

The Future of Work in New Jersey: Care Workers and the Gig Economy

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Introduction

Any discussion of the future of work is incomplete without a close examination of the care economy, how that care is organized, and how technology has had an impact on care providers. At issue is the aging U.S. population and the growing need for care for the elderly, sick, and disabled. Care comes in the form of a patchwork system, with care provided predominantly by unpaid family caregivers, for-profit establishments, and home health aides. In fact, preliminary analysis of labor force survey data for the United States indicates that the number of home health aides has surpassed housekeepers and childcare providers among domestic workers. The growth in the number of health aides reflects the changing demographic composition of the U.S. population and the increasing need for people to provide caring labor. However, the low value assigned to care work and lack of labor law protections may prove to be a large obstacle to finding sufficient care workers in the future to meet this demand.

Domestic workers in the United States earn some of the lowest wages among all occupations and experience a host of poor working conditions and labor violations. A big issue is wage theft, in which domestic workers receive wages below the minimum, have their wages withheld arbitrarily and without recourse, or are not paid overtime. Lack of formal contracts and unpredictable work schedules are also common problems. The growing importance of the “gig

economy” and employers’ use of Internet-based technology to hire care workers and housekeepers has contributed to the insecure nature of domestic work, and workers without access to the Internet have been placed at a disadvantage in access to jobs. Sexual harassment, sexual abuse, and other forms of physical abuse also plague domestic workers. Their vulnerability to sexual harassment and abuse is compounded by the fact that their work takes place in the private sphere. This issue has gained increasing attention in the wake of the global Me Too movement.

The United States employs a large number of domestic workers to perform care work and housecleaning. Most domestic workers are women (92%) and about one third are immigrants, which is high compared to other occupations. In New Jersey, these figures are even higher: 97% of domestic workers are women and more than half are immigrants. In response to increased advocacy around the low pay and poor working conditions faced by domestic workers, eight states to date have passed some version of a domestic worker bill of rights in which domestic workers are guaranteed the minimum wage, overtime, rest periods, paid vacation time, disability benefits, and/or protection from sexual harassment and discrimination.¹ New York was the first state to pass such a bill in 2010, while New Jersey has not yet followed suit.

This study uses a mixed-methods approach to examine trends in the number and characteristics of domestic workers and their employers in New Jersey. The study focuses specifically on nannies and home-based childcare providers, housekeepers, and caregivers for the elderly and individuals with disabilities. An analysis of labor force survey data is used to provide a comprehensive account of domestic worker employment and earnings in New Jersey and how the state compares with the national average. The study also uses qualitative evidence to examine the potential for worker-centered digital platforms to support, rather than marginalize, domestic

workers. Finally, a regression analysis using survey data of household employers in New Jersey was conducted to examine the demand for domestic workers and the extent to which household employers are aware of labor laws governing their domestic workers. New Jersey constitutes an interesting case not only because it has one of the largest immigrant populations in the United States, but also because it has typically taken a lead in implementing progressive labor market legislation. In fact, New Jersey is often considered the “incubator state” for progressive policies that can then be scaled up. The objective of this research is to better understand how states like New Jersey can support digital-platform work in a way that advances worker-centered interests rather than contributing to further marginalization and exploitation of workers.

Background: Care Workers and the Gig Economy

Much of the research conducted on the gig economy is focused on drivers for Uber and Lyft, or workers who get short-term jobs on Amazon’s crowdsourcing platform Mechanical Turk. While both populations of workers are primarily male and young, they vary substantially along other lines. Workers in the technology sector who find work on Amazon’s platform tend to benefit from having greater flexibility to choose what “gigs” they want to take up. However, while workers on the driving platforms have some flexibility to choose when they drive, they are constrained by local factors and the rides they are assigned by the platform. Technology workers are more likely to obtain lucrative jobs as independent contractors while workers on driving platforms are more likely to be disadvantaged economically (Forde et al., 2017).

Platform work is often divided into two types: “on-demand” and “crowdsourcing.” On-demand work occurs when a client calls for a worker, like an Uber driver, to arrive when the service is needed. Pricing for on-demand services is controlled by the app and neither the client nor the worker has the ability to choose each other. Crowdsourcing platforms, also referred to as

“marketplace” platforms, promote workers by listing individuals for hire and giving the client the ability to choose based on ratings or other information. Both types of platforms use similar technologies like ratings and review systems, and they both collect data about clients and workers to match them efficiently.

Platform work depends on the worker being classified as an independent contractor, excluding him or her from nearly all social safety nets (Acevedo, 2016; Carlo & Rosenblat, 2017; Cherry, 2016). In addition, platform work shifts labor and responsibility onto the worker when traditionally the firm or the employer would be responsible (Cherry & Aloisi, 2016). For example, Uber and Lyft drivers must insure their property when driving, while taxi companies had provided this service to their workers in the past. Employees bear a greater burden in keeping records of their work and expenditures for tax reporting. In addition, workers operating on digital platforms have to invest unpaid labor in advertising their services or cultivating a social media identity. This additional online work can be difficult for older workers who are less familiar with how to promote themselves online, and it can also disadvantage women who are more likely to be targets of online harassment (Duggan, 2017).

Attempts to estimate the prevalence of work in the gig economy have been inconsistent. Some estimates define the platform economy as having used any service mediated by an online platform including ride-sharing, accommodation sharing and rentals like AirBNB, short-term car rentals like Zipcar, and platforms like message boards that connect people looking for a service (Forde et al., 2018). Using a more limited definition that includes workers who work through an online intermediary, Katz and Krueger (2016) found that less than 1% of workers are involved in platform-based work. Estimates are difficult to make because the populations working on these platforms are highly transient (Forde et al., 2018; Huws, Spencer, Syrdal, & Holts, 2017).

In a comprehensive report on workers in the platform economy, Forde et al. (2018) examined worker attributes and divided them into three distinct groups: moderate beneficiaries, random surfers, and platform-dependent workers. Moderate beneficiaries are workers who have jobs outside the platform economy and use platform work as a source of additional income but do not rely on it. Random surfers are individuals with stable long-term employment who also participate in platform work. Ninety-five percent of random surfers have another job, compared to 76% of moderate beneficiaries. Platform dependent workers, about 2% of the sample, are the worst off economically and derive 70% or more of their income from platform work.

Critics have objected to the way in which digital platforms have framed platform work as part of the sharing economy or as a vehicle for entrepreneurship. They argue that these narratives are partially responsible for the ability of digital-platform companies to exploit workers in the gig economy (Calo & Rosenblat, 2017; Rosenblat, Levy, Barocas, & Hwang, 2017). These critics claim that the high profits of platform-based companies come primarily from the labor of underpaid workers. Through the narratives of social good and entrepreneurship, workers are being tricked into taking on a greater share of the liability of learning how to use and implement digital technologies. Workers are further disadvantaged because rating systems are often one way and only give clients the ability to see data about workers and not the opposite (Rosenblat et al., 2017; Ticona & Mateescu, 2018). Thus, workers have little agency in the work they take on and the clients they serve. Additionally, many platforms collect vast amounts of data and use algorithms to target workers that do not meet the platform's standards. These algorithms have been found to disproportionately target marginalized groups for additional scrutiny (Eubanks, 2018; Rosenblat & Stark, 2016; Rosenblat, 2018).

