How does purpose shape the gender paygap? Evidence from U.S. charities*

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Abstract

We investigate gender pay differences among executive management in the U.S. charities sector. Using charity-level data from 990 tax forms, we document two new stylized facts. First, conditional on receiving compensation, female managers receive 8% less total compensation than male managers. Second, we find female managers are more likely to receive compensation than male managers. Furthermore, we find male managers are compensated for better performance, but female managers are not despite comparable impact in organization performance. These findings suggest organizations' gender-based perception differ for male and female managers and may be driving the observed differences in pay.

Keywords: CEO compensation, gender pay gap, charities, non-profits, NGOs.
JEL Codes: J16, J30, J71, J81, L31.

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1 Introduction

How to identifying and address inefficiencies in markets are central questions in economics. Inefficiencies may take many shapes and forms such as resource misallocation and suboptimal (under or over) provision of effort and investment. For example, it is well-established that taxes, market power, and externalities are causes of market inefficiency because of the gap between the marginal benefit and the marginal cost. A different type of gap, well-documented in the literature and ongoing policy debates, is the gender gap which manifests not only in pay, but also in the allocation of workers (mainly women) to jobs in an economy. Similarly to other wedges, the gender gap is not only responsible for the misallocation of resources (less qualified men may take jobs where more qualified women were available) but also discourages optimal provision of effort by women in the labor force (the same amount of effort and merit may mean lower pay and slower promotion ladders in their careers relative to men). While the impact of these gaps is important in any job, it is likely to have far greater and more lasting effects in managerial positions with authority spanning over many others within and beyond the organizations they manage. Finding the causes of existing gender gaps is a central question in economics, and our main goal in this paper within the context of executive management of U.S. charities.

A main driver of the gender gap is gender discrimination. Gender discrimination is still, in the midst of the 21st century, ubiquitous in our society. It is everywhere, in consumer product markets (Moshary et al., 2023; Gneezy et al., 2012), in the labor market (Cook et al., 2020; Blau and Kahn, 2017), and in government (Droganova, 2018; Bolton and de Figueiredo, 2017). It can manifest in a variety of ways (lower pay and lower promotion rates for equal work, lower likelihood of being hired, or paying higher prices for the same product), and it is a major source of inefficiency. On the one hand, higher prices may lower quantity demanded of products, reduce consumer surplus, and reduce welfare altogether. On the other hand, lower wages and worse job prospects in the workplace may deter on-the-job investments and female labor market participation. It is therefore not surprising that governments around the globe actively adopt policies to foster female labor participation, eliminate pay differences between men and women, and even increase the presence and role of female managers

in the private and public sector.[1]

A most salient feature of gender discrimination is pay differences between men and women. There may be several reasons why these differences could be observed. First, gender pay gaps may be driven by open discrimination, that is, an organization openly discriminates against female employees even if it believes women perform at the same level or better than men. Second, although an organization may not be aware of its discriminatory behaviour per se, they may adopt discriminatory practices pervasive in the labor market that foster gender differences in pay ("everyone does it, so we can/should do the same"). Third, differences in pay may be driven by differences in skills and other attributes. For many reasons (some of them are in part caused by gender discrimination elsewhere), women might not have had the same level of professional experience and career growth than their male counterparts. Fourth and related to the previous point, organizations may want to boost their perceived legitimacy by hiring women managers but "settling" for a lower profile candidate. We contribute to the existing literature by documenting the existence of gender pay gap in the context of top managers in U.S. charities, and by analyzing the role of some of these sources in driving gender pay differences.

Using novel data from non-profit tax filings, we determine whether a gender pay gap exists. A unique feature of the non-profit senior management market is that not all managers are compensated for their work. In fact, we observe that 54% of managers do not receive any compensation which also allows us to explore whether there are gender differences in the likelihood of receiving compensation. Our findings show that, conditional on being paid, men receive higher compensation, and that this gap is only present in the largest organizations. Moreover, we find that men are less likely to receive compensation overall and that this gap in the likelihood of compensation is present across the entire size distribution of organizations. Additionally, we match a subsample of managers to data from LinkedIn profiles and use the LinkedIn information to account for manager characteristics such as age, education and experience. As mentioned, differences in pay could be driven by differences in skills and

[1]Belgium, France, Germany, Iceland, India, Israel, Italy, Norway, Pakistan and Spain currently have legislated quotas for women on corporate boards of publicly listed companies. See World Bank Group, *Women, Business and the Law 2016 - Getting to equal*, 2015. https://thedocs.worldbank.org/en/doc/810421519921949813-0050022015/original/WomenBusinessandtheLaw2016.pdf.

attributes, including controls for manager characteristics ensures that the gaps are not due to differences in these characteristics. We find that the gaps remain. Last but not least, we are also able to document heterogeneity in the gender pay-gap across types of charities, and we find those charities in sectors with a private sector parallel (i.e., healthcare) display wider gaps than those without a private sector counterpart (i.e., human rights advocacy).

Once we establish empirically the incidence of these various forms of gender pay differences in senior management of U.S. charities, we investigate how and whether these differences in the cross-section of organizations and managers are related to performance. Using fixed effects approaches detailed in Bertrand and Schoar (2003), Abowd et al. (1999) and Janke et al. (2019), we show that the distribution of impact on performance does not differ substantially across genders, but the distribution of compensation does differ across genders. We interpret this mismatch between the distributions of performance and compensation as the market for non-profit managers perceiving women managers as less differentiated than men. Further explorations of this mismatch show that top performing men receive higher compensation, but top performing women do not. Because we control for manager and charity characteristics, our findings suggest this mismatch between pay and impact on charity performance is driven by gender-based perception differences, namely, gender discrimination and stereotypes (Bertrand, 2020).

Gender pay gaps are well documented. The economic literature has found gender differences in pay for a wide range of occupations, including teaching (Ransom and Lambson, 2011; Biasi and Sarsons, 2022, 2021), Uber driving (Cook et al., 2020), law (Azmat and Ferrer, 2017) and for MBA graduates working in the U.S. financial and corporate sector to name a few (Bertrand et al., 2010). The size of the wage gap varies across industries from 8 to 18% on average (Blau and Kahn, 2017). While gender wage gaps have been well documented for many occupations, evidence of gender differences in pay among CEOs and executive management is inconclusive (Gupta et al., 2018; Hill et al., 2015). This appears to be driven by a combination of opposing forces on wages. On the one hand, the factors previously mentioned that can explain pay differences also push salaries of female CEOs down. On the other hand, scarcity of female CEOs increases wages due to supply shortage of qualifying female managers.

The non-profit sector has received little attention from the economics literature studying gender differences. This sector is a compelling empirical setting for two reasons. First, the non-profit sector in the U.S. (and elsewhere) is sizeable and economically important (i.e., 5.6% in the U.S. or 8.5% in Canada). This suggests the potential magnitude of inefficiency caused by the gender gap is also economically important. Second, women make up an important share of the labor force in this sector, and its higher female representation at the senior management level in the non-profit sector provides an opportunity to study the gender wage gap in a setting where there is less upward pressure on compensation from supply shortage that counteracts the negative effect from discrimination. In the U.S., 73% of all non-profit employees are women.[2] This is much larger than the share of women in the overall labor force, where females represent 47% of all U.S. workers.[3] Women in leadership positions in the non-profit sector are also more common at 44% (our data) compared to the 2% female CEOs for U.S. for-profit public firms (Gupta et al., 2018; Hill et al., 2015). Additionally, our empirical setting is unique in that managerial incentive tools available to firms are limited due to the non-profit nature of the services and goods rendered. This is important because it also attenuates the arguments highlighting gender selection into competitive and risky contracts existing in the gender literature (Niederle and Vesterlund, 2007). In short, our paper provides evidence of gender differences in pay in a setting largely unaffected by women's selection into the workplace, and where men's selection into powered-incentive contracts is less important.

The remainder of this paper proceeds as follows. The next section briefly reviews the gender gap literature in economics. Section 3 provides details regarding the non-profit sector, and presents a framework to guide our empirical analysis. Section 4 describes our different sources of data. Section 5 details methodology and results establishing two new facts of the gender pay gap in senior management of U.S. charities. Section 6 investigates the role of different mechanisms driving for our established empirical facts. Finally, Section 7 concludes.

[2]The White House Project Report, 2009

[3]BLS various reports, Women in the labor force: a databook, September 2009.

2 Literature Review

Our research mainly contributes to three streams of literature. First, we contribute to the literature on gender gaps in labor markets.[4] In this section, we namely refer to most recent contributions and literature surveys. Gender wage gaps are well documented across occupations, industries and countries (Blau and Kahn, 2003, 2017). Blau and Kahn (2017) document a decline in the gap between 1980-2010 and find, through a survey of the literature, that gender differences in occupation remain a big determinant in addition to differences in income levels, work force interruption, hours, discrimination, noncognitive skills and gender roles. Similarly, Weichselbaumer and Winter-Ebmer (2005) find that raw differentials have decreased over time because of improving female labor market endowment. The literature has also explored other mechanisms driving gender differences such as competition (Flory et al., 2015; Niederle and Vesterlund, 2007; Gneeze et al., 2009), confidence (Sarsons and Xu, 2021), performance (Azmat and Ferrer, 2017; Joshi et al., 2015) or negotiation savviness (Leibbrandt and List, 2015), flexibility related to work or pay (Goldin and Katz, 2016, 2011; Cook et al., 2020; Biasi and Sarsons, 2022), career dynamics (Bertrand et al., 2010), compensation schemes (Ransom and Lambson, 2011), as well as discrimination (Bertrand and Hallock, 2001). In her recent book, Goldin (2021) explores how many of these factors explain the wage gap and how they have changed over time to shape the careers of multiple cohorts of white college educated women. She highlights that greedy jobs, ones where long hours and hours worked on weekends are rewarded with higher pay, are a driver of today's gender gap for her sample of focus.

To understand why gender gaps exist, the literature has used a variety of approaches. For example, Niederle and Vesterlund (2007) use an experimental setting to find that gender differences in performance due to differences in preferences for competition (tournament over a noncompetitive piece rate payment) are mainly explained by male overconfidence. Bertrand et al. (2010) use career data of MBAs from a U.S. business school and show that, despite similar earnings at the start of their career, there is a divergence over time explained by gender differences in training before the MBA, career interruptions and hours worked per week. Azmat and Ferrer (2017) show gender performance differ-

[4] Because this is a large literature, we are unable to cite all contributors here.

ences among U.S. lawyers are explained by the presence of young children and the aspiration to become partner, while discrimination does not appear to explain performance differences at the firm level. Ransom and Lambson (2011) find gender pay differences among Missouri school teachers, even with pay determined by a salary schedule, to be mainly driven by job mobility and sorting. Relatedly, Biasi and Sarsons (2022) use a reform allowing school districts to set teachers pay more flexibly and negotiate with teachers individually to show that flexible pay lowered female salaries relative to similar men due to differences in pay negotiations. Goldin and Katz (2016) find insignificant earnings gap and no part-time earnings penalty among pharmacists, relative to other college graduates. Finally, Cook et al. (2020) find a 7% pay gap among uber drivers in the U.S. caused by differences in learning-by-doing, location constraints, and speed preferences.

Recent studies have also argued that endogeneity of preferences resulting from stereotypes or gender identity norms explain part of the gender wage gap (Bertrand, 2020). For example, Bertrand et al. (2015) find a sharp decrease in the distribution of the share of wifes' income after it equals the husband's income, consistent with gender identity norms. Leslie et al. (2017) show how the adoption of diversity policies in organizations creates pay premium for high-potential women. Most recently, Bandiera et al. (2020) show positive selection into the labor force driven by gender norms across countries as a major determinant of observed pay gaps in a multinational company.

This paper also contributes to the literature on CEO and senior management compensation. To do so, we apply the methodology in Abowd et al. (1999) to the setting of senior management in U.S. charities. We are able to disentangle differences in the contribution of managers and charities to the pay distribution observed in the data. A seminal paper to this literature is Bertrand and Schoar (2003). They use a manager-firm panel and a fixed effects approach to find that managers fixed effects explain heterogeneity in practices (investment, financial and organizational), and that managers with higher fixed effects are in better firms and are better compensated. More recently, Janke et al. (2019) investigate the impact of top managers on performance (hospital production measures) of English public hospitals and find the market perceives CEOs to be differentiated but little evidence that CEOs have an impact on performance.

While results on positive matching and performance have populated this lit-

erature (Baker and Hall, 2004; Terviö, 2008; Gabaix and Landier, 2008), other papers have documented the existence of gender gaps in executive and senior management. Bertrand and Hallock (2001) document only 2.5% of executives are female and a pay gap of 45% explained by firm size, age, and discrimination. In contrast, Hill et al. (2015) find that female and ethnically diverse executives receive higher compensation than white males. Gupta et al. (2018) replicate and revisit Hill et al. (2015) with a larger sample and longer time period to find no evidence of gender differences in CEO compensation. Similarly, Bugeja et al. (2011) find no association between CEO pay and gender. Geiler and Rennboog (2015) also find mixed evidence among CEOs and executive directors managing listed UK firms. Flabbi et al. (2019) show that female leadership positively (negatively) impacts the top (bottom) of the female wage distribution in firms with more female workers. Lam et al. (2013) find evidence of a gender pay gap and limited evidence for CEO gender-firm performance gap using data from Chinese listed firms. Finally, Lee and James (2007) find more negative shareholders' reactions to announcements of female CEOs, with more moderate effects for internally promoted women.

Last, this research also contributes to a recent and small literature in economics studying non-profits. While a large part of the non-profit literature has focused on charitable giving (Bertrand et al., 2020; DellaVigna et al., 2012; Andreoni et al., 2014; Payne, 1998), recent studies have also investigated market structure and competition (Lapointe et al., 2018; Gayle et al., 2017; Harrison and Seim, 2019).

In sum, this paper contributes to these three literatures by investigating whether the gender paygap is present in the non-profit market, a sector that has been mostly omitted from the literature. Most importantly, this is a relatively large sector in the economy where women are well-represented (73% in labor force and 44% in leadership positions), pay is restricted to limited incentive-powered contracts (there is no company stock), value creation is hard to measure, and purpose eclipses the importance of profit. The next section describes the features of the non-profit sector that are important to our research here.

3 Non-profit sector

3.1 Institutional setting

While charities are non-profits, not all non-profits are considered charities and not all charities are the same according to U.S. government regulation. In our context, a charity is an organization that is registered as a 501(c)(3) public charity, and therefore must file a Form 990 with the U.S. Internal Revenue Service (IRS hereafter). Such an organization is tax-exempt, eligible to receive tax-deductible contributions, its earnings do not benefit private individuals, its activities cannot influence legislation, and they do not participate in political campaigns or endorsements. Note that such definition already makes our subject organizations very different from the non-profits and foundations studied previously in the literature (Bertrand et al., 2020).

Each organization is mainly characterized and differentiated from others through its distinct mission. A mission is essentially a written statement describing the purpose of the organization. This description covers why the organization exists, whom it serves, and how it goes about achieving its goals.[5] Organizations carry out their mission through programs. A program is an activity of an organization that accomplishes its exempt purpose.[6] For example the Boys & Girls Clubs of Boston's mission statement is[7]:

> To help young people, especially those who need us most, build strong character and realize their full potential as responsible citizens and leaders. We do this by providing: a safe haven filled with hope and opportunity, ongoing relationships with caring adults, and life-enhancing programs.

In contrast, a program details the activities through which the organization intends to achieve the goals of its mission. The Boys & Girls Clubs of Boston has three main programs:

[5] "10 Killer Nonprofit Mission Statements to Check Out." Classy, August 27, 2021. https://www.classy.org/blog/10-killer-nonprofit-mission-statements-to-learn-from/

[6] https://www.irs.gov/pub/irs-pdf/i990.pdf

[7] Mission statement and program description from our data detailed in Section 4 for the fiscal year 2017

- Program #1: Life skills – Boys & Girls Clubs of Boston help members develop health self-esteem, resilience, motivation and the ability to make good choices. Our full-time, licensed, club-based social workers perform targeted prevention and intervention work in the areas of violence prevention, gang prevention, substance abuse prevention, conflict resolution, [...]

- Program #2: Shared space and dedicated site clubs – Boys & Girls Clubs of Boston operates several shared clubs located in the Boston public schools or housing complexes. In addition to the shared space clubs, Boys & Girls Clubs of Boston also operates two dedicate [...]

- Program #3: Sports, fitness & recreation – Boys & Girls Clubs of Boston helps members develop healthy habits, skills for stress management, and social skills through participation in daily activities in our gyms, swimming pools, social recreation areas and [...]

This means that even in the rare case when two charities appear to have very similar missions, their channels to achieve their goals may be different enough such that they will be perceived as different by donors and stakeholders.

So far as differentiation is concerned, the IRS uses its own system to classify non-profit organizations, called the National Taxonomy of Exempt Entities (NTEE hereafter). It classifies charities and non-profits in major groups ("industry" or subsector) labeled by A to Z, with specific activity areas within subsectors categorized by decile numeric codes and specific types of organizations coded by numeric centile codes. Most organizations share common activities and goals, as 7 codes are most common among charities.[8,9] The list of major groups, common codes and examples of organizations are in Appendix A. Our analysis will control for this heterogeneity by using NTEE fixed effects.

To conclude this section, it is worth discussing briefly CEO compensation practices in U.S. non-profits and charities. While the highest-paid non-profit

[8]Deondre' Jones. "National Taxonomy of Exempt Entities (NTEE) Codes". National Center of Charitable Statistics, Urban Institute, April 2, 2019. `https://nccs.urban.org/project/national-taxonomy-exempt-entities-ntee-codes#overview` (accessed Sept. 8, 2021).

[9]Deondre' Jones. "IRS Activity Codes". National Taxonomy of Exempt Entities (NTEE) Codes, Urban Institute, January 22, 2019. `https://nccs.urban.org/publication/irs-activity-codes` (accessed Sept. 8, 2021).

CEOs are in healthcare and financial services, the bulk of highest-paid CEOs in non-profits tend to work at arts organizations, museums, and research institutes. Evidence from 2019 shows that the top 50 highest paid CEOs in charities earned between 1 and 6 million dollars in total compensation with up to 200% bonuses, taking home 8% of charity revenues and 58% of all wages paid.[10] Charities are free to pay their CEO whatever amount they feel is fair, even though the IRS provides guidelines for charities and their board to set pay for their senior management following reasonable rules.[11] Most importantly, the IRS recommendations show that there is a market for managerial talent in charities and that compensation should aim to retain talent whenever possible using both base pay and incentives. In comparison to their counterparts in for-profit firms, CEOs of charities make lower salaries and bonuses, but that does not mean they are not taking any perks home. While incentive compensation cannot provide items such as stock buyout, stock options and profit rates, there exist many others incentives in their compensation package such as health insurance, retirement contributions, or professional expenses.[12]

3.2 Framework

Before describing our data sources and empirical strategy, we provide here a framework to think about why gender paygaps may exist in charities as well as how to empirically disentangle in our data some of these drivers. For this purpose, let us exogenously match a firm j and a manager i without worrying why that match takes place. Firm j wants to employ manager i, and manager i wants to work for firm j. Let us assume they Nash-bargain over the manager's salary. The net utility of the firm is such that,

$$U_{ijt} = y_{ij} - w_{ij} + \alpha_{ij} \tag{1}$$

[10] See https://www.causeiq.com/insights/highest-paid-nonprofit-ceos/ and https://www.charitywatch.org/top-charity-salaries

[11] See https://www.councilofnonprofits.org/tools-resources/executive-compensation.

