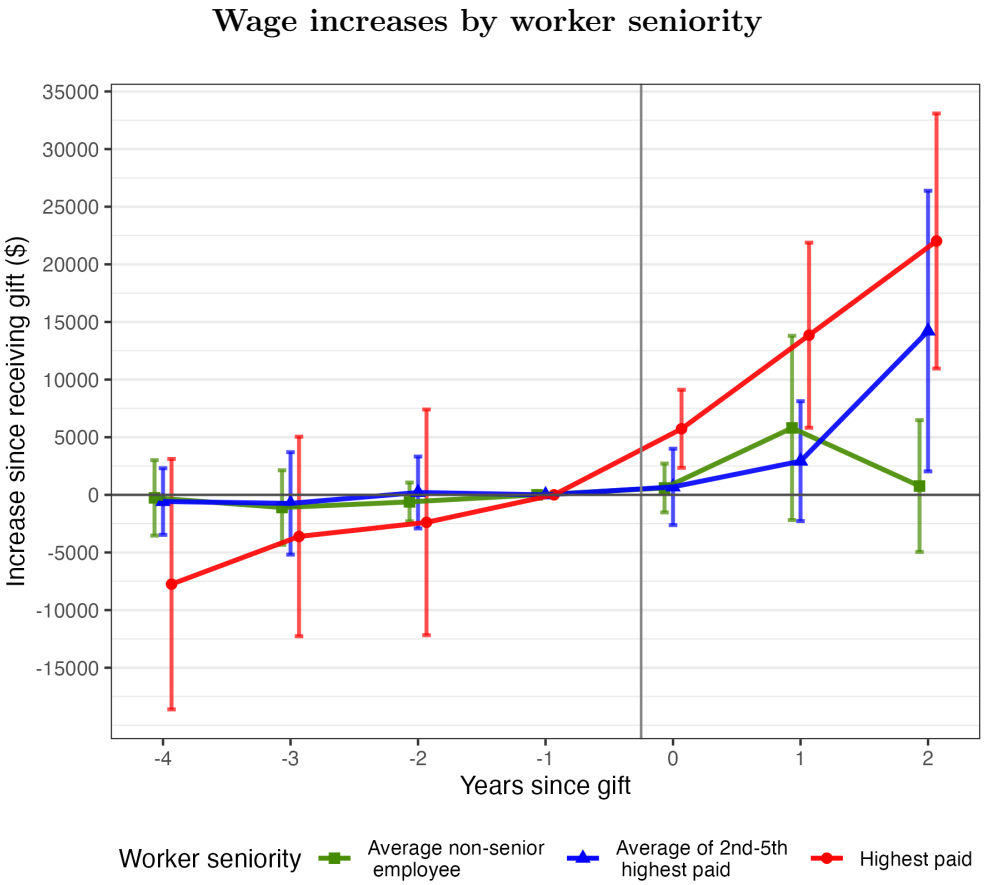


Figure A12: This figure shows the increase in wages at recipients for three types of employees: the chief executive officer, the average director, and the average non-senior employee. In red, the compensation of the chief executive (proxied by the highest paid employee at the nonprofit) increases to $22K two years compared to matched controls two years after receiving a gift from Ms. Scott. In blue, the compensation of average director (proxied by the average compensation of the second through fifth highest paid individuals) increases $14.2K. In green, the average compensation of a non-senior employee increases by $0.8K.

Appendix Table A1: This table shows the outcome of Equation (5) for number of employees and the average compensation of non-director employees, director employees, and the highest paid employee, where the treatment effect is pooled over 0-2 years after receiving the gift. First, recipients have four more employees (insignificant at the 95% significance level), more so if they were more restricted prior to receiving a gift (columns (I) and (II)). Average employee compensation at the treated nonprofits increased at the 90% significance level (column (III)) without a significant impact of restrictedness (column (IV)). Director compensation at entirely unrestricted nonprofits increased by $11.2K, but the differential effect of restrictedness is negative and insignificant. CEO compensation increases by on average $10.4K after the gift at the 90% significance level, and $13.8K for the completely unrestricted recipients (columns (VII) and (VIII)).

	Number of employees		Employee compensation		Director compensation		CEO compensation	
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)
Post	3.94	1.17	1877+	2319	8774**	11240*	10400+	13832*
	(5.98)	(11.75)	(836)	(1400)	(2564)	(3938)	(4545)	(5878)
Post x (Perc. of rev restricted)		9.92		-1607		-8745		-12165
		(21.77)		(2849)		(7377)		(11585)
Num.Obs.	17536	17536	15017	15017	17540	17540	17546	17546
R2	0.967	0.967	0.891	0.891	0.945	0.945	0.919	0.919

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix Table A2: This table shows the outcome of Equation (5), with observations weighted by inverse of pre-period revenue, for number of employees and the average compensation of non-director employees, director employees, and the highest paid employee, where the treatment effect is pooled over 0-2 years after receiving the gift. First, recipients increased employees by 1.6, but this estimate is extremely noisy based on restrictedness (columns (I) and (II)). Average employee compensation at the treated nonprofits did not increase at the 90% significance level (column (III) and (IV)). Director compensation increased at the 90% significance level by $3K, and the effect was significantly smaller for more restricted nonprofits (column (VI)). CEO compensation increases by on average $12.9K after the gift, and $27.2K for the completely unrestricted recipients, with a significant negative effect of having more restricted revenues prior to the gift (columns (VII) and (VIII)).

