RUTGERS
School of Management
and Labor Relations

Institute for the Study of Employee Ownership and Profit Sharing

WORKING PAPER SERIES
FEBRUARY 2022
WORKING PAPER 1

Gender- and Race-Based Inequalities in Democratic Worker-Owned Firms: Evidence from the First National Survey of the Sector

Sarah Reibstein and Laura Hanson Schlachter

We're grateful to Melissa Hoover, Tim Palmer, Ana Martina Rivas, and colleagues at the Democracy at Work Institute and U.S. Federation of Worker Cooperatives for the opportunity to collaborate on data collection for this project. We thank Joan Meyers, Joseph Blasi, Edward Carberry, Adria Scharf, and Douglas Kruse for helpful comments on this paper. Kristinn Már was a thoughtful sounding board for analytical questions. An early version of the paper was presented at the 2019 Beyster Symposium. We also appreciate the invitation to present at the 2020 Annual Meeting of the American Sociological Association, panel of the Section on Organizations, Occupations, and Work, even though participating in the session was not possible due to Covid disruptions. We appreciate the helpful feedback by both discussants on the paper and participants in the conferences. The remaining errors are ours.

Gender- and Race-Based Inequalities in Democratic Worker-Owned Firms: Evidence from the First National Survey of the Sector
Sarah Reibstein and Laura Hanson Schlachter
Institute for the Study of Employee Ownership and Profit Sharing Working Paper No. 1

ABSTRACT

Worker cooperative practitioners and developers often claim that democratic worker ownership advances egalitarianism within and beyond the workplace, but most of the empirical evidence in the U.S. is based on ethnographic case studies or small-scale surveys. We leverage the first national survey about individuals' experiences in these unique firms to ask if claims that co-ops mitigate gendered and racial inequality generalize to the broader sector. Our findings are consistent with previous studies in suggesting that cooperatives can empower women and people of color, but in some ways may continue to reproduce broader processes of social stratification. In particular, we document a sector-wide gender wage gap reflecting widespread occupational segregation. We also find that while the sector is quite diverse, White men continue to own a disproportionate amount of cooperative capital. Non-material indicators of workplace autonomy and governance participation governance appear to be determined largely by workers' positions within their firms and indirectly related to identity.

Sarah Reibstein
Princeton University
Department of Sociology
106 Wallace Hall
Princeton, NJ 08544
sjr2@princeton.edu

Laura Hanson Schlachter
University of Wisconsin Center for Cooperatives
Taylor Hall
427 Lorch Street
Madison, WI 53706
lhanson4@wisc.edu

INTRODUCTION

Worker cooperatives – firms owned and democratically governed by workers – have captured the imagination of policymakers, philanthropists, and academics (Gordon Nembhard 2014a; ILO 2014; Jones Austin 2014; Schlachter and Prushinskaya 2021) seeking to address persistent gendered and racial inequalities in U.S. workplaces and labor market processes (Castilla 2005; Cohen 2013; McGuire 2002; Ortiz and Roscigno 2009; Reskin and Padavic 2006). From a theoretical standpoint, there are many reasons to believe that autonomy, ownership, and democratic control would benefit workers from historically marginalized groups. Yet systematic evidence for the claim that worker cooperatives level the playing field for women and people of color is remarkably thin. We address this empirical gap by leveraging the first robust national survey about the workplace experiences of individuals in democratic worker-owned firms to ask if these claims generalize to the broader sector.

We focus on key measures of material and non-material power in democratic firms – wages, share ownership, workplace autonomy, and participation in firm governance – and conduct our analyses through an intersectional gender/race lens. A picture emerges of a diverse cooperative sector that is succeeding to some extent in mitigating the inequalities of conventional capitalist firms in the US. In particular, there is no evidence that gender, race, or immigration status is associated with pay rates or democratic participation within firms. On the other hand, share ownership does appear to be more prevalent among non-immigrant White men than other workers (although we have less detailed data on wealth accumulation than on pay). Further, homophily and occupational segregation complicate the findings on pay – there are substantial pay gaps by gender and race across the sector as a whole, suggesting that racialized and gendered

sorting into firms and occupations persist. Finally, immigration status is negatively correlated with perceived autonomy within firms, and autonomy and participation vary widely within firms – by ownership status, tenure, hours worked, co-op interest, job type, and education. These are factors that have significant correlations with gender, race, and immigration status.