[12] See https://work.chron.com/salary-difference-between-corporate-nonprofit-industries-24453.html

where y_{ij} is productivity of the match, w_{ij} salary paid to manager i, and α_{ij} is the firm's diversity preference. The net utility of the manager is such that,

$$V_{ijt} = w_{ij} - c_{ij} + \theta_{ij} \tag{2}$$

where c_{ij} is the manager's cost, w_{ij} salary, and θ_{ij} is the manager's taste for the job at firm j. Let us also assume a bargaining power parameter σ_{ij}. Efficient Nash-bargaining will result from maximizing,

$$(y_{ij} - w_{ij} + \alpha_{ij})^{1-\sigma_{ij}} \times (w_{ij} - c_{ij} + \theta_{ij})^{\sigma_{ij}} \tag{3}$$

such that

$$w_{ij} = \sigma_{ij} \times (y_{ij} + \alpha_{ij} + c_{ij} - \theta_{ij}) \tag{4}$$

Not surprisingly, the manager's compensation w_{ij} depends on their bargaining power, their productivity, their opportunity cost, and the overall firm's and manager's preferences. Let us now classify managers into two types, f and m, female and male, respectively. We also simplify the notation such that θ_{im}=α_{im}=0 making values of θ_{if} and α_{if} as relative values. Then, we can write the gender paygap as follows,

$$\Delta w_{ij} = f(\Delta\sigma_{ij}, \Delta y_{ij}, \Delta c_{ij}, \alpha_{if}, \theta_{if}) + \epsilon \tag{5}$$

The gender paygap is driven by gender differences in productivity, opportunity cost, and firm's and manager's preferences over the match. Going back to the wage Equation (4) above, we can apply logs and linearize to rewrite regression equation such that,

$$ln(w_{ij}) = ln\sigma_{ij} + lny_{ij} + ln\alpha_{ij} + lnc_{ij} - ln\theta_{ij} + \epsilon \tag{6}$$

Creating a dummy, $D_j = 1$, if manager j is female, we can rewrite the regression equation above as,

$$ln(w_{ij}) = \beta_0 + \beta_1(ln\sigma_i + ln\alpha_i)D_j + \beta_2 lny_{ij} + \beta_3(ln\theta_{ij} + lnc_{ij}) + \epsilon \tag{7}$$

The main take away of Equation (7) is that, holding constant productivity and the managers' specific costs and preferences, differences in pay will be

mainly driven by firms' gender-based differences in bargaining and preferences. The goal of our analysis below is to show gender paygap in specifications where we will argue differences in performance, costs and preferences are accounted for.

In the next section, we describe our data. Because our compensation information comes from 990 forms as recorded by `charitynavigator.org`, we only observe the total compensation of each top senior manager, that is, base salary plus performance pay (if any).

4 Data

We obtain our primary data set from `charitynavigator.org` containing information from the universe of all organizations registered as 501(c)(3) entities and submitting 990 Forms to the IRS. To maintain a tax-exempt status, an organizations must file a 990 tax Form to the IRS. Our data consist of such filings for more than 220,000 organizations between 2010 and 2019. The data set includes organization-year level variables such as revenue, expenses, number of programs, assets, number of workers (salaried and volunteered), and revenue and expenses per type of activity (i.e., grants, programs, fundraising, and membership dues). The forms also detail the name and title (most often CEO or president but also others such as director or executive chairman) of the highest officer in the organization, as well as their compensation. We supplement the `charitynavigator.org` data with 990 tax forms from `Guidestar.org` which provide information on charity classification and allows us to verify the information from our primary data set.

Given that the gender of the managers is not reported in the tax filings, we must match names to gender. To do so, we use 102,240 authenticated gender tagged names from `GenderChecker.com`.[13] This data set classifies names as Female, Male or Unisex. We match first names from top officers to the authenticated gender tagged names classified as Female or Male, and manually look up the remaining unmatched or unisex first names to assign them as Female or Male.

We acquire our last data set from Datahut, a firm specialized in web scraping

[13] We also use frequencies of names by gender from the Social Security Administration from 1880 to 2019 to assign gender to some names not included in `GenderChecker.com`.

services. We obtained access to the universe of LinkedIn profiles active as of 2017. Datahut collected the publicly available information from over 300 million profiles, including approximately 110 million for individuals based in the United States. We use the public information available in LinkedIn profiles of these data to create proxy variables for age, education and experience, not observable otherwise, because they influence compensation. These variables and their construction are detailed in Section 4.1.

The primary data set contains 1,660,674 charity-year observations from 2010 until 2019. We drop observations from 2010 because `charitynavigator.org` only included those organizations that submitted their tax forms late in the year. We also drop observations from 2019 because not all tax filings were available for the fiscal year at the time of data collection by `charitynavigator.org`. We also drop observations with duplicate filings,[14] entries with missing information, organizations that do not report a manager, those not listed as 501(c)(3) public charities, or those located in U.S. territories.[15] This leaves us with an unbalanced panel of 1,000,252 organization-year observations containing information for 209,504 unique organizations and 336,633 unique managers. We can match 99.86% of managers to a gender of male or female leaving us with a final sample of 999,232 observations with 336,178 unique managers and 209,350 unique charities. Table 1 shows that 44.05% of managers in our final sample are female.

Table 1: Descriptive statistics – Gender

	Freq.	Percent
Male	188,093	55.95
Female	148,085	44.05
Total	336,178	100.00

When focusing on compensation, 54.42% of managers in our sample do not receive compensation. As shown in Table 2, males are more frequently unpaid than females with 58.58% of males not receiving compensation relative

[14]Organizations must file name or address changes, and also sometimes amend their forms. This creates duplicate entries in our data set. We keep the entries corresponding to the last filing for a given fiscal year. When it is impossible to distinguish which entry was last submitted to the IRS, we select the entry with a manager or with the highest revenue or expenses reported.

[15]Organizations located in American Samoa, Guam, Northern Mariana Islands, Puerto Rico, Virgin Islands, Armed Force Pacific or Armed Force Europe are removed from the sample.

to "only" 48.45% of females not receiving compensation for their work at the charities in our data.

Table 2: Descriptive statistics – Share receiving compensation

	All		**Female**		**Male**	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
Unpaid	543,783	54.42	198,706	48.45	345,077	58.58
Paid	455,449	45.58	211,436	51.55	244,013	41.42
Total	999,232	100.00	410,142	100.00	589,090	100.00

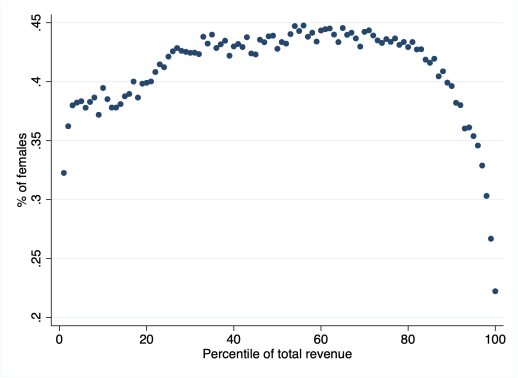
Accounting for unpaid managers, the average compensation in our data reported in Table 3 is $71,670.11. When we separate compensation by gender, we see a clear gap. While the average female compensation is $59,253.84, the average male compensation is $80,315.20. When only using those managers that receive compensation, the average jumps to $157,239.28. Among managers receiving a positive compensation, the average female remuneration is $114,942.21 and the average male remuneration is $193,890.03. It is important to note as well that there is more variation in compensation for males compared to females as seen by the larger standard deviation. This is the case whether we include or not the managers without compensation.

Table 3: Descriptive statistics – Average compensation

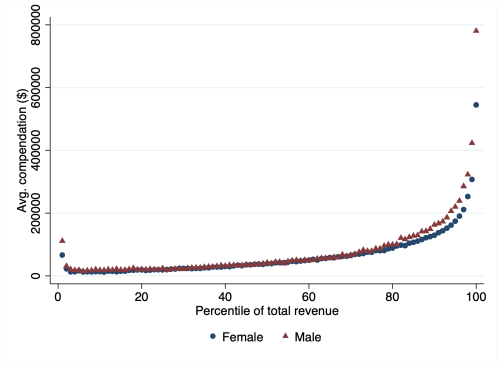
	All				**If paid**			
	Obs.	Mean	Median	S.d.	Obs.	Mean	Median	S.d.
Male	589,090	80,313.92	0.00	251,983.50	244,013	193,891.84	117,250.00	362,306.42
Female	410,142	59,255.31	10,517.50	110,512.80	211,436	114,943.01	84,500.00	131,491.26
Total	999,232	71,670.26	0.000	206,285.35	455,449	157,240.92	98,988.00	282,675.45

It is also interesting to examine how the percentage of women managers and the difference in pay changes with the size of the non-profit. Figure 1a plots the percentage of women in senior management position per revenue percentile in our sample. The percentage ranges between 35% and 45% for the whole distribution except for the very top 5% of non-profits where the percentage of women in top senior positions drops to 23%. Figure 1b plots the difference in pay per revenue percentile including the managers receiving no compensation. We can see that there is almost no difference until the 80th percentile, and a positive and increasing difference between the 80th and 100th percentile. Finally, Figure 1c repeats the exercise in Figure 1b with only those managers receiving compensation. In this last graph, we clearly see the gender difference in pay is pervasive

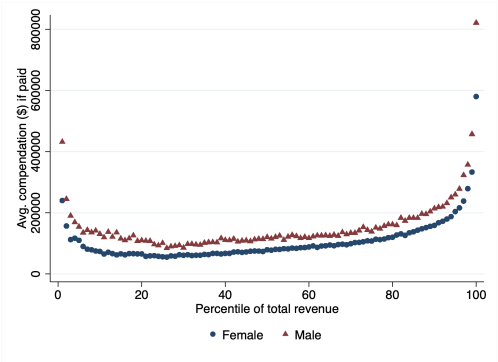
across the whole distribution of non-profit revenue size. The evidence in Figure 1 is using raw data only. In our regression analysis below, we control for revenue and other organization variables as well as non-profit classification and location fixed effects to address confounders that could be driving the observed gender difference in pay.



(a) Share of women by revenue percentile



(b) Average compensation for men and women (including non-compensated managers)



(c) Average compensation for men and women conditional on being compensated)

Figure 1: Share of women and compensation by percentiles of total revenue

There are 192,025 management turnover episodes within organizations in our data. Among all organizations, 51.14% have at least one change of manager during the sample period. Panel A of Table 4 shows that most of these manager transitions are from unpaid to unpaid manager (56.36%) and between both managers receiving compensation (22.74%), but there is still a 20.90% of transitions from paid to unpaid or vice versa. We can also dissect transitions by gender: 1) Male to Male, 2) Male to Female, 3) Female to Male and 4) Female to Female. Panel B of Table 4 shows that 35.5% of turnovers imply a gender

Table 4: Descriptive statistics – Turnover

Panel A: Unpaid/paid				
		Current Manager		
		Unpaid	Paid	Total
Past Manager	Unpaid	0.564	0.108	0.672
	Paid	0.101	0.227	0.328
	Total	0.665	0.335	1.000
Panel B: Male/Female				
		Male	Female	Total
Past Manager	Male	0.390	0.189	0.579
	Female	0.166	0.255	0.421
	Total	0.556	0.444	1.000

Notes: Transition probabilities conditional on having a turnover episode during the sample.

change. We exploit the variation from Table 4 to investigate how compensation changes within organizations.[16] This is important for our empirical analysis below because we will be able to impose charity-level fixed effects and estimate gender paygaps within charities.

Using the information from the data set, we can construct various manager variables. These variables are reported in Table 5 and Figure 2. Table 5 shows the average manager is in 1.17 organizations, only 3% of them appear in more than one organization in a given year, 6% of managers appear in multiple organizations over time, and the average tenure at an organization is 2.5 years within our sample from 2011 to 2018.

Figure 2 describes the heterogeneity in job titles in our sample. President and CEO represent the vast majority of our sample (55.7% and 35.5%, respectively), while other job title such as chief officer, VPs, directors and others[17] represent only 8.7%. Figure 3 orders our job title classification from lowest average paid job title (director) to highest paid job title (vice president). Clearly

[16]Figure 11 of Appendix B.1 describes the transitions graphically. Figure 11a shows the distribution of gender transitions for each one of the compensation transitions (i.e. unpaid to unpaid, unpaid to paid, paid to unpaid, and paid to paid). Figure 11b complements this information by providing the average change in compensation in each instance. For example, the average change in compensation when both managers are paid is -$4,664.05 with the largest negative change in Male to Female transitions. Regression results investigating management transitions can be found in Appendix D.

[17]"Other" corresponds to titles not picked up by other classifications such as secretary, administrator, treasurer, superintendent, club manager, clerk, headmaster, board member, trustee, or campaign manager.

Table 5: Descriptive Statistics – Manager variables

	Obs.	Mean	S.d.
No. of organizations	336,178	1.171	1.076
Multiple organizations per year (%)	336,178	0.031	0.174
Multiple organizations over time (%)	336,178	0.063	0.242
Tenure	393,581	2.539	1.861

Notes: *No. of organizations* represents the count of charities that the manager is observed at in our sample, *Multiple organizations per year* is an indicator for whether a manager is observed in charge of multiple charities in a year at any point in the sample, and *Multiple organizations over time* is an indicator taking a value of one for officers managing multiple organizations but not during the same year. *Tenure* is the number of years a manager is at a charity. This is reported for each manager-charity observation.

paid females receive lower compensation than paid males on average across all job title classifications. Figure 4 shows percentages of females and percentages of managers paid per title. Chief officers and CEOs are those job titles with highest percentage of paid managers and over 40% female representation. They are followed by the job titles of director and VP with lower percentages of paid managers and equal female representation. President and our classification of "Other" job titles present the lowest percentages of paid managers.

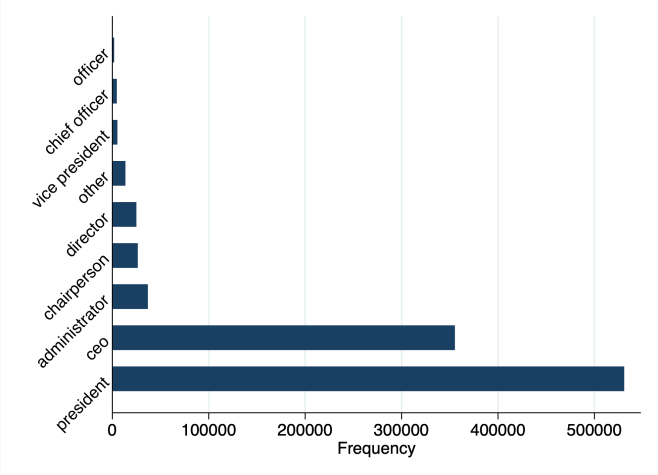


Figure 2: Titles and their frequency of appearance in the dataset

Table 6 reports charity level summary statistics of the variables we use in our empirical analysis below (note all dollar amounts are in $100,000 units). Organizations in our sample report on average total revenues of $8.5 million and total expenses of $7.9 million. The data breaks total revenue into primary sources of revenue such as contributions, government grants, membership dues,

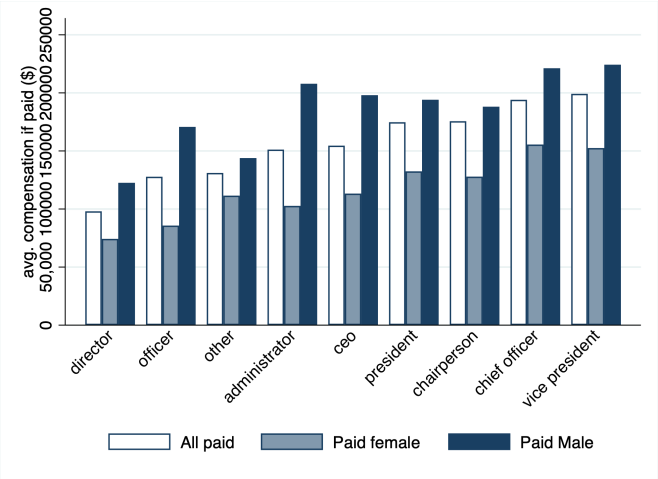


Figure 3: Average compensation by title

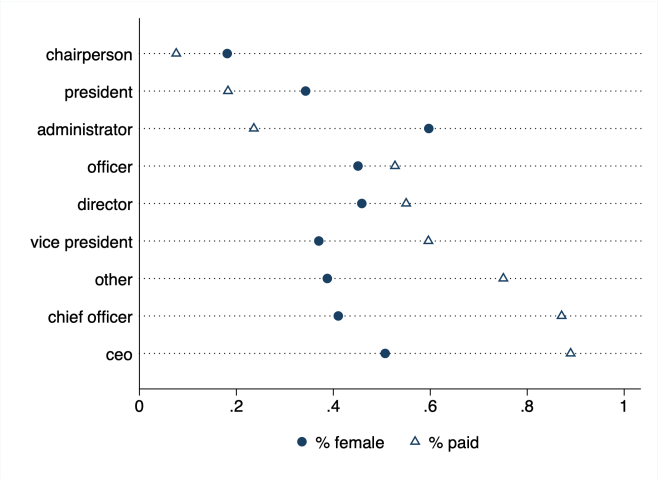


Figure 4: Share of compensated managers and share of females by title

and program service revenues. The average organization in our sample receives $2.1 million in contributions, $23,700 in membership dues, and $5.7 million in program revenues. On the expense side, the average organization in our data has $6.9 million in program expenses, $968,600 in administration expenses, and $118,200 in fundraising expenses. The average organization has $15.7 million in total assets and $5.9 million in liabilities, adding up to $9.8 million in net assets. Needless to say, the size distribution of the organizations in our sample is heavily skewed. For example, while the mean total revenue in the sample is $8.4 million, the median amount of revenue is $0.5 million, and the maximum

amount of revenue is $54 billion.[18]

Table 6: Descriptive Statistics – Organization variables

	Obs.	Mean	S.d.	Median	p99
Total revenue	999,232	84.950	1,231.702	5.496	1,281.438
Government grants	999,232	15.898	208.682	1.717	200.130
Total contributions	999,232	21.910	247.665	2.053	284.478
Membership dues	999,232	0.237	4.829	0.000	3.702
Program service rev.	999,232	57.664	1,129.835	0.721	885.810
Total expenses	999,232	79.835	1,180.797	5.162	1,212.653
Program expenses	999,232	68.959	1,090.705	4.218	1,047.914
Administration expenses	999,232	9.685	115.700	0.600	142.645
Fundraising expenses	999,232	1.182	16.406	0.000	17.049
Total net assets	999,232	98.418	1,635.946	5.457	1,473.972
Total liabilities	999,232	58.748	1,062.717	0.600	924.323
Total assets	999,232	157.166	2,451.823	8.391	2,327.691
Number of employees	999,232	93.515	2,113.577	5.000	1,415.000
Volunteers	768,275	1,256.589	186,221.225	25.000	4,600.000

Notes: All variables in $100,000. Total contributions is the sum of donations (direct and indirect support) and government grants.

4.1 LinkedIn Sample

As mentioned, we obtain public information from the universe of LinkedIn profiles as of 2017 from Datahut. Out of a total of 300 million profiles around the world in the data, 110 million profiles come from U.S. LinkedIn profiles. Using information from these profiles, we construct variables to proxy for manager characteristics that are not observed in the non-profit tax filings such as education, experience, age, volunteering experience, and retirement status.

Unfortunately, we cannot match all managers in our working sample to a LinkedIn profile for different reasons. First, not everybody has a LinkedIn profile as some people may use other platforms and others just do not use this type of networking services. Second, matching by traditional methods is complex.

[18]To provide some context, Kaiser Foundation Health Plan Inc. was responsible for the highest revenue, program service revenue and program expenses in our data, Batelle Memorial Institute for highest dollar value of contributions and government grants, the Institute of Nuclear Power Operations for membership dues, the American Lebanese Syrian Associated and St. Jude's Children Research Hospital for fundraising expenses, President and Fellows of Harvard College for net assets, total liabilities and total assets, the Teachers Pets Child Care Center Inc. for number of employees, and the National Family Partnership Inc. for number of volunteers.

We start to match profiles by name and location (city and state). Then, we match by manager name and charity name. Finally, we use the fact that the data from Datahut contains the url of each profile in 2017 and that those seldom change over time. We hired a team of RAs and a professional data company to look up the LinkedIn profiles of all managers in the top 40% organizations (by revenue size), and record the urls of those managers with a LinkedIn profile. We then merge our data with the urls recorded. In the end, we are able to match LinkedIn profiles for 54,267 managers associated with 75,292 organizations, corresponding to 238,013 organization-year observations.[19]

We extract information from the different sections of the profiles to create variables that are used to control for manager characteristics. From the headline, the short description of the individual, we extract whether someone is retired or currently a student. We use the information from the education section to create various education indicators. This information typically consists of the degree, school and dates of various education spells. Our education variables capture the highest degree listed. Similarly, from the experience section we extract each employment spell along with the organization and dates of employment. We measure experience with the number of jobs an individual has held. Using information on volunteer experience, we create an indicator for whether someone reports having some volunteering experience. We use the dates under the different sections to create a proxy for age. We find the earliest date across education, experience and volunteer experience and use this to create the date of birth by adding 21. We use dates from all sections because profiles are not consistently filled out.[20] Using the name of the organizations listed in the experience and volunteering section, we can create measures of other experience (i.e. how many other organizations did a manager work or volunteer at). See these variables in Table 7.