Gender Differences

A number of studies have found that bias against protected characteristics such as gender, race, and disability can negatively affect workers' employment and earnings.² This phenomenon is also known as “algorithmic discrimination” because of the ways in which automated technologies reinforce inequality (Rosenblat et al., 2017). Others argue that gender identity and sexual orientation are manipulated by different platforms in order to appeal to clients' gender-specific demands for workers (Schoenbaum, 2016).

Relatively more men than women are employed by platform-based companies as an additional source of income to supplement their day jobs; women tend to do platform work as their sole source of income (Forde et al., 2018; Ross et al., 2016). This observation is true in the United States and internationally. Because most research focuses on Uber and other driving platforms that hire mostly men, less attention is paid to how women fare in the platform economy. That said, the Internet does play a role in the employment of nannies, babysitters, and other domestic workers, and large online platforms have scaled these efforts considerably (Ticona & Mateescu, 2018). These platforms are similar to others in that they incentivize worker flexibility and responsiveness.

Platform work requires investing time to search for work, resulting in more unpaid working hours and potentially contributing to what is already a substantial gender differential in unpaid work (Berg, 2015). Moreover, gender pay gaps persist regardless of feedback scores, experience, occupational category, working hours, and educational attainment, which suggests that gender inequality is embedded in the operation of platforms (Renan Barzilay & Ben-David, 2017).

Women workers, who are disproportionately represented in low-wage work, may be further disadvantaged by the gig economy. Researchers are concerned that digital platforms

might further the decline in job quality for hourly workers in precarious jobs (Fudge & Owens, 2006). Platforms may attract women into low-wage work with the promise of flexibility that is lacking from hourly work. Yet platforms further marginalize women by classifying them as independent contractors and excluding them from Unemployment Insurance (Fudge, 2017). Even tech gigs offered through the Mechanical Turk platform have been pitched as supplemental income for married women who work from home in order to justify offering lower pay (Berg, 2015).

Platform Work for Domestic Workers

Digital platforms such as Care.com that provide a marketplace for domestic workers are criticized because they reinforce social mechanisms that keep workers invisible while also making them more susceptible to surveillance (Brown, 2011; Ticona & Mateescu, 2018). In the case of care work that is traditionally performed “off the books” by undocumented immigrants, digital platforms challenge this practice by increasing the visibility of workers to institutions such as the Internal Revenue Service. Services that provide the infrastructure for online payments and receipts are at odds with the informal economy. Digital platforms also encourage the client — through services that handle pay directly to the worker — to think of their household as a small business.

Critics are concerned about the ways in which digital platforms redefine employment relationships to help them to circumvent regulatory obligations (Calo & Rosenblat, 2017; Irani & Silberman, 2013; Gillespie, 2010; Sundarajan, 2016). Some research has found that although platforms like Care.com require the user to submit data on pay and documentation, workers complain that employers fail to comply with the rules. For example, pay rates in advertisements

on a particular platform were not adhered to on the platform's private messaging feature, and actual weekly wages often fell below the minimum wage (Ticona & Mateescu, 2018).

In developing countries where access to the Internet is more limited, platform work has been adapted to fit the capacity of local infrastructure (Ramalingam, Hernandez, Prieto Martin, & Faith, 2016). Even where people use mobile devices to connect to the Internet, smartphones are required to access platform work. Platform work is believed to exacerbate gender inequality because of the gender digital divide in the developing world (Hunt & Machingura, 2016). Additionally, platforms rely on formal bank accounts, which are less prominent in developing countries, especially in rural areas and the informal sector.

In a study of domestic work, Hunt and Machingura (2016) found that on-demand platform work often appeals to domestic workers, who are a traditionally marginalized and exploited group. Platform companies send the message that by joining the digital platform, workers could transform their own circumstances. Digital platforms are further promoted as providing flexible working arrangements, greater choice, and more opportunities for workers to set their own rates (Hunt & Machingura, 2016). The concern is that digital platforms, by classifying workers as independent contractors, can undo the legal protections that may cover workers. As a result, platform-based workers are not guaranteed minimum wage, overtime pay, and social security payments that most other workers are entitled to under national labor standards and social security provisions. Payment systems that categorize workers as independent contractors also formalize workers' tax liabilities, and many women coming from the informal economy may not know how to file tax returns (Hunt & Machingura, 2016). In order to avoid this cumbersome process, they may forego subsequent gigs. The authors of this paper also found that while the government perceived these platforms as employment agencies

that are required to follow employment laws, these platforms do not see themselves as having that role. They also found that workers did appreciate the ability to use the platform to keep records of the time they worked and the amount they were paid for each job.

Cultivating trust between users and workers is a concern for the developers of digital platforms like Uber and Lyft, but it is an even bigger issue for domestic work platforms. The intimacy of the services that domestic workers provide makes establishing trust extremely important (Ticona & Mateescu, 2018). Rating, ranking, and feedback systems allow companies to take user-supplied data in order to match clients and providers, assess the quality of services, and exclude problematic participants. However, care work systems do not allow workers to rate their interactions with clients (Ticona & Mateescu, 2018). Worker coops are considered a fairer way to organize low-wage workers such as domestic workers because they are self-governing and they set standards. Such coops could leverage platforms to further benefit the workers who participate (Scholz & Schneider, 2017).

A closely related issue with digital platforms and domestic work is developing and maintaining a sufficiently large customer base. For example, Homejoy, a domestic work platform in the United States, stopped operating in 2015 because it could not retain clients despite offering deeply discounted rates.³ The platform took a hefty commission from workers and clients who often resorted to offline arrangements to avoid this fee. The platform also had difficulty ensuring quality when offering deeply discounted services, because the platform had little leverage over workers who were independent contractors.

There is little consensus on how to design digital platforms in a way that does not reproduce bias and discriminatory practices. Levy and Barocas (2017) suggest that platforms struggle with implementing changes that might censor users or override user preferences if they

are biased. Unfortunately, biased users within these platforms can supply ratings and data that will influence future potentially unbiased users. Possible solutions to these deficiencies require the platforms to collect more data about biased users and their behavior, posing significant privacy issues. While most critics agree that platforms need to handle biased users differently, there is little agreement on how to do so most effectively.