	Number of employees		Employee compensation		Director compensation		CEO compensation	
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)
Post	1.57	2.85	2969	2482	3011+	7441*	12868*	27243**
	(1.12)	(2.54)	(1647)	(2979)	(1493)	(3219)	(3983)	(7525)
Post x (Perc. of rev restricted)		-3.86		1473		-12950+		-41970*
		(6.03)		(5170)		(6860)		(16896)
Num.Obs.	17536	17536	15017	15017	17540	17540	17546	17546
R2	0.922	0.922	0.842	0.842	0.799	0.799	0.821	0.822

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

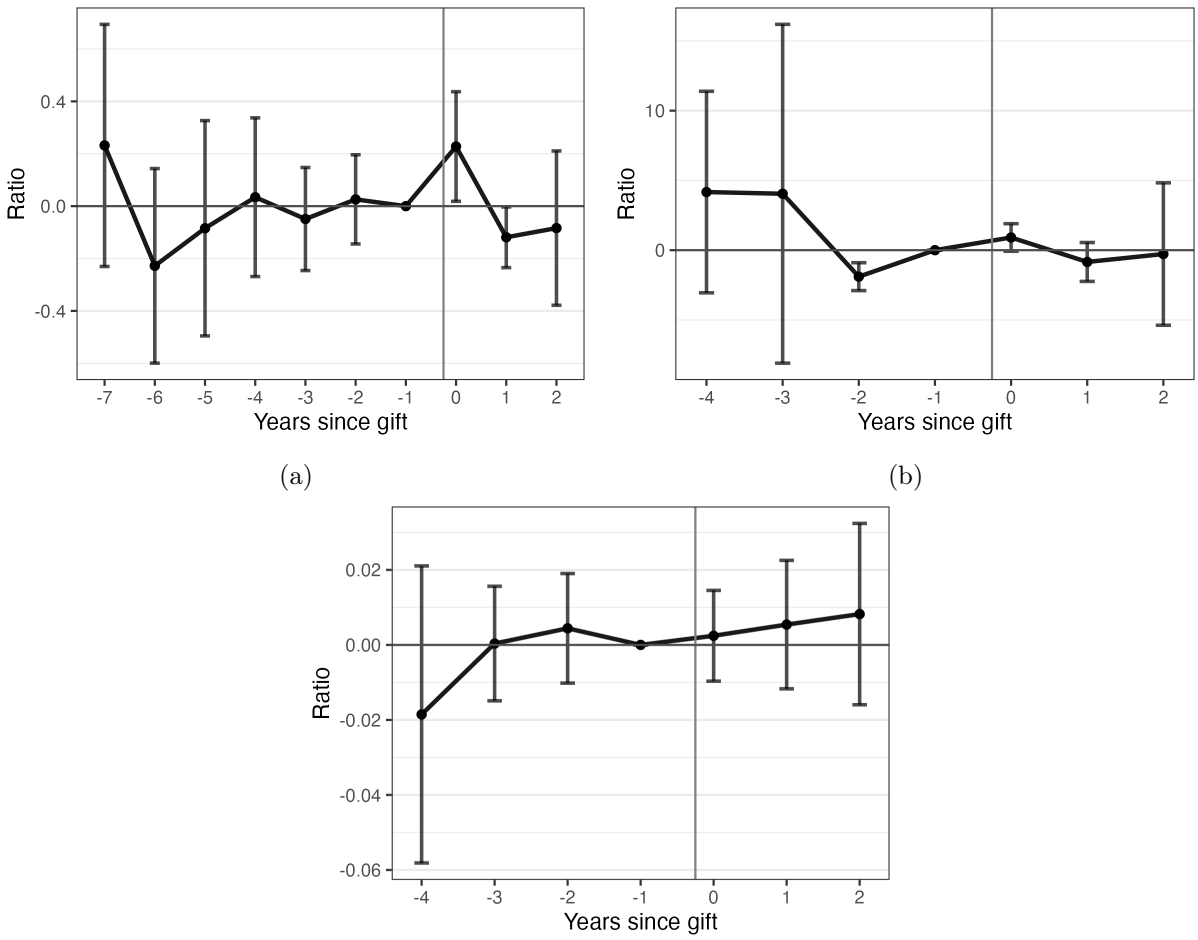


Figure A13: This figure shows the estimates of θ_k from Equation (3) for three variables relevant to the nonprofit starvation cycle hypothesis. Panel (a) plots the estimate for the ratio of annual expenses as a fraction of the recipient's lagged total assets. Panel (b) plots the same estimate using liquid assets only: defined as assets in checking accounts, savings accounts, and publicly traded securities. Panel (c) plots the estimate for the indirect cost ratio.

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