Table 7 shows the average manager in our LinkedIn sample is 54 years

[19]The gender composition of the managers matched to a LinkedIn profile is similar to the full sample with 47.22% of manager being females and 48.72% of the LinkedIn sample receiving some compensation. The shares of managers receiving compensation by gender are also similar as the share of women receiving compensation is thirteen percentage points larger than men. The average compensation over all managers (paid and unpaid) is lower at $62,345.04 and the average compensation conditional on receiving a positive pay is also lower at $127,974.76. The compensation gap is present as well as the larger variation for males. Summary tables with these and other statistics for the LinkedIn sample can be found in Appendix B.1.

[20]Results are robust to different proxies of age constructed from dates from only one section.

Table 7: Descriptive Statistics – Manager variables (LinkedIn)

	Obs.	Mean	S.d.
Age	27,467	54.19	10.122
College degree	54,267	0.376	0.484
Graduate degree	54,267	0.189	0.392
Volunteer	54,267	0.190	0.393
Student	54,267	0.025	0.157
Retired	54,267	0.031	0.172
No. of jobs listed	54,267	2.658	2.613
No. of other jobs listed	54,267	2.402	2.570
No. of other volunteering org.	54,267	0.617	2.028

old, 37.6% of them obtained a college degree, 18.9% have a graduate degree, and 2.5% of them were still students to some capacity in 2017. In our data, 19% volunteer at an average of 0.6 organizations that is not the one listed in our primary data, 3.1% are retired, and those listing jobs have had 2.66 jobs with 2.40 of them at different organizations than the charity they manage in the `charitynavigator.org` data set. We use these data to complement our analysis with our main data.

5 Is there a gender pay gap in U.S. charities?

5.1 Empirical Strategy

This section presents our methodology to document the incidence of gender pay gaps in the non-profit sector for senior managers. Our empirical strategy consists of estimating OLS regressions for two dependent variables: (i) manager compensation (measured in log), and (ii) whether a manager receives compensation. The first specification is the following,

$$ln(comp_{ijt}) = \alpha + \beta Female_i + \gamma X_{ijt} + \delta_j + \theta_t + u_{ijt} \tag{8}$$

where the dependent variable is the natural log of compensation of manager i working in charity j in year t. The independent variables in our regression specification are a dummy variable, $Female_i$, that takes value 1 if manager i working at charity j in year t is female, 0 if male, and X_{ijt}, a number of controls specifying characteristics of manager i or charity j in year t such as tenure at the

job, and revenue and expense profiles of the charity j. Some specifications also include year and state fixed effects, controls for the title of the manager, and organization level fixed effects such as NTEE (charity classification) fixed effects or charity fixed effects. LinkedIn controls are also added in some specification for the matched subsample of data. The last component, u_{ijt}, is the error term.

The following equation is our second specification,

$$I(Paid = 1)_{ijt} = \alpha + \beta Female_i + \gamma X_{ijt} + \delta_j + \theta_t + u_{ijt} \tag{9}$$

where the dependent variable is a dummy variable that takes the value 1 when manager i receives compensation from working at charity j in year t. The independent variables in our regression specification are again a dummy variable $Female_i$ that takes a value of 1 if manager i is female, 0 if male, and X_{ijt}, the controls specifying characteristics of manager i or charity j in year t such as tenure at the job, and revenue and expense profiles of the charity j. Some specifications also include the same set of fixed effects and LinkedIn controls as in Equation 8. The error term is denoted as u_{ijt}.

Note that some of these specifications contain charity-level fixed effects as well as controls for time-varying charity variables. Following our Equation (7) in Section 3.2, the gender paygaps reported according to their specification are not holding constant manager or firm level determinants of gender paygaps and merely reports the existence of such gaps. The next subsection discusses the results of estimating Equations (9) and (8) with the data described in Section 4.

5.2 Results

5.2.1 Fact #1 - Compensation conditional on being paid

We first investigate the incidence of gender differences in pay through the estimation of Equation (8) using only those managers receiving positive compensation in our sample. Table 8 shows the size of the gender gap varies widely with the set of controls and fixed effects in each specification. Women earned 31% less than men in a specification without additional controls. In Column 1, we show the gender gap drops to 17 % once we control for manager and charity characteristics as well as fiscal year and state fixed effects. Columns 2 and 3 include officer title and NTEE fixed effects to find a 20% gap in compensa-

tion.[21] Finally, Columns 4 and 5 introduce organization and organization×title fixed effects, respectively. We find a gap of 8.2% and 5.2%, that is, the same organization pays a woman 8.2% and 5.2% less, respectively, than a man in the same job.

Table 8: Results – Compensation

	Full Sample					**LinkedIn Subsample**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)
I(female)	-0.167***	-0.193***	-0.205***	-0.082***	-0.052***	-0.159***	-0.043	-0.157***	-0.041
	(0.045)	(0.037)	(0.031)	(0.023)	(0.013)	(0.022)	(0.032)	(0.022)	(0.032)
Manager tenure	0.061***	0.060***	0.060***	0.054***	0.054***	0.055***	0.054***	0.056***	0.053***
	(0.007)	(0.007)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)	(0.004)	(0.004)
Total revenue (log)	0.280***	0.276***	0.259***	0.082***	0.081***	0.263***	0.053***	0.262***	0.053***
	(0.027)	(0.026)	(0.019)	(0.014)	(0.011)	(0.022)	(0.011)	(0.022)	(0.011)
Constant	7.301***	7.235***	7.511***	9.726***	9.789***	7.566***	10.199***	7.469***	10.652***
	(0.393)	(0.428)	(0.285)	(0.281)	(0.263)	(0.283)	(0.581)	(0.273)	(0.349)
Controls	X	X	X	X	X	X	X	X	X
Officer titles		X	X	X		X	X	X	X
NTEE			X			X		X	
Charity				X			X		X
Charity × Officer titles					X				
LinkedIn Controls								X	X
N	452,308	452,202	452,202	452,202	424,076	115,112	115,112	115,112	115,112
adj. R-sq	0.290	0.299	0.344	0.874	0.893	0.330	0.880	0.331	0.880

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects.

In the last four columns of Table 8, we include manager-level controls by restricting our sample to those managers in our matched LinkedIn sample. Our findings are qualitatively the same, although less statistically significant due to the loss in statistical power in our matched LinkedIn sample. Columns 6 and 7 use NTEE and charity fixed effects, respectively, showing a 15.9% and 4.3% gender gap (the former statistically insignificant). Columns 8 and 9 show similar results at 15.7% and a statistically insignificant 4.1%, respectively.[22]

Figure 1 highlighted that the share of women and average compensation differs according to organization size. The figure also displayed evidence of a wage gap throughout the size distribution. Next we explore whether the gap

[21] Table 33 and Figure 15 of Appendix A investigate more carefully whether the gender compensation gap differs across the different management position available in our data. We find that not all positions are compensated equally. Within an industry, management position with the highest compensation have the largest gender gap. The opposite is true within an organization. Positions associated with the highest compensation are the smallest gender wage gap. Figure 16 in the same appendix shows that is variation in compensation across NTEE. It also shows that the gender compensation gap varies across NTEE with the largest gap being in industries with the highest average compensation.

[22] Additional regressions using the LinkedIn controls can be found in Appendix B.2 in Table 30. The LinkedIn controls are jointly significant for the within-industry analysis but insignificant for the within-organization analysis. The F-statistics (p-values) are 7.59 (0.000) and 0.96 (0.445) respectively.

Table 9: Results – Compensation (Quintiles of total revenue)

	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)
I(female)	-0.414***	-0.091	-0.212***	-0.020	-0.174***	-0.026	-0.142***	-0.063***	-0.143***	-0.105***
	(0.060)	(0.056)	(0.038)	(0.036)	(0.028)	(0.030)	(0.029)	(0.018)	(0.037)	(0.028)
Manager tenure	0.037***	0.039***	0.065***	0.038***	0.061***	0.049***	0.054***	0.057***	0.054***	0.062***
	(0.009)	(0.010)	(0.009)	(0.008)	(0.006)	(0.004)	(0.005)	(0.003)	(0.004)	(0.002)
Total revenue (log)	-0.089***	0.047***	0.304***	0.246***	0.340***	0.188***	0.301***	0.138***	0.292***	0.099***
	(0.020)	(0.016)	(0.051)	(0.036)	(0.048)	(0.023)	(0.022)	(0.012)	(0.008)	(0.012)
Constant	11.588***	10.797***	6.823***	5.767***	6.334***	7.970***	6.903***	9.167***	6.919***	10.960***
	(0.308)	(0.347)	(0.656)	(0.685)	(0.632)	(0.685)	(0.291)	(0.280)	(0.136)	(0.479)
Controls	X	X	X	X	X	X	X	X	X	X
Officer titles	X	X	X	X	X	X	X	X	X	X
NTEE	X		X		X		X		X	
Charity		X		X		X		X		X
N	28,120	28,120	55,721	55,721	82,279	82,279	121,685	121,685	164,397	164,397
R-sq	0.236	0.945	0.158	0.927	0.154	0.917	0.130	0.878	0.351	0.871
adj. R-sq	0.234	0.903	0.157	0.866	0.153	0.860	0.129	0.818	0.350	0.831

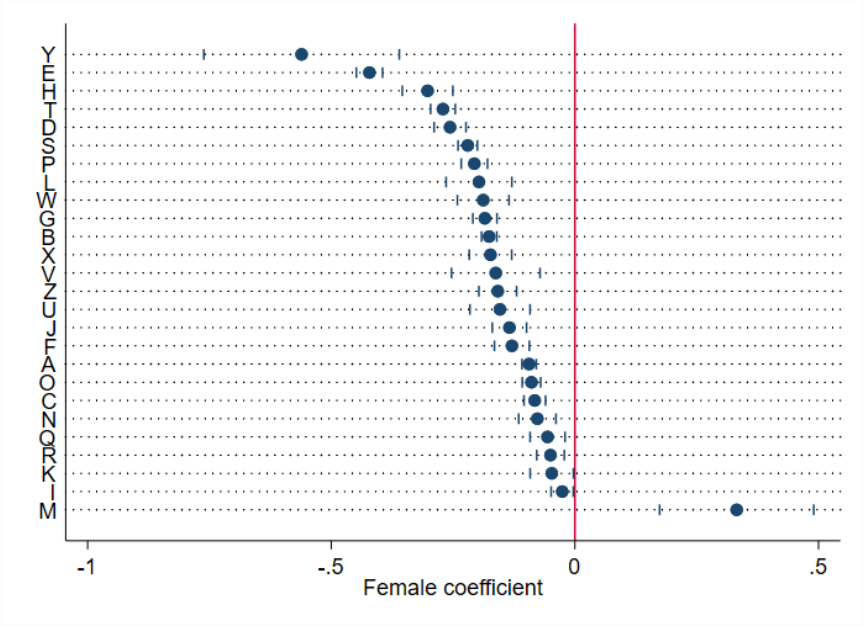
Notes: Quintiles of total revenue. Quintile 1 lowest total revenue. Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Column (1) includes NTEE fixed effects and Column (2) include organization fixed effects.

differs across organization size once we account for manager and organization characteristics. We separate our sample by quintiles of total annual revenue, and estimate Equation (8) under the specifications in Columns 5 and 6 of Table 8.[23] Our findings in Table 9 show that, within-industry, the gender gap is ubiquitous across organizations with largest gaps, up to 40%, in the smallest charities relative to 14% in the largest organizations. In contrast, our within-organization analysis (regressions in columns with even numbers) finds that gender compensation gap is present only for managers working for organizations in the top two quintiles with 6.3% and 10.5%, respectively.[24]

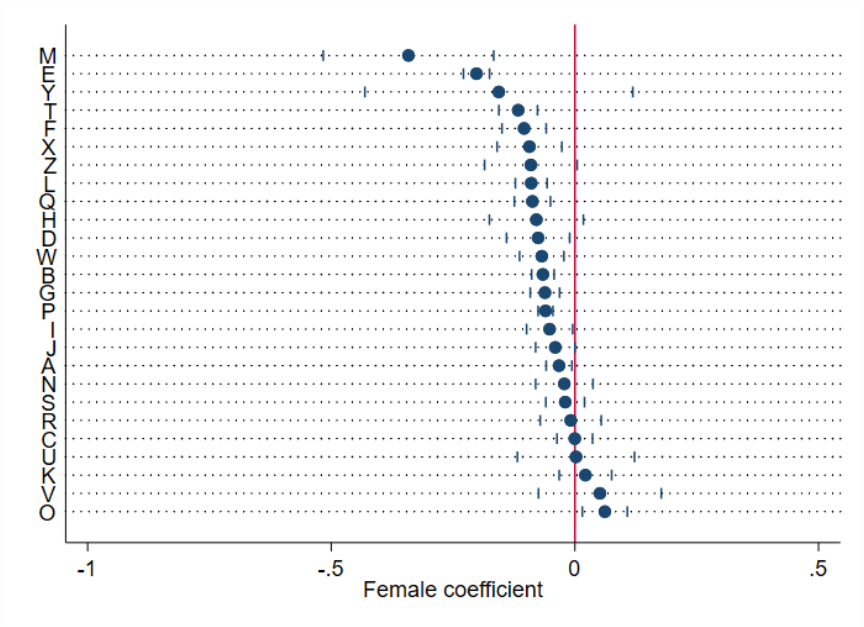
Finally, it is important to explore heterogeneity in paygap across charity sectors (NTEEs). Figure 5 explores how the compensation gap changes across industries. The figure shows estimated $Female_i$ coefficients in Equation 8 from separate regressions for each NTEE. Regardless of the NTEE, women are paid statistically significantly less (Figure 5a). Only organizations operating in the "Public Safety, Disaster Preparedness, and Relief" sector pay women more than men. The gap is largest in health care and mutual and membership benefit char-

[23]Table 38 estimates Specification 8 breaking the gender dummy by year. We observe no significant changes over time in the gender pay gap when using charity fixed effects. The gap across organizations has decreased over time.

[24]Tables 32 to 37 in Appendix A report the results of robustness checks. These include further separating the fourth and fifth quintiles, and interacting the female indicator with the NTEE and grouping the organizations by major source of revenue or expenses. We also estimate specification 8 using the level of compensation instead of the logarithm of compensation. This allows us to include the unpaid managers in the estimation of the compensation gap. We consistently find that men are paid more across all these different specifications.



(a) Compensation gap by NTEE



(b) Compensation gap by NTEE (charity fixed effects)

Figure 5: Compensation gap across industries

A- Arts, culture & humanities; B- Education; C- Environment; D- Animal-related; E- Health care; F- Mental health & crisis intervention; G- Voluntary health associations & medical disciplines; H- Medical research; I- Crime & legal-related; J- Employment; K- Food, agriculture & nutrition; L- Housing & Shelter; M- Public safety, disaster preparedness & relief; N- Recreation & sports; O- Youth development; P- Human services; Q- International, foreign affairs & national security; R- Civil rights, social action & advocacy; S- Community improvement & capacity building; T- Philanthropy, voluntarism & grant formation; U- Science & technology; V- Social Science; W- Public & societal benefit; X- Religion-related; Y- Mutual & membership benefit; Z- Unknown

ities.[25] The gap is statistically zero in crime and legal-related charities as well as food, agriculture and nutrition charities. Once we introduce charities fixed effects (Figure 5b), we find the largest gaps in health care and public safety and relief charities. In this case, many NTEE sectors show no gap whatsoever. Examples are youth development (paying higher compensation to women), social science, food and nutrition, science and technology, civil rights and advocacy, and recreation and sports. This evidence suggests that gender paygap is more prevalent in NTEEs with an affiliated private sector such as the health care sector, public safety and relief, or education.

5.2.2 Fact #2 - Compensation vs Pro Bono work

We estimate Equation (9) to investigate gender differences in the likelihood of receiving compensation. We show our findings in Table 10. Column 1 shows that female managers are 11.3 percentage points more likely to receive compensation controlling for CEO tenure, log of total charity revenue, membership dues, revenue from programs, net assets and dummies for the number of programs, as well as fiscal year and state fixed effects. Columns 2, 3, 4 and 5 add progressively to the specification title fixed effects, NTEE fixed effects, charity fixed effects, and charity-title specific fixed effects, respectively. Note the result is consistent across all specifications in Table 10. The addition of officer titles dummies in Column 2 explains most of the gap. Females are 2 to 3 percentage points more likely to be compensated than males are. Also note that in Column 5 we include charity$\times$title fixed effects showing that females are still 1 percentage point more likely to receive compensation within a charity and job title.[26] Finally, Columns 6 to 9 use only the sample of managers we are able to match

[25] Organizations such as volunteer fire departments, ambulance services, safety and rescue organizations fall under this industry.

[26] Table 26 in Appendix A replicates Columns 5 and 6 with interactions between the female indicator and the title dummies. The coefficients on the interactions are also graphed against the title coefficients in Figure 13 in the Appendix. A clear takeaway from the graph is that not all positions are equally likely to be compensated. CEOs and chief officers (CFO, COO) are more likely to be compensated. Women are more likely to be compensated regardless of their position except for women in the omitted title category of "Other" (secretary, administrator, and all other positions not classified into the five main titles). All coefficients on the interactions are positive and significant. Figure 14 in the same Appendix replicates Column 5 with interactions between the female indicator and dummies for the NTEE to visualize the gap across the different charity classifications. As managers in a particular NTEE are more likely to receive a compensation, females are less likely to be compensated.

to LinkedIn profiles. The gap in the probability of receiving compensation is robust to the inclusion of age, education and experience controls using the proxies from Section 4.1.[27] In conclusion, although our analysis in the previous section shows female managers are paid less than their male counterparts conditional on receiving compensation, our findings in this section show that women in senior management positions of U.S. charities are more likely to receive compensation by at least 2 percentage points than male managers.

Table 10: Results – Likelihood of compensation

	Full Sample					LinkedIn Subsample			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)
I(female)	0.113***	0.022***	0.025***	0.037***	0.008***	0.027***	0.041***	0.026***	0.041***
	(0.012)	(0.007)	(0.003)	(0.004)	(0.001)	(0.004)	(0.006)	(0.004)	(0.006)
Manager tenure	0.047***	0.028***	0.027***	0.005***	0.004***	0.028***	0.004***	0.029***	0.004***
	(0.003)	(0.002)	(0.002)	(0.000)	(0.004)	(0.002)	(0.001)	(0.002)	(0.001)
Total revenue (log)	0.102***	0.060***	0.060***	0.013***	0.010***	0.055***	0.015***	0.055***	0.015***
	(0.004)	(0.006)	(0.006)	(0.002)	(0.001)	(0.006)	(0.002)	(0.006)	(0.002)
Constant	-1.071***	-0.642***	-0.616***	-0.060	0.166	-0.375***	-0.110	-0.351***	0.088
	(0.056)	(0.077)	(0.078)	(0.105)	(0.070)	(0.060)	(0.115)	(0.053)	(0.086)
Controls	X	X	X	X	X	X	X	X	X
Officer titles		X	X	X		X	X	X	X
NTEE			X			X		X	
Charity				X			X		X
Charity X Officer titles					X				
LinkedIn Controls								X	X
N	988,459	987,604	987,604	987,604	933,141	235,190	235,190	235,190	235,190
adj. R-sq	0.226	0.497	0.502	0.851	0.9078	0.538	0.879	0.539	0.879

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects.

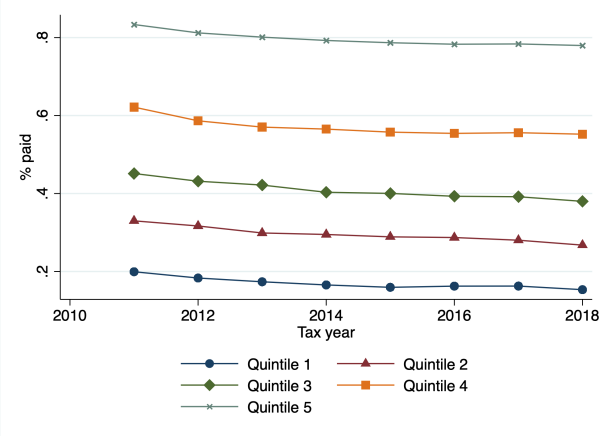


Figure 6: Share of manager compensated by quintiles of total revenue

[27] Additional regressions using the LinkedIn controls can be found in Appendix B.2 in Table 24. The LinkedIn controls are jointly significant in Column 8 and not jointly significant in Column 9. The F-statistics (p-values) are 10.58 (0.000) and 1.13 (0.365) respectively.

