



# The supply and demand of motivated labor: When should we expect to see nonprofit wage gaps? ☆



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## HIGHLIGHTS

- Nonprofit wage gaps emerge in markets with low nonprofit labor demand.
- Wages are equal across sectors when nonprofit labor demand is high.
- Nonprofit productivity is highest when nonprofit wages are lowest.
- This suggests sorting & screening of scarce motivated workers generate wage gaps.

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## ABSTRACT

Evidence on whether nonprofit workers earn less than for-profit workers is mixed. I argue that we should only expect wage gaps when labor demand of the nonprofit sector of an industry is low. When labor demand is high, there are not enough “motivated” workers to fulfill demand, so nonprofits must raise wages. I find empirical evidence consistent with these predictions. Penalties for working in a nonprofit are largest in areas where nonprofits require a small share of the labor force. In these same locations, the quality of work is higher than in for-profits.

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## 1. Introduction

A long literature examines differences in wages across the for-profit and nonprofit sectors. Some empirical work finds clear evidence that nonprofit workers earn less. The most prominent explanation for this finding is the “labor donation hypothesis,” which suggests that some individuals enjoy nonmonetary benefits from working in a nonprofit and as such are willing to work for less.<sup>1</sup> An alternative explanation is that

nonprofits tend to locate in lower-paying industries, so composition effects rather than differential preferences of workers may drive the observation of a nonprofit wage differential. However, as demonstrated by Leete (2001) even after carefully accounting for industry and occupation, a nonprofit wage differential exists in some industries but not others – a puzzling result for either of these two prominent explanations.

I consider an explanation for the emergence of wage differentials in some settings but not others and, in doing so, revisit the mechanism through which these wage differentials arise more generally. Building on a point made by Preston (1989), I test the hypothesis that a nonprofit wage differential should exist when the share of labor demanded by nonprofits is low relative to for-profits. I start from the assumption that some workers are in fact willing to donate their labor and draw from a recent theoretical literature examining the impact of motivation on labor market outcomes (Besley and Ghatak, 2005; Heyes, 2005;

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<sup>1</sup> “Labor donation theory” or the “donative labor hypothesis” is an idea which has been suggested in various forms by a variety of researchers; see, for instance, Weisbrod (1983), Preston (1989), or Leete (2006) for a thorough review.

Francois, 2007; Delfgaauw and Dur, 2007; Ghatak and Mueller, 2011). Suppose there exist “motivated” types – who receive nonmonetary benefits from working for a nonprofit – and “standard” types – who, holding wage constant, do not differentiate between nonprofit and for-profit jobs. As long as there are enough motivated workers to meet their labor demands, nonprofits can minimize costs by offering a low wage (thereby, only attracting motivated applicants). However, if nonprofit labor demand is high relative to for-profit firms, the nonprofit cannot rely on motivated workers alone to fill their demand and must offer wages comparable to that of for-profits in order to attract standard workers.

I test this hypothesis empirically using several approaches. In all of the empirical work, I examine the impact of the nonprofit share of labor within industries but across localities. The first approach assesses the relationship between nonprofit share of labor and wage differentials at an economy-wide level using Census microdata. I construct industry/locality-specific nonprofit shares of labor and include a detailed set of industry fixed effects in all specifications. I find evidence that areas with low nonprofit share – where I argue that there is a sufficient number of motivated workers to meet labor demand – are indeed associated with larger negative wage differentials; this is largely driven by college-educated workers. There are a number of alternative explanations for this pattern that data limitations do not allow me to address, including the potential endogeneity of nonprofit share. Additionally, in the economy-wide data, I cannot rule out that low-nonprofit-share nonprofits attract lower quality workers and the lower wage merely reflects this.

Thus, in the second approach, I focus my attention only on the nursing home industry, for which I have much richer firm-level data on roughly 95% of nursing homes in the United States. Again, exploiting variation in nonprofit share across localities, I replicate the result from the economy-wide data. I then provide evidence to suggest that this result is not driven by: (1) differences in the competitive environment faced by nonprofits in low nonprofit share areas, (2) endogeneity between nonprofit share and wage differentials or (3) lower quality workers in low nonprofit share areas. In fact, I find that nonprofit workers in low nonprofit share areas produce *higher* quality output (despite being paid less). This is consistent with the implications of a simple model I present in Section 3 (and the theoretical work of Handy and Katz (1998)); in particular, by maintaining lower wages nonprofits attract only workers who are “motivated” and who therefore supply higher effort than is required of them.

Thus, consistent with my theoretical predictions, I provide evidence that nonprofit wages are lowest (and nonprofit quality highest) relative to for-profits when nonprofit share (NPS) is low. Based on my model, I argue that this is driven by nonprofits’ ability to exclusively hire motivated types when nonprofit share is low. Using data from the National Longitudinal Survey of Youth (NLSY), I conclude the empirical analysis by providing suggestive evidence that nonprofit workers in low nonprofit share areas are indeed a different “type” of worker. Specifically, I find some evidence that nonprofit workers in who face the largest wage penalties are also the most likely to report high job satisfaction and likelihood of engaging in prosocial activities.

These results shed light on a relatively large literature attempting to document and understand nonprofit wage differentials, which has led to very mixed results. In one strand of literature, researchers attempt to hold worker/job characteristics constant by focusing on a particular industry or occupation. Weisbrod (1983) and Frank (1996) compare public interest lawyers to private lawyers and find that public interest lawyers earn significantly less. Using a different econometric approach, Goddeeris (1988) finds little evidence of a pay gap between public interest and private lawyers. There is little evidence of a negative nonprofit wage gap in children’s day care (Preston, 1988; Mocan and Tekin, 2003) or nursing homes (Borjas et al., 1983; Holtmann and Idson, 1993). The presence of a wage gap amongst lawyers but not day care

workers is consistent with more recent research which finds wage gaps only for highly educated and “white-collar” workers (Leete, 2001), which I also find in this paper.

More recent research tests for a wage gap across a number of industries and employs rich controls to hold worker characteristics constant. Using Current Population Survey data, Preston (1989) finds evidence of a significant nonprofit wage differential across the entire economy, while Ruhm and Borkoski (2003) do not. Leete (2001), using 1990 Census microdata, employs a fuller range of industry and occupation fixed effects. While she too fails to detect an economy-wide wage differential, she does find large and significant wage differentials in particular industries. Nancy (2011) examines wages across sectors in France and finds a significant negative wage-differential at an economy-wide level.

Although attempts to test the implications of the labor donation hypothesis (by searching for wage gaps) have led to inconclusive results, there is accumulating direct evidence of differences in workers and willingness to donate labor across sectors. Across a variety of surveys, nonprofit workers are more likely to report: that their work is more important than their payment (Mirvis and Hackett, 1983), higher levels of job satisfaction (Benz, 2005), and a higher “ideal number of hours worked” (Lanfranchi et al., 2010). Gregg et al. (2011) show that workers who are more willing to “donate labor” are indeed more likely to sort into the nonprofit sector. Serra et al. (2011) obtain survey-based and experimental proxies of prosocial motivations and find that these measures are predictive of health professionals’ selection into the nonprofit sector.

Thus, there appears to be some evidence of workers donating their labor, though the circumstances under which this leads to wage differentials is unclear. The only potential consensus to draw from existing work is that the existence and magnitude of nonprofit wage differentials depend heavily on the particular industry and/or occupation in question. This is demonstrated most clearly by Leete (2001). Yet, it remains unclear why we would observe a wage differential in some industries but not in others and also what factors are important in determining which industries are impacted; my results provide one systematic explanation for these seemingly divergent results.<sup>2</sup>

## 2. Model & resulting predictions

In this section, I offer a simple model to add precision to the predictions I test empirically. The model builds on a literature on signaling and screening of worker motivations (Delfgaauw and Dur, 2007; Heyes, 2005), which suggests that, if some workers are motivated to work in a particular job, but motivation is not observable, firms might use their offered wage as a screening device. By setting a wage lower than the reservation wage of standard workers, they are guaranteed to attract only motivated workers who receive additional nonmonetary utility from working for the firm. I simplify and adapt the model of Delfgaauw and Dur (2007).

The model assumes that a “motivated” worker receives *some* form of nonmonetary benefit from working at a nonprofit firm. Before proceeding, it is worth noting that previous literature on labor donation theory offers a number of reasons why this might be true. Workers may receive “warm glow” or “moral satisfaction” from contributing to the production of a public good (Preston (1989), Frank (1996)). Rose-Ackerman

<sup>2</sup> My findings are also closely related to the more general literature on compensating differentials. Any job characteristic that is desirable to the marginal worker (such as the opportunity to support a nonprofit’s mission or a low risk of being injured on the job) might be expected to generate lower wages (Rosen, 1986). However, like the literature on nonprofit wages, attempts to test the theory of compensating differentials have historically led to mixed results (Brown, 1980). One way to view this paper, then, is an attempt to locate the marginal worker (using across-locality variation in nonprofit share) and determine whether she suffers a wage penalty to compensate for the opportunity to work for her preferred job, rather than asking whether workers *on average* suffer a wage penalty.

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