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Nonprofit Wages: Theory and Evidence

Barry T. Hirsch
Georgia State University, bhirsch@gsu.edu

David A. Macpherson
Trinity University, dmacpher@trinity.edu

Anne E. Preston
Haverford College, APRESTON@HAVERFORD.EDU

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Barry T. Hirsch
Georgia State University and IZA (Bonn)

David A. Macpherson
Trinity University and IZA (Bonn)

Anne E. Preston
Haverford College

Georgia State University
Andrew Young School of Policy Studies

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Abstract

The nonprofit sector's share of wage and salary employment in the U.S. has increased over time, from about 5½ percent in the mid-1990s to 7 percent in 2015. This paper surveys the literature and presents new evidence on the employment and earnings of workers in the nonprofit sector since 1994. As compared to the private for-profit sector, nonprofits have a more educated and older workforce, with employment concentrated in health, education, and service occupations and industries. Standard wage level analysis indicates lower wages for men employed in nonprofits compared to male for-profit workers with similar measured attributes. No such penalty is found for women. Based on panel estimates of wage changes, we find no substantive wage penalties for either women or men moving between jobs in and outside the nonprofit sector. We conclude that wages in the nonprofit and for-profit sectors, on average, differ little for similar workers and jobs.

Keywords: Nonprofit wage differentials; nonprofit employment; Current Population Survey (CPS)

JEL codes:
J21: labor force and employment, size, and structure
J31: wage level and structure/wage differentials
L33: comparison of public and private enterprises and nonprofit institutions

Hirsch: Department of Economics, Andrew Young School of Policy Studies, Georgia State University, Atlanta, Georgia 30302-3992, and IZA (Bonn). Email: bhirsch@gsu.edu.

Macpherson: Department of Economics, Trinity University, San Antonio, Texas 78212-7200, and IZA (Bonn). Email: dmacpher@trinity.edu.

Preston: Department of Economics, Haverford College, 370 Lancaster Ave., Haverford, PA 19041. Email: apreston@haverford.edu.

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1. Introduction

Compensation in the nonprofit sector has been a source of much thought and research over the last 35 years, with little consensus on whether there are substantive differences in level and type of compensation from that of the for-profit or government sectors. This lack of agreement may seem surprising given how small and homogeneous is the nonprofit labor force. In 2015, 7 percent of employees in the US labor market worked in nonprofits. These workers were predominantly professional, college educated, and female. The homogeneity of the nonprofit workforce stands in stark contrast to the large variety of firms that employ these individuals.

As displayed in Table 1, compared to the private for-profit sector, nonprofit workers are more highly educated, more likely to be professionals, more likely to work in a service industry, more likely to live in the northeast, and more likely to be female. A closer look reveals that the typical nonprofit worker looks more similar to her government than her for-profit counterpart in terms of education, work experience, and occupation. The average hourly earnings of the nonprofit worker, however, is slightly lower than the wages earned by seemingly similar workers in either the public or private for-profit sectors. While nonprofit workers work fewer hours than for-profit or public employees, the shorter work week should not have substantial effects on hourly earnings unless it reflects less prior experience (accumulated skills).[1] In what follows, we will document differences in wages for nonprofit, for-profit, and public sector workers and provide possible reasons for these differences.

Table 1:
Selected Characteristics of Nonprofit, For–Profit, and Government Workers 2011-2015

	Nonprofit Workers	For Profit Workers	Govt. Workers
Years of Education)	15.1	13.5	15.0
Hours of Work per week	36.6	38.2	38.6
% Professional	48.7	16.2	44.1
% in Service industry	92.5	33.8	55.2
% Female	66.8	44.8	56.8
% Living in Northeast	23.9	18.2	17.2

Source: Compiled from Current Populations Survey, 2011-2015.

An organization qualifies for nonprofit status if it fits into one of the categories in section 501(a) of the Internal Revenue Code. This code describes a host of organizations including categories 501(c) 1–27 (excluding 20 and 24), 501(d), (e), (f), (k) and (n), and 521(a). The public often equates nonprofits with charitable organizations, but these nonprofits include only section 501(c)(3) organizations, which in 1985 made up 41 percent of the total number of nonprofit organizations.[2] The rest include such diverse organizations as labor unions, farm cooperatives, cemetery companies and mutual insurance companies, to name a few. While all of these organizations are supposed to serve some type of common good, the extent and character of social benefits are quite varied, as seen by a comparison of the output of a country club and a soup kitchen, for example. In addition, only those entities organized for charitable purposes, section

[1] Labor demand and supply can lead to a market equilibrium with wage differences for similar workers with short and long work weeks. Reasons include fixed fringe benefit costs (e.g., health insurance), hours-related productivity differences, or scheduling costs.

[2] See Appendix Table A9 in Weisbrod (1988). More recent estimates are not available.

501(c)(3)s, enjoy benefits beyond the corporate income tax exemption, most notably the right to solicit tax-deductible donations and exemption from sales and property taxes.[3]

Any paper that examines employment and wages of the nonprofit sector must begin with an explanation of the complexities of the establishments and the people who make up the sector. We turn to economic theory, which, even when examining organizations that seem to flaunt contempt for the goals set forth in the theory of the firm, can give guidance on how and when wages of nonprofit workers may diverge from those of their for-profit counterparts.

2. Economic theory and nonprofit wages

Theoretical explanations of a nonprofit earnings differential must begin with the differing legal treatment of nonprofit organizations. Organizations that incorporate as nonprofit are exempt from the corporate income tax, but in return they must operate under the non-distribution constraint which prohibits the distribution of profits to individuals in control of the organization. The theory of the firm predicts that distribution of profits is necessary to ensure that managers provide a profit-maximizing level of effort. Since managerial compensation in nonprofits cannot be tied to profit, boards will design contracts so that managers maximize other objectives (Roomkin and Weisbrod, 1999; Preyra and Pink, 2001). Because the demand for labor is derived from the process in which firms maximize their objective function, alternative objective functions may lead to different wages.

Identifying a reasonable alternative objective requires returning to the implications of the legal treatment. Nelson and Krashinsky (1974) in an article on day care first acknowledged the asymmetry of information between suppliers and consumers of the nonprofit service. Hansmann (1980) later developed this idea for most nonprofit services. Asymmetries can arise because of third-party purchasing, as in day care where parents buy care for their children or in charities where donors buy aid for the needy, or because of the nature of the product where the quality level is difficult to evaluate for a non-expert and/or the response to the service is not immediate and not guaranteed, as in various forms of health care. Arrow (1963) argued that hospitals choose nonprofit status as a response to these information asymmetries. If nonprofits have arisen to deal with this market imperfection as institutions of trust, they can offer high-quality products with no incentive to renege on their promises (Holtmann and Idson, 1993; Handy and Katz, 1998; Glaeser and Shleifer, 2001). Within a given industry nonprofit providers will provide the higher-cost, higher-quality product, and because most nonprofit services are labor intensive,[4] the higher-quality product will require

[3] Some nonprofit organizations beyond section 501(c)(3) organizations can set up a charitable fund to which contributions are deductible. The fund must itself meet the requirements of Internal Revenue Code section 501(c)(3) and the related notice requirements of Internal Revenue Code section 508(a).

[4] Data from the 2012 Economic Census reveal that the ratio of payroll to total receipts for service industries was 0.41 and for non-service industries was 0.11.

higher-quality workers. If worker and product quality are not fully observed, seemingly similar workers will be paid higher wages in the nonprofit firm. Alternatively, if managers are concerned less with organizational success and more with own utility, they may use excess profits to compensate employees in order to boost worker appreciation (see, e.g., Preston, 1988). Such behavior conforms to the property rights literature, which stresses non-cost-minimizing behavior by managers who cannot lay a claim to profits.[5] These two arguments for higher nonprofit wages are different in that managerial largesse implies a wedge between nonprofit worker productivity and wages while high-quality nonprofit products do not.

The extent to which wages can exceed productivity is limited by two forces. First the more competitive the product market, the more necessary cost minimization will be for survival. Second, charitable nonprofits (section 501(c)(3) organizations) can lose their tax-exempt status, and ability to solicit tax-deductible donations, if the compensation they pay to employees is unreasonable, or above the value that would ordinarily be paid for 'like services by a like enterprise under like circumstances'.[6] However, this regulation applies primarily to the pay of people who are instrumental in the firm's activities, and may not apply to pay levels for the full range of workers.

As Glaeser and Shleifer show, the competitive advantage of nonprofit status in providing services hard to evaluate represents one reason that even profit-maximizing entrepreneurs would found a nonprofit. But it is likely that altruistic goals motivate the formation of the majority of nonprofits; unconcerned with profit, the nondistribution constraint is hardly a constraint for altruistic boards of directors. Indeed, section 501(c)(3) organizations by mandate serve a public purpose, such as 'charitable, religious, educational, scientific, literary, testing for public safety, fostering national or international amateur sports competition, and preventing cruelty to children or animals'.[7] If managers also have a taste for altruism in the form of providing public goods, then they will accept lower compensation (foregone residual profit) in order to provide public goods.[8] Furthermore, in industries where nonprofits and for-profits compete, nonprofit managers, stewarding institutions of trust, might choose, instead of high-quality services, to expand the clientele or type of service to broaden social benefits provided. Not only are social benefits, like quality, hard to gauge, but they are also not easily marketable and so might best be purchased with foregone profits. To the extent that managers share their board's goals, their actions will maximize their board's objective function.

[5] Early applications of the property rights literature to the theory of the firm attempted to explain the differences in behavior of owner-controlled and manager-controlled firms. For a discussion of these applications see Furobotn and Pejovich (1972).
[6] See the discussion on 'Intermediate Sanctions' in 'Tax Information for Charitable Organizations' at www.irs.gov.
[7] See 'Tax Information for Charitable Organizations' at www.irs.gov.
[8] Alternatively, if managers are risk-averse but do not select into nonprofits, then nonprofits may pay managers less in bonus and stock, but more in salary, so that on average they earn less in the nonprofit sector but are indifferent between sectors in expectation. See Preyra and Pink (2001).

The taste for altruism bears on the supply of labor in the nonprofit sector, since products and services provided by these organizations have a higher social-benefit component than those provided by for-profit organizations. There may be workers who find nonprofit work more socially rewarding and more interesting than for-profit work and are willing to work for lower wages, as Weisbrod (1983) and Frank (1996) report for lawyers. This compensating differential argument, often called the "labor donation" hypothesis, implies that as long as the supply of these workers exceeds the number of nonprofit jobs, there will be a negative nonprofit wage differential. Stated alternatively, the equilibrium wage for a nonprofit is lower if the marginal worker for which labor demand and supply are equated has a preference for the nonprofit job. If workers with such preferences are inframarginal (i.e., there exists an insufficient number of such workers), standard theory would not predict wage differences for similarly productive for-profit and nonprofit workers. Jones (2015) confirms this prediction using 2000 Census data. He finds substantive nonprofit wage penalties in job sectors (measured by industry-by-location) with a small share of nonprofits, but no wage penalties in job sectors with high nonprofit shares.