In Figure 6, we graph the share of compensated managers per year for different quintiles in the distribution of total organization revenue. The share of compensated managers per quintile is roughly constant across years, and there is a clear monotone and increasing relationship with organization size. While the share of compensated managers is close to 20% in Quintile 1, 80% of managers in Quintile 5 are compensated.[28] Following the descriptive evidence in Figure 6, we replicate the specifications of Columns 5 and 6 in Table 10 to determine if the gap in being compensated is consistently present across the size distribution. Table 11 shows that women are more likely to be compensated across all quintiles of total revenue.[29]

Table 11: Results – Likelihood of compensation (Quintiles of total revenue)

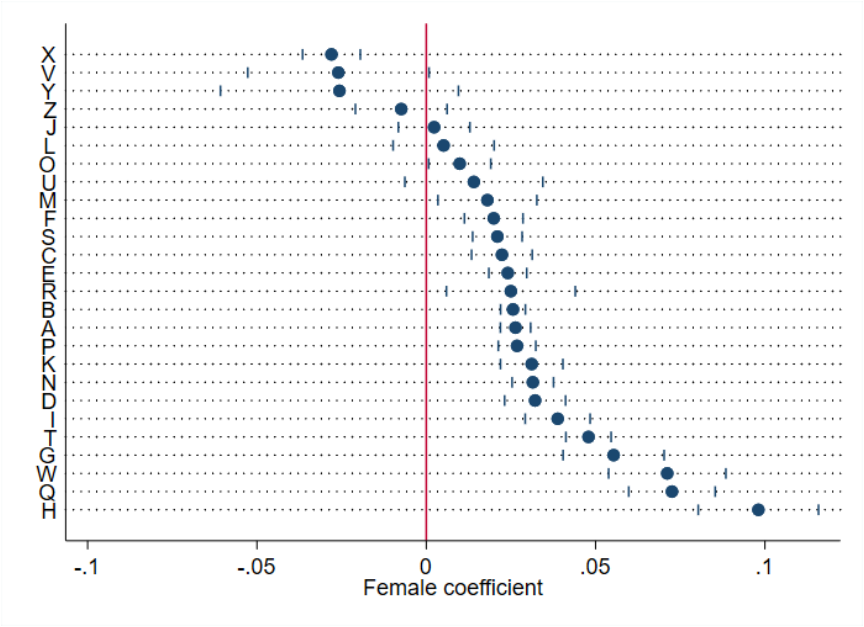
	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)
I(female)	0.015***	0.021***	0.031***	0.035***	0.030***	0.033***	0.026***	0.035***	0.017***	0.028***
	(0.005)	(0.003)	(0.005)	(0.006)	(0.006)	(0.004)	(0.005)	(0.004)	(0.003)	(0.005)
Manager tenure	0.013***	0.001	0.021***	0.002	0.029***	0.005***	0.033***	0.007***	0.031***	0.009***
	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.004)	(0.001)
Total revenue	0.012***	0.006***	0.080***	0.012**	0.048***	0.019***	0.070***	0.021***	0.052***	0.013***
	(0.004)	(0.001)	(0.007)	(0.005)	(0.011)	(0.006)	(0.008)	(0.005)	(0.011)	(0.003)
Constant	-0.058*	-0.008	-0.875***	-0.120	-0.511***	0.154	-0.783***	-0.255*	-0.385**	1.641***
	(0.033)	(0.046)	(0.072)	(0.093)	(0.139)	(0.129)	(0.121)	(0.140)	(0.182)	(0.061)
Controls	X	X	X	X	X	X	X	X	X	X
Officer title	X	X	X	X	X	X	X	X	X	X
NTEE	X		X		X		X		X	
Charity		X		X		X		X		X
N	173,299	173,299	190,016	190,016	202,667	202,667	214,600	214,600	207,022	207,022
adj. R-sq	0.288	0.827	0.402	0.832	0.451	0.847	0.469	0.845	0.329	0.798

Notes: Quintiles of total revenue. Quintile 1 lowest total revenue. Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Column (1) includes NTEE fixed effects and Column (2) include organization fixed effects.

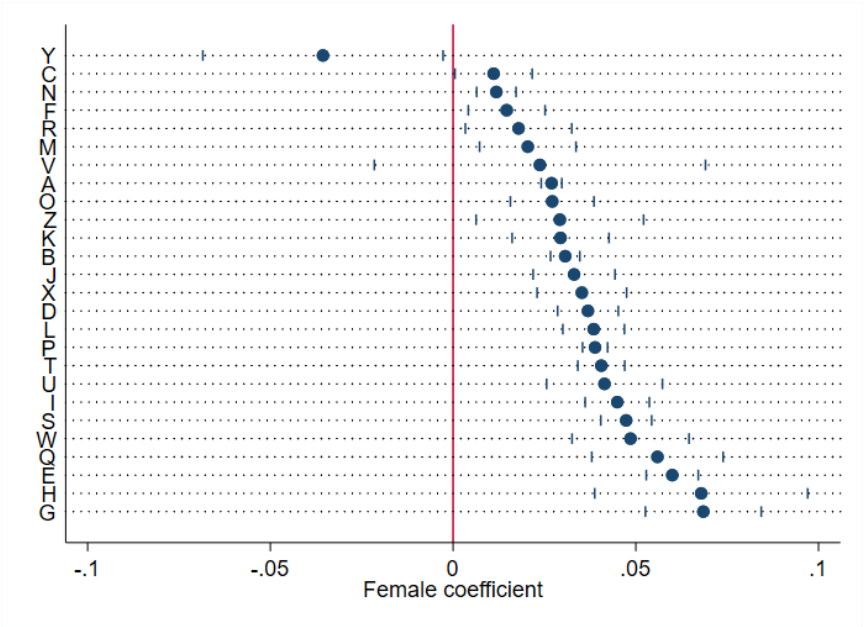
Figure 7 investigates the likelihood of compensation gaps in the different industries. Figure 7a reports the $Female_i$ coefficient in Equation (9) estimated separately for each NTEE. The majority of which are positive and significant. Meaning that women are more likely to be compensated. A few exceptions to this overall finding are religion-related charities, social science charities, and mutual and membership benefit charities. Once we account for charity fixed effects, the gaps remain mostly (Figure 7b). Only mutual and membership benefit charities are more likely to pay men.

[28] Table 29 estimates Specification 9 breaking the gender dummy by year. We observe no significant changes over time in the likelihood of receiving compensation for women relative to men.

[29] As a robustness check, we also separate the organizations according to their primary source of expenses or revenue and run the same analysis in Tables 27 and 28 of Appendix A. Our finding that women are more likely to receive positive compensation for managing a non-profit organization is robust to all divisions of the working sample.



(a) Likelihood of compensation gap by NTEE



(b) Likelihood of compensation gap by NTEE (charity fixed effects)

Figure 7: Likelihood of compensation gap across industries

A- Arts, culture & humanities; B- Education; C- Environment; D- Animal-related; E- Health care; F- Mental health & crisis intervention; G- Voluntary health associations & medical disciplines; H- Medical research; I- Crime & legal-related; J- Employment; K- Food, agriculture & nutrition; L- Housing & Shelter; M- Public safety, disaster preparedness & relief; N- Recreation & sports; O- Youth development; P- Human services; Q- International, foreign affairs & national security; R- Civil rights, social action & advocacy; S- Community improvement & capacity building; T- Philanthropy, voluntarism & grant formation; U- Science & technology; V- Social Science; W- Public & societal benefit; X- Religion-related; Y- Mutual & membership benefit; Z- Unknown

Taking stock, this section has shown two distinct stylized facts. First, women are up to 3.7% more likely to receive compensation when working as a manager in a U.S. charity. Second, conditional on receiving compensation, women are paid 8.2% less than men in otherwise equal jobs and organizations. [30] In the next section, we explore the role of potential mechanisms behind these facts.

6 Mechanisms

In this section, we focus on mechanisms that may explain the empirical facts established in the previous section. First, we hypothesize that the reason why women are more likely to be compensated than men is because charity employment is less likely to be the primary source of income for men relative to women. Second, we investigate whether the non-profit market for senior managers perceives males and females differently and whether this perception is driven by differences in performance. A mismatch in the link between pay and performance would be consistent with discrimination and stereotypes playing an active role in driving gender differences in pay. Let us next describe our different methodologies and respective results when exploring our hypotheses regarding these mechanisms.

6.1 Charity employment as primary income source

Using LinkedIn information, we can test whether gender differences in the likelihood of being paid is correlated with self-reported retiree and student status, as well as whether managers report working elsewhere while managing their respective charities.

Panel A of Table 12 displays differences in the probability of being retired for unpaid and paid managers. Male unpaid managers are 0.5 percentage points more likely to be retired than female unpaid managers, while male paid managers are 0.1 percentage points less likely to be retired than female paid managers. In the end, there is a difference-in-difference of 0.6 percentage points, yet statistically significant at the 10% level. Panel B of Table 12 takes a dif-

[30] In Appendix D, we explore how compensation changes during manager transitions. We show that compensation drops 19% when organizations change from male to female managers, but it does not adjust up when transitioning from female to male.

ferent perspective and shows that unpaid female managers are 0.7 percentage points more likely to be students than male unpaid managers. The difference-in-difference estimate is a statistically significant 1.4 percentage points. This supports our hypothesis that male managers are less likely to be students when unpaid and have other sources of income besides charity employment. Consistently with both these results, Panel D shows that males are older than females in our sample for both unpaid and paid managers. Interestingly, unpaid managers are always older than paid managers regardless of gender, and male managers are older than female managers. These two facts reinforce the evidence that male managers are less likely to be paid because they are overall older than female managers in our sample. Note this is consistent with the findings in Panel A on retiree status.

Panels E and F explore whether managers report having other jobs while working at a charity. Panel E shows that unpaid managers have the same number of other jobs regardless of their gender, but female managers hold more jobs when paid than male managers. In fact, panel F shows that female unpaid managers are 2 percentage points more likely to have at least another job. Female paid managers are also more likely to have at least another job. This is consistent with our findings in Panel A that male unpaid managers are more likely to be retired and receive income from other sources.

Table 12 also explores differences in volunteering profiles across genders for paid and unpaid managers. Panel C reports that female managers are more likely to volunteer somewhere, but there are no differences in volunteering (as reported in LinkedIn) across unpaid and paid gender differences. Similarly, Panels G and H show no statistically significant differences in volunteering at other organizations in the past.

Alternatively, we can use the whole sample of managers and test differences in the likelihood of having a LinkedIn profile as this fact is highly correlated with being active in the job market, networking, and looking for a career change. Panel I of Table 12 shows that unpaid women are marginally more likely to have a LinkedIn profile than unpaid men and the same is true for paid managers. This is consistent with our hypothesis in that women appear to be more likely to be actively networking and looking for a job than unpaid men who are less active or already out of the job market.

Table 12: Differences in characteristics

	Panel A - % Retired			
	All	*If unpaid*	*If paid*	*Diff. (U-P)*
Total	0.030	0.038	0.019	0.020***
Male	0.033	0.041	0.018	0.022***
Female	0.028	0.036	0.019	0.016***
Diff. (M-F)	0.005***	0.005**	-0.001	0.006*
Obs.	54,267			
Panel B - % Student				
Total	0.025	0.023	0.028	-0.005***
Male	0.024	0.020	0.032	-0.012***
Female	0.026	0.027	0.025	0.002
Diff. (M-F)	-0.002*	-0.007***	0.007***	-0.014***
Obs.	54,267			
Panel C - % reporting volunteering in LinkedIn				
Total	0.190	0.187	0.195	-0.008**
Male	0.180	0.178	0.184	-0.006
Female	0.202	0.199	0.204	-0.005
Diff. (M-F)	-0.021***	-0.021***	-0.020***	0.007
Obs.	54,267			
Panel D - Age				
Total	54.19	54.63	53.53	1.10***
Male	55.20	55.48	54.65	0.83***
Female	53.01	53.39	52.57	0.82***
Diff. (M-F)	2.19***	2.09***	2.08***	0.004
Obs.	27,467			
Panel E - Other jobs (levels)				
Total	2.40	2.37	2.44	-0.07***
Male	2.46	2.42	2.54	-0.12***
Female	2.34	2.32	2.36	-0.45***
Diff. (M-F)	0.12***	0.10***	0.177***	-0.08*
Obs.	54,267			
Panel F - Other jobs (I(list other jobs on LinkedIn))				
Total	0.831	0.853	0.797	0.057***
Male	0.839	0.860	0.799	0.060***
Female	0.821	0.844	0.794	0.050***
Diff. (M-F)	0.018***	0.016***	0.005	0.011
Obs.	54,267			
Panel G - Volunteer at other organization (levels)				
Total	0.617	0.616	0.617	-0.001
Male	0.597	0.604	0.584	0.020
Female	0.639	0.634	0.645	-0.011
Diff. (M-F)	-0.042**	-0.030	-0.061**	0.032
Obs.	54,267			
Panel H - I(volunteers at other organization)				
Total	0.114	0.115	0.112	0.003
Male	0.107	0.109	0.102	0.007*
Female	0.121	0.122	0.119	0.003
Diff. (M-F)	-0.014***	-0.013***	-0.017***	0.004
Obs.	54,267			
Panel I - % LinkedIn profile				
Total	0.161	0.148	0.184	-0.036***
Male	0.151	0.143	0.166	-0.022***
Female	0.175	0.155	0.203	-0.048***
Diff. (M-F)	-0.024***	-0.011***	-0.037	0.025***
Obs.	336,178			

Notes: $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$.

6.2 Pay differentials and impact on performance

We investigate now why, conditional on being paid, a female manager earns 8% less than her male counterpart. We hypothesize that the gender pay gap may be driven by a misperception of the impact of women managers on the performance of U.S. charities.

To shed light on the empirical validity of this explanation, we first follow the methodology proposed by Abowd et al. (1999) to determine whether the non-profit market perceives male and female managers differently. To do so, we start by defining a connected set of manager-organization pairs which consists of all managers at organizations with movers, where movers are managers observed at multiple organizations throughout the sample period. The movers allow us to separate the variation in compensation ($comp._{it}$) explained by the managers (i.e. manager fixed effects) from the variation in compensation linked to the charity (i.e. organization fixed effects). Then, we estimate the manager fixed effects from the following equation:

$$comp._{it} = X_{jt}^{T}\beta + \gamma tenure_{ij(i,t)t} + titles^{T}\delta + \lambda_t + \alpha_i + \psi_{j(i,t)} + \epsilon_{it} \quad (10)$$

where $comp._{it}$ is the compensation of manager i at time i measured in levels. We use levels of compensation to see the range in manager and organization fixed effects in monetary terms. X_{jt}^{T} is a set of organization controls that are time variant. We select membership dues, program service revenue, and total net assets as the organization controls. The variable $tenure_{ij(i,t)t}$ is how long manager i has been managing organization j at time t. We also add a set of dummies for the different manager titles observed in our data, $titles$, fiscal year fixed effects, λ_t, and organization fixed effects, $\psi_{j(i,t)}$. The subscript $j(i,t)$ is a mapping for manager i to organization j at year t (Janke et al., 2019). Lastly, we include manager fixed effects, α_i. Although non-mover managers at connected organizations are included, the manager fixed effects are only identified for managers that move from one organization to the other.

Once we have estimated Equation 10 above, we test the joint significance of the manager fixed effects. Testing for joint significance examines whether a significant part of the variation in compensation is explained by differences in managers. We repeat the exercise separately for males and females. We show

results in Table 13.[31] Overall we find managers are perceived as differentiated with 17.12% of the variation in compensation explained by the managers, and a p-value $< 0.01\%$ for the F-test suggesting manager fixed effects are different from each other. When investigating differences of manager fixed effects separately by gender, we observe statistically significant differences for male managers, but we do not for female managers where the variance explained is a statistically insignificant 8% (relative to 13% for males) and a p-value of 48% for the F-test (relative to $< 0.01\%$ for males).

Table 13: Results – Fixed effects in pay

					Variance proportion (%)			
	F-test (p-value)	R^2	Adj. R^2	Obs.	Covariates	Charity	Manager	Residuals
All managers	1.705 (0.000)	0.884	0.826	277,639	5.559	65.81	17.05	11.57
Female	1.000 (0.483)	0.905	0.857	95,849	15.78	66.66	8.02	9.54
Males	1.869 (0.000)	0.881	0.823	174,983	4.12	70.93	13.01	11.93

Notes: p-values in parentheses.

Second, we want to contrast empirically whether the lack of perceived differentiation among females is paralleled by their ability (or lack-thereof) to "leave-their-mark" on the organizations they manage. To investigate the impact of managers on charities, we follow the methodology of Bertrand and Schoar (2003) and Janke et al. (2019) using performance as dependent variable. In contrast to the fixed effects in the previous compensation exercise, only managers observed at two organizations for at least two years are included in this estimation subsample. This ensures that enough time has passed for managers to "leave their mark" and that practices are correlated across organizations (Bertrand and Schoar, 2003; Janke et al., 2019).

The equation estimated is as follows:

$$y_{jt} = X_{jt}^T \beta + \gamma tenure_{ij(i,t)t} + titles^T \delta + \lambda_t + \alpha_i + \psi_{j(i,t)} + \epsilon_{it} \qquad (11)$$

where y_{jt} are various measures of charity performance standardized to have mean zero and standard deviation one (Janke et al., 2019). We use the same

[31] Descriptive statistics for the subsample of managers at organizations with movers can be found in Appendix B.3 in Tables 39 and 40.

set of time variant organization controls, X_{jt}, as in Equation (10). The variable $tenure_{ij(i,t)t}$ is how long manager i has been managing organization j at time t, and $titles$ is a set of dummies controlling for the different positions of the managers. The regression includes year fixed effects, λ_t, and organization fixed effects, $\psi_{j(i,t)}$. The object of interest is α_i, the manager fixed effects. In this case, only managers observed at two organizations for at least two years are included in the sample and the manager fixed effects are identified by managers moving from one organization to another.

Once we estimate Equation (11), we test the joint significance of the manager fixed effects, α_i. In this case, the test is telling us whether a significant part of the variation in charity performance is explained by the managers. Reached this point, it is important to acknowledge that our measures of charity performance are not direct measures of productivity or TFP. These are organization-level outcomes that are correlated with performance in the context of charities.

Results in Table 14 show that managers have an impact on charity performance for almost all measures, with the exception of the number of employees. Unlike the previous exercise, we do not find gender differences in the statistical significance of the impact on performance across all performance measures examined (with the exception of volunteers where female managers are leaving a mark and men are not). Both men and women have the ability to leave their mark on the organizations they manage.

In summary, there is a mismatch between the dispersion of pay among men and women that is not paralleled by the dispersion of impact on performance among men and women. Going back to our initial results, we hypothesize that gender pay gap observed in section 5.2 is the result of misperception that women managers are not differentiated among themselves. The next step is then to pair differences in pay with differences in performance as estimated in this section, and empirically show whether better performing managers receive higher pay regardless of their gender.