Legislation Covering Domestic Workers in the United States

Historically, domestic workers in the United States have been excluded from major pieces of legislation to protect workers, including the 1935 Social Security Act (which gave workers the right to a pension and Unemployment Insurance), the 1935 National Labor Relations Act (which gave workers the right to organize into trade unions and bargain collectively), and the 1938 Fair Labor Standards Act (FLSA), which granted workers the right to a minimum wage and overtime pay for hours beyond a 40-hour work week. The FLSA originally excluded domestic service employees in private households, but after more than 30 years of increasing pressure from advocacy groups, Congress amended this legislation in 1974 to grant most domestic workers the right to earn the minimum wage and overtime pay, including undocumented immigrants. However, certain categories of domestic workers were exempted from the minimum wage and overtime regulations, including casual babysitters and workers who provided “companionship services” to the elderly and to individuals with disabled, sick, or injured individuals. Live-in domestic workers were also exempted from the right to overtime pay, although they were entitled to earn the federal minimum wage for all hours worked.

The U.S. Department of Labor (2018) further amended the FLSA in 2015 to expand coverage to more types of direct caregivers, including home health aides, personal care assistants, nursing aides, and other professional caregivers. Any domestic workers hired by

households through online platforms are considered direct employees of the household employer and are covered by the FLSA.⁴ Even if an agency provides a domestic worker, the household employer is responsible for ensuring that the worker is paid according to the terms of the FLSA. Also in 2015, the definition of “companionship services” was narrowed considerably in an effort to reduce the ability of employers to exempt their domestic workers. Moreover, the exemption of workers providing companionship services could no longer be taken by agencies, only by private individuals and households. Live-in domestic workers remained exempt from overtime regulations. Domestic workers would also have been affected by a proposed amendment introduced in Congress in 2016 to prevent wage theft and to increase employer liability in lawsuits filed by workers to recover stolen wages (the “Wage Theft Prevention and Wage Recovery Act”), but the legislation did not move past the committee stage.

Domestic Workers in New Jersey: Summary Statistics

This study continues with an examination of trends in the number of domestic workers, their demographic composition, and trends in their hourly wages in New Jersey and nationally. This analysis is based on U.S. labor force survey data from the Current Population Survey (CPS) Merged Outgoing Rotation Group from 2003 to 2017 (Bureau of Labor Statistics, various years; Flood, King, Rodgers, Ruggles, & Warren, 2018).⁵ This subsample of the CPS is restricted to adults who are engaged in paid employment and were interviewed in the fourth and eighth months of the CPS survey rotation. This study’s employment sample retains all workers ages 18 and above, and compares individuals who are employed in private households (labeled “Domestic Workers” with all other workers who are employed outside of households (labeled “Non-Domestic Workers”). Domestic workers are further divided into five categories: housecleaners, nannies, home-based daycare providers, non-agency-based home health aides,

and agency-based home health aides.⁶ This definition of domestic workers is somewhat broader than that in other studies such as Burnham and Theodore (2012) and the International Labor Organization (2018) that examine only workers employed directly by private households. That said, this study's estimates are still likely to underestimate the true number of domestic workers given the inherent difficulties in the CPS in surveying domestic workers, especially undocumented immigrants. The authors of this study use both a national sample and a sample restricted to the state of New Jersey.

The wage sample is further restricted to all employed individuals with positive reported hourly wages or weekly earnings. Home-based daycare providers are excluded from the wage sample because they are self-employed and do not report hourly wages or weekly earnings. Similar to the precedent set by Shierholz (2013) an hourly wage measure is constructed by taking weekly earnings, which includes overtime and tips, and dividing it by usual hours worked per week. If this measure is less than a respondent's reported hourly wage, then their reported hourly wage is used.⁷ Finally, the hourly wage measure is deflated by the annual Consumer Price Index for all Urban Consumers (CPI-U) to construct real wages with base year 2003. As with the employment sample, both a national wage sample and a wage sample restricted to the state of New Jersey are used. All results are weighted to population totals using the CPS sampling weights.

As shown in Figure 1, in 2017, New Jersey employed close to 60,000 domestic workers, up from about 40,000 workers in 2003. The largest category of domestic workers in New Jersey is home health aides hired through an agency, followed by home-based daycare providers. The dominance of agency-based health aides has actually increased over time: in 2017, home health aides (agency based) constituted approximately 60% of all New Jersey domestic workers, up

from 30% in 2003. In contrast, the proportion of domestic workers who are housecleaners has fallen sharply over time. The total number of domestic workers exhibits some fluctuation over the period, but this is likely due to a relatively small sample size.

[Insert Figure 1 About Here]

At the national level, the absolute number of domestic workers has risen steadily, from 1.7 million in 2003 to over 2.3 million by 2015, with a small dip thereafter. Growth in the number of home health aides, especially those who are employed by an agency, accounts for all of this increase. In fact, both the share and the absolute number of nannies, housecleaners, and home-based daycare providers have fallen over time. By 2017, agency-based home health aides comprised 61% of all domestic workers, up from just 35% in 2003. In contrast, the proportion of domestic workers who are housecleaners and home-based daycare providers both dropped from about one quarter to 10% to 13% percent during the period.

Domestic work in New Jersey and nationally is predominantly a female occupation. As shown in Table 1, 97% of domestic workers are women, which is more than double the percent female among non-domestic workers in New Jersey. The share of domestic workers who are immigrants is also far higher than other kinds of workers in the state: over half of all domestic workers are immigrants, including both naturalized and not naturalized, compared to about one quarter of other kinds of workers in New Jersey. Housecleaners stand out for their extremely high representation of immigrant workers: over 90% of housecleaners in the state are immigrants, which is far higher than nannies, home daycare providers, and health aides. New Jersey's domestic workers are also predominantly non-white: 59% of domestic workers are black, Hispanic, or Asian. Compared to the national averages shown in Panel B, New Jersey has proportionately more domestic workers who are women, immigrants, and non-white.

[Insert Table 1 About Here]

At the national level, 92% of all domestic workers were women in 2015-2017. Moreover, each of the sub-categories of domestic workers are highly female dominated, ranging from 88% female for non-agency home health aides to 98% for nannies and home-based daycare providers. These female representations are also considerably higher than the global average of 70% female among domestic workers (International Labor Organization, 2018). In the United States, about one third of domestic workers are immigrants, either naturalized or not naturalized. This share is higher than the global average. Another interesting pattern in Table 1 is the relatively high proportion of immigrants (both naturalized U.S. citizens and non-naturalized immigrants) among domestic workers compared to non-domestic workers. Non-naturalized immigrants have a particularly high representation among housecleaners (53%) relative to the other job categories (18% or less) in recent years. Cleaning work is generally the least valued and most invisible type of work, and it is this category that draws proportionately more immigrants who are not naturalized.

New Jersey's domestic workers earn substantially less than other paid employees. As shown in Figure 2, real hourly wages for domestic workers are roughly two to three dollars per hour lower than non-domestic workers. Note that even with the three-year period averages (which were calculated in order to report smoothed hourly wage trends), hourly wages for domestic workers still show relatively more instability compared to non-domestic workers. On average, most hourly wage workers have seen no increase in take-home pay since 2003-2005. Only nannies and non-agency-based health aides are slightly ahead by 2015-2017 in terms of their real wages compared to the beginning of the period. Conclusions for real wages at the national level are similar as those for New Jersey.