As argued above, wages in the nonprofit sector, and therefore the nonprofit wage differential, depend on the supply and demand of labor, each of which is influenced by the nature of the goods and services produced coupled with the labor supply behavior of workers. The IRS definition of the nonprofit firm ensures that the typical nonprofit produces goods and services with a higher public-good component than those produced by the typical for-profit firm. The nondistribution constraint suggests that nonprofits, when competing with for-profits, produce goods of higher quality or greater public benefit. The constraint also suggests that managers may use their largesse to subsidize wages and benefits. While nonprofits in industries producing high-quality goods are predicted to have relatively high wages due to unobserved worker quality, nonprofits in industries producing public goods may have relatively low wages, because of labor donations. Moreover, nonprofit differentials are likely to vary between industries. In the rest of this chapter we shall use theory, coupled with our understanding of the link between legal restrictions and wages, to make sense of the evidence on nonprofit wage differentials.

3. Literature review

Economy-wide studies

Early literature on the economy-wide nonprofit wage differential suffered from an inability to identify workers employed at nonprofit firms. Preston (1989), using the Current Population Survey 1979, 1980, applied an industry definition derived by Rudney and Weitzman (1982) from the 1977 Census of Industries and the 1980 Bureau of Labor employment data where a worker is classified as nonprofit if he or she works in an industry for which at least two-thirds of privately employed workers work for a nonprofit firm. The overall estimated negative differential of 15 percent for white-collar workers is more severe for

managers and professionals than for clerical workers. Starting with the 1990 Census, government surveys added a question designed to identify the employing firm's status. Papers that take advantage of this innovation (Leete, 2001; Ruhm and Borkoski, 2003) estimate economy-wide nonprofit differentials of roughly -11 percent. These estimates are comparable to the earlier estimates, which were based solely on white-collar workers, who tend to experience more severe wage differentials than do blue-collar or service workers. More recently, Salamon and Sokolowski (2005) use IRS records to identify whether an employing firm has tax-exempt (and thus nonprofit) status in the Quarterly Census of Employment and Wages Program. They estimate an 11 percent difference in average weekly wages paid by for-profit and nonprofit firms (no information on hours worked per week is provided). The negative economy-wide nonprofit differential of these varied studies using different data over different time periods is not surprising given the earlier theoretical discussion. The typical nonprofit product is likely to be associated more closely with social benefits than the typical for-profit product when looking at the aggregate economy, and thus the negative pressure on wages should be dominant. Positive forces on wages resulting from a lack of competition coupled with managerial largesse or high-quality products might also arise with for-profit firms once the full economy is examined.

Studies that identify workers' sector of employment have the advantage of estimating the differential with industry controls. Once Leete includes detailed industry (and occupation) controls in her analysis, the nonprofit differential becomes insignificant and close to zero. However, she notes that the insignificant differential is not the result of universally comparable wages for nonprofit and for-profit employees, but rather within sector nonprofit wage differentials, which range from significantly positive to significantly negative. Ruhm and Borkoski's estimates mirror those of Leete, as do our results shown subsequently. Salamon and Sokolowski find that within the industries of hospitals, education, social services, residential care, nursing care and child care the differences between nonprofit and for-profit average wages are positive or insignificant. Salamon and Sokolowski, however, are using firm-level rather than worker-level data and do not control for worker characteristics. Their conclusion that the differential is simply an industry differential is problematic. We subsequently show that control for worker attributes (education, age, etc.) is crucial in comparing nonprofit and for-profit wages. Likewise, many of the economy-wide studies that conclude industry and occupational controls explain the nonprofit differential fail to recognize the variation in the size of the differential by occupation and workforce differences.

Industry-based studies

Within-industry studies estimate varying differentials. Weisbrod (1983) estimates a negative nonprofit differential of about 25 percent for public-interest lawyers controlling for experience, quality of education and educational performance using a relatively small sample of lawyers surveyed in 1973. Frank

(1996), in a study of a number of different samples and industries, notes that in New York City at the time of his study the prominent law firms were paying starting salaries of $80,000 while the American Civil Liberties Union was paying $25,000. Obviously not derived from a random sample, the statistics do point out the variation one might find across the sectors. Within legal services, a negative nonprofit differential should not be surprising since the kind of services and the clients served are very different across the two sectors, with nonprofit legal services having a higher social-benefit component. In addition, revenue sources for nonprofit legal work are neither plentiful nor lucrative.

In the hospital industry, nonprofit wage differentials are neither large nor consistent. Roomkin and Weisbrod (1999) find that at the highest executive level nonprofit salaries are higher than for-profit salaries but for-profit firms pay higher bonuses, making total compensation higher. At the level below CEO and COO, nonprofit executives are earning higher compensation than for-profit executives. The small differentials might result from nonprofit and for-profit hospitals providing very similar products in somewhat competitive markets. Duggan (2000) exploited a natural experiment when California introduced a program to provide monetary incentives for hospitals to provide services to indigent clients, and found that nonprofits and for-profits responded similarly. Furthermore, contrary to expectations, the extra revenue going to nonprofit hospitals expanded financial wealth rather than services. Brickley and Van Horn (2002) find that CEO turnover in nonprofit hospitals is highly dependent on return on assets, and that nonprofit boards do not reward altruistic actions, such as higher numbers of nurses per patient or revenue per patient day, through lower turnover or higher salaries.

The higher nonprofit wages for registered nurses in nursing homes and for child care workers may point to the explanation of higher-quality nonprofit products in industries where quality of care is difficult to evaluate and the social-benefit component of the service is similar for nonprofit and for-profit providers. Holtmann and Idson (1993) find that the positive significant nonprofit differential can be explained by selection of high-quality workers into nonprofit nursing homes. Preston (1988) finds that wages of child care workers are higher in federally regulated nonprofit day care centers than in federally regulated for-profit centers. And in a related paper using the same data (Preston, 1993), she finds that in this regulated sector of day care, where minimum social-benefit levels are required, nonprofit centers provide higher-quality care, as measured by higher staff-to-child ratios, lower staff turnover and greater employment of specialists, than for-profit centers. In the more competitive unregulated sector of day care, salaries are equivalent across sectors (Preston, 1988) and nonprofit centers separate themselves from for-profit centers with high levels of social benefits (Preston, 1993). Mocan and Tekin (2003) argue that the positive nonprofit wage differentials they estimate in day care are not the result of higher-quality workers but rather of managers' freedom to maximize objective functions other than profits.

Differentials by gender

The variation in wage differentials by gender is first noted by Preston (1989) when she finds that the differential for white males is significantly negative and much larger than the differential estimated across all workers. The implication that the differential for women is not as severe as for men motivates her study on female representation in the nonprofit sector (Preston, 1990b), which finds that in addition to occupational locus, nonprofit female wages draw women to the sector. They are a draw because they are not too different from female wages earned in the for-profit sector and because their similarity to male nonprofit wages creates a high degree of equality within the sector. Leete (2000) finds further evidence of wage equity across occupations in the white-collar occupations and across race throughout the nonprofit sector. Preston (1990a), still using the industry-based definition, charts the nonprofit differential for women over the period from 1973 to 1985 as women were achieving more success in occupations traditionally reserved for men and located in for-profit firms. She finds that the female nonprofit differential for white-collar workers remained negative and significant but doubled in magnitude over the period examined.[9]

4. Data and Descriptive Evidence on Nonprofit Employment, Hours Worked, and Wages

Data Description

The goal of this section is to describe and analyze employment and earnings among workers in the nonprofit sector as compared to similar workers and types of work in the private for-profit and public sectors. To provide such an analysis, we use the Current Population Survey (CPS) Monthly Outgoing Rotation Group (MORG) data files beginning in January 1994 and ending in December 2015. Each month the CPS—conducted by the U.S. Census Bureau—interviews about 60,000 households, collecting a variety of information about labor market behavior, demographics, and family characteristics. Households are in the survey for a total of eight months: they are interviewed for four consecutive months (rotation groups 1-4), then out of the survey the next eight months, and then reenter the survey the following four months (rotation groups 5-8). We use the outgoing rotation group files (groups 4 and 8), the quarter sample each month that provides information on usual weekly earnings and hours worked among all wage and salary workers ages 16 and over. In any calendar year, an individual is included in the MORG files only once.

Our starting date of January 1994 corresponds to a substantial overhaul in the CPS (Polivka and Rothgeb, 1993), that included, among other things, the identification of wage and salary workers whose employer is a nonprofit. For each employed household member in the survey, information is collected on "class of work" in the primary job: private for-profit, private not-for-profit, public sector (separately for

[9] While comparisons of older industry-based estimates with new ones based on self-identification of nonprofit status are problematic, estimates using the 2000 Census imply that the negative differential for women was not much different in calendar year 1999 (-0.070) than it was in 1985 (-0.072). Our results for 1999, presented subsequently, are similar.

federal, state, and local), self-employed incorporated, and self-employed unincorporated. Each category in the class of worker variable is exclusive; for example, one cannot be classified as both self-employed and a nonprofit worker. The CPS-MORG earnings supplement questions are not administered to self-employed workers (the annual March supplement collects information on earnings in the previous calendar year for all workers employed the previous year). The CPS-MORG quarter sample provides earnings information for all wage and salary workers, but only for the primary job. In addition to the information on earnings, the CPS provides information on hours worked, industry, and occupation, plus detailed demographic information.

Our full 1994-2015 sample includes all wage and salary workers, ages 16 and over, identical to the sample used by the Bureau of Labor Statistics (BLS) in official statistics on CPS wage and salary earnings. In our descriptive tables on employment, occupation, and industry by class of worker, we use the full sample, broken down in alternative categories. For our subsequent wage regression analysis focusing on nonprofit wage differentials, we restrict the sample to nonstudent workers ages 18-65 (a fuller description of the sample and key variables is provided in a later section of the paper).

Workers in the CPS-MORG are in the survey once in a calendar year, but typically appear in the survey two consecutive years, assuming they remain in the same residence. Thus, it is possible to create short panels with two observations on each worker, one year apart, for up to half of the respondents in any given year's survey. We provide supplementary wage analysis using CPS panels of worker-year pairs for the years 1996/97 through 2014/2015.[10] These panels enable us to use longitudinal analysis (i.e., wage changes) that accounts for unobserved worker-specific heterogeneity in ability or other unobserved productivity attributes (i.e., equivalent to worker fixed effects). The causal effect of nonprofit employment is estimated based on wage changes among workers who move into or out of a nonprofit job. Rather than comparing workers employed in nonprofit jobs with different workers in for-profit jobs (conditional on covariates), the panel analysis nonprofit wage gaps are based on wage changes over a year among those observed working in a for-profit job in one year and a nonprofit job the other year. Netted out of wage change estimates (via the intercept) is normal wage growth due to an added year of experience and real wage change in the economy. Rather than comparing different sets of workers in nonprofit and for-profit jobs, the longitudinal analysis compares wages among the same workers in nonprofit and for-profit jobs.

We use CPS sample weights for both descriptive evidence and regression analysis. This is appropriate given that the CPS over-samples in less populated and under-samples in more populated areas.

[10] Fully reliable matches for 1994/95 and 1995/96 cannot be constructed. It is not possible to match across years if a household changed residence or if individuals moved out of a household. Because our sample includes those in the same residence and working in a wage and salary job in consecutive years, match rates are well below 100 percent. Early work analyzing nonprofit wage gaps with CPS panels includes DuMond (1997) and Ruhm and Borkoski (2003).