6.3 Linking Performance and Pay

In the previous section, we found that manager fixed effects of compensation are not statistically different from each other for women while they are for men. We also found that the manager fixed effects of performance are statistically

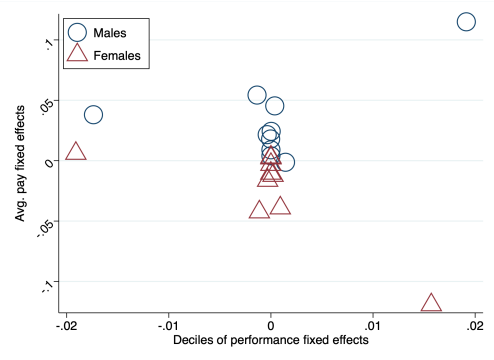
Table 14: Results – Fixed effects in performance – F-test on fixed effects

	All			Female			Male		
	F-stat	Obs.	R-sq	F-stat	Obs.	R-sq	F-stat	Obs.	R-sq
Total contributions	13.230	103,877	0.986	79.757	32,764	0.989	3.207	68,848	0.985
	(0.000)			(0.000)			(0.000)		
Government grants	1.712	103,877	0.970	12.662	32,764	0.960	1.396	68,848	0.971
	(0.000)			(0.000)			(0.000)		
Other revenue	1.274	103,877	0.885	2.871	32,764	0.875	1.278	68,848	0.897
	(0.000)			(0.000)			(0.000)		
Total revenue	5.707	103,877	0.997	70.061	32,764	0.998	1.523	68,848	0.997
	(0.000)			(0.000)			(0.000)		
Total expenses	6.326	103,877	0.997	74.442	32,764	0.998	2.046	68,848	0.997
	(0.000)			(0.000)			(0.000)		
Program expenses	12.098	103,877	0.998	62.187	32,764	0.998	2.964	68,848	0.998
	(0.000)			(0.000)			(0.000)		
Administration expenses	1.760	103,877	0.957	1.452	32,764	0.981	2.589	68,848	0.960
	(0.000)			(0.000)			(0.000)		
Fundraising expenses	27.939	103,877	0.998	5.019	32,764	0.994	38.255	68,848	0.998
	(0.000)			(0.000)			(0.000)		
Volunteers	1.174	103,877	0.803	97.022	32,764	0.993	0.671	68,848	0.768
	(0.000)			(0.000)			(1.000)		
Number of employees	0.027	86,657	0.620	0.958	27,799	0.986	0.027	57,060	0.600
	(1.000)			(0.857)			(1.000)		
% volunteers	5.537	51,085	0.858	33.069	17,347	0.938	0.023	32,845	0.647
	(0.000)			(0.000)			(1.000)		

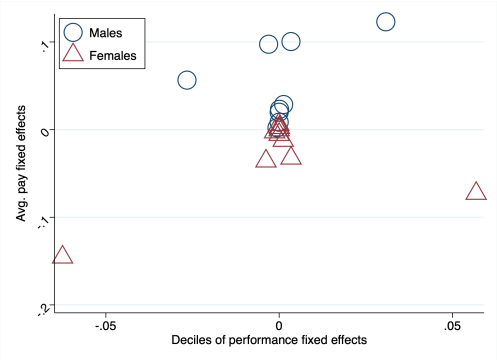
Notes: p-values in parentheses.

different for both men and women. An explanation for this mismatch across genders in the distributions for performance and pay is that better performing women do not get paid more for better performance, but better performing men do. We investigate this potential explanation as a potential mechanism behind the gender differences in pay documented above.

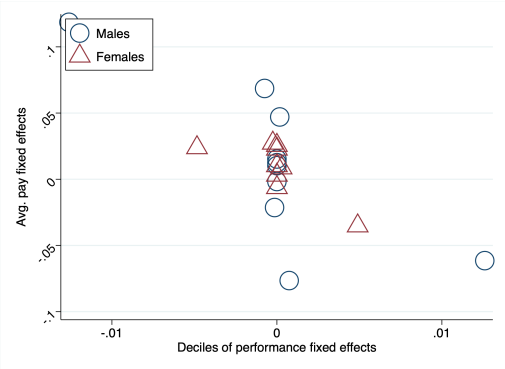
To do so, we group managers by performance fixed effect decile for each one of our performance variables used in the previous section. For each decile in the overall performance distribution of each variable, we separate managers by gender. For each gender-decile, we compute the average value of both their respective performance and pay fixed effects. We plot the resulting averages of performance (horizontal axis) and pay (vertical axis) in Figures 8 to 10 for performance values of total revenues, total expenses and share of volunteers at the organization, respectively. A perfect link between pay and performance would show a monotone relationship between the dots (circles and triangles in this case). Yet, Figure 8a shows that better performing women (far right triangle) have a compensation far worse than other men with similar performance (far right circle), but also other women with far lower performance impact. We undertake this exercise for all organizations in the sample of movers in Figure 8a,



(a) All managers



(b) Managers at organizations with males and females



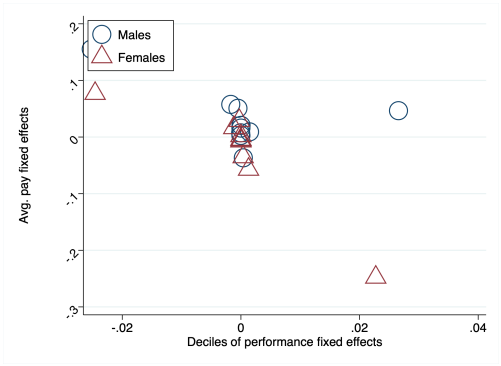
(c) Managers at organizations with one gender (women only or men only)

Figure 8: Average pay fixed effects against average performance fixed effects by deciles - Total revenue

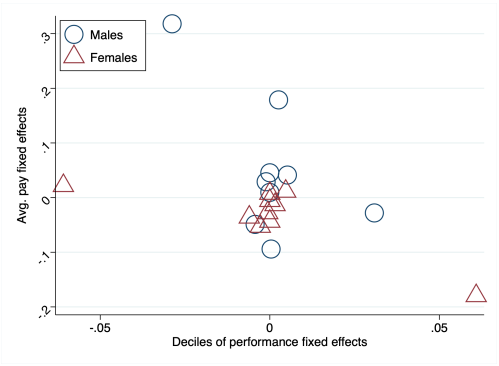
those organizations that employ both men and women senior managers in Figure 8b, and those organizations that either only employ men or only employ women in Figure 8c. While the same pattern appears to be pervasive across three graphs, Figure 8b shows that organizations employing both men and women seem to be those providing lower compensation for women that outperform the best performing men managers. While Figure 8 studies patterns of pay for performance taking organization revenues as measure of performance, Figures 9 and 10 show similar patterns for expenses and share of volunteers in the organization, respectively.[32]

In summary, from these figures, we conclude that better performing men receive higher compensation than better performing women. We also see that

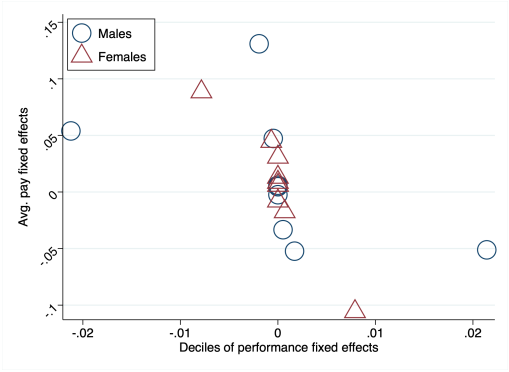
[32]Figures for additional performance measures can be found in Appendix B.3.1 with similar patterns.



(a) All managers



(b) Managers at organizations with males and females

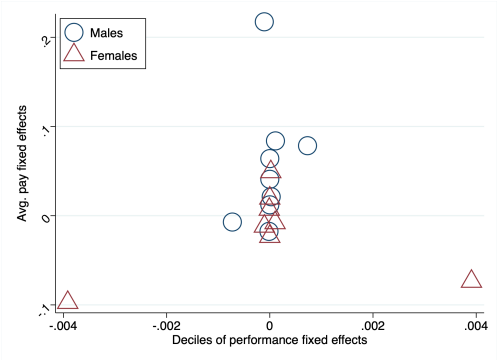


(c) Managers at organizations with one gender (women only or men only)

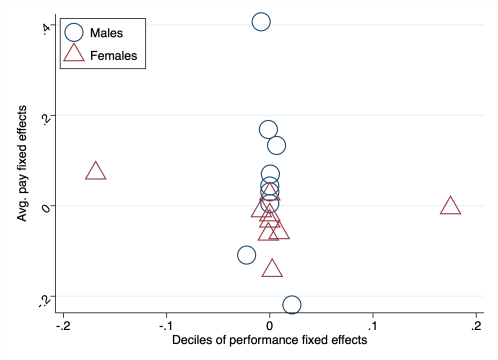
Figure 9: Average pay fixed effects against average performance fixed effects by deciles - Total expenses

better performance does not always mean better compensation for women, but it generally does for men. The figures also point to different patterns across organizations with managers of both genders and organizations with one gender only (i.e. all managers are men or women during our sample period). If anything, both-gender organizations appear to be driving the patterns for the observed gender pay gap at equal performance contribution.

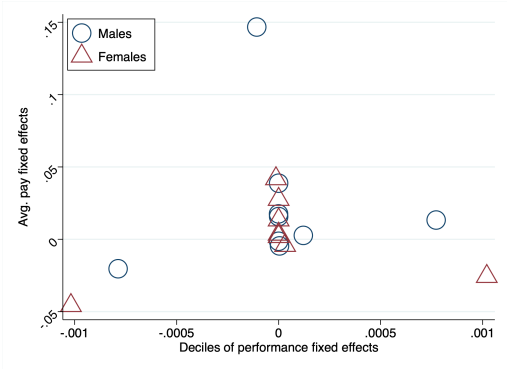
To examine the graphical evidence in Figures 8, 9 and 10, it is important to recall Equation (7) in our theoretical framework described in Section 3.2. On the one hand, by grouping female and male managers by deciles of performance fixed effects, we are in fact holding constant performance of these managers. On the other hand, the pay fixed effect at the manager level obtain by using Specification (10) is estimated during a short period of time within the life of a



(a) All managers



(b) Managers at organizations with males and females



(c) Managers at organizations with one gender (women only or men only)

Figure 10: Average pay fixed effects against average performance fixed effects by deciles - Share of volunteers

manager indicating that changes of opportunity costs and preferences are controlled for. Thus, it must be that the differences in pay observed for top performers must come from differences in firm bargaining behavior or firm preferences (Bandiera et al., 2021).

7 Conclusion

In this paper, we study gender pay differences in the context of senior management of U.S. non-profit organizations. While there is previous evidence of gender pay differences in management, U.S. charities and non-profit organizations provide an interesting and novel setting that differs much from previously studied environments such as the private sector, government agencies, and publicly

traded companies. On the one hand, female labor participation in U.S. charities is 73%, higher than the female labor participation in the economy which is around 47%. On the other hand, U.S. charities do not resemble most sectors in the economy in that female representation of senior leadership is higher at around 44% (2% elsewhere according to Gupta et al. (2018)). While the former attenuates concerns of gender selection into the charities sector, the latter highlights that lack of female representation in leadership positions cannot be a significant driver of the existing gender gap in senior management among U.S. charities as it can be in other industries (Bandiera et al., 2020). Moreover, this sector is singular in that profits and benefits are hard to quantify, and so are short-term and long-term goals in employment contracts. This last fact diminishes the importance of gender differences in competitive attitudes and selection into incentive contracts (Niederle and Vesterlund, 2007). Thus, firms and organizations in this sector are defined around purpose (instead of profits) which may shift responsibility for gender pay gaps from money goals to alternative theories of gender discrimination such as taste for discrimination and the role of stereotypes in generating differences in the perception of productivity (Bertrand, 2020).

To study gender pay differences in senior management of U.S. non-profit organizations, we use novel data from different sources measuring a variety of dimensions of the non-profit sector. We divide our empirical strategy into two distinct parts. In the first part of the paper, we show that a large share of senior managers do not receive compensation for their work. Then, we use cross-sectional reduced form evidence to highlight two new stylized facts, to the best of our knowledge, not previously mentioned in the literature. We find that (i) women are up to 3.7 percentage points more likely to receive compensation than men, and (ii), conditional on receiving compensation, men are paid 8.2% more than women.

In the second part of the paper, we explore mechanisms driving the two facts we establish in the first half. First, we investigate reasons behind the gender gap in receiving any compensation, that is, women are more likely to receive compensation than men in our sample. We find evidence suggesting unpaid male managers are at a later stage in their careers than female managers. Male managers are older, more likely to be retired, less likely to be students, have fewer jobs while concurrently managing a charity, report less volunteering, and

are less likely to have a LinkedIn profiles. Overall, these facts seem to suggest that male managers in the sample rely on other means of income beyond their charity compensation, while this appears to be less likely for female managers. This would explain the higher likelihood of male to manage these organizations without requiring compensation.

Second, we use well-established methodology from Abowd et al. (1999) and Bertrand and Schoar (2003) to explore a gender mismatch between pay and performance as a potential mechanism that could explain the compensation gaps presented in the first half of the paper. Using the sample of managers moving organizations in the data, we are able to separately identify manager- and organization-specific performance and pay fixed effects. We find evidence consistent with the market perceiving male managers to be differentiated (some are better than others), but perceiving women as undifferentiated. In contrast to this perception, we find that both female and male managers can significantly affect organization performance. In further exploration, we show that this mismatch between pay and performance across genders is driven by the fact that best performing men receive higher compensation, whereas best performing women do not (even among women). Because we can hold manager performance and preferences constant, our findings suggest that gender paygaps in charities are driven by gender discrimination and stereotyping perceptions of the impact of female managers on organization performance.

Our findings have important implications for policies that aim to narrow the gender gap in senior management. In particular, the empirical evidence presented shows that establishing quotas of female managers in senior management is probably not going to make the pay gap disappear. Similarly, policies that homogenize incentive contracts attenuating selection into contracts are unlikely to be effective. Our evidence shows that gender pay gaps in our setting are caused by misperceptions. Therefore, policies aiming to correct the information gap may be most effective.

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Appendices

A For Online Publication - Institutional background

Table 15: National Taxonomy of Exempt Entities – Major groups

Code	Description
A	Arts, culture & humanities
B	Education
C	Environment
D	Animal-related
E	Health care
F	Mental health & crisis intervention
G	Voluntary health associations & medical disciplines
H	Medical research
I	Crime & legal-related
J	Employment
K	Food, agriculture & nutrition
L	Housing & shelter
M	Public safety, disaster preparedness & relief
N	Recreation & sports
O	Youth development
P	Human services
Q	International, foreign affairs & national security
R	Civil rights, social action & advocacy
S	Community improvement & capacity building
T	Philanthropy, voluntarism & grant foundation
U	Science & technology
V	Social science
W	Public & societal benefit
X	Religion-related
Y	Mutual & membership benefit
Z	Unknown

Source: Urban Institute, National Center for Charitable Statistics (2019).

Table 16: National Taxonomy of Exempt Entities – Common codes

Code	Description
01	Alliance/advocacy organizations
02	Management and technical assistance
03	Professional societies/associations
05	Research institutes/public policy analysis
11	Monetary support-single organization
12	Fund raising & fund distribution
19	Monetary support not elsewhere classified (N.E.C.)
99	Not elsewhere classified (N.E.C.)

Source: Urban Institute, National Center for Charitable Statistics (2019).

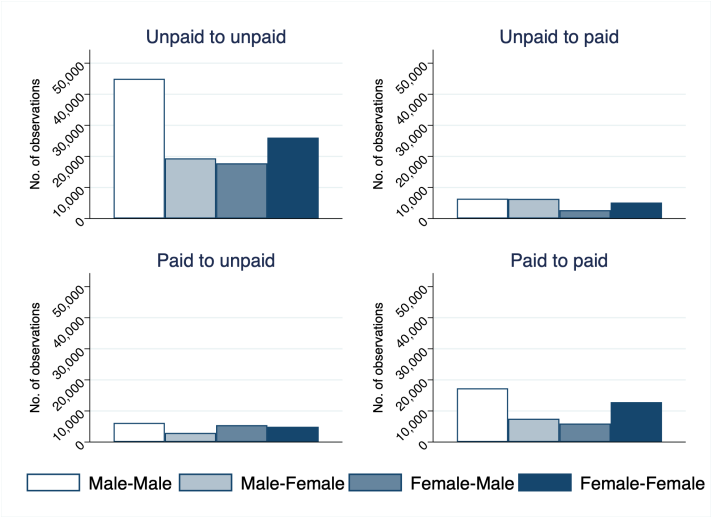
Table 17: National Taxonomy of Exempt Entities – Examples

Organizations	Major	Decile	Centile	Description
Museum of Modern Art	A	51	0	Art museums
Harvard University	B	50	0	Graduate & professional schools
Greenpeace Fund inc	C	12	3	Fund raising & fund distribution
Human society of central Illinois	D	20	0	Animal protextion & welfare
The Cleveland Clinic Foundation	E	21	0	Community Health Systems
American Foundation for suicide prevention	F	11	0	Single organization support
National braille association inc.	G	41	Z	Eye diseases, blindness & vision impairments
Brain research foundation	H	48	J	Brain disorders research
American law institute	I	03	0	Professional societies & associations
Center of employment opportunities inc	J	20	-	Employment prepartion & procurement
Meals on wheels association of America inc	K	30	C	Food programs
Habitat for Humanity of Suffolk	L	20	Z	Housing development, construction & management
FDNY Foundation inc	M	11	2	Fund raising & fund distribution
North American hockey academy inc	N	68	-	Winter sports
Boys & Girls clubs of Boston inc	O	23	0	Boys & girls clubs
YMCA state of Maine	P	27	Z	Young mens or womens associations
World vision	Q	33	0	International relief
NAACP Foundation	R	22	I	Minority rights
Alliance of downtown New York	S	99	Z	Community improvement & capacity building N.E.C.
United Way of Connecticut	T	70	Z	Federated giving programs
Pasteur foundation inc	U	50	J	Biological & Life sciences
National bureau of economic research inc	V	22	0	Economics
Rand corporation	W	05	0	Research institutes & public policy analysis
The actors' fund of America	Y	40	0	Fraternal societies

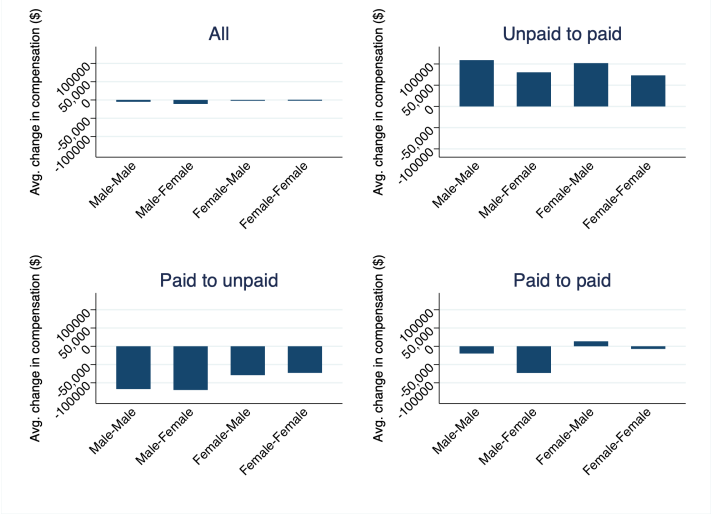
Source: Compiled by authors from data obtained from `charitynavigator.org` and `Guidestar.org`

B For Online Publication - Additional tables and figures

B.1 Additional Descriptive statistics



(a) Frequency of manager transitions types



(b) Average change in compensation by transition type

Figure 11: Transition types

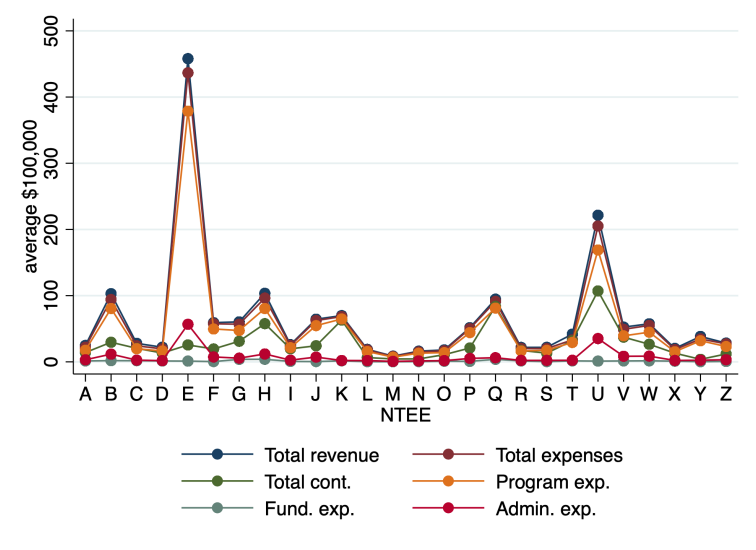


Figure 12: Average revenue and expenses by NTEE

Table 18: Descriptive Statistics – Gender among LinkedIn managers

	Freq.	Percent
Male	28,625	52.75
Female	25,642	47.25
Total	54,267	100.00

Table 19: Descriptive statistics – Share of LinkedIn managers receiving compensation