[Insert Figure 2 About Here]

Interview Results: Platforms that Work for Domestic Workers

To examine the importance of the gig economy and the use of Internet-based technology to hire care workers, the study conducted interviews with the leaders of two organizations that have worked to develop digital platforms for organizing domestic workers. Up & Go (a worker coop for housecleaning and maid services in New York City) and Carina (a partnership between Washington State and Service Employees International Union 775 for caregivers) are examples of worker-centered digital platforms that aim to help domestic workers. The authors of this paper interviewed representatives from each of these two platforms as well as a representative from a New Jersey nonprofit organization to provide information about the intersection of platform work and domestic workers.⁸

Up & Go (UpandGo.coop) is referred to as a second generation coop by many of its stakeholders because the platform does not merely match housecleaners with potential clients, it also provides services that support the scaling up and development of new coops. Funding and support for developing the platform came from a local nonprofit targeting coops, a philanthropic organization, and the municipal budget. After a long period of user testing with their coop members, Up & Go released the platform for cleaning coops to join. Up & Go was developed by the Center for Family Life in Brooklyn, New York in order to further its mission of growing more opportunities for low-income workers in the community.

Carina (CarinaCare.com) is a platform that connects home healthcare workers represented by the Service Employees International Union with potential clients who are utilizing Medicare or Medicaid to pay for services. Either the homecare worker or the potential client can use the platform to place an advertisement and can utilize the platform's secure chat

function to set up a meeting. A state caseworker is also involved in the matching process to ensure that both parties are eligible to provide or receive care. The platform was tested first in the Seattle area and recently opened to the whole of Washington State.

Workers were vocal partners in how the platform was developed. In response to workers' concerns about privacy, Up & Go decided against allowing potential clients to view workers' profiles while Carina opted for abbreviated profiles focused only on care-related skills and experiences. Both approaches are consistent with findings in Ticona and Mateescu (2018) that workers relying on Care.com needed to invest unpaid time and labor cultivating their profile to attract potential clients. While workers at Carina are responsible for ensuring that their profile is up-to-date, they do not have the ability to customize their profile, thus reducing the potential for competition and bias. Carina will even reach out periodically to workers and ensure that providers are still looking for work.

These worker-centered platforms deal with establishing trust in a much different way than large private platforms. Large, more traditional platforms rely on recruiting an oversupply of workers to the site, forcing workers to compete against each other for clients. This system leads to an influx of workers but little quality control or consistency in work standards. To address this quality issue, large platforms use rating systems and algorithms to filter out workers who do not measure up. In contrast, Up & Go establishes trust through early human interaction when contacting clients by allowing users to take the conversation offline. Up & Go also emphasizes on its website the objective that all workers be part-owners and make a living wage. Carina only matches clients with unionized workers who are vetted and trained through the state system. Funding for this training is provided by the state because it has a vested interest in saving money by reducing employee turnover. A state caseworker ensures that the match is appropriate.

It is unclear how many of New Jersey's domestic workers utilize some kind of platform to obtain work, but worker groups say that traditional platforms complicate potential legal recourse when workers encounter offline issues like wage theft and harassment. One worker advocate said that domestic workers are frequently "blacklisted" from platforms if they make complaints about unpaid wages or poor working conditions. Domestic workers are often burdened with the responsibility of trying to get reinstated on the sites so that they can continue to access new opportunities. One respondent said that domestic workers do not have the time or ability to protest their conditions.

"Many of our clients find their work through Internet platforms and we have unscrupulous employers, and bad practices are widespread...it increases the complexity of their legal case which might be a barrier."

Worker advocacy groups also say that domestic workers cannot turn to platforms to help them with issues of fraud or unpaid hours. Mirroring findings from platform research, worker advocates suggest that platforms collect a great deal of data on workers but fail to assist workers when clients do not hold up their part of the bargain. For example, platforms can obscure the identity of "bad actors" who may then simply create a new profile and continue with unfair labor practices. This ability to create new profiles increases the complexity of filing a claim with the state or appearing in court.

Some platforms intentionally bypass labor standards and redefine labor standards to meet their needs. The imprecise count of workers employed by many platforms is partially due to firms intentionally obscuring categories of workers as entrepreneurs in order to skirt labor laws and regulations. This approach is slightly different for platforms that specifically recruit domestic workers because these workers have traditionally been classified as independent

contractors or employed through an agency. However, platforms that target domestic workers recast cleaning and maintenance work as side work for supplemental income. They also target younger workers and college students promoting intermittent cleaning work as entrepreneurial. These younger workers are less likely to see themselves as a “domestic worker” than the immigrant female workers who have traditionally taken on this kind of work. In fact, one respondent from Up & Go suggested that the big platforms are not interested in the more traditional kinds of domestic workers who form the core membership of coops.

“We’ve asked coop members if they’ve heard of some of the platforms and they hadn’t even heard of them. They might not have had the capacity to download or navigate the app. I think the biggest barrier is a language barrier...and the app is entirely in English... the folks we serve are just not served by these apps.”

Similar to the findings in other research on domestic workers, both Up & Go’s and Carina’s workers are less comfortable with technology and email than the target audience of other platforms (Hunt & Machingura, 2016). Large platforms place the burden on workers to learn how to utilize the technology effectively.

In contrast, worker-centered platforms focus on understanding and mitigating these barriers to accessing their platforms. To make sure that the platforms are appropriate for their target populations, both Up & Go and Carina perform continuous user testing. They refine the design of their platforms not only to benefit their workers economically, but also to ensure that workers can utilize them. Up & Go does not require workers to engage in complicated interactions online, and it allows for the coop to use its preferred type of communication once the interaction is established. Carina has found that their workers, who they refer to as providers, are over 45 and less likely to be accustomed to the design of app-based platforms. Carina clients are

often elderly or disabled and may struggle to navigate the interface. Therefore, Carina has invested substantial resources to ensure that their platform is not overly cumbersome while at the same time protecting the sensitive medical information of its clients.

In the discourse on digital-platform work, there are concerns that big platforms promote themselves as working toward the social good through the sharing economy, while at the same time they erode worker protections (Scholz & Schneider, 2017; van Doorn, 2017). Some warn that, while the platforms developed by Carina and Up & Go might seem like a universal solution for marginalized workers (in what is referred to as platform corporatism), interventions need to be carefully rooted in local communities and specific contexts (Silberman & Metall, 2009; Scholz & Schneider, 2017; van Doorn, 2017). This study's interview respondents believe that their platform solutions are successful for workers because the platforms are rooted in the values of the unions and coops that developed them. These organizations are deeply connected to the experiences of the workers that they represent and are committed to developing solutions that are accessible.