The paper proceeds with a review of literature on diversity and disparities in democratic worker-owned firms, outlining the theories and evidence on how women and minorities fare in cooperative workplaces. We also provide a basic discussion of scholarship on the gender wage gap in the broader capitalist economy. Next we explain key features of our dataset – the Democracy at Work Institute's 2017 Census of Individuals in Worker Cooperatives – and the measures of worker identity and power that constitute our independent and dependent variables. Then we present our analytic strategy and findings, moving from descriptive analysis to individual- and multi-level OLS regressions to model intersectional gender and race disparities in material and non-material outcomes. We conclude with a discussion of our study's contribution to bodies of knowledge on inequalities in alternative organizations and directions for future work.

LITERATURE REVIEW

Diversity and Disparities in Democratic Worker-Owned Firms

A worker cooperative is a firm fully owned and democratically governed by workers that is dedicated to meeting their collective needs. This enterprise structure can take many different forms, especially in the U.S. where there is no federal legal designation and worker cooperatives may be incorporated as for- or non-profits depending on state law. Yet all worker cooperatives share a commitment to principles of democracy, equality, solidarity, and community, which are enacted through a distributed ownership model whereby workers can become members by

purchasing an equity share. Members are entitled to participate in workplace governance and receive a share of profits generated by the business, known as "patronage." Governance participation may be direct or representational according to the principle of "one member, one vote" (in contrast to typical corporate structures where decision-making power is proportional to share ownership). The cooperative may distribute patronage as cash or retained equity held in members' internal capital accounts. These types of horizontal structures are designed to transform employment relations in ways that increase equity, personalize knowledge, minimize division of labor, and promote human flourishing (Wright 2010). Worker cooperatives remain extremely rare in the U.S., with an estimated 415 operational firms that generated $505 million in revenue and employed only 6,454 workers in 2018 (DAWI 2019).

Gender in Worker Cooperatives

A growing body of scholarship conceptualizes worker cooperatives as "gendered organizations" (Acker 1990, 2006) and examines the dynamics of gender inequality in democratic worker-owned firms. Overall, cooperatives have a mixed record in terms of mitigating gender disparities. Several ethnographic and interview-based studies suggest that worker cooperatives can benefit women through increased participation in decision making and space for advocating for women's issues (Meyers and Vallas 2016; Sobering 2016; Sobering, Thomas, and Williams 2014), well developed and utilized grievance processes (Hoffmann 2005), and commitments to alternative organizational logics that value work life balance, collective responsibility, and emotional support (Hoffmann 2016; Hudson 2018; Oerton 1997; Oseen 2016).

Yet there seems to be little evidence for the claim that democratic worker ownership per se systematically reduces gender inequality, particularly in terms of material outcomes. Sobering

et al. (2014)'s meta-analysis of gender inequality in worker-owned firms attributes persistent disparities to occupational segregation and the devaluation of domestic work. A recent quantitative study comparing worker cooperatives to conventional firms in France found that while worker co-ops have lower levels of within-firm pay inequality overall, the gender wage gap is the same across firm types (Magne 2017). An ethnography comparing "diversity regimes" at two worker co-ops argues that differing discourses of diversity management rather than ownership structure itself matter most for gender equality outcomes (Meyers and Vallas 2016).

Another group of scholars, predominantly focusing on the Global South, analyze the relationship between gender and power in worker cooperatives. For much of this work the theoretical underpinnings of the claims are rooted in a class rather than feminist analysis: co-ops empower workers, and when we look at examples of women's worker cooperatives, we find empowered women (Ozdemir 2013; Raniga 2017). There are examples, however, of a more intersectional theoretical approach. As Kabeer notes, women workers' struggles for power touch on both generic concerns of all workers (low pay, exploitative conditions), and women-specific concerns (wage discrimination, sexual harassment, occupational segregation). Women's specific identities as workers whose labor in the home is unpaid and labor in the market is typically undervalued will also shape their demands in the labor movement. Coops can benefit women specifically in instances where they have historically been excluded from trade unions, for example (Kabeer 2