	All		**Female**		**Male**	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
Unpaid	122,061	51.28	49,575	44.41	72,486	57.35
Paid	115,952	48.72	62,056	55.59	53,896	42.65
Total	238,013	100.00	111,631	100.00	126,382	100.00

Table 20: Descriptive Statistics – Number of managers with LinkedIn per organization

No. of managers	Freq.	Percent
1	60,898	80.88
2	11,535	15.32
3	2,250	2.99
4	491	0.65
5	90	0.12
6	26	0.03
7	2	0.00
Total	75,292	100.00

Table 21: Descriptive statistics – Average compensation among LinkedIn managers

	All				If paid			
	Obs.	Mean	Median	S.d.	Obs.	Mean	Median	S.d.
Male	126,382	66,716.67	0.000	173,982.16	53,896	156,445.50	103,712.50	238,627.69
Female	111,631	57,395.73	32,297.00	96,878.38	62,056	103,247.75	79,231.00	110,223.07
Total	238,013	62,345.04	0.000	143,165.37	115,952	127,974.76	88,768.50	183,503.88

Table 22: Descriptive statistics – Gender in organizations with multiple LinkedIn managers

	Freq.	Percent
All managers females	3,917	0.255
All managers males	4,160	0.324
Female and males managers	6,317	0.421
No. organizations with many LinkedIn managers	15,657	100.00

Table 23: Descriptive statistics – Share paid and avg. compensation among organizations with many managers

	All females		All males		Both males and females	
	Mean	S.d.	Mean	S.d.	Mean	S.d.
Share paid (%)	0.476	0.499	0.328	0.79	0.368	0.482
Share female (%)	-	-	-	-	0.509	0.500
Avg. compensation($)	41,590.27	66,512.79	46,604.34	120,940.40	40,312.07	98,421.38
Avg. comp. if paid ($)	87,431.67	72,747.67	142,011.30	176,135.10	109,513.40	136,886.30
Obs.	16,681		18,088		17,673	

B.2 Additional Regressions

Table 24: Results – Likelihood of compensation (LinkedIn Sample - Additional Regressions)

	(1) I(paid)	(2) I(paid)	(3) I(paid)	(4) I(paid)	(5) I(paid)	(6) I(paid)	(7) I(paid)	(8) I(paid)
I(female)	0.027***	0.027***	0.027***	0.026***	0.041***	0.041***	0.041***	0.041***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)
Manager tenure	0.028***	0.028***	0.028***	0.029***	0.004***	0.004***	0.004***	0.004***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Total revenue (log)	0.055***	0.055***	0.055***	0.055***	0.015***	0.015***	0.015***	0.015***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.002)	(0.002)	(0.002)	(0.002)
I(college degree)	0.015***			0.025***	0.005			0.009*
	(0.005)			(0.006)	(0.005)			(0.005)
I(graduate degree)	0.011**			0.021***	-0.002			0.001
	(0.005)			(0.006)	(0.006)			(0.008)
Age		-0.000		-0.000***		-0.000		-0.000
		(0.000)		(0.000)		(0.000)		(0.000)
Experience			0.088***	0.148***			0.038	0.080
			(0.026)	(0.029)			(0.041)	(0.051)
Constant	-0.356***	-0.348***	-0.351***	-0.351***	0.084	0.088	0.085	0.088
	(0.053)	(0.054)	(0.053)	(0.053)	(0.086)	(0.087)	(0.085)	(0.086)
Controls	X	X	X	X	X	X	X	X
Officer title	X	X	X	X	X	X	X	X
NTEE	X	X	X	X				
Charity					X	X	X	X
N	235,190	235,190	235,190	235,190	235,190	235,190	235,190	235,190
adj. R-sq	0.538	0.538	0.538	0.539	0.879	0.879	0.879	0.879

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Organization grouped by primary source of expenses (administration, program or fundraising). Column (1) includes NTEE fixed effects and Column (2) include organization fixed effects.

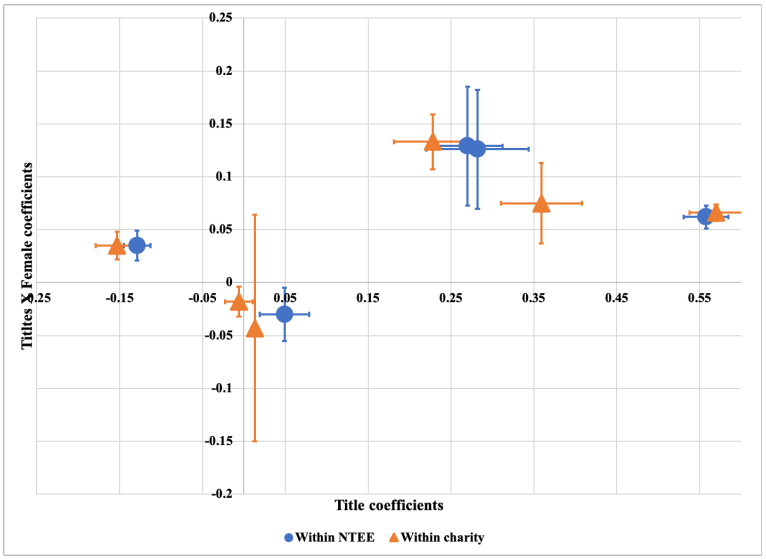


Figure 13: Likelihood of compensation by titles

Table 25: Results – Likelihood of compensation (Quintiles of total revenue) - LinkedIn subsample

	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)
I(female)	0.025***	0.035***	0.026***	0.025*	0.025***	0.043***	0.028***	0.040***	0.020***	0.024*
	(0.008)	(0.007)	(0.007)	(0.013)	(0.006)	(0.009)	(0.005)	(0.011)	(0.004)	(0.014)
Manager tenure	0.012***	0.002	0.022***	0.002	0.031***	0.003	0.034***	0.004*	0.033***	0.006***
	(0.002)	(0.003)	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)	(0.002)	(0.004)	(0.002)
Total revenue (log)	0.016***	0.008***	0.089***	-0.000	0.035***	0.006	0.055***	0.020**	0.051***	0.019***
	(0.004)	(0.002)	(0.011)	(0.008)	(0.012)	(0.012)	(0.010)	(0.008)	(0.015)	(0.004)
Constant	-0.032	-0.025	-0.850***	0.209*	-0.165	0.258	-0.289*	0.176	-0.069	0.454***
	(0.051)	(0.099)	(0.147)	(0.115)	(0.154)	(0.161)	(0.146)	(0.178)	(0.189)	(0.108)
Controls	X	X	X	X	X	X	X	X	X	X
Officer titles	X	X	X	X	X	X	X	X	X	X
NTEE	X		X		X		X		X	
Charity		X		X		X		X		X
LinkedIn controls	X	X	X	X	X	X	X	X	X	X
N	36,967	36,967	45,733	45,733	51,092	51,092	54,597	54,597	46,801	46,801
adj. R-sq	0.329	0.850	0.466	0.867	0.508	0.879	0.519	0.882	0.365	0.861

Notes: Quintiles of total revenue. Quintile 1 lowest total revenue. Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Column (1) includes NTEE fixed effects and Column (2) include organization fixed effects. Estimation on the subsample of managers matched to their LinkedIn profile.

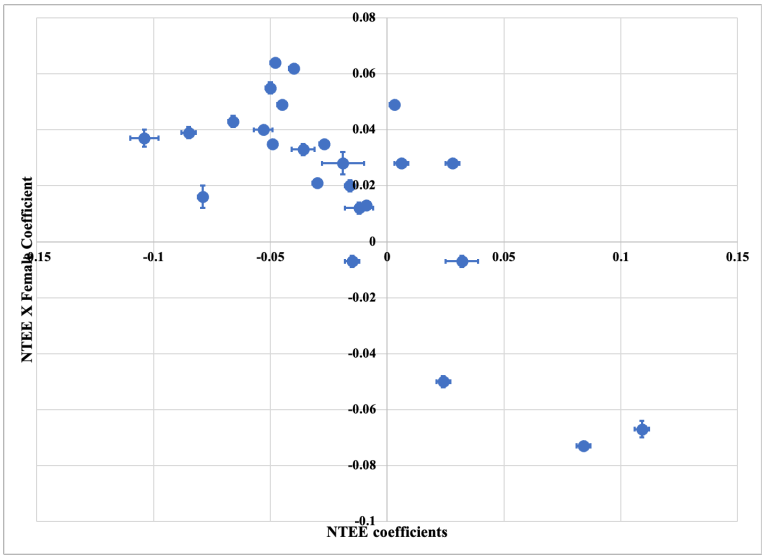


Figure 14: Likelihood of compensation by NTEE

Table 26: Results – Likelihood of compensation (interactions for officer title)

	(1)	(2)
	I(paid)	I(paid)
I(female)	-0.002	0.013***
	(0.007)	(0.003)
I(CEO)	0.049	-0.006
	(0.030)	(0.017)
I(Chief officer)	0.558***	0.570***
	(0.027)	(0.032)
I(Director)	-0.129***	-0.153***
	(0.016)	(0.026)
I(President)	0.270***	0.228***
	(0.042)	(0.047)
I(Vice President)	0.282***	0.359***
	(0.062)	(0.049)
I(female) × I(CEO)	-0.030	-0.018
	(0.025)	(0.014)
I(female) × I(Chief officer)	0.062***	0.066***
	(0.011)	(0.008)
I(female) × I(Director)	0.035**	0.035**
	(0.014)	(0.013)
I(female) × I(President)	0.129***	0.133***
	(0.027)	(0.026)
I(female) × I(Vice president)	0.126**	0.075*
	(0.056)	(0.038)
Manager tenure	0.027***	0.005***
	(0.002)	(0.000)
Total revenue (log)	0.060***	0.013***
	(0.006)	(0.002)
Constant	-0.612***	-0.043
	(0.078)	(0.107)
Controls	X	X
NTEE	X	
Charity		X
N	987,604	987,604
adj. R-sq	0.503	0.852

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Column (1) include NTEE fixed effects and column (2) include organization fixed effects. Omitted title category is "Other".

Table 27: Results – Likelihood of compensation (Sources of expenses)

	Administration		Program		Fundraising	
	(1)	(2)	(1)	(2)	(1)	(2)
	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)
I(female)	0.021**	0.034***	0.026***	0.036***	0.047***	0.063
	(0.009)	(0.009)	(0.003)	(0.004)	(0.016)	(0.040)
Manager tenure	0.022***	-0.001	0.027***	0.005***	0.014***	0.014
	(0.002)	(0.003)	(0.002)	(0.000)	(0.004)	(0.009)
Total revenue (log)	0.037***	0.006***	0.062***	0.013***	0.065***	0.004
	(0.003)	(0.002)	(0.006)	(0.002)	(0.005)	(0.015)
Constant	-0.267***	1.494***	-0.652***	-0.064	-0.891***	0.183
	(0.054)	(0.206)	(0.083)	(0.106)	(0.090)	(0.178)
Controls	X	X	X	X	X	X
Officer title	X	X	X	X	X	X
NTEE	X		X		X	
Charity		X		X		X
N	40,169	40,169	928,789	928,789	4,513	4,513
adj. R-sq	0.347	0.840	0.508	0.854	0.492	0.893

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Organization grouped by primary source of expenses (administration, program or fundraising). Column (1) includes NTEE fixed effects and Column (2) include organization fixed effects.

Table 28: Results – Likelihood of compensation (Sources of revenue)

	Government grants		Membership dues		Program service revenue	
	(1)	(2)	(1)	(2)	(1)	(2)
	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)	I(paid)
I(female)	0.028***	0.037***	0.006	0.003	0.021***	0.031***
	(0.003)	(0.004)	(0.011)	(0.011)	(0.005)	(0.004)
Manager tenure	0.024***	0.004***	0.029***	0.003	0.028***	0.005***
	(0.002)	(0.001)	(0.004)	(0.002)	(0.004)	(0.000)
Total revenue (log)	0.056***	0.013***	0.062***	0.005	0.063***	0.023***
	(0.003)	(0.001)	(0.005)	(0.011)	(0.010)	(0.005)
Constant	-0.579***	-0.149	-0.826***	-0.073	-0.642***	-0.077
	(0.041)	(0.120)	(0.048)	(0.156)	(0.126)	(0.078)
Controls	X	X	X	X	X	X
Officer title	X	X	X	X	X	X
NTEE	X		X		X	
Charity		X		X		X
N	542,967	542,967	17,293	17,293	379,056	379,056
adj. R-sq	0.531	0.856	0.492	0.859	0.464	0.853

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Organization grouped by primary source of revenue (government grants, membership dues, program service revenue). Column (1) includes NTEE fixed effects and Column (2) include organization fixed effects.

Table 29: Results – Likelihood of compensation (interaction between gender and time)

	(1)	(2)
	I(paid)	I(paid)
I(female)	0.020***	0.035***
	(0.004)	(0.005)
I(tax year=2012)	-0.021***	-0.003*
	(0.003)	(0.002)
I(tax year=2013)	-0.042***	-0.009***
	(0.004)	(0.002)
I(tax year=2014)	-0.057***	-0.011***
	(0.006)	(0.003)
I(tax year=2015)	-0.071***	-0.016***
	(0.006)	(0.003)
I(tax year=2016)	-0.080***	-0.017***
	(0.007)	(0.003)
I(tax year=2017)	-0.091***	-0.020***
	(0.008)	(0.004)
I(tax year=2018)	-0.103***	-0.023***
	(0.008)	(0.004)
I(female) × I(tax year=2012)	0.003*	0.003*
	(0.002)	(0.002)
I(female) × I(tax year=2013)	0.005*	0.003
	(0.002)	(0.003)
I(female) × I(tax year=2014)	0.005*	0.002
	(0.003)	(0.003)
I(female) × I(tax year=2015)	0.007**	0.002
	(0.003)	(0.004)
I(female) × I(tax year=2016)	0.004	0.000
	(0.004)	(0.004)
I(female) × I(tax year=2017)	0.006	0.003
	(0.004)	(0.004)
I(female) × I(tax year=2018)	0.005	0.002
	(0.006)	(0.005)
Manager tenure	0.027***	0.005***
	(0.002)	(0.000)
Total revenue (log)	0.060***	0.013***
	(0.006)	(0.002)
Constant	-0.614***	-0.059
	(0.077)	(0.105)
Controls	X	X
Officer titles	X	X
NTEE	X	
Charity		X
LinkedIn Controls		
N	987,604	987,604
adj. R-sq	0.502	0.851

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects.

Table 30: Results – Compensation (LinkedIn Sample - Additional Regressions)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)
I(female)	-0.158***	-0.158***	-0.158***	-0.157***	-0.043	-0.042	-0.044	-0.041
	(0.022)	(0.022)	(0.022)	(0.022)	(0.032)	(0.032)	(0.032)	(0.032)
Manager tenure	0.056***	0.055***	0.056***	0.056***	0.054***	0.054***	0.054***	0.053***
	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Total revenue (log)	0.262***	0.262***	0.263***	0.262***	0.053***	0.053***	0.053***	0.053***
	(0.022)	(0.022)	(0.022)	(0.022)	(0.011)	(0.011)	(0.011)	(0.011)
I(college degree)	0.025*			0.000	0.009			-0.006
	(0.012)			(0.020)	(0.017)			(0.019)
I(graduate degree)	0.078***			0.048	0.008			-0.004
	(0.024)			(0.028)	(0.023)			(0.023)
Age		0.001***		0.000		0.000		0.001*
		(0.000)		(0.000)		(0.000)		(0.001)
Experience			0.482***	0.266**			-0.097	-0.361
			(0.130)	(0.126)			(0.170)	(0.271)
Constant	7.472***	7.466***	7.473***	7.469***	10.665***	10.657***	10.670***	10.652***
	(0.274)	(0.275)	(0.274)	(0.273)	(0.349)	(0.341)	(0.343)	(0.349)
Controls	X	X	X	X	X	X	X	X
Officer title	X	X	X	X	X	X	X	X
NTEE	X	X	X	X				
Charity					X	X	X	X
N	115,112	115,112	115,112	115,112	115,112	115,112	115,112	115,112
adj. R-sq	0.331	0.331	0.331	0.331	0.880	0.880	0.880	0.880

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Organization grouped by primary source of expenses (administration, program or fundraising). Column (1) includes NTEE fixed effects and Column (2) include organization fixed effects.

Table 31: Results – Compensation (Quintiles of total revenue) - LinkedIn subsample

	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)
I(female)	-0.288***	0.158	-0.145***	0.044	-0.135***	0.067	-0.114***	0.004	-0.131***	-0.112**
	(0.069)	(0.193)	(0.035)	(0.098)	(0.023)	(0.093)	(0.020)	(0.048)	(0.025)	(0.040)
Manager tenure	0.039	0.069	0.065***	0.055**	0.047***	0.038***	0.050***	0.063***	0.051***	0.065***
	(0.023)	(0.056)	(0.009)	(0.023)	(0.008)	(0.010)	(0.006)	(0.010)	(0.006)	(0.003)
Total revenue (log)	-0.103***	0.081**	0.345***	0.278***	0.339***	0.170***	0.299***	0.125***	0.293***	0.054***
	(0.028)	(0.031)	(0.063)	(0.039)	(0.044)	(0.038)	(0.023)	(0.021)	(0.010)	(0.011)
Constant	11.933***	8.684***	6.195***	6.881***	6.231***	8.445***	6.942***	9.544***	6.918***	10.254***
	(0.378)	(1.015)	(0.798)	(0.588)	(0.589)	(0.618)	(0.311)	(0.532)	(0.187)	(0.270)
Controls	X	X	X	X	X	X	X	X	X	X
Officer titles	X	X	X	X	X	X	X	X	X	X
NTEE	X		X		X		X		X	
Charity		X		X		X		X		X
LinkedIn Controls	X	X	X	X	X	X	X	X	X	X
N	6,201	6,201	15,401	15,401	23,056	23,056	32,855	32,855	37,599	37,599
adj. R-sq	0.230	0.854	0.120	0.857	0.125	0.868	0.120	0.843	0.344	0.870

Notes: Quintiles of total revenue. Quintile 1 lowest total revenue. Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Column (1) includes NTEE fixed effects and Column (2) include organization fixed effects. Estimation on the subsample of managers matched to their LinkedIn profile.

Table 32: Results – Compensation (Quintiles 4 and 5 of total revenue)

	Quintile 4						Quintile 5					
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)
I(female)	-0.141***	-0.028	-0.130***	-0.096***	-0.139***	-0.054	-0.132***	-0.065***	-0.146***	-0.079***	-0.163***	-0.136***
	(0.030)	(0.031)	(0.030)	(0.019)	(0.032)	(0.032)	(0.031)	(0.017)	(0.028)	(0.024)	(0.046)	(0.047)
Manager tenure	0.051***	0.058***	0.051***	0.061***	0.054***	0.063***	0.056***	0.067***	0.057***	0.061***	0.054***	0.065***
	(0.005)	(0.006)	(0.004)	(0.003)	(0.005)	(0.005)	(0.004)	(0.003)	(0.005)	(0.005)	(0.005)	(0.003)
Total revenue (log)	0.305***	0.159***	0.289***	0.128***	0.332***	0.114***	0.241***	0.114***	0.287***	0.136***	0.322***	0.124***
	(0.052)	(0.057)	(0.026)	(0.042)	(0.028)	(0.041)	(0.028)	(0.022)	(0.027)	(0.030)	(0.017)	(0.024)
Constant	6.892***	9.367***	6.966***	9.747***	6.422***	9.635***	7.777***	10.387***	7.125***	9.109***	6.308***	9.912***
	(0.718)	(0.741)	(0.411)	(0.908)	(0.420)	(0.530)	(0.490)	(0.343)	(0.382)	(0.609)	(0.334)	(0.501)
Controls	X	X	X	X	X	X	X	X	X	X	X	X
Officer titles	X	X	X	X	X	X	X	X	X	X	X	X
NTEE	X		X		X		X		X		X	
Charity		X		X		X		X		X		X
N	35,798	35,798	48,993	48,993	40,295	40,295	53,992	53,992	45,592	45,592	61,412	61,412
adj. R-sq	0.103	0.831	0.139	0.806	0.118	0.830	0.137	0.793	0.126	0.824	0.356	0.821

Notes: Quintiles 4 and 5 of total revenue further separated into terciles. Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Column (1) includes NTEE fixed effects and Column (2) include organization fixed effects.