Descriptive evidence on employment shares, hours, and wages for nonprofit, for-profit, and public workers

Wage and salary workers are classified by the CPS as being employed in the private for-profit, private not-for-profit, and public sectors. Figure 1 below gives annual employment shares of these three groups between 1994 and 2015. Appendix Table A1 provides annual employment levels as well as shares. Total wage and salary employment in 1994 was 108.0 million, rising to 133.8 million in 2015. Growth in the nonprofit sector grew faster than either the for-profit or public sectors. Employment in the nonprofit sector between 1994 and 2015 grew from 5.44 to 9.43 million (a 73.4 percent increase), well in excess of the growth in either the for-profit sector (23.2 percent, from 84.2 to 103.8 million) or the public sector (12 2 percent, from 18.3 to 20.6 million). Although percentage growth was smaller in the for-profit than in the nonprofit sector, absolute employment growth in the for-profit sector swamps that in the other two sectors, given the small employment shares in the public and nonprofit sectors. Employment *changes* in the private for-profit sector are substantially more cyclical than in the nonprofit and public sectors.

The wage and salary employment shares of the three sectors add to 100 percent, by construction. Figure 1 shows that the overall share of the private for-profit sector has been reasonable stable over time, apart from the drop and then rebound during and following the Great Recession, while the share of the nonprofit sector has increased at the expense of the government sector. In 1994, the large private for-profit sector (FP) accounted for 78.0 percent of total wage and salary employment; in 2015 its share was a nearly-identical 77.6 percent. The peak for-profit share was 78.5 percent in 1997, 1998, and 2000. Its lowest share was 75.8 percent in 2010. In contrast to the relative stagnancy of the for-profit sector, the share of the nonprofit sector increased from 5.0 percent in 1994 to 7.0 percent in 2015 with a peak of 7.2 percent in 2010. The total share of public employees declined over the period, from 17.0 in 1994 to a low of 15.4 percent in 2015. The employment share of nonprofit and public employment combined, however, has remained relatively constant over time. An intriguing question (not addressed in our paper) is whether growth over time in the nonprofit sector is causally related to decline in the public sector employment share. Although percentage shares are

Figure 1: Wage & Salary Employment and Shares in the Private For-Profit, Nonprofit, & Public Sectors, 1994-2015

mechanically related since they must add to 100, declines (or slow growth) in public services may have led to increased resources and employment in nonprofits. We cannot rule out causality in the opposite direction; a robust nonprofit sector may reduce demand for public services.

Industries and occupations with substantial nonprofit employment

Appendix Table A2 shows the nonprofit employment shares for major industry and occupation groups in 1994-1998 and 2011-2015, and the distribution of nonprofit, for-profit, and public workers across these industries and occupations. What stands out among the employment shares is that in most industries, a minimal number of nonprofit workers are employed. Nonprofit workers are instead highly concentrated in a small number of industry sectors. A similar but less stark pattern is seen among occupations. In 2011-2015, the economy-wide share of nonprofit workers is 7.0 percent. In 12 major industry categories, the share of nonprofit workers is 2 percent or less. Nine of these 12 categories have nonprofit shares 1 percent or less. We exclude public administration from the count of industries since it includes only public sector workers (two-thirds of public workers are employed outside of public administration). Among the major industries with effectively no nonprofit workers are mining, construction, manufacturing, and wholesale and retail trade. Industries with large shares of nonprofit workers include hospitals (32 percent of all workers), social services (31 percent), professional services not elsewhere classified (30 percent), educational services (13 percent), and medical services other than hospitals (12.4 percent). Nearly all of the industries increased their share of nonprofit workers between 1994-1998 and 2011-2015.

The right-side of Table A2 shows the distribution of all nonprofit (as well as for-profit and public) workers across all industries. Nonprofit workers are highly concentrated in the following industries: hospitals (23 percent), medical services other than hospitals (11.5 percent), educational service (19 percent), social services (11.8 percent), or other professional services (24 percent). The high rate of nonprofit employment in "other professional services" is driven by four industries that are by definition 100 percent nonprofit: religious organizations; civic, social, advocacy, grant and giving organizations; labor unions; and business, professional, political, and similar organizations. These industries vary in legal status with religious organizations being almost exclusively 501(c)(3) charitable organizations, civic, social and advocacy organizations being split between charitable and non-charitable 501(c) organizations depending on mission, and labor unions and business, professional, political, and similar organizations being exclusively non-charitable 501(c) organizations.

Table A2 also provides nonprofit rates by major occupation groups and the distribution of nonprofit workers across these occupations. Whereas the overall share of nonprofit workers economy-wide is 7.0 percent in 2011-2015, the nonprofit share among professional occupations is more than double the national average, at 14.9 percent. Other occupation groups with substantive nonprofit employment rates are

management, business, and financial occupations (8.3 percent), service occupations (5.9 percent) and office and administrative support (6.0 percent). No other broad occupational category has substantive nonprofit employment. Shifting to the right side of Table A2, one sees that these same four broad occupational categories account for 94 percent of all nonprofit employment. Nearly half (49 percent) of all nonprofit workers are in professional and related occupations, which include a substantial share of health and education workers.

Table 2 below identifies the ten detailed (i.e., narrowly defined) industries with the highest levels of nonprofit employment and reports the levels and shares of nonprofit employment averaged over 1994-2015. Industries with the highest level of average annual nonprofit employment are hospitals (2.1 million), religious organizations (1.1 million), elementary and secondary schools (757 thousand), colleges, including junior colleges and universities (700 thousand), civic, social, advocacy organizations and grant-making and giving services (616 thousand), and individual and family services (449 thousand). The highest within-industry shares of nonprofit employees include four industries with 100 percent nonprofit employees – religious organizations; civic, social, advocacy organizations and grant-making and giving services (both shown in Table 2); as well as labor unions; and business, professional, political and similar organizations. Among the remaining industries with high nonprofit shares and high levels of employment are individual and family services (a 37.8 percent share) and hospitals (a 33.8 percent share).

Table 2: Top 10 Industries Based on Nonprofit Employment Levels

Rank	Census Code	Industries	Nonprofit Share	Nonprofit Emp (1000s)
1	8190	Hospitals	33.8%	2,056.1
2	9160	Religious organizations	100.0%	1,059.5
3	7860	Elementary and secondary schools	8.8%	757.0
4	7870	Colleges, including junior colleges, and universities	20.3%	700.4
5	9170	Civic, social, advocacy orgs; grantmaking/giving services	100.0%	616.4
6	8370	Individual and family services	37.8%	449.0
7	8270	Nursing care facilities	14.7%	265.9
8	8090	Outpatient care centers	23.3%	254.2
9	8470	Child day care services	23.2%	250.0
10	8180	Other health care services	17.7%	249.6

Notes: Data source is Current Population Survey Monthly Outgoing Rotation Group (CPS-MORG) data files, January 1994 through December 2015. CPS sample weights are used in all calculations.

Table 3 identifies occupations with the highest nonprofit employment levels and presents data on employment levels and shares. Occupations with the largest number of nonprofit employees are registered nurses (751 thousand), clergy (411 thousand), and secretaries and administrative assistants (410 thousand). Among occupations with the highest proportions of nonprofit employees, the top three have a religious focus; clergy are joined by directors of religious activities, and education and religious workers not

elsewhere classified, each of which have nonprofit shares 97 percent or above. The next highest occupation, in terms of nonprofit share, is social and community service managers (75.6 percent share and fifth in employment), while the remaining top ten occupations with high nonprofit shares are relatively small and diverse occupations. Appendix Table A3 lists industries and occupations with the highest nonprofit shares.

Table 3: Top 10 Occupations Based on Nonprofit Employment Levels

Rank	CIC2000	Occupations	Nonprofit Share	Nonprofit Emp. (1000s)
1	3130	Registered Nurses	27.6%	751.2
2	2040	Clergy	97.2%	411.6
3	5700	Secretaries and Administrative Assistants	13.4%	409.6
4	3600	Nursing, Psychiatric, and Home Health Aides	13.7%	259.2
5	420	Social and Community Service Managers	75.7%	240.1
6	2310	Elementary and Middle School Teachers	8.3%	235.7
7	2200	Postsecondary Teachers	18.7%	233.0
8	2010	Social Workers	28.0%	225.0
9	4220	Janitors and Building Cleaners	9.4%	191.4
10	2000	Counselors	27.6%	177.6

Notes: Data source is Current Population Survey Monthly Outgoing Rotation Group (CPS-MORG) data files, January 1994 through December 2015. CPS sample weights are used in all calculations.

Wages, hours worked, and the demographic profile of the nonprofit, for profit, and public workforces

Table 4 below provides descriptive information on workers in the three sectors in 1994-1998 and 2011-2015 with respect to earnings, schooling, age, race and ethnicity, gender, unionization and work hours. Appendix Table A4 adds to the level of detail by introducing two new columns presenting the % of nonprofit workers in each of the listed categories and by giving more detail on the distributions of wages, age, schooling, and weekly hours worked.

Evident in Table 4 is that nonprofit workers, on average, have higher levels of education and are older than private for-profit workers. Compared to the public sector, nonprofit workers have similar schooling but are about one year younger. Given these similarities and differences, we would expect that mean wages (not conditioned on covariates) would be higher in the nonprofit than in the for-profit sector, but somewhat lower than wages in the public sector. Evidence in Table 4 shows exactly this pattern. During 2011-2015, mean hourly earnings among nonprofit workers was $23.36 (in 2015 dollars), substantially higher than the $21.14 seen among for-profit workers (a 10.5 percent higher nonprofit wage). As compared to public sector workers, nonprofit workers have a wage 6.5 percent lower than public wages ($23.36 versus $24.98). In subsequent analysis, we will provide details on the measurement of workers' wages and present regression estimates of wage differentials across these sectors after accounting for schooling, experience, and other appropriate wage covariates. In addition to mean differences in earnings, measures of wage dispersion (inequality) in Table A4 show that wage dispersion in the nonprofit sector is roughly similar to that seen in

the for-profit sector. For the 2011-2015 period, the standard deviation of the log wage is 0.67 in the nonprofit sector as compared to 0.66 in the for-profit sector; using the coefficient of variation suggests slightly lower dispersion in the nonprofit sector (0.73 versus 0.77). By contrast, dispersion in the public sector is much lower than in the private sector, as documented in the large literature on public-private wage differences.

Table 4: Descriptive Statistics of For-Profit, Nonprofit, and Public Sector Workers by Education, Age, Race/Ethnicity, Gender, and Hours Worked, 1994-98 and 2011-2015

	Private For Profit		Nonprofit		Public	
	1994-98	2011-15	1994-98	2011-15	1994-98	2011-15
Mean hourly earnings (2015$)	$19.54	$21.14	$20.73	$23.36	$23.23	$24.98
Mean Schooling (years)	12.9	13.5	14.5	15.1	14.5	15.0
Mean Age (years)	36.9	40.3	40.9	43.8	41.7	44.7
Mean weekly hours:	38.6	38.2	36.3	36.6	38.4	38.6
% of workers who are:						
Male	55.3	55.2	32.2	33.2	44.7	43.2
Female	44.7	44.8	67.8	66.8	55.3	56.8
Hispanic	10.8	17.3	4.7	8.3	7.2	10.7
Non-Hispanic White	74.8	64.3	81.7	73.9	73.6	68.2
Non-Hispanic Black	10.5	10.6	10.4	11.2	15.6	14.1
Non-Hispanic Asian	3.2	5.7	2.6	4.5	2.7	4.1
Other Non-Hispanic	0.6	2.1	0.6	2.1	1.0	2.8
Union members	10.2	6.6	7.5	8.1	37.7	35.8

Notes: Data source is Current Population Survey Monthly Outgoing Rotation Group (CPS-MORG) files, January 1994 through December 1998 and January 2011 through December 2015. CPS sample weights are used in all calculations.