The representatives interviewed for this study emphasized that successful partnerships between government agencies and community organizations were essential for making their platforms successful. They relied on state and local institutions for tasks such as worker verification through a state data sharing agreement, and for the funding for platform development. Up & Go used foundation and municipal funding to perform feasibility studies and to engage in user testing of the platform. A representative from Carina emphasized the importance of these relationships because they ensured the platform was integrated into existing state and local structures rather than reinventing them.

“The union and the state are both aligned in their interest in keeping workers working in their jobs, which helps clients get care, not get institutionalized, and aligns with their preference. This is a cost savings for the state and for the union. It helps stabilize their membership.”

In the case of Up & Go, New York City’s interest in the platform was to grow the number of coops, while in the case of Carina, Washington State was looking to save money on turnover and training of home health workers. Washington State also benefited from the platform’s data, which can be used to address gaps in access to providers. In this way, government partners perceived their role as long-term investors, and they were active stakeholders in advancing the economic standing of domestic workers in the local economy.

New Jersey Household Employers of Domestic Workers

To better understand the extent to which households rely on domestic workers, the authors of this study used regression analysis of data on household employers collected through a survey of New Jersey residents through the Eagleton Center for Public Interest Polling at Rutgers, The State University of New Jersey.⁹ These data include information on whether or not a household hired a domestic worker and if so, how often the person worked in their home, whether or not the employer was aware of labor law legislation covering these workers, and the extent to which workers had allowances for room and board deducted from their pay (see Appendix Table 1). Logit analysis was used to examine how responses to these questions vary by employer characteristics, including race/ethnicity, whether or not they hired the worker through an agency, gender, and income.

The Rutgers-Eagleton Poll was conducted by telephone using live callers October 12 to 19, 2018, with a scientifically selected random sample of 1,006 New Jersey adults, ages 18 and

older. Of this total sample, a subsample of 353 New Jersey adults have hired a maid, housekeeper, nanny, caretaker, home health aide, or similar type of domestic worker to regularly perform household services in their home. Persons without a telephone could not be included in the random selection process. Respondents within a household were selected by asking randomly for the youngest adult male or female currently available. The poll was available in Spanish for respondents who requested it. This telephone poll included 451 adults reached on a landline phone and 555 adults reached on a cell phone, all acquired through random digit dialing.

The data were weighted to be representative of New Jersey adults. The weighting balanced sample demographics to population parameters. The sample is balanced to match parameters for sex, age, education, race/ethnicity, region, and phone use. All surveys are subject to sampling error, which is the expected probable difference between interviewing everyone in a population versus a scientific sampling drawn from that population. Sampling error should be adjusted to recognize the effect of weighting the data to better match the population. In this poll, the simple sampling error for 1,006 New Jersey adults is +/-3.1 percentage points at a 95% confidence interval. The design effect is 1.36, making the adjusted margin of error +/- 3.6 percentage points. Thus, if 50% of New Jersey adults in this sample responded that they have hired a domestic worker, we would be 95% sure that the true figure is between 46.4% and 53.6% (50 +/- 3.6) if all New Jersey adults had been interviewed, rather than just a sample. Within the subsample of 353 adults who have hired a domestic worker, the simple sampling error is +/-5.2 percentage points at a 95% confidence interval. The design effect is 1.38, making the adjusted margin of error +/- 6.1 percentage points. Thus, if 50% of New Jersey adults in this subsample said they were familiar with the FLSA, we would be 95% sure that the true figure is between

43.9% and 56.1% (50 +/- 6.1) if all New Jersey adults who have hired a domestic worker had been interviewed, rather than just a sample.

As shown in Table 2, results from the poll indicate that 31% of New Jersey households have hired some type of a domestic worker to regularly perform household services. Also of note, of the households that had hired a domestic worker, they were almost twice as likely to have hired someone directly rather than through an agency. The frequency with which domestic workers perform services in the home varies substantially: 44% of households use a domestic worker at least once a week, while the rest rely on the services of domestic workers just a few times a month or even less often. A rather small percent of households (29%) gave their domestic worker a scheduled break, although in the majority of cases the respondents said that the person did not work enough hours to warrant a break. That said, fewer than half of households (46%) were unfamiliar with the FLSA. This lack of familiarity could help to explain why their workers did not get breaks and why only 37% of respondents replied that their domestic workers were covered by the FLSA. Few households (8% of households that had hired a domestic worker) relied on live-in domestic workers, and of those who did, most said that they did not deduct lodging and food from their worker's pay.

[Insert Table 2 About Here]

These data are used to conduct a logistic regression analysis of how the odds of hiring a domestic worker and observing the relevant labor standards vary by demographic characteristics of the household employer. The determinants of the hiring decision are expressed as follows:

$$DW_i = a + \beta_1 Male_i + \beta_2 White_i + \beta_3 Wealthy_i + \vartheta_i \quad \text{--- (1)}$$

where the subscript i denotes a household respondent. The dependent variable DW_i represents whether or not a household i has ever hired a domestic worker. The independent variables are

whether or not the household respondent is male, white, and wealthy (earns \$100,000 or more). Finally, ϑ_i is an individual-specific idiosyncratic error term. Additional models are estimated for the determinants of whether the household hired the domestic worker directly (where the alternative is having hired the domestic worker through an agency), whether or not the domestic worker provided services in the household at least once a week, whether or not the domestic worker lives in the home with the employer, whether or not the household employer is aware of the FLSA, and whether or not the domestic worker was indeed covered by the FLSA.

Regression results, reported as odds ratios, are found in Table 3. As a rule of thumb, the odds ratio allows the researcher to determine how the likelihood of an event changes as a particular variable or condition changes. When the odds ratio equals 1, then the likelihood of the event occurring does not change. When the odds ratio is greater than 1, then the likelihood of the event happening increases, and when the odds ratio is less than 1, then the likelihood of the event happening decreases. Odds ratios are always positive numbers. So for any of the variables shown in the first column of Table 3, if the odds ratio equals 1, then the likelihood of a household having hired a domestic worker does not change as a result of a change in that variable. When the odds ratio is greater than 1, a household is more likely to have hired a domestic worker as a result of a change in that particular variable, and when the odds ratio is less than 1, a household's likelihood of having hired a domestic worker is reduced.

[Insert Table 3 About Here]

Results indicate that higher-income households were more likely to have hired a domestic worker than lower-income respondents, while gender and race of the respondent are not statistically significant. Wealthier households have almost three times the odds of hiring a domestic worker compared to less wealthy households. A similar conclusion applies to the

decision to hire a domestic worker directly rather than through an agency: wealthier households are almost twice as likely compared to less wealthy households to hire a domestic worker directly instead of using an agency. Interestingly, race and gender do matter in the frequency with which households rely on the services of domestic workers while income does not. Men had almost three times greater odds than women of using the services of a domestic worker at least once a week, while white respondents had about half the odds of using a domestic worker on a frequent basis. Interestingly, gender, race, and income are not associated with having a live-in domestic worker, nor do these characteristics help to explain whether or not a household employer is aware of the FLSA or acknowledges that their domestic worker is covered by the minimum standards set by the FLSA. What does matter for whether or not a domestic worker is covered by the FLSA is whether or not the employer hired them directly or through an agency. Household employers who hired their domestic worker directly instead of going through an agency had about half the odds of acknowledging that their domestic worker is covered by the FLSA. The result suggests that policy efforts need to focus on education and outreach efforts that target household employers who hire domestic workers through informal channels and through online platforms.

Conclusion

Reflecting the changing demographic composition of New Jersey's population and the increasing need for people to care for the elderly and individuals with disabilities, the number of domestic workers in the state has increased by almost 50% since 2003, and the majority of those workers are home health aides. In fact, the number of home health aides has surpassed housekeepers and childcare providers among domestic workers in New Jersey. However, the low value assigned to care work and lack of labor law protections may prove to be a large obstacle to

finding sufficient care workers in the future to meet this demand. Evidence presented in this study shows that domestic workers earn substantially less than individuals who work in occupations outside of private households, and domestic workers have seen virtually no increase in their real wages since 2003. Moreover, domestic workers in New Jersey are predominantly women, immigrants, and non-whites, even more so than the national average. Given the nature of the services provided by domestic workers and the lack of strong regulatory enforcement, domestic workers in New Jersey remain highly vulnerable to pay gaps and labor standards violations along gender, nativity, and racial lines.

Interviews conducted for this study with representatives from worker-centered platforms indicate that large private platforms that match domestic workers with household employers either ignore the older, immigrant workforce organized by unions or coops, or further alienate them. However, worker-centered platforms that are buttressed by strong nonprofit groups can work with state and local governments to develop feasible alternatives. These platforms can meet the needs of worker organizations, governments, and community organizations while leveraging existing systems. While both Up & Go and Carina are relatively new, they are important pilots that demonstrate how technologies can be designed to help workers flourish in the digital age. This research suggests that these worker-centered platforms have succeeded in promoting well-being because they are consistent with core values of worker coops and unions, they promote compliance with labor standards, and they partner with government agencies and community organizations for funding and key services.

Household survey evidence presented in this paper for New Jersey indicates that hiring domestic workers is fairly common in New Jersey, although live-in arrangements are more the exception than the rule. Despite the prevalence of domestic workers visiting homes to perform

domestic services, the majority of employers who hire them are unfamiliar with the labor laws that govern domestic workers' hours and wages. This helps to explain why wage theft is such a problem among domestic workers. Regression results indicate that wealthier households are more likely to employ domestic workers in New Jersey and they are more likely to hire domestic workers directly rather than through an agency. These direct channels include both informal networks as well as online platforms. However, household employers who hire domestic workers directly have half the odds (compared to employers who used an agency) of acknowledging that their workers are covered by the minimum wage and overtime regulations of the FLSA. Policy options to address this problem include better education and outreach efforts to inform households of the laws covering domestic workers, legislation designed specifically to prevent wage theft and increase employer liability in wage recovery lawsuits, a domestic worker bill of rights as passed in eight other states, and government support for worker-centered platforms that meet the needs of New Jersey's domestic workers and the households they serve.

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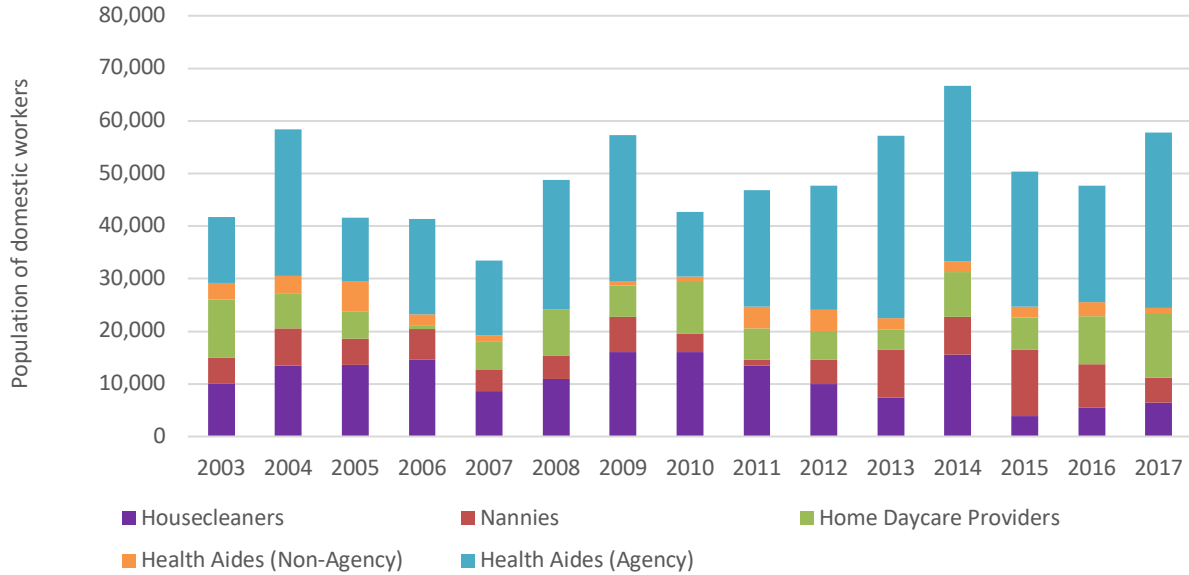
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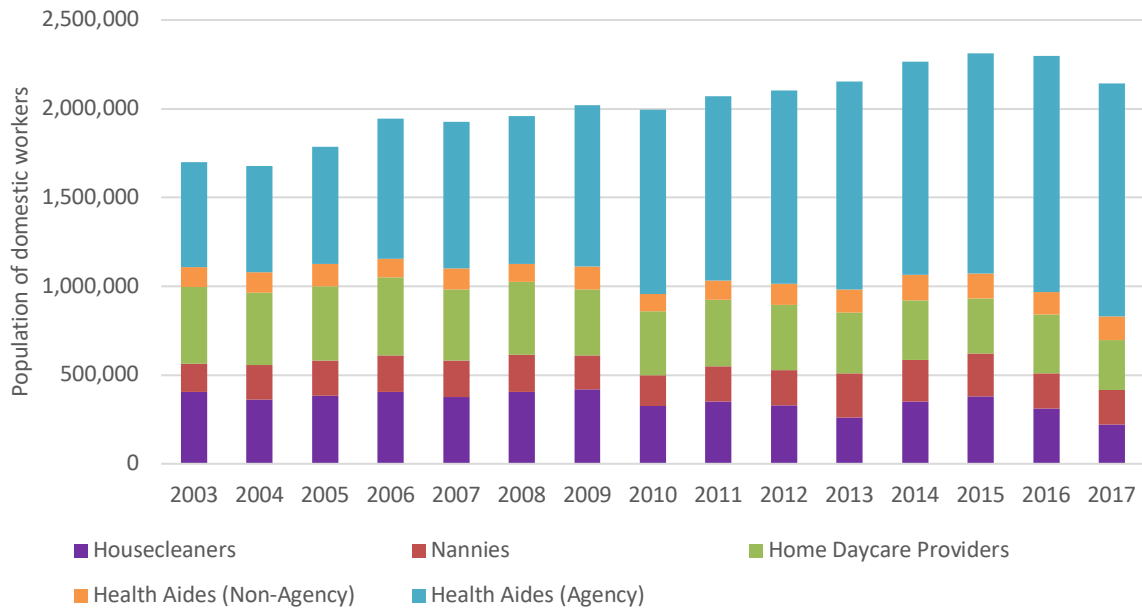
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Figure 1. Number of Domestic Workers in New Jersey and the United States by Category, 2003-2017

Panel A: New Jersey



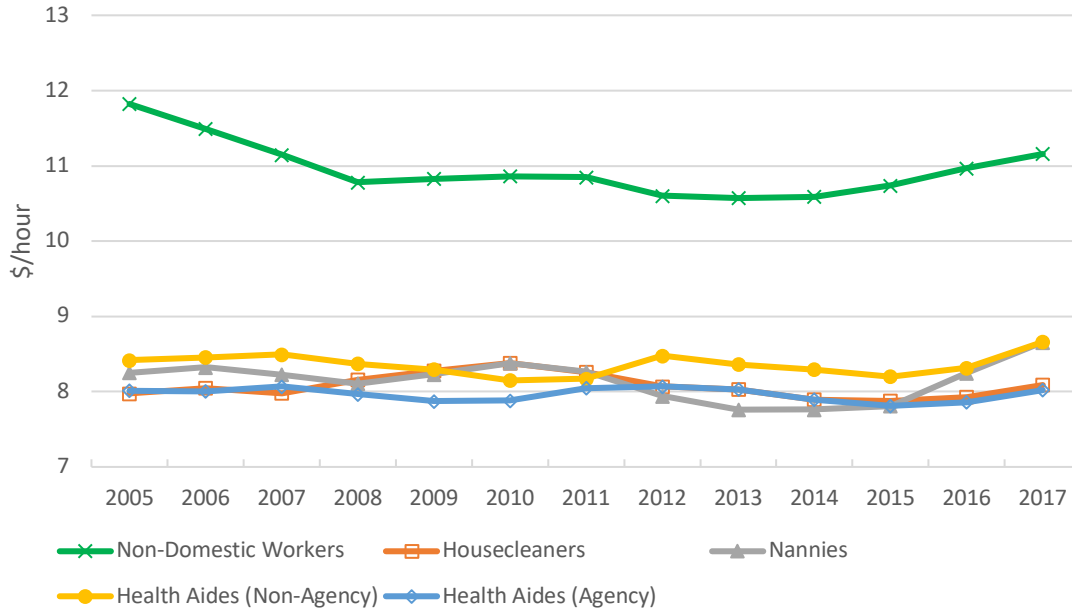
Panel B: United States Total



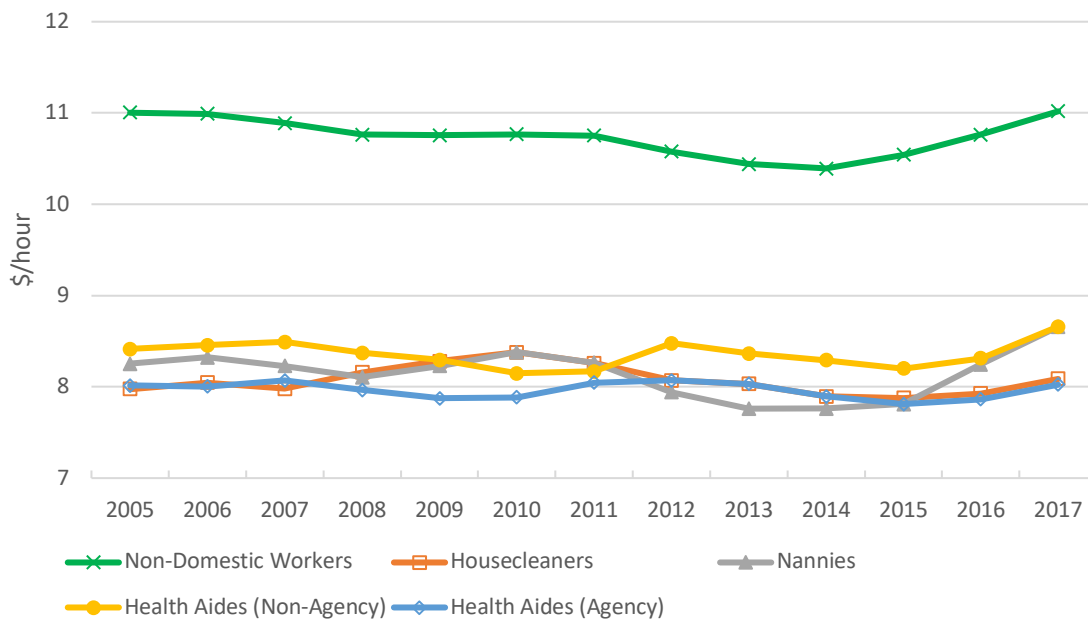
Source: Constructed using Current Population Survey Outgoing Rotation Group microdata for 2003-2017.

Figure 2. Median Real Hourly Wages, 2003-2005 through 2015-2017, New Jersey and United States

Panel A: Real Hourly Wages in New Jersey



Panel B: Real Hourly Wages in the United States



Note: Each data point represents the median hourly wage of three years of pooled microdata from the CPS (so 2005 is constructed with 2003-2005 data, 2006 is constructed with 2004-2006 data, and so on). Real wages deflated using the annual CPI-U with base year 2003. Wage data unavailable for home daycare providers.

Table 1. Domestic Workers in New Jersey and the United States Overall by Gender, Citizenship Status, and Race, 2015-2017 (in percent)

	Non-Domestic Workers	Domestic Workers	House-cleaners	Nannies	Home Daycare Providers	Health Aides (Non-Agency)	Health Aides (Agency)
Panel A: New Jersey, 2015-2017							
Gender							
Women	45.7	97.2	100.0	100.0	100.0	100.0	94.7
Men	54.3	2.8	0.0	0.0	0.0	0.0	5.3
Nativity							
U.S. born	72.1	47.8	6.0	46.5	66.9	63.8	48.7
U.S. naturalized	15.8	24.6	31.6	17.8	19.8	16.6	27.6
Immigrant not naturalized	12.1	27.6	62.4	35.7	13.2	19.6	23.7
Race/ethnicity							
White	59.7	40.6	41.4	71.6	31.8	80.4	30.8
Black	12.0	23.6	0.0	4.6	14.9	0.0	38.8
Hispanic	17.7	33.1	52.1	19.2	49.3	19.6	29.2
Asian	9.8	2.8	6.5	4.7	4.0	0.0	1.2
Other	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Panel B: United States Average, 2015-2017							
Gender							
Women	46.1	91.9	95.5	98.0	98.4	87.9	88.9
Men	53.9	8.1	4.5	2.0	1.6	12.1	11.1
Nativity							
U.S. born	83.1	66.7	31.7	74.7	73.9	68.4	71.8
U.S. naturalized	8.1	13.5	15.5	7.7	11.3	13.5	14.4
Immigrant not naturalized	8.8	19.8	52.8	17.6	14.9	18.1	13.8
Race/ethnicity							
White	64.3	44.4	28.4	69.0	56.7	50.0	40.7
Black	11.1	20.9	5.1	4.7	12.2	16.9	29.7
Hispanic	16.5	26.0	62.4	20.2	25.8	19.0	19.2
Asian	5.9	6.2	2.9	2.6	3.2	9.9	8.0
Other	2.3	2.5	1.2	3.6	2.1	4.3	2.5

Source: Constructed using Current Population Survey Outgoing Rotation Group pooled microdata for 2015-2017.

Table 2. Eagleton Poll of New Jersey Households: Sample Means (in percent)

Variables	Mean	Standard Deviation	# Respondents
Responses			
Respondent has hired a domestic worker	31.3	(46.4)	998
Respondent hired domestic worker directly (alternative: through agency)	63.8	(48.1)	337
Worker provided services at least once/week in respondent's home	44.0	(49.7)	352
Respondent allowed domestic worker to take a scheduled break	28.7	(45.3)	219
Respondent is familiar with the FLSA	45.9	(49.9)	353
Respondent's domestic worker was covered by FLSA	36.7	(48.3)	348
Domestic worker lives in respondent's home	8.4	(27.8)	352
Respondent deducted cost of lodging from wages	10.6	(31.3)	32
Respondent deducted cost of food from wages	6.7	(25.4)	32
Respondent Characteristics			
Male	48.8	(50.0)	1,006
White	60.0	(49.0)	984
Income >=\$100,000	36.6	(48.2)	828

Source: Estimated by authors using Eagleton Center for Public Interest Polling data of New Jersey households.

Table 3. Logistic Regression Results: Household Employer Decisions on Domestic Work

	Hired a Domestic Worker	Hired Domestic Worker Directly	Domestic Worker Worked 1/week+	Domestic Worker Lives in
Respondent is male	0.785 (0.138)	1.363 (0.406)	2.713*** (0.824)	0.915 (0.434)
Respondent is white	1.337 (0.262)	0.792 (0.274)	0.444** (0.150)	1.699 (1.009)
Respondent earns \$100k+	2.742*** (0.484)	1.861** (0.554)	0.722 (0.211)	0.540 (0.269)
Constant	0.287*** (0.059)	1.498 (0.518)	0.944 (0.323)	0.069*** (0.048)
# obs	816	282	292	293

	<i>Aware of FLSA</i>	<i>DW Covered</i>
Respondent is male	1.548 (0.438)	0.957 (0.275)
Respondent is white	0.927 (0.311)	1.324 (0.454)
Respondent earns \$100k+	1.061 (0.306)	1.055 (0.315)
Respondent hired DW directly	1.340 (0.408)	0.478** (0.147)
Constant	0.659 (0.256)	0.806 (0.317)
# obs	282	280

Note: All estimates are odds ratios, with standard errors in parentheses. The notation *** is $p < 0.01$, ** is $p < 0.05$, * is $p < 0.10$. Observations are at the level of the household.

Source: Authors' estimations using Eagleton Poll data.

Appendix Table 1. Eagleton Poll Survey Questionnaire

1. Have you or someone in your household ever hired a maid, housekeeper, nanny, caretaker, home health aide, or similar type of domestic worker to regularly perform household services in your home?
2. As for domestic worker who has most recently worked — or is currently working — in your home, did you hire this domestic worker directly or through an agency?
3. Did this person perform domestic services at your home every day, a few times a week, once a week, a few times a month, once a month, or less often than that? Or has it been so long ago that you can't recall?
4. Thinking about this same domestic worker, did you typically arrange for them to take a scheduled break during the workday, or not? Or did they not work long enough to need a scheduled break?
5. How familiar are you with the federal law known as the Fair Labor Standards Act? Very familiar, somewhat familiar, not very familiar, or not familiar at all?
6. Thinking again about this same domestic worker, and to the best of your knowledge, was your domestic worker covered by the Fair Labor Standards Act, or not?
7. Have you ever had a domestic worker living in your home?
8. Thinking about the domestic worker who has most recently lived with you, did you deduct the cost of each of the following from your domestic worker's pay: Lodging? Food?

Endnotes

¹ These states include New York (2010), Hawaii (2013), California (2014), Massachusetts (2015), Oregon (2016), Connecticut (2017), Illinois (2017), and Nevada (2018).

² See for example Levy and Barocas (2017), Rosenblat et al. (2017), Irani and Silberman (2013), Ticona and Mateescu (2018), and Ticona, Mateescu, and Rosenblat (2018).

³ See <https://www.wired.com/2015/10/why-homejoy-failed/>.

⁴ A helpful guide on regulations covering homecare workers is found at https://www.dol.gov/whd/homecare/homecare_guide.pdf.

⁵ The period of analysis starts with 2003 because occupation and industry codes changed substantially in 2003, causing a discrete break in the coding of the detailed domestic worker categories.

⁶ Using the definitions in Shierholz (2013), housecleaners are coded as occ="maids and housekeeping cleaners" and ind="private household"; nannies are occ="childcare workers" and ind=("private household" or "employment services"); home-based daycare providers are occ="childcare workers" and ind="child daycare services" and emp status="self-employed, not incorporated"; non-agency-based home health aides are (occ="nursing, psychiatric, and home health aides" and ind="private household"), or (occ="personal care aides" and ind=("private household industry" or "employment services")); and agency-based home health aides are

(occ="nursing, psychiatric, and home health aides" and (ind="home healthcare services" or "individual and family services), or (occ="personal care aides" and ind=("home healthcare services" or "individual and family services"))).

⁷ To deal with outliers and top and bottom coding in the earnings sample, workers were dropped if their constructed hourly wage was less than 2, and workers whose weekly earnings and/or usual hours worked were NIU (Not In Universe) were also dropped. Also dropped was an outlier with a constructed hourly wage that exceeded \$2,000. Finally, weekly earnings at the top code (\$2,884.61) were multiplied by a factor of 1.4.

⁸ The interviews were approved by the Rutgers University Institutional Review Board and included the provision that interview subjects would remain anonymous (Protocol # 2018001923).

⁹ Dr. Ashley Koning, assistant research professor and director of the Eagleton Center for Public Interest Polling at Rutgers University, and Dr. Cliff Zukin, Professor Emeritus of Political Science and Public Policy and Senior Survey Advisor to the Eagleton Center for Public Interest Polling, prepared the survey questionnaire and performed analysis of the results in consultation with the co-authors. William Young assisted with analysis and preparation of results.