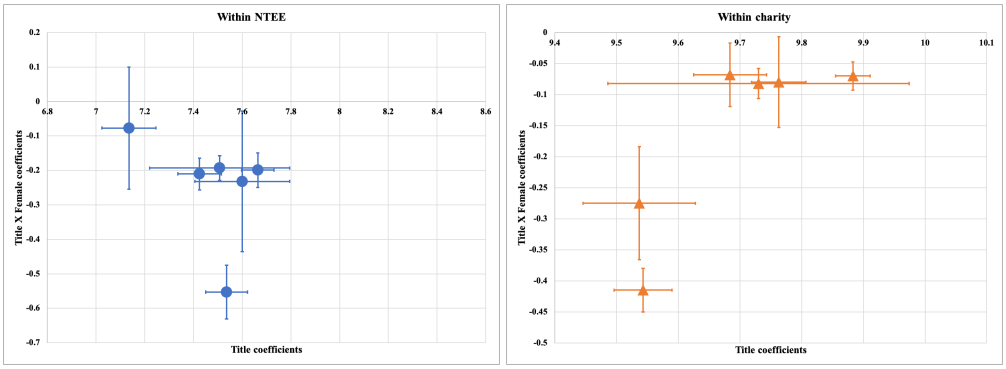


Figure 15: Compensation by titles

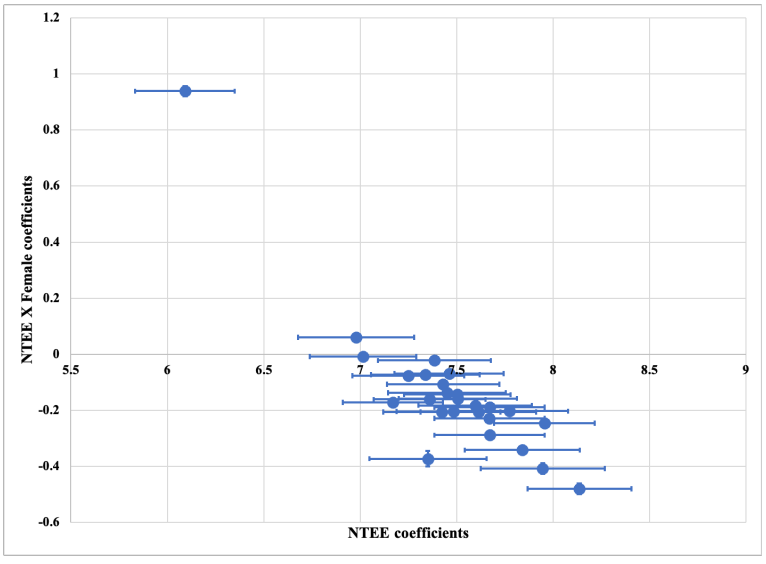


Figure 16: Compensation by NTEE

Table 33: Results – Compensation (interactions for officer title)

	(1) ln(comp.)	(2) ln(comp.)
I(female)	-0.193***	-0.082***
	(0.036)	(0.024)
I(CEO)	0.029	-0.187***
	(0.086)	(0.047)
I(Chief officer)	0.157**	0.153***
	(0.066)	(0.028)
I(Director)	-0.372***	-0.193**
	(0.111)	(0.091)
I(President)	-0.082	-0.046
	(0.090)	(0.059)
I(Vice president)	0.093	0.033
	(0.195)	(0.044)
I(female) × I(CEO)	-0.360***	-0.333***
	(0.100)	(0.035)
I(female) × I(Chief officer)	-0.006	0.012
	(0.050)	(0.023)
I(female) × I(Director)	0.116	0.162
	(0.177)	(0.124)
I(female) × I(President)	-0.017	0.014
	(0.046)	(0.051)
I(female) × I(Vice president)	-0.039	0.002
	(0.204)	(0.073)
Manager tenure	0.060***	0.054***
	(0.004)	(0.002)
Total revenue (log)	0.259***	0.082***
	(0.019)	(0.014)
Constant	7.507***	9.730***
	(0.287)	(0.283)
Controls	X	X
NTEE	X	
Charity		X
N	452,202	452,202
adj. R-sq	0.345	0.875

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Column (1) include NTEE fixed effects and column (2) include organization fixed effects. Omitted title category is "Other".

Table 34: Results – Compensation (Sources of expenses)

	Administration		Program		Fundraising	
	(1)	(2)	(1)	(2)	(1)	(2)
	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)
I(female)	-0.340***	-0.084	-0.186***	-0.077***	-0.335	0.069
	(0.069)	(0.112)	(0.026)	(0.021)	(0.201)	(0.140)
Manager tenure	0.083***	0.048***	0.059***	0.054***	0.081**	0.042
	(0.010)	(0.011)	(0.005)	(0.002)	(0.039)	(0.027)
Total revenue (log)	0.134***	0.011	0.272***	0.098***	0.218***	0.064**
	(0.022)	(0.014)	(0.021)	(0.014)	(0.046)	(0.026)
Constant	8.906***	10.731***	7.316***	9.505***	9.221***	10.702***
	(0.332)	(0.188)	(0.300)	(0.297)	(0.518)	(0.356)
Controls	X	X	X	X	X	X
Officer titles	X	X	X	X	X	X
NTEE	X		X		X	
Charity		X		X		X
N	12,620	12,620	432,961	432,961	1,360	1,360
adj. R-sq	0.262	0.898	0.359	0.876	0.387	0.904

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Organization grouped by primary source of expenses (administration, program or fundraising). Column (1) includes NTEE fixed effects and Column (2) include organization fixed effects.

Table 35: Results – Compensation (Sources of revenue)

	Government grants		Membership dues		Program service revenue	
	(1)	(2)	(1)	(2)	(1)	(2)
	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)	ln(comp.)
I(female)	-0.184***	-0.064***	-0.143**	-0.059	-0.206***	-0.106***
	(0.033)	(0.022)	(0.067)	(0.055)	(0.030)	(0.031)
Manager tenure	0.056***	0.049***	0.064***	0.049***	0.057***	0.052***
	(0.006)	(0.003)	(0.015)	(0.016)	(0.004)	(0.002)
Total revenue (log)	0.252***	0.101***	0.392***	0.240***	0.293***	0.132***
	(0.017)	(0.011)	(0.035)	(0.085)	(0.032)	(0.031)
Constant	7.521***	9.147***	5.464***	7.858***	7.067***	9.515***
	(0.249)	(0.273)	(0.401)	(1.200)	(0.471)	(0.515)
Controls	X	X	X	X	X	X
Officer titles	X	X	X	X	X	X
NTEE	X		X		X	
Charity		X		X		X
N	221,227	221,227	3,829	3,829	184,035	184,035
adj. R-sq	0.281	0.857	0.421	0.928	0.396	0.893

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Organization grouped by primary source of revenue (Government grants, membership dues or program service revenue). Column (1) includes NTEE fixed effects and Column (2) include organization fixed effects.

Table 36: Results – Compensation (levels)

	(1) Comp.	(2) Comp.	(3) Comp.	(4) Comp.	(5) Comp.
I(female)	-21068.790	-16209.617*	-25843.092**	-25730.108**	-8426.217*
	(12531.310)	(8739.715)	(9739.589)	(9992.551)	(4526.285)
Manager tenure		9776.772***	7834.779***	7681.102***	5756.767***
		(829.770)	(727.798)	(560.861)	(1344.844)
Total revenue (log)		37146.365***	32845.384***	29960.465***	4163.075***
		(9174.293)	(8649.898)	(6739.432)	(852.913)
Constant	80343.985***	-452000.751***	-406326.611***	-370972.985***	-25053.160
	(18844.526)	(112569.316)	(107622.602)	(88945.421)	(18329.505)
Controls		X	X	X	X
Officer titles			X	X	X
NTEE				X	
Charity					X
N	998,716	988,459	987,604	987,604	987,604
adj. R-sq	0.003	0.144	0.161	0.184	0.685

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects.

Table 37: Results – Compensation (levels, no zero)

	(1) Comp.	(2) Comp.	(3) Comp.	(4) Comp.	(5) Comp.
I(female)	-78954.968***	-53788.284***	-51418.254***	-51285.544***	-29511.257**
	(26516.087)	(15747.043)	(16193.644)	(16489.643)	(13272.837)
Manager tenure		6170.162***	5984.825***	6218.949***	9425.274***
		(1658.575)	(1605.630)	(1158.596)	(2291.690)
Total revenue (log)		47278.372***	47400.992***	41384.542***	7222.803***
		(12413.504)	(12363.978)	(8649.186)	(1581.881)
Constant	193911.147***	-531664.660***	-521177.099***	-442359.749***	14573.520
	(36096.923)	(158205.945)	(163090.811)	(120417.934)	(39864.209)
Controls		X	X	X	X
Officer titles			X	X	X
NTEE				X	
Charity					X
N	455,328	452,308	452,202	452,202	452,202
adj. R-sq	0.019	0.130	0.131	0.166	0.734

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Estimation on subsample of compensated managers.

Table 38: Results – Compensation (interaction between gender and time)

	(1) ln(comp.)	(2) ln(comp.)
I(female)	-0.248***	-0.089***
	(0.037)	(0.023)
I(tax year = 2012)	-0.052***	-0.015**
	(0.010)	(0.007)
I(tax year = 2013)	-0.092***	-0.032***
	(0.015)	(0.007)
I(tax year = 2014)	-0.121***	-0.049***
	(0.014)	(0.007)
I(tax year = 2015)	-0.132***	-0.046***
	(0.016)	(0.009)
I(tax year = 2016)	-0.136***	-0.044***
	(0.015)	(0.010)
I(tax year = 2017)	-0.138***	-0.042***
	(0.016)	(0.012)
I(tax year = 2018)	-0.155***	-0.038***
	(0.025)	(0.011)
I(female) × I(tax year=2012)	0.014	-0.004
	(0.011)	(0.010)
I(female) × I(tax year=2013)	0.030**	0.000
	(0.014)	(0.008)
I(female) × I(tax year=2014)	0.042***	0.010
	(0.014)	(0.010)
I(female) × I(tax year=2015)	0.048***	0.007
	(0.015)	(0.010)
I(female) × I(tax year=2016)	0.057***	0.010
	(0.018)	(0.011)
I(female) × I(tax year=2017)	0.061***	0.014
	(0.016)	(0.015)
I(female) × I(tax year=2018)	0.068***	0.014
	(0.021)	(0.014)
Manager tenure	0.060***	0.054***
	(0.004)	(0.002)
Total revenue (log)	0.259***	0.082***
	(0.019)	(0.014)
Constant	7.531***	9.731***
	(0.287)	(0.282)
Controls	X	X
Officer titles	X	X
NTEE	X	
Charity		X
LinkedIn Controls		
N	452,202	452,202
adj. R-sq	0.344	0.874

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects.

B.3 Additional Tables and Figures - Mechanisms

Table 39: Descriptive Statistics – Organization variables (connected sample)

	Obs.	Mean	S.d.	Median	p99
Total revenue	319,298	120.684	1,837.410	6.721	2,121.837
Government grants	319,298	16.000	132.552	1.716	229.609
Total contributions	319,298	23.553	223.915	2.049	330.540
Membership dues	319,298	0.243	5.012	0.000	3.600
Program service revenue	319,298	90.826	1,777.482	1.221	1,699.276
Total expenses	319,298	114.170	1,780.443	6.347	2,010.498
Program expenses	319,298	98.935	1,672.204	5.183	1,742.902
Administration expenses	319,298	13.888	139.627	0.709	241.671
Fundraising expenses	319,298	1.337	20.980	0.000	18.999
Total net assets	319,298	110.504	1,093.211	6.914	2,056.607
Total liabilities	319,298	84.193	1,247.230	1.280	1,448.299
Total assets	319,298	194.697	2,089.954	12.286	3,405.975
No. of employees	319,298	119.435	1,735.203	5.000	1,993.000
Volunteers	255,351	748.303	37,716.016	24.000	4,985.000

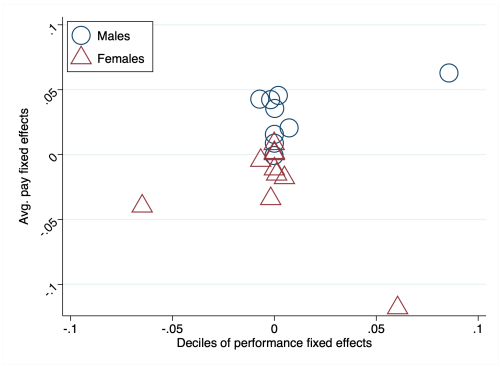
Notes: All variables in $100,000. Total contributions is the sum of donations (direct and indirect support) and government grants.

Table 40: Descriptive Statistics – Manager variables (connected sample)

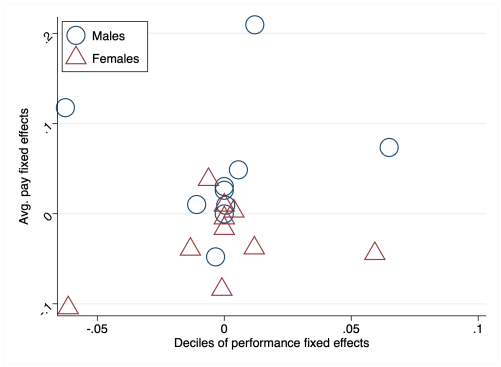
	Connected sample		**Full sample**	
	Mean	S.d.	Mean	S.d.
	Quintile 1			
Female (%)	0.348	0.476	0.380	0.485
Paid (%)	0.223	0.416	0.167	0.373
Compensation ($)	46,674.242	179,943.830	22,270.291	118,933.158
Obs.	53,127		182,726	
	Quintile 2			
Female (%)	0.378	0.485	0.422	0.494
Paid (%)	0.281	0.449	0.293	0.455
Compensation ($)	35,660.909	124,602.821	22,969.765	83,665.986
Obs.	54,587		190,749	
	Quintile 3			
Female (%)	0.385	0.487	0.435	0.496
Paid (%)	0.377	0.485	0.406	0.491
Compensation ($)	50,673.799	150,307.790	38,359.996	107,805.806
Obs.	61,954		203,165	
	Quintile 4			
Female (%)	0.392	0.488	0.438	0.496
Paid (%)	0.531	0.499	0.567	0.496
Compensation ($)	76,751.943	163,951.004	67,177.859	128,245.118
Obs.	70,016		215,082	
	Quintile 5			
Female (%)	0.335	0.472	0.375	0.484
Paid (%)	0.781	0.414	0.794	0.405
Compensation ($)	229,069.041	408,639.873	197,160.655	369,291.532
Obs.	79,626		207,559	
	Quintile 5			
Female (%)	0.367	0.482	0.410	0.492
Paid (%)	0.469	0.499	0.456	0.498
Compensation ($)	97,646.314	256,670.516	71,666.975	206,280.870
Obs.	319,310		999,281	

Notes: Share of female managers, share of paid managers and compensation by quintiles of total revenue for the connected sample used to estimate the managers fixed effects and the full sample.

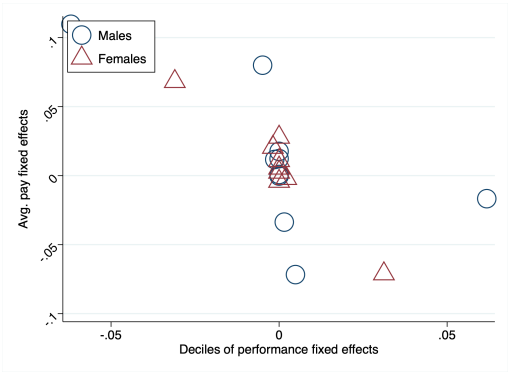
B.3.1 Performance versus Pay



(a) All managers

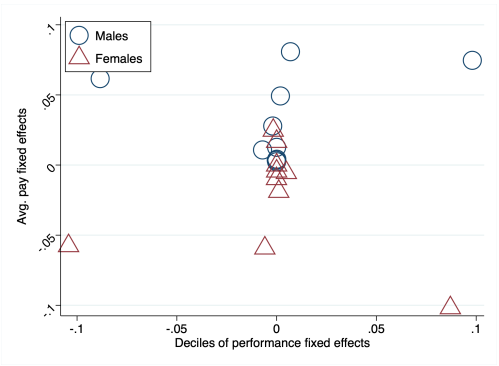


(b) Managers at organizations with males and females

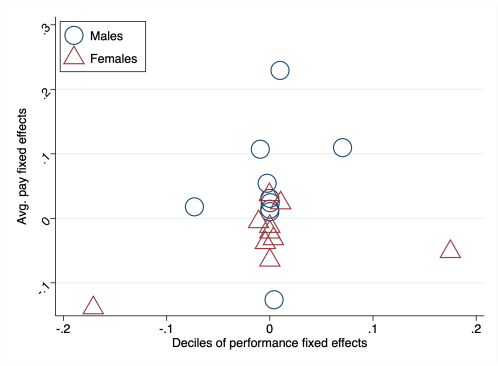


(c) Managers at organizations with one gender (women only or men only)

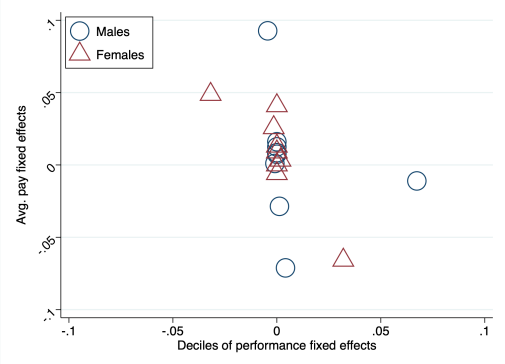
Figure 17: Average pay fixed effects against average performance fixed effects by deciles - Government Grants



(a) All managers

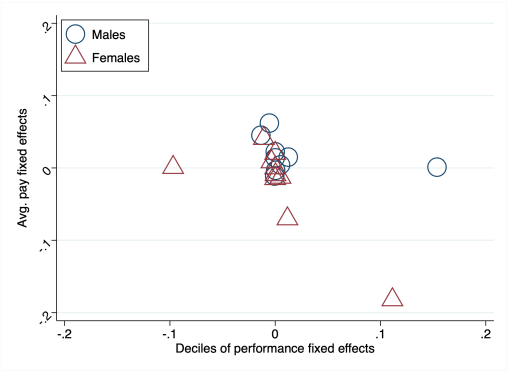


(b) Managers at organizations with males and females

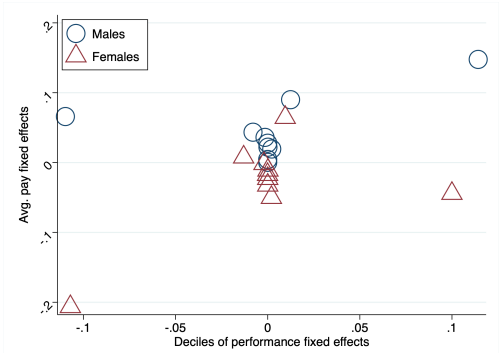


(c) Managers at organizations with one gender (women only or men only)

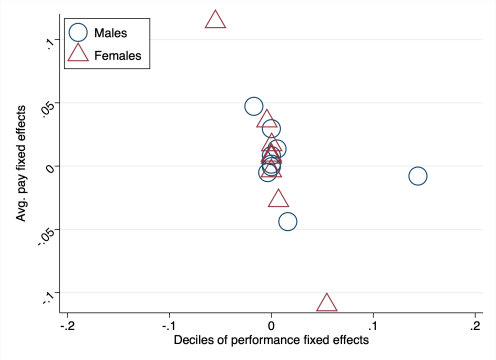
Figure 18: Average pay fixed effects against average performance fixed effects by deciles - Total contributions



(a) All managers

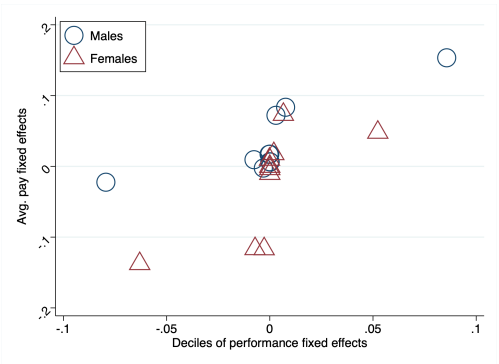


(b) Managers at organizations with males and females

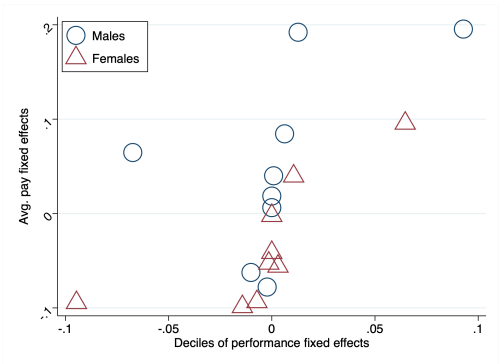


(c) Managers at organizations with one gender (women only or men only)

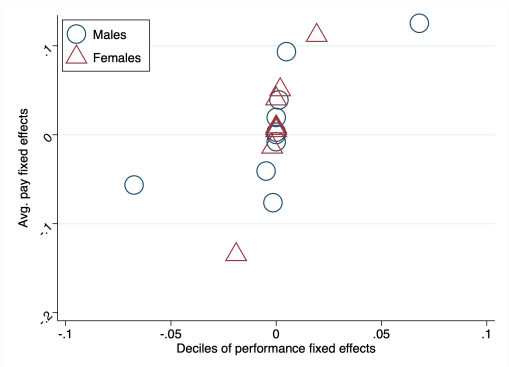
Figure 19: Average pay fixed effects against average performance fixed effects by deciles - Administration expenses



(a) All managers

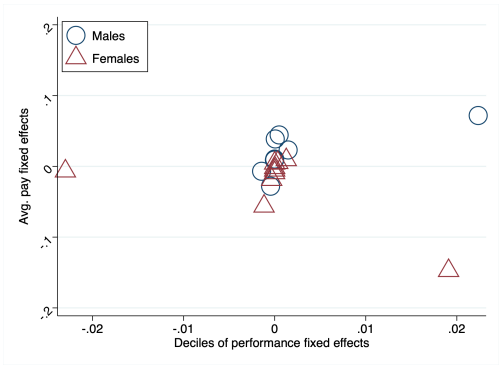


(b) Managers at organizations with males and females

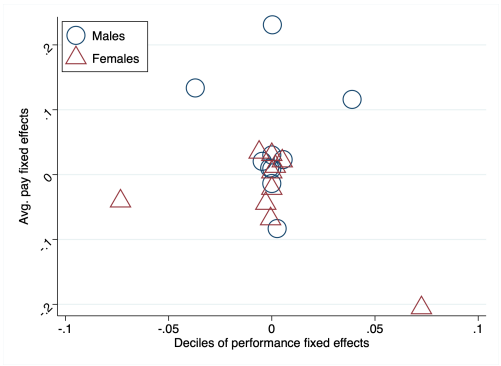


(c) Managers at organizations with one gender (women only or men only)

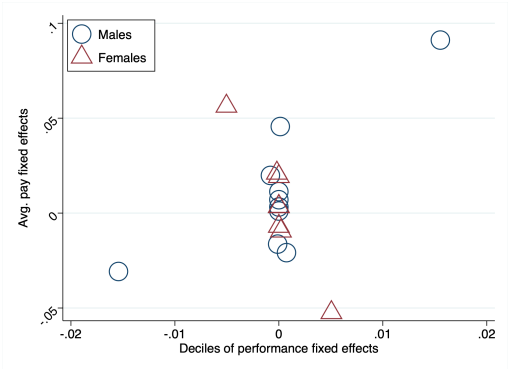
Figure 20: Average pay fixed effects against average performance fixed effects by deciles - Fundraising expenses



(a) All managers

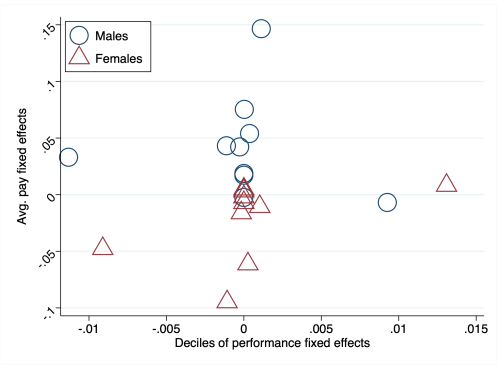


(b) Managers at organizations with males and females

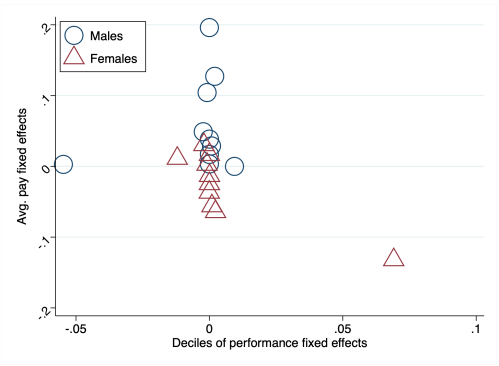


(c) Managers at organizations with one gender (women only or men only)

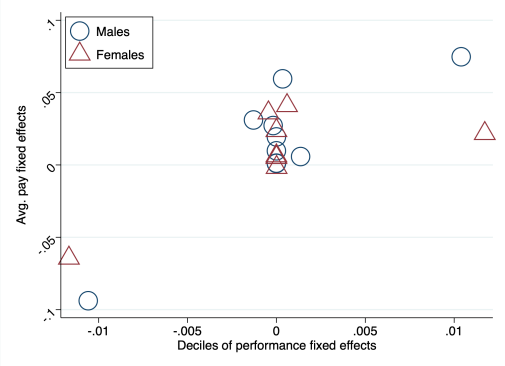
Figure 21: Average pay fixed effects against average performance fixed effects by deciles - Program expenses



(a) All managers

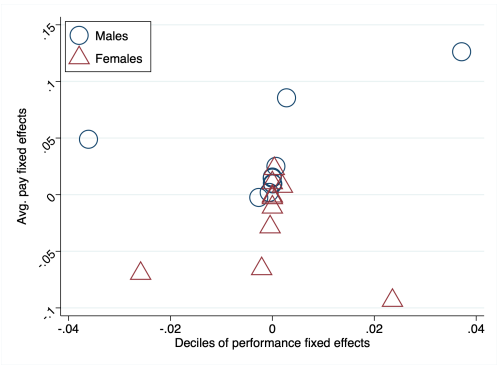


(b) Managers at organizations with males and females

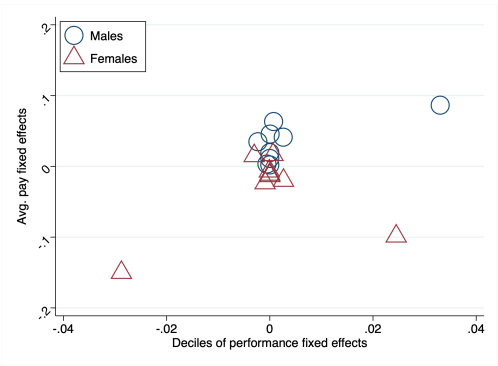


(c) Managers at organizations with one gender (women only or men only)

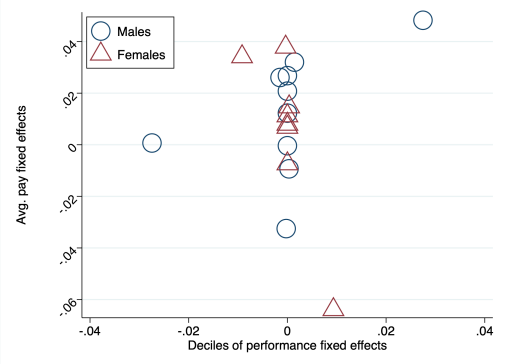
Figure 22: Average pay fixed effects against average performance fixed effects by deciles - Volunteers



(a) All managers



(b) Managers at organizations with males and females



(c) Managers at organizations with one gender (women only or men only)

Figure 23: Average pay fixed effects against average performance fixed effects by deciles - Number of Employees

C For Online Publication - Tenure

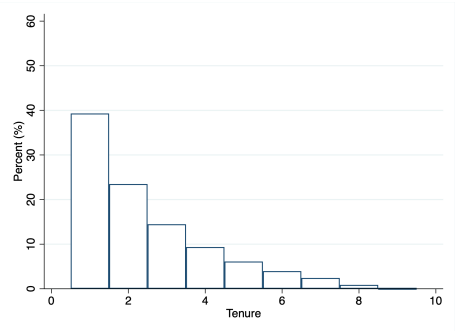


Figure 24: All managers

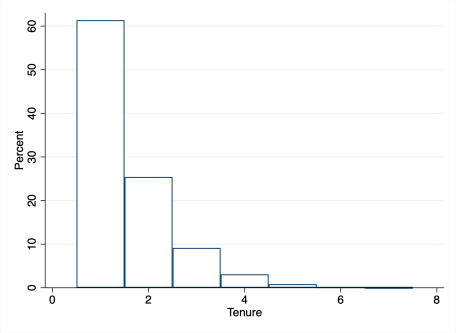


Figure 25: Managers with full tenure observed

Table 41: Results – Tenure

	(1)	(2)	(3)	(4)	(5)
	Tenure	Tenure	Tenure	Tenure	Tenure
I(female)	-0.082***	-0.115***	-0.161***	-0.150***	-0.136***
	(0.025)	(0.026)	(0.024)	(0.015)	(0.011)
Total revenue (log)		0.084***	0.056***	0.060***	-0.006
		(0.009)	(0.006)	(0.005)	(0.006)
Constant	2.489***	-0.252*	0.054	-0.003	0.298
	(0.035)	(0.130)	(0.096)	(0.068)	(0.499)
Controls		X	X	X	X
Officer titles			X	X	X
NTEE				X	
Charity					X
N	998,716	988,459	987,604	987,604	987,604
adj. R-sq	0.001	0.186	0.196	0.203	0.569

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects.

Table 42: Results – Tenure (Start and end observed in data)

	(1)	(2)	(3)	(4)	(5)
	Tenure	Tenure	Tenure	Tenure	Tenure
I(female)	-0.031***	-0.037***	-0.048***	-0.042***	-0.013
	(0.010)	(0.009)	(0.008)	(0.007)	(0.016)
Total revenue (log)		0.028***	0.017**	0.018**	0.013
		(0.005)	(0.007)	(0.008)	(0.013)
Constant	1.584***	0.627***	0.754***	0.743***	-0.704***
	(0.009)	(0.074)	(0.087)	(0.092)	(0.216)
Controls		X	X	X	X
Officer titles			X	X	X
NTEE				X	
Charity					X
N	131,334	130,788	130,685	130,685	130,685
adj. R-sq	0.000	0.106	0.114	0.116	0.350

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Sample of managers for which we observe the start and end of tenure (i.e. Charity A has 4 managers, only managers 2 and 3 are in the sample).

Table 43: Results – Tenure of paid managers

I(female)	-0.071***	-0.109***	-0.097***	-0.085***	-0.292***
	(0.021)	(0.022)	(0.018)	(0.012)	(0.027)
Total revenue (log)		0.079***	0.079***	0.091***	0.061***
		(0.016)	(0.016)	(0.015)	(0.008)
Constant	2.768***	-0.256	-0.182	-0.349	0.026
	(0.030)	(0.231)	(0.219)	(0.207)	(0.616)
Controls		X	X	X	X
Officer titles			X	X	X
NTEE				X	
Charity					X
N	455,328	452,308	452,202	452,202	452,202
adj. R-sq	0.000	0.251	0.253	0.256	0.648

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Sample of paid managers only.

Table 44: Results – Tenure of unpaid managers

	(1)	(2)	(3)	(4)	(5)
	Tenure	Tenure	Tenure	Tenure	Tenure
I(female)	-0.192***	-0.214***	-0.209***	-0.203***	-0.101***
	(0.029)	(0.030)	(0.031)	(0.020)	(0.017)
Total revenue (log)		-0.033***	-0.034***	-0.035***	-0.057***
		(0.007)	(0.006)	(0.007)	(0.004)
Constant	2.292***	1.435***	1.471***	1.459***	0.577
	(0.042)	(0.085)	(0.084)	(0.095)	(0.555)
Controls		X	X	X	X
Officer titles			X	X	X
NTEE				X	
Charity					X
N	543,388	536,151	535,402	535,402	535,402
R-sq	0.004	0.145	0.147	0.158	0.666
adj. R-sq	0.004	0.145	0.147	0.157	0.548

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls are additional charity variables that include the share of revenue from program service revenue and membership dues, total net assets (as a share of total revenue), and the indicators for the number of programs (2, 3, and, 4 and above). Controls also include tax year and state fixed effects. Sample of unpaid managers only.

D For Online Publication - Complimentary Fact

Because we observe charities with CEO changes, we investigate changes in pay during manager transitions within organizations. To do so, we use a first-difference estimator where we separate the different types of transitions into four categories: Male to Male, Male to Female, Female to Male, and Female to Female. Therefore, our third regression specification is such that,

$$\begin{aligned}\Delta ln(comp_{jt}) =& \beta_1 I(Female_{jt} = 1 \& Female_{j,t-1} = 1) \\ &+ \beta_2 I(Female_{jt} = 1 \& Female_{j,t-1} = 0) \\ &+ \beta_3 I(Female_{jt} = 0 \& Female_{j,t-1} = 1) \\ &+ \gamma \Delta X_{ijt} + \Delta u_{jt}\end{aligned} \tag{12}$$

The dependent variable, $\Delta ln(comp_{jt})$, is the change in the level of compensation measured in logs when an organization transitions to a new manager. In addition to the four gender transition categories previously mentioned, the specification also controls for first differences in manager and charity characteristics. We investigate three different specifications with different sets of data: 1) all transitions, 2) only the transitions with at least one paid manager, and 3) only transitions where both managers are paid. The first two specifications will inform us of how often we see transitions from paid to unpaid managers and vice versa, the latter will show evidence on how gender plays a role when determining senior management compensation. Note our third specification captures changes in manager characteristics and that the interpretation of the β_1, β_2 and β_3 coefficients is always relative to changes in compensation in Male-to-Male transitions. The usual assumption applies to the error term Δu_{jt}.

D.1 Results

We exploit further the within-organization variation in our data by studying the effect of gender in changes in compensation due to manager transitions. To do so, we estimate Specification 12 and show the results in Table 45. In the first column, we include all management transitions with both paid and unpaid managers. Consistent with our findings in Table 10, we see an average decrease in compensation when going from Female to Male and an average increase in com-

Table 45: Results - Management transitions and compensation

	Full sample		
	(All)	(At least 1 paid)	(Both paid)
	Δ ln(comp.)	Δ ln(comp.)	Δ ln(comp.)
I(female-female)	0.011	0.017	-0.004
	(0.026)	(0.063)	(0.007)
I(male-female)	0.948***	2.041***	-0.189***
	(0.077)	(0.111)	(0.023)
I(female-male)	-0.946***	-2.134***	0.033
	(0.083)	(0.159)	(0.036)
Δ Total revenue (log)	0.305***	0.676***	0.058***
	(0.028)	(0.071)	(0.012)
Constant	0.062	0.132	-0.113***
	(0.049)	(0.106)	(0.019)
Controls	X	X	X
N	190,171	82,982	43,204
R-sq	0.014	0.030	0.009
adj. R-sq	0.014	0.030	0.009

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls include first differences for membership due (share of total revenue), program service revenue (share of total revenue), and total net assets (share of total revenue). Experience is measured as the number of job per age.

pensation when going from Male to Female. In the second column, we restrict the estimation to include only the management transitions where at least one of the managers is paid, that is, transitions from Paid to Unpaid or Unpaid to Paid are both included and those where both managers are unpaid are dropped. We find consistent results with those in Column 1 in that women are more likely to receive compensation than men. Finally, the third column restricts the estimation sample to only transitions where both managers are paid. We find that organizations adjust compensation down by 19% when leadership transitions from a male manager to female manager, but they do no adjust compensation when the transition is from a female to male manager.

Table 46 replicates Table 45 using our sample of managers with LinkedIn profiles. The third column of Table 46 show a statistically insignificant adjustment down in compensation of 4.5% in Male to Female transitions, and a 3.2% adjustment up in Female to Male transitions. The last three columns of Table 45 add controls in first-differences for changes in age, experience and education between the exiting and incoming managers. Note that the results in the far right column are consistent with those in the third column. We also observe that changes in age and experience increase and decrease, respectively, the difference in pay. This means that older managers with fewer jobs get paid more

Table 46: Results - Management transitions and compensation for LinkedIn sample

	LinkedIn sample					
	(All)	(At least 1 paid)	(Both paid)	(All)	(At least 1 paid)	(Both paid)
	Δ ln(comp.)	Δ ln(comp.)	Δ ln(comp.)	Δ ln(comp.)	Δ ln(comp.)	Δ ln(comp.)
I(female-female)	-0.156	-0.383	-0.006	-0.162	-0.414	-0.005
	(0.104)	(0.252)	(0.039)	(0.108)	(0.253)	(0.039)
I(male-female)	1.188***	2.599***	-0.045	1.172***	2.511***	-0.041
	(0.160)	(0.355)	(0.055)	(0.158)	(0.350)	(0.055)
I(female-male)	-1.233***	-2.777***	0.032	-1.226***	-2.762***	0.031
	(0.140)	(0.316)	(0.063)	(0.138)	(0.320)	(0.064)
Δ Total revenue (log)	0.674***	1.063***	0.089***	0.675***	1.061***	0.088***
	(0.096)	(0.151)	(0.023)	(0.097)	(0.145)	(0.023)
Δ Age				-0.009***	-0.020***	0.002**
				(0.003)	(0.007)	(0.001)
Δ Experience				0.991**	1.846**	-0.320**
				(0.384)	(0.848)	(0.121)
Δ I(college degree)				0.640***	1.411***	-0.015
				(0.073)	(0.144)	(0.025)
Δ I(graduate degree)				0.259**	0.561**	-0.015
				(0.094)	(0.224)	(0.027)
Constant	-0.147	-0.731	-0.077	-0.178	-0.691	-0.040
	(0.988)	(1.619)	(0.147)	(0.967)	(1.498)	(0.136)
Controls	X	X	X	X	X	X
N	19,339	8,280	3,676	19,339	8,280	3,676
adj. R-sq	0.030	0.060	0.008	0.034	0.068	0.010

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Controls include first differences for membership due (share of total revenue), program service revenue (share of total revenue), and total net assets (share of total revenue). Experience is measured as the number of job per age.

than younger managers with more jobs. Table 47 sheds light on this matter by showing that Male to Female transitions are very different from Female to Male transitions in terms of changes in experience and age profiles. Incoming female managers tend to be younger and less experienced than exiting male managers, and incoming male managers are older and more experienced than exiting female managers.

Table 47: Changes in manager characteristics with turnover

	(1)	(2)	(3)	(1)	(2)	(3)
	Δ Experience	Δ Experience	Δ Experience	Δ Age	Δ Age	Δ Age
I(female-female)	0.140*	0.291*	0.492***	0.229	0.219	0.898
	(0.081)	(0.152)	(0.153)	(0.347)	(0.611)	(0.887)
I(male-female)	0.093	0.131	0.543	-1.319**	-1.105	-0.083
	(0.116)	(0.131)	(0.319)	(0.485)	(0.742)	(1.254)
I(female-male)	0.340**	0.347	0.656**	1.808***	1.699**	2.095
	(0.147)	(0.259)	(0.293)	(0.621)	(0.808)	(1.576)
Constant	0.575	0.920	2.662*	-2.655	-4.067	-13.213*
	(1.020)	(1.324)	(1.393)	(4.802)	(7.045)	(7.712)
Tax year	X	X	X	X	X	X
N	10,075	4,471	1,816	19,475	8,341	3,703
adj. R-sq	0.000	-0.001	0.001	0.003	0.002	0.002

Notes: Standard errors in parentheses. Standard errors clustered at NTEE level. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$. Estimation on the sample of LinkedIn managers. Experience captured by the number of jobs listed in the LinkedIn profile. Age is captured by the 2017 less earliest date listed under education, experience, and volunteering, plus 21.