Turning next to education, nonprofit and public sector workers have substantially more schooling, on average, than do private for-profit workers. As displayed in Table 4, mean years of schooling in 2011-2015 for nonprofit and public sector workers were 15.1 and 15.0 years, respectively, as compared to 13.5 years for private for-profit workers. For each group of workers, mean years of schooling increased by 1.5 years between 1994-1998 and 2011-2015, with the gap in mean schooling between for-profit and nonprofit/public workers remaining constant at about 1.5 years. Focusing on the distribution of degree completion within each group, as displayed in Table A4, it is clear that the private for-profit sector employs a significant share of workers with a high school degree or less, 40.5 percent of all workers in 2011-2015 (and 68.6 percent in 1994-1998). By contrast, in the nonprofit (public) sector, only 19 (21) percent of workers a high school degree or less. In 2011-2015, the share of workers with a BA or above are 54 and 52 percent in the nonprofit and public sectors, respectively, compared to only 29 percent in the for-profit sector.

The likelihood of employment in the nonprofit sector increases with age. In 2011-2015, 7.0 percent of all workers were in the nonprofit sector. Breaking it down by age, one sees a steady rise in nonprofit employment with age, the nonprofit share rising from 4.3 percent among teenage workers to 11.5 percent

among workers over age 65 (see Table A4). Nonprofit sector workers are older and more experienced than are private for-profit workers, but slightly younger and less experienced than are public sector workers. Mean age (and experience) for private for-profit, nonprofit, and public workers in 2011-2015 are 40.3, 43.8, and 44.7 years, respectively. The nonprofit and public sectors have relatively few young workers compared to the for-profit sector, as expected given the higher education levels among nonprofit and public workers. In the nonprofit sector, 6.0 percent of workers are over 65, as compared to 3.3 and 4.1 percent in the for-profit and public sectors.

The nonprofit sector workforce is disproportionately female. Two-thirds (66.8 percent) of nonprofit employees are women, as compared to 44.8 in the for-profit sector and 56.8 percent in the public sector. There have been minimal changes in these gender shares since 1994. While the overall share of wage and salary workers in nonprofits is 7.0 percent (the 2011-2015 average), among men 4.5 percent are in the nonprofit sector and among women, 9.7 percent (See Table A4). While there are likely to be gender differences in preferences for nonprofit versus for-profit employment, it is unlikely that such preferences are the principal reason for the gender employment pattern. A far more likely explanation is the nature of the jobs in the for-profit versus nonprofit sectors. For example, a large share of jobs (occupations) in the nonprofit sector involve "caring work" – jobs that involve caring and helping others – as readily evident in health care, education, and social service jobs, sectors with high levels of nonprofit employment. A separate literature in economics and sociology explores reasons for the concentration of women in caring jobs and the effects of such concentration on wages (e.g., England, Budig, and Folbre, 2002; Hirsch and Manzella, 2015).

White and black employment densities in the nonprofit sector differ little. During 2011-2015, 7.9 percent of non-Hispanic whites and 7.0 percent of black workers were employed by nonprofits. Nonprofit employment is substantially lower among Hispanics (3.7 percent) and Asians (5.9 percent). Over the 1994-1998 to 2011-2015 time period, the share of non-Hispanic whites in the workforce has declined, although more so in the private for-profit sector (from 75 to 64 percent) than in the nonprofit sector (82 to 74 percent) or the public sector (74 to 68 percent). The share of non-Hispanic white workers in the nonprofit sector (74 percent) exceeds the white shares in both the for-profit (64 percent) and public (68 percent) sectors.

Work hours in the nonprofit sector are lower than in the for-profit and public sectors. In 2011-2015, mean weekly hours worked were 36.6 hours in the nonprofit sector, as compared to 38.2 hours in the for-profit sector and 38.6 in the public sector. In the nonprofit sector, 75 percent of workers are full-time (35+ hours per week), as compared to 80 percent in the for-profit sector and 86 percent in the public sector (see Table A4). Among full-time workers economy-wide, 6.5 percent are nonprofit workers. Among those working 20-34 hours per week, however, 8.4 percent are nonprofit, and among those working less than 20 hours, 10.4 percent are in the nonprofit sector. The share of workers who are part-time (less than 35 hours

per week) is 25 percent in the nonprofit sector versus 14 percent in the public sector. Although the nonprofit and public sectors workforces are similar in many ways (e.g., disproportionately female, more educated, and often in "caring" jobs), work hours are an exception. All else the same, fewer hours worked and slower accumulation of skills and experience over time explains, in part, lower wages in the nonprofit sector.

In sharp contrast to the long-run decline in overall private sector unionization, membership has been relatively flat among nonprofits within the private sector. Between the years 1994-98 and 2011-15, union membership density among private for-profit workers decreased sharply, from 10.2 percent to 6.6 percent. By contrast, nonprofit union density was 7.5 percent in 1994-98 but had risen to an average 8.1 percent in 2011-15. Registered nurses, and to a lesser extent LPNs, are the most notable group of highly unionized nonprofit employees, with 2015 union membership densities across all RNs and LPNs being 17.8 and 9.4 percent, respectively. As widely recognized, public sector unionization is far higher than in the private sector, with little decline over time, apart from the last several years in which there have been added restrictions on public unions in several industrial states. Public union density was 37.7% in 1994-98 and 35.8% in 2011-15. Overall union density fell from 15.5% in 1994 to 11.1% in 2015. Although the public sector accounts for roughly 1-in-6 wage and salary jobs, half of all union members are public sector workers.[11]

5. Data and Methods of Analysis for Nonprofit Wage Differentials

Our formal wage analysis uses the 1994-2015 Current Population Survey Monthly Outgoing Rotation Group earnings files (CPS-MORG). Our sample includes all non-student wage and salary workers, ages 16-65.[12] Our wage measure (i.e., hourly earnings) uses the reported hourly wage for those who are hourly workers with no tips, commissions, or overtime pay. For hourly workers receiving supplemental pay and salaried workers, we measure hourly earnings by usual weekly earnings (which includes supplemental pay) divided by usual hours worked per week. Because weekly earnings are top coded, we assign those at the top code gender/year specific estimates of mean earnings above the top code based on the assumption that the right tail of the earnings distribution beyond the median follow a Pareto distribution. These estimates are provided annually by Hirsch and Macpherson (2016) and are also posted at Unionstats.com.[13]

A small fraction of workers report "variable" usual weekly hours worked. In order to measure hourly earnings for these workers, we impute their usual weekly hours using predicted hours (based on the sample of those with non-variable hours, separately for women and men), from a model with controls for hours

[11] Union density figures not shown in Table 4 and Appendix Table A5 are available in Hirsch and Macpherson (2016) or their website www.unionstats.com.
[12] For those under 25, the CPS identifies full-time and part-time students. We exclude full-time but not part-time students.
[13] For the years in our sample, weekly earnings were top coded at $1,923 during 1994-97 and at $2,885 since 1998. In 1998, 0.5 percent of all workers were top coded; in 2015, 2.2 percent were top coded. Estimated mean earnings above the top code vary by year. In 2015, these estimates were $6,104 for men and $5,429 for women.

worked last week, marital status, education, age up to the quartic, race/ethnicity, and fulltime status interacted with one-digit occupations. Finally, we exclude those few workers with hourly earnings below $1 and above $500 in 2015 dollars (results are not sensitive to these exclusions).

In our analysis below, we first provide measures of wage differentials between nonprofit, for-profit, and public workers, absent controls, followed by models including increasingly dense sets of controls. We estimate these earnings equations separately by year, thus providing evidence on how relative nonprofit, for profit, and public wages have changed over time. Specifically, we estimate wage equations of the form:

$$lnW_i = \sum_{k=0}^{K} (\beta_{ik} X_{ik}) + \gamma_{NP} Nonprofit_i + \gamma_{PUB} Public_i + \varepsilon_i \, .$$

The wage equation includes the log of hourly earnings for individual *i* as the dependent variables, with *k* covariates and coefficients (including the intercept), and dummies for employment in the nonprofit and public sectors (with private for-profit the reference category). The coefficient γ_{NP} provide estimates of the log wage gap between workers in the nonprofit versus for-profit sectors, γ_{PUB} measures the log wage gap between the public and private for-profit sectors, and $(\gamma_{NP} - \gamma_{PUB})$ is the estimated gap between the nonprofit and public sectors. Variants of the wage equation are estimated with different levels of controls and separately by year and demographic group. In addition, separate wage regressions by sector – NP, FP, and PUB – allow us to examine differences across the three sectors in the returns to schooling, slopes of the experience profile, gender and racial wage gaps, etc. In what follows, we evaluate log wage equation results absent controls, with a set of dense "base" controls including individual and labor market characteristics, and with detailed occupation dummies added to the base controls.

Throughout the paper we refer to log wage gaps as "percentage" differentials. Log gaps provide a percentage measure using a wage base that is roughly the geometric mean between any two comparison groups (e.g., nonprofit and for-profit). Log gaps have the advantage over arithmetic percentages of being invariant to the base and being additive. Log wage gaps comparing nonprofit to for-profit wages are identical (apart from sign) to gaps comparing for-profit to nonprofit wages.[14]

As stated earlier, our sample includes all non-student wage and salary workers, ages 16 to 65. The notable exception is that we exclude workers who do not report their earnings and have their earnings imputed by the Census Bureau. For those not reporting earnings (roughly 30 percent of the sample), Census

[14] The standard conversion from a log differential to an arithmetic percentage is [exp(β)-1]100, where β is the log gap. For example a 0.20 log wage gap for men relative to women implies wages for men are 22.1 percent higher than for women. Equivalently, a -0.20 log gap for women relative to men implies women's wages are 18.1 percent lower than for men. For wage gaps in the range found for nonprofits compared to for-profits, generally below 10 percent, there is minimal difference between log gaps and arithmetic percentages.

assigns these workers earnings from a "similar" worker in the CPS. However, the imputation match criteria do not include nonprofit versus for-profit employment, implying that nonprofit nonrespondents will typically be assigned the wage of a for-profit donor, while for-profit nonrespondents will sometimes be assigned a wage from a nonprofit donor. Imputed earners will display a close-to-zero wage differential between the two sectors; estimated wage gaps from a full sample would thus be attenuated (so called "match bias").

As seen previously in Table 4, we reported mean hourly earnings for nonprofit workers as $23.36 in 2011-2015, based exclusively on the respondent sample. Mean earnings for the excluded imputed earners in nonprofit employment is $24.74, six percent higher than for the respondent sample. One can think of this 6 percent differential as the Census Bureau's crude (and unintended) estimate of a nonprofit versus for-profit differential, conditioned on the Census hot deck match attributes (e.g., gender and broad age, education, and occupation groups). The Census "estimate" of a 6 percent nonprofit wage disadvantage for nonprofit workers is highly similar to the magnitude of our estimated wage gaps using a much richer set of controls. As reported below, in our base wage specification we find an average nonprofit/for-profit wage penalty of -0.055 log points over the 22 years for which we provide annual estimates.[15]

6. Empirical Evidence on Nonprofit Wage Differentials, 1994-2015

Using the data and methods described above, we present estimates of nonprofit/for-profit wage differentials based on regressions absent controls, with a dense set of "base" controls, and with detailed occupation dummies added to the base controls. The estimates are displayed in Figure 2 and Table A6, which provides the nonprofit regression coefficients by specification and year.

Wage differentials absent controls and conditional on controls

Estimates of log wage differentials between workers in the nonprofit versus private for profit sector by year, beginning with 1994 and ending in 2015 are shown in Figure 2. The regressions that produce these results also provide a measure of public/for-profit and nonprofit/public wage differentials. Although we do not show these in the text, they will be discussed briefly and are presented in Table A6.

As seen in Figure 2, nonprofit workers have wages (absent controls) systematically higher than for the private sector, as one expects given the higher levels of education and age in the nonprofit workforce. The raw wage advantage of nonprofit relative to private for-profit wages varies over the 22 years, ranging

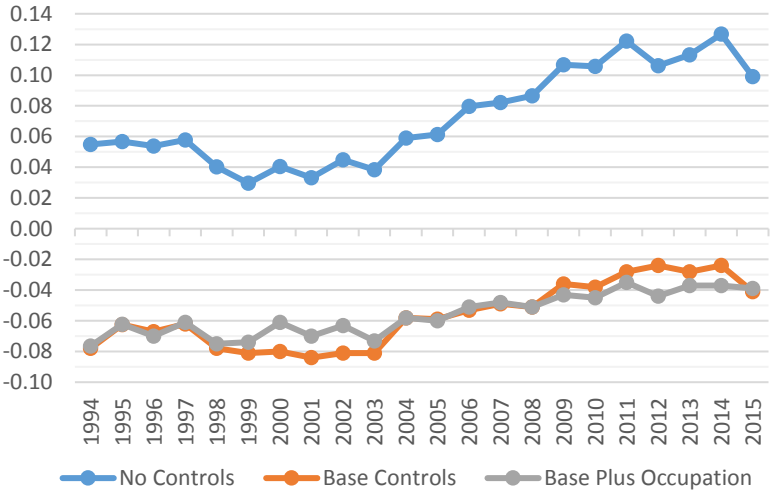
[15] Including imputed earners in the analysis would not make the sample representative. Nonrespondents are assigned wages reported by respondents; not the (unobservable) wages of nonrespondents. One can rebalance the respondent sample with respect to measurable attributes using inverse probability weights (IPW); that is, reweight the respondent sample by the inverse probability of response. In practice, reweighting has minimal effects. Research available on nonignorable nonresponse strongly suggests that nonresponse bias has minimal effects on regression parameters and mean wage gaps, as examined in this paper. For discussion of earnings nonresponse, imputation, and match bias, see Hirsch and Schumacher (2004) and Bollinger and Hirsch (2006, 2013).

from a low of 3 percent (i.e., 0.033 log points) in 2001 and a high of 13 percent (0.127 log points) in 2014. The raw wage gap dropped from 13 to 10 percent in 2015 due mainly to the relatively rapid private wage growth seen in the CPS. The average wage gap over the 22 years is a seven percent (0.074) wage advantage for nonprofit relative to for-profit workers. As seen below, this nonprofit/for-profit wage differential flips from positive to negative once we account for worker, location, and job attributes.

Also estimated are relative public/private wages, which are much higher than are nonprofit/private wages (shown in Table A6). Over the entire 22 year period, the raw wage gap between public and private workers is about 20 percent over much of the period, although the gap decreases to roughly 15 percent following the rapid growth in private sector earnings in the late 1990s. Changes over time in nonprofit/for-profit and in public/for-profit wage differentials are similar, both increasing during periods of slow private sector wage growth and declining during periods of rapid private wage growth.

Figure 2 also provides estimates of nonprofit wage differentials with respect to the private for-profit sector with two sets of controls. First, we present regression estimates of sectoral wage differentials using a set of "base" controls including individual worker and location characteristics. We then turn to wage differential estimates based on a denser wage regression including detailed occupations. Included in our base regression are years of schooling and potential years of experience (age-schooling-6) and its square. We include a dummy for gender and interact this with experience and its square, thus allowing differences by gender in the intercept and in wage growth. Dummies are included for ethnicity/race: Hispanic, non-Hispanic black, Asian, and others (with non-Hispanic whites the omitted references group). Location variables account for the nine Census regions and for labor market size, with rural and small urban areas the base group, with five metropolitan area size dummies ranging from 250 to 500 thousand to 5 million and above. Also included are dummies for part-time work (less than 20 hours and 20-34 hours).

Figure 2: Nonprofit/For-Profit Log Wage Differentials



As seen in Figure 2, the annual 1994-2015 nonprofit/for-profit raw wage gaps and conditional wage gaps (using the base controls) differ substantially. The raw gaps show a wage advantage for nonprofit workers that has increased over time. The conditional nonprofit wage gaps are negative, ranging from -.084

in 2001 to -0.024 in 2012 and 2014. The average over the 22 years is -0.055, a 5 percent nonprofit "penalty" or wage gap. One interpretation of the overall period is that nonprofit wage gaps tended toward about minus 5 percent, but with the penalty expanding during the years of rapid for-profit wage growth (the late 1990s), while narrowing during the 2001 recession and the years of slow for-profit wage growth following the Great Recession. The nonprofit/for-profit wage gap widened in 2015 (from -0.024 to -0.041) due to the strong for-profit wage growth seen in the CPS as unemployment fell to 5 percent by year's end.

An important concern in our wage analysis is that worker skills and job tasks can differ substantially between workers in the nonprofit, for-profit, and public sectors. Measures of education and potential experience provide imperfect measures of workers' abilities and job skills. In order to better account for differences in worker and job skills, we add to the wage equation 452 dummies for detailed 3-digit Census occupations in the years 2002-2012, with somewhat fewer dummies in 1994-2001 and 2013-2015 (occupation and industry codes change in the CPS roughly every 10 years). Adding detailed occupation dummies sharply increases explanatory power of the wage equations and helps account for differences in worker skills and differences in jobs, arguably providing more accurate estimates of wage differences.

Returning to Figure 2, estimates of the nonprofit/for-profit wage gap with detailed occupation controls are highly similar to those previously seen for the models with base controls. The nonprofit wage gap begins at -0.058 in 1994, increases to a high of -0.075 in 1998, gradually declines to a minimum -0.035 in 2011, and then edges up to -.047 in 2015. Over the 22 year period, the estimated gaps tended toward roughly minus 5 percent, as was the case with the base specification. Our analysis demonstrates that it is critical that measurement of nonprofit/for-profit wage differentials account for differences in worker and job skills. Absent controls, we observe substantively higher earnings for nonprofit versus for-profit workers. Once one controls for basic worker and location attributes, we find a modest wage penalty for nonprofit workers on the order of 5 percent. Estimates of the nonprofit wage gap are largely insensitive to the addition of detailed occupational controls.

Differences in nonprofit/for-private wage gaps across worker groups and sectors, 2011-2015

Up to this point, we have provided evidence of nonprofit versus for-profit wage differentials across all workers in these sectors. Here we examine how nonprofit wage gaps differ for women and men, by race and ethnicity, and by occupation and industry groups. Figures 3, 4, and 5 provide a graphical presentation of the wage gaps by demographics, industry, and occupation, respectively, using the pooled 2011-2015 CPS sample with the base controls. More detailed results are provided in Table A7. Figure 3 shows that the overall gap of -0.029, a 2.9 percent average "penalty" for nonprofit workers, is not experienced equally across demographic groups. We find that women have a small 1 percent (0.013) nonprofit/for-profit wage advantage, while men have a substantive 11 percent (-0.114) wage disadvantage. Three possible (non-

exclusionary) explanations are (1) sex discrimination is lower in the nonprofit than in the for-profit sector;

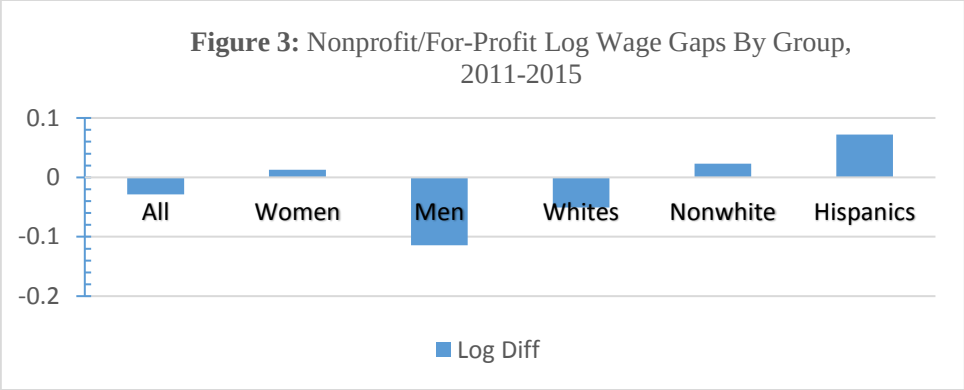


Figure 3: Nonprofit/For-Profit Log Wage Gaps By Group, 2011-2015

(2) selection in which women with high unmeasured productivity sort into the nonprofit sector; and (3) selection in which men with low unmeasured productivity (e.g., lower accumulated work experience) sort into nonprofits. Our longitudinal wage change analysis, discussed subsequently, supports the third explanation. Differences between the wage level and wage change results are reconciled if men in nonprofits (as compared to the for-profit sector) have low levels of unmeasured productivity, while women have minimal differences in unmeasured skills across the two sectors.

Other estimates in Table A7 include men and women combined, but each regression includes a female dummy, plus an interaction of gender with experience and its square to allow different curvature in male and female wage-experience profiles. As expected, wage profiles tend to be flatter and less concave for women than for men. Figure 3 reveals different wage gaps across racial groups with non-Hispanic whites facing a 0.05 percent wage penalty, black workers a small 0.02 wage advantage, and Hispanics a 0.07 wage advantage in nonprofits as compared to for profit employers of the same race/ethnicity.

Figures 4 and 5 present differentials by major occupation and industry groups; blue bars represent

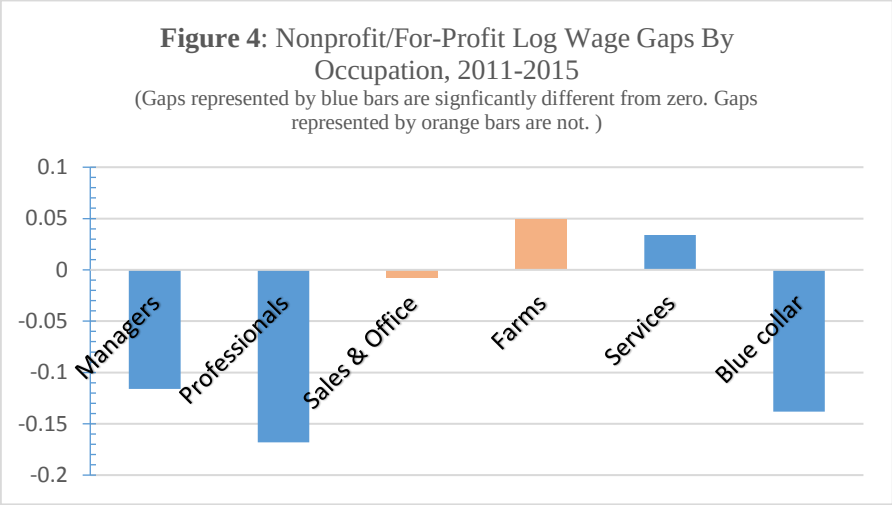
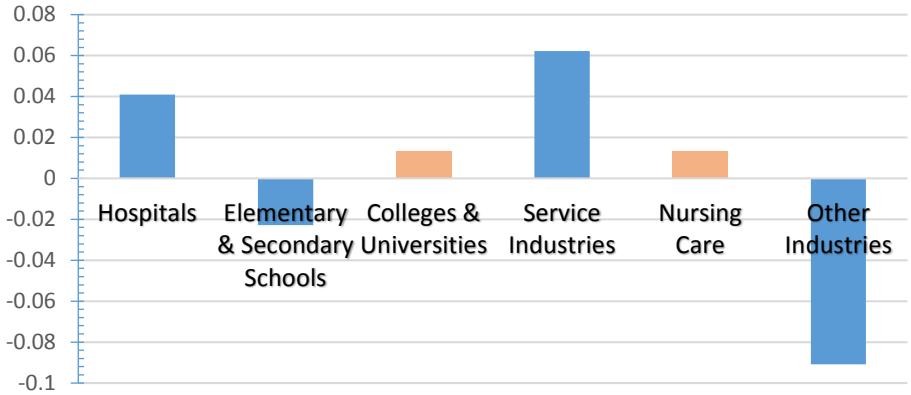


Figure 4: Nonprofit/For-Profit Log Wage Gaps By Occupation, 2011-2015
(Gaps represented by blue bars are signficantly different from zero. Gaps represented by orange bars are not.)

differentials that are statistically different from zero while orange bars represent differentials that are not. Across occupations in Figure 4, we find substantive nonprofit wage penalties for those in managerial and professional occupations (-0.12 and -0.17, respectively), effectively zero wage gaps for workers in sales and in office & administrative support, small positive wage gaps in service occupations (0.03), and a substantive -0.14 wage penalty in blue-collar occupations.

Breaking down estimates by broad industry groups in Figure 5, we find modest wage advantages in nonprofit hospitals (0.04) and among nonprofit employers in service industries (0.06). There are minimal nonprofit/for-profit wage gaps among those employed in the education sector (with public workers excluded) and nursing care industries. In our large "other industry" category, which includes a large share of U.S. employment but has a tiny proportion of nonprofit workers, we observe a -0.09 wage disadvantage among those workers employed by nonprofits.

Figure 5: Nonprofit/For-Profit Log Wage Gaps By Industry, 2011-2015
(Gaps in blue bars are signficantly different from zero. Gaps in orange bars are not.)



Differences between the sectors in returns to schooling, experience, and other earnings attributes

In order to compare wage determination across the nonprofit, for-profit, and public sectors, we compare the earnings function coefficients (i.e., "returns") on key wage determinants. To do so, we simply estimate separate wage equations for the three sectors and compare coefficients. We summarize key results, but do not provide a table of results due to constraints on space (these are available on request). Returns to education appear remarkably similar across sectors, measured either by linear rate of return estimates (i.e., inclusion of a single variable measuring years of completed schooling) or when including a rich set of educational degree dummies. Based on simple linear models, we estimate rates of return of 10 percent in both the nonprofit and for-profit sectors and a 9 percent return in the public sector. Comparing wage differences between those with a BA versus high school diploma, we find average returns per year of college of 11.5, 12.2, and 9.1 for the nonprofit, for-profit, and public sectors. Returns on masters degrees appear to be substantively lower in the nonprofit than in the for-profit and public sectors, while returns to professional degrees are similar across sectors. Given the considerable heterogeneity in the types of graduate and professional degrees acquired by workers across these three sectors, we are reluctant to attach much weight to the precise level of within-sector rate of return estimates. That said, it is clear that "schooling pays" within each of the three sectors.

We also compare age or experience-related wage growth across sectors, based on the steepness of the (potential) experience profile. We find highly similar wage-experience profiles in the for-profit and public sectors. Wage-experience profiles are flatter and less concave in the nonprofit than in the for-profit

sector among men, but highly similar in the two sectors among women. This result is consistent with our earlier discussion of lower gender wage gaps in the nonprofit sector. Such differences result in part from shorter work hours in the nonprofit than in the for-profit sector, differences that are largest among men. As reported earlier, black/white and Hispanic/white wage gaps are considerably lower in both the nonprofit and public sectors than in the for-profit sector. These racial and ethnic gaps are lower in the public than in the nonprofit sector, but the differences are small.

Nominal wages rise considerably with respect to labor market size. Our earnings equation specifications allow wage variation across six labor market size categories, conditional on a rich set of covariates. The wage-size gradients, however, are highly similar across the nonprofit, for-profit, and public sectors. In our preferred specification, the estimated wage gap between the largest size urban areas (5 million plus) as compared to rural and small urban areas is 0.23 log points for nonprofit wages, with corresponding estimates of 0.20 and 0. 24 for the for-profit and public sectors. The suggestion is that differences in "real" wages (i.e., wages accounting for area price and amenity differences) between nonprofit and for-profit workers do not differ substantially with respect to labor market size.

7. Wage change analysis using CPS panels

Our final analysis provides CPS longitudinal evidence based on panels with two observations for each worker, one year apart, for year pairs 1996-1997 through 2014-2015. We examine wage changes among workers moving into and out of the nonprofit sector from either a private for-profit or public sector job. The advantage of panel analysis is that it controls for otherwise unmeasured worker-specific effects (e.g., accumulated skills and preferences) that influence productivity and wages. In such analysis, one is comparing each worker's nonprofit wage to that same worker's wage outside the nonprofit sector. Imputed earners are omitted since the earnings imputation reflects neither nonprofit status nor person-specific fixed effects.

Panel estimates of wage changes associated with moving into or out of nonprofit jobs are a precisely estimated zero. On average, there is no wage change for workers moving either into or out of nonprofit jobs. Examining women and men separately, we find a small statistically significant 1 percent wage penalty for men and a positive but virtually zero (and insignificant) wage gain for women. Coefficients are highly similar for wage change regressions absent controls, with base controls in differenced form (most of which do not change over a year), and with base controls differenced plus a set of variables in levels form (e.g., demographic indicators). Given the clear absence of substantive wage effects, panel results are shown in appendix Table A8, but not the book chapter.

The panel results have important implications. Our wage *level* analysis showed a modest 6 percent average wage penalty for nonprofit employment across all years and groups, with little sensitivity of results

to the level of controls. This average obscured what was a substantive penalty for men and a tiny wage advantage for women (-11 and 1 percent, respectively, during 2011-2015). The panel analysis clearly implies that neither men nor women, on average, face substantive wage penalties in the nonprofit sector. The similarity of the wage level and panel results for women indicate that there is minimal difference in unmeasured compensable skills (e.g., ability, accumulated skills from experience, work intensity) between women in the for-profit and nonprofit sectors. The implication for men in the nonprofit sector is that they have lower levels of unmeasured compensable skills than do men in the for-profit sector.[16] In short, neither women nor men who move between nonprofit and for-profit jobs realize substantive wage changes (on average). The absence of market wage penalties likely implies that preferences among nonprofit employees to work at a nonprofit (i.e., labor donation) are inframarginal and have minimal wage effects. If the supply of workers willing to bear wage penalties in nonprofit jobs is not large enough to satisfy demand, nonprofits must pay close to market wages to attract a sufficient work force. That said, we cannot rule out the possibility that labor donation is relevant at the margin for some nonprofits, but these nonprofits forego maximization of net revenues and choose not to pay lower wages.

8. Conclusions

The nonprofit sector's share of total employment has increased over time. As compared to the for-profit sector, nonprofits have a more educated and older workforce, with employment concentrated in health, education, and service occupations and industries. Standard wage analysis indicates slightly lower wages for nonprofit than for for-profit workers with similar measured attributes, more so for men than for women. Based on panel estimates of wage changes, however, we find no wage penalty for given workers moving between jobs in and out of the nonprofit sector. Our bottom line is that wages in the nonprofit and for-profit sectors, on average, differ relatively little for similar workers and jobs.

References

Arrow, Kenneth J. (1963), 'Uncertainty and the welfare economics of healthcare', *American Economic Review*, 53 (5), 940–73.

Bollinger, Christopher R. and Barry T. Hirsch (2006) 'Match bias from earnings imputation in the Current Population Survey: The case of imperfect matching', *Journal of Labor Economics* 24(3): 483–519.

Bollinger, Christopher R. and Barry T. Hirsch (2013) 'Is earnings nonresponse ignorable?' *Review of Economics and Statistics* 95(2): 407–416.

[16] Recall that men in nonprofits display a flatter wage-age profile (slower wage growth) than do men in for-profits, but profiles for women are nearly equivalent across sectors. This is consistent with our finding that compared to the for-profit sector, nonprofit employees work fewer hours, with the gap larger for men than for women. The lower nonprofit pay for men seen in the wage level analysis reflects in part lower compensable human capital accumulation over time. Differences in accumulated skills are netted out in panel analysis measuring worker-specific wage changes resulting from moves between for-profit and nonprofit jobs. Hence the minimal nonprofit wage gaps found using panel analysis.

Brickley, James A. and R. Lawrence Van Horn (2002), 'Managerial incentives in nonprofit organizations: evidence from hospitals', *The Journal of Law and Economics*, 45 (1), 227–49.

Duggan, Mark (2000), 'Hospital ownership and public medical spending', *Quarterly Journal of Economics*, 115 (4), November, 1343–74.

DuMond, J. Michael (1997), *Wage tradeoffs: An analysis of the nonprofit sector and local amenities*. Unpublished Ph.D. Dissertation. Florida State University, Tallahassee.

England, P., Budig, M., and N. Folbre (2002), Wages of virtue: the relative pay of care work', *Social Problems*, 49 (4): 455–473.

Frank, Robert H. (1996), 'What price the moral high ground?' *Southern Economic Journal*, 63 (1), 1–17.

Furobotn, Eirik G. and Svetozar Pejovich (1972), 'Property rights and economic theory: a survey of recent literature', *Journal of Economic Literature*, 10 (4), 1137–62.

Glaeser, Edward and Andrei Shleifer (2001), 'Not-for-profit entrepreneurs', *Journal of Public Economics*, 81 (1), 99–116.

Handy, Femida and Eliakim Katz (1998), 'The wage differential between nonprofit institutions and corporations: getting more by paying less?' *Journal of Comparative Economics*, 26 (2), 246–61.

Hansmann, Henry B. (1980), 'The role of nonprofit enterprise', *Yale Law Journal*, 89 (5), 835–98.

Hirsch, Barry T. and Julia Manzella (2015), 'Who cares–and does it matter? Measuring the wage penalty for caring work', in *Research in Labor Economics*: *Why Are Women Becoming More Like Men (and Men More Like Women) in the Labor Market?* 40, 213–275.

Hirsch, Barry T. and David A. Macpherson (2016) *Union Membership and Earnings Data Book: Compilations from the Current Population Survey (2016 Edition)*. Arlington, VA: Bloomberg BNA.

Hirsch, Barry T. and Edward J. Schumacher. (2004) 'Match bias in wage gap estimates due to earnings imputation', *Journal of Labor Economics*, 22 (3), 689–722.

Holtmann, Alphonse G. and Todd L. Idson (1993), 'Wage determination of registered nurses in proprietary and nonprofit nursing homes', *Journal of Human Resources*, 28 (1), 55–79.

Jones, Daniel B. (2015), 'The supply and demand of motivated labor: when should we expect to see nonprofit wage gaps', *Labour Economics*, 32 (January), 1–14.

Leete, Laura (2000), 'Wage equity and employee motivation in nonprofit and for-profit organizations', *Journal of Economic Behavior and Organization*, 43 (4), 423–46.

Leete, Laura (2001), 'Whither the nonprofit wage differential? Estimates from the 1990 Census', *Journal of Labor Economics*, 19 (1), 136–70.

Mocan, H. Naci and Erdal Tekin (2003), 'Nonprofit sector and part-time work: an analysis of employer–employee matched data on child care workers', *Review of Economics and Statistics*, 85 (1), 38–50.

Nelson, Richard R. and Michael Krashinsky (1974), 'Public control and economic organization of day care for young children', *Public Policy*, 22 (1), 53–75.

Polivka, Anne E. and Jennifer M. Rothgeb (1993), 'Redesigning the CPS questionaire', *Monthly Labor Review* (September), 10–28.

Preston, Anne E. (1988), 'The effects of property rights on labor costs of nonprofit firms: an application to the day care industry', *Journal of Industrial Economics*, 36 (3), 337–50.

Preston, Anne E. (1989), 'The nonprofit worker in a for-profit world', *Journal of Labor Economics*, 7 (4), 438–63.

Preston, Anne E. (1990a), 'Changing labor market patterns in the nonprofit and for-profit sectors: implications for nonprofit management', *Nonprofit Management and Leadership*, 1 (1), 15–28.

Preston, Anne E. (1990b) 'Women in the white-collar nonprofit sector: the best option or the only option?' *Review of Economics and Statistics*, 72 (4), 560–68.

Preston, Anne E. (1993), 'Efficiency, quality, and social externalities in the provision of day care: comparisons of nonprofit and for-profit firms', *Journal of Productivity Analysis*, 4 (1–2), 165–82.

Preyra, Colin and George Pink (2001), 'Balancing incentives in the compensation contracts of nonprofit hospital CEOs', *Journal of Health Economics*, 20 (4), 509–25.

Roomkin, Myron J. and Burton A. Weisbrod (1999), 'Managerial compensation and incentives in for-profit and nonprofit hospitals', *Journal of Law Economics and Organization*, 15 (3), 750–81.

Rudney, Gabriel and Murray Weitzman (1982), 'Significance of employment and earnings in the philanthropic sector, 1972–1982', Program on Nonprofit Organizations Working Paper No. 77, Yale University, New Haven, CT.

Ruhm, Christopher J. and Carey Borkoski (2003), 'Compensation in the nonprofit sector', *Journal of Human Resources*, 38 (4), 992–1021.

Salamon, Lester M. and S. Wojciech Sokolowski (2005), 'Nonprofit organizations: New insights from QCEW data', *Monthly Labor Review*, September, 19–26.

Weisbrod, Burton A. (1983), 'Nonprofit and proprietary sector behavior: wage differentials among lawyers', *Journal of Labor Economics*, 1 (3), 246–63.

Weisbrod, Burton A. (1988), *The Nonprofit Economy*, Cambridge, MA: Harvard University Press.

Appendix Tables A1–A8

The Appendix tables below are included in the Discussion Paper version of the paper, but will not be included in the published *Handbook* version. The publication reference is: Barry T. Hirsch, David A. Macpherson, and Anne E. Preston, "Nonprofit Wages: Theory and Evidence," *Handbook of Research on Nonprofit Economics and Management*, Edward Elgar, Edited by Bruce A. Seaman and Dennis R. Young, 2nd edition (2017, forthcoming).

Table A1: Wage and Salary Employment and Shares in the Private For-Profit, Nonprofit, and Public Sectors, 1994-2015

	Sector Employment Shares			Wage & Salary Sector Employment (in 1,000s)			
Year	FP	NP	PUB	FP	NP	PUB	Total W&S
1994	78.0%	5.0%	17.0%	84,210.5	5,438.1	18,339.2	107,987.8
1995	77.9%	5.5%	16.7%	85,676.6	6,003.9	18,357.6	110,038.1
1996	78.3%	5.4%	16.3%	87,659.4	6,090.7	18,210.2	111,960.3
1997	78.5%	5.6%	15.8%	89,943.0	6,442.9	18,147.2	114,533.0
1998	78.5%	5.7%	15.8%	91,664.0	6,664.9	18,401.0	116,729.9
1999	78.3%	5.8%	15.9%	93,169.4	6,856.0	18,938.1	118,963.5
2000	78.5%	5.8%	15.7%	94,814.6	6,995.3	18,975.7	120,785.6
2001	78.2%	5.9%	15.8%	94,404.5	7,172.8	19,130.3	120,707.6
2002	77.6%	6.2%	16.2%	93,131.4	7,450.0	19,397.9	119,979.2
2003	77.3%	6.6%	16.1%	94,543.6	8,104.0	19,710.2	122,357.9
2004	77.2%	6.7%	16.2%	95,362.6	8,221.0	19,970.3	123,553.9
2005	77.2%	6.6%	16.2%	97,161.8	8,346.6	20,380.9	125,889.3
2006	77.5%	6.6%	15.9%	99,388.3	8,457.3	20,391.6	128,237.2
2007	77.1%	6.7%	16.2%	100,060.3	8,653.5	21,053.2	129,767.0
2008	76.8%	6.7%	16.5%	99,396.7	8,675.9	21,304.6	129,377.2
2009	76.0%	7.1%	17.0%	94,574.9	8,782.4	21,132.6	124,489.9
2010	75.8%	7.2%	17.0%	94,060.8	8,979.6	21,032.7	124,073.0
2011	76.6%	7.0%	16.3%	95,962.2	8,816.2	20,431.7	125,210.1
2012	77.0%	7.1%	16.0%	98,192.4	9,037.8	20,373.0	127,603.2
2013	77.2%	7.0%	15.8%	99,708.9	9,015.5	20,412.3	129,136.6
2014	77.8%	6.9%	15.4%	102,242.9	9,016.6	20,193.2	131,452.8
2015	77.6%	7.0%	15.4%	103,762.4	9,430.8	20,577.3	133,770.5

Notes: Data source is Current Population Survey Monthly Outgoing Rotation Group (CPS-MORG) data files, January 1994 through December 2015. CPS sample weights are used in all calculations.

Table A2: Distribution of For-Profit, Nonprofit, and Public Sector Workers within Groups by Industry and Occupation

	%Nonprofit by Industry/Occupation		Distribution of Workers					
			Private For Profit		Nonprofit		Public	
	1994-98	2011-15	1994-98	2011-15	1994-98	2011-15	1994-98	2011-15
Industries:								
Agriculture, Forestry, and Fishing	0.8	1.0	1.9	2.2	0.2	0.3	0.4	0.3
Mining	0.1	0.2	0.7	0.9	0.0	0.0	0.0	0.0
Construction	0.3	0.6	6.1	6.6	0.3	0.4	2.7	2.0
Durable Manufacturing	0.3	0.5	13.9	8.9	0.6	0.5	0.4	0.4
Non-Durable Manufacturing	0.4	0.5	8.4	5.4	0.5	0.3	0.1	0.1
Transportation	0.5	0.7	4.6	4.8	0.4	0.4	6.3	5.1
Communication	1.4	1.7	1.8	1.5	0.4	0.3	0.1	0.1
Utilities	2.5	2.9	1.2	1.2	0.6	0.5	2.4	2.0
Wholesale Trade	0.3	0.4	4.8	3.3	0.2	0.2	0.1	0.1
Retail Trade	0.4	0.8	21.7	23.3	1.3	2.1	0.5	0.7
Finance, Insurance, & Real Estate	2.7	2.9	7.7	8.0	3.1	2.7	1.2	1.1
Private Households	2.2	0.0	1.1	0.8	0.3	0.0	0.0	0.0
Business and Repair Services	1.0	1.1	6.9	8.4	1.1	1.1	0.4	0.8
Personal Services	1.7	2.0	2.9	2.9	0.7	0.7	0.1	0.2
Entertainment and Recreation Services	6.4	7.5	1.8	2.2	2.1	2.1	1.6	0.7
Hospitals	31.8	32.3	3.0	3.6	26.2	22.8	4.4	3.7
Medical Services Ex. Hospitals	10.6	12.4	5.0	6.9	9.4	11.5	2.5	2.0
Educational Services	11.1	13.0	1.5	2.6	17.9	18.8	41.2	43.0
Social Services	38.1	31.1	1.2	1.8	15.8	11.8	3.0	2.7
Other Professional Services	24.6	30.0	3.8	4.6	18.8	23.7	0.8	2.1
Public Administration	0.0	0.0	0.0	0.0	0.0	0.0	32.0	33.1
Total	5.5	7.0	100	100	100	100	100	100
Occupations:								
Management, Business, & Financial	6.7	8.3	12.9	14.5	16.2	16.7	13.1	11.8
Professional and related occupations	13.2	14.9	13.0	16.2	46.1	48.7	39.4	44.1
Service occupations	5.3	5.9	13.9	17.8	14.1	15.1	17.8	20.1
Sales and related occupations	1.0	1.2	14.1	13.1	2.1	1.7	0.9	0.9
Office and administrative support	6.0	7.0	13.9	13.2	16.2	13.4	19.0	14.4
Farming, fishing, and forestry	0.5	0.9	1.0	0.9	0.1	0.1	0.1	0.2
Construction and extraction occs	0.8	1.0	5.5	5.4	0.7	0.6	2.6	2.2
Installation, maintenance, and repair	1.1	2.1	4.3	4.0	0.8	1.0	1.9	1.9
Production occupations	1.1	1.3	12.1	7.7	2.1	1.1	1.4	1.2
Transportation and material moving	1.1	1.7	9.1	7.4	1.6	1.5	3.7	3.2
Total	5.5	7.0	100	100	100	100	100	100

Notes: Data source is Current Population Survey Monthly Outgoing Rotation Group (CPS-MORG) data files, January 1994 through December 1998 and January 2011 through December 2015. CPS sample weights are used in all calculations.

Table A3: Industries and Occupations with the Highest Nonprofit Employment Shares

Rank	Census Code	Industries	Nonprofit Share	Nonprofit Emp (1000s)
Industries with highest nonprofit employment shares:				
1	9160	Religious organizations	100.0%	1,059.5
1	9170	Civic, social, advocacy organizations; grantmaking & giving services	100.0%	616.4
1	9190	Business, professional, political and similar organizations	100.0%	161.0
1	9180	Labor unions	100.0%	64.9
5	8380	Community food and housing, and emergency services	67.3%	68.8
6	8390	Vocational rehabilitation services	48.7%	85.7
7	5490	Used merchandise stores	42.6%	66.9
8	8370	Individual and family services	37.8%	449.0
9	8670	Recreational vehicle parks and camps; rooming & boarding houses	35.5%	30.4
10	8190	Hospitals	33.8%	2,056.1
11	8290	Residential care facilities, without nursing	27.4%	189.4
12	8090	Outpatient care centers	23.3%	254.2
13	8470	Child day care services	23.2%	250.0
Occupations with highest nonprofit employment shares:				
1	2050	Directors, Religious Activities and Education	99.0%	55.9
2	2060	Religious Workers, nec	98.4%	81.5
3	2040	Clergy	97.2%	411.6
4	420	Social and Community Service Managers	75.7%	240.1
5	2750	Musicians, Singers, and Related Workers	66.5%	63.5
6	4640	Residential Advisors	46.1%	25.4
7	2400	Archivists, Curators, and Museum Technicians	41.6%	17.2
8	720	Meeting and Convention Planners	37.0%	37.6
9	3220	Respiratory Therapists	34.1%	36.8
10	2020	Community and Social Service Specialists, nec	31.9%	71.8

Notes: Data source is Current Population Survey Monthly Outgoing Rotation Group (CPS-MORG) data files, January 1994 through December 2015. CPS sample weights are used in all calculations.

Table A4: Distribution of For-Profit, Nonprofit, and Public Sector Workers within Groups by Education, Age, Race/Ethnicity, Gender, and Hours Worked, 1994-98 and 2011-2015

	%Nonprofit in Worker Categories		Variable Means and Group Distributions within Sectors					
			Private For Profit		Nonprofit		Public	
	1994-98	2011-15	1994-98	2011-15	1994-98	2011-15	1994-98	2011-15
Mean hourly earnings (2015$)	–	–	$19.54	$21.14	$20.73	$23.36	$23.23	$24.98
Standard deviation	–	–	$16.67	$16.36	$16.33	$16.96	$17.27	$18.42
CV	–	–	0.85	0.77	0.79	0.73	0.74	0.74
Mean log hourly earnings (2015$)	–	–	2.77	2.84	2.82	2.95	2.98	3.06
Standard deviation	–	–	0.62	0.66	0.68	0.67	0.59	0.60
All W&S workers	5.5	7.0	100	100	100	100	100	100
Education:								
Mean Schooling (years)	–	–	12.9	13.5	14.5	15.1	14.5	15.0
8th grade or less	2.8	1.8	4.1	3.4	1.8	0.7	1.2	0.6
Some high school, no diploma	2.3	3.2	10.0	5.9	3.6	2.3	3.1	1.6
High school grad, no college	3.3	4.0	36.6	31.2	20.3	16.1	24.4	19.2
Some college	5.7	6.4	29.2	30.5	30.1	27.3	28.1	26.9
College graduate	7.9	9.2	15.3	20.8	25.0	29.4	24.3	26.9
Graduate Degree	13.2	14.2	4.9	8.2	19.3	24.2	18.9	24.8
Age Groups:								
Mean Age	–	–	36.9	40.3	40.9	43.8	41.7	44.7
16-19	2.9	4.3	6.7	4.0	3.0	2.1	1.6	1.1
20-24	4.0	5.3	12.1	11.5	7.8	7.8	5.4	5.2
25-30	4.6	6.6	16.2	14.6	12.8	13.0	11.6	10.7
31-40	5.3	6.6	28.2	21.9	27.1	20.3	26.7	21.2
41-50	6.2	6.7	21.3	21.5	26.8	21.2	32.2	25.4
51-65	6.8	8.3	13.7	23.2	18.9	29.6	20.6	32.4
>65	10.7	11.5	1.7	3.3	3.7	6.0	1.9	4.1
Mean Yrs Experience (Age-Ed-6)	–	–	18.0	20.8	20.3	22.7	21.3	23.7
Male	3.4	4.5	55.3	55.2	32.2	33.2	44.7	43.2
Female	7.8	9.7	44.7	44.8	67.8	66.8	55.3	56.8
Race/Ethnicity:								
Hispanic	2.6	3.7	10.8	17.3	4.7	8.3	7.2	10.7
Non-Hispanic White	5.9	7.9	74.8	64.3	81.7	73.9	73.6	68.2
Non-Hispanic Black	5.0	7.0	10.5	10.6	10.4	11.2	15.6	14.1
Non-Hispanic Asian	4.6	5.9	3.2	5.7	2.6	4.5	2.7	4.1
Other Non-Hispanic	4.9	6.8	0.6	2.1	0.6	2.1	1.0	2.8
Hours worked per week:								
Mean weekly hours:	–	–	38.6	38.2	36.3	36.6	38.4	38.6
Less than 20 hours	8.5	10.4	7.1	6.5	11.1	9.8	6.0	5.4
20 to 34 hours	7.7	8.4	11.4	13.0	16.0	14.9	9.2	8.6
35 or more hours	4.9	6.5	81.5	80.4	72.8	75.3	84.9	86.0

Notes: Data source is Current Population Survey Monthly Outgoing Rotation Group (CPS-MORG) data files, January 1994 through December 1998 and January 2011 through December 2015. CPS sample weights are used in all calculations.

Table A5: Union Membership Density by Sector, 1994-2015

Year	Private Nonprofit	Private For Profit	Total Private	Public	All
1994	7.1%	11.0%	10.8%	38.7%	15.5%
1995	7.5%	10.5%	10.3%	37.7%	14.9%
1996	7.6%	10.2%	10.0%	37.6%	14.5%
1997	7.7%	9.9%	9.7%	37.2%	14.1%
1998	7.4%	9.6%	9.5%	37.5%	13.9%
1999	7.8%	9.5%	9.4%	37.3%	13.9%
2000	7.6%	9.1%	9.0%	37.5%	13.5%
2001	8.4%	9.0%	9.0%	37.4%	13.5%
2002	8.6%	8.6%	8.6%	37.8%	13.3%
2003	8.0%	8.3%	8.2%	37.2%	12.9%
2004	7.8%	7.9%	7.9%	36.4%	12.5%
2005	8.3%	7.8%	7.8%	36.5%	12.5%
2006	7.8%	7.4%	7.4%	36.2%	12.0%
2007	8.6%	7.4%	7.5%	35.9%	12.1%
2008	9.2%	7.5%	7.6%	36.8%	12.4%
2009	8.6%	7.1%	7.2%	37.4%	12.3%
2010	8.6%	6.7%	6.9%	36.2%	11.9%
2011	8.8%	6.7%	6.9%	37.0%	11.8%
2012	7.6%	6.5%	6.7%	35.9%	11.2%
2013	8.0%	6.6%	6.7%	35.4%	11.2%
2014	7.9%	6.5%	6.6%	35.7%	11.1%
2015	8.3%	6.5%	6.7%	35.2%	11.1%

Notes: Data source is Current Population Survey Monthly Outgoing Rotation Group (CPS-MORG) data files, January 1994 through December 2015. CPS sample weights are used in all calculations.

Table A6: Nonprofit/For-Profit and Public/For-Profit Log Wage Differentials with No Controls, Base Controls, and Base+Occ Controls, 1994-2015

	Nonprofit/Private For-Profit			Public/Private For-Profit		
Year	No Controls	Base Controls	Base + Occs	No Controls	Base Controls	Base + Occs
1994	0.0702	-0.053	-0.058	0.2056	0.045	0.034
1995	0.0670	-0.046	-0.050	0.1987	0.039	0.038
1996	0.0539	-0.067	-0.070	0.2055	0.034	0.042
1997	0.0579	-0.062	-0.061	0.1991	0.025	0.034
1998	0.0402	-0.078	-0.075	0.1849	0.015	0.029
1999	0.0296	-0.081	-0.074	0.1759	0.008	0.027
2000	0.0405	-0.080	-0.061	0.1692	0.006	0.031
2001	0.0333	-0.084	-0.070	0.1545	-0.006	0.025
2002	0.0448	-0.081	-0.063	0.1642	-0.002	0.030
2003	0.0385	-0.081	-0.073	0.1685	-0.003	0.031
2004	0.0591	-0.058	-0.058	0.1809	0.005	0.032
2005	0.0614	-0.059	-0.060	0.1736	-0.000	0.026
2006	0.0796	-0.053	-0.051	0.1784	0.007	0.040
2007	0.0822	-0.049	-0.048	0.1855	0.015	0.043
2008	0.0866	-0.051	-0.051	0.1769	0.006	0.041
2009	0.1068	-0.036	-0.043	0.1872	0.022	0.048
2010	0.1057	-0.038	-0.045	0.2118	0.036	0.060
2011	0.1223	-0.028	-0.035	0.2142	0.032	0.056
2012	0.1061	-0.024	-0.044	0.1960	0.021	0.040
2013	0.1132	-0.028	-0.037	0.1995	0.016	0.047
2014	0.1267	-0.024	-0.037	0.2019	0.017	0.049
2015	0.0991	-0.041	-0.039	0.2016	0.015	0.045

Notes: Data source is Current Population Survey Monthly Outgoing Rotation Group (CPS-MORG) data files, January 1994 through December 1998 and January 2011 through December 2015. All regression coefficients are significant at the .01 confidence level. CPS sample weights are used in all calculations.

Table A7: Nonprofit/For-Profit Log Wage Gaps
By Group, 2011-2015

	Nonprofit/For-Profit	
Group	Log Diff	t-ratio
All	-0.0289	(-9.36)
Women	0.0129	(3.57)
Men	-0.1143	(-20.06)
Non-Hispanic white	-0.0510	(-14.43)
Nonwhite	0.0231	(3.63)
Hispanics	0.0722	(7.05)
Occupation groups:		
Managers	-0.1161	(-17.09)
Professionals	-0.1682	(-34.34)
Sales and office	-0.0074	(-1.24)
Farms	0.0493	(0.86)
Services	0.0340	(5.41)
Blue collar	-0.1382	(-8.29)
Industry groups:		
Hospitals	0.0410	(6.19)
Elementary & secondary schools	-0.0229	(-1.94)
Colleges & universities	0.0133	(1.01)
Service industries	0.0622	(4.10)
Nursing care	0.0135	(0.94)
Other industries	-0.0909	(-21.23)

Notes: Data source is Current Population Survey Monthly Outgoing Rotation Group (CPS-MORG) data files, January 2011 through December 2015. CPS sample weights are used in all calculations

Table A8: Wage Change Results Using CPS Panels, by Gender

Sector change variables	(1) No Controls	(2) Base Controls	(3) Base Controls + Demographics
Full Sample:			
Δ Nonprofit	-0.0011	-0.0010	-0.0013
	(-0.42)	(-0.38)	(-0.51)
Δ Public	0.0124	0.0122	0.0118
	(3.69)	(3.65)	(3.53)
Constant	0.0369	0.0468	0.0720
	(-18.84)	(23.12)	(16.30)
Observations	548,710	548,710	548,708
R-squared	0.001	0.004	0.006
Men:			
Δ Nonprofit	-0.0106	-0.0107	-0.0114
	(-2.13)	(-2.14)	(-2.29)
Δ Public	0.0106	0.0102	0.0097
	(1.83)	(1.77)	(1.68)
Constant	0.0381	0.0483	0.0768
	(13.65)	(16.74)	(12.60)
Observations	273,873	273,873	273,873
R-squared	0.002	0.004	0.006
Women:			
Δ Nonprofit	0.0028	0.0030	0.0028
	(0.96)	(1.01)	(0.95)
Δ Public	0.0133	0.0134	0.0130
	(3.25)	(3.26)	(3.18)
Constant	0.0355	0.0450	0.0641
	(12.98)	(15.91)	(10.17)
Observations	274,837	274,837	274,837
R-squared	0.001	0.004	0.006

Notes: Data source is Current Population Survey Monthly Outgoing Rotation Group (CPS-MORG) matched panels, with two observations for each worker, one year apart, for year pairs 1996-1997 through 2014-2015. t-ratios are in parentheses. ΔNonprofit and ΔPublic take on values of -1, 0, and +1 for nonprofit and public leavers, stayers, and joiners, respectively. In analysis relaxing the assumption of symmetry between joiners and leavers, we find only modest differences between wage changes (in absolute value) from joining versus leaving nonprofit employment. The "no controls" specifications include ΔNonprofit, ΔPublic, and year-pair dummies (the reference group being job stayers in 1996-97. The "base controls" specifications adds dummies for the change in experience squared interacted with gender and changes in the two part-time dummies. The "controls plus demographics" specifications add potential experience and dummies for gender, schooling, race, region, and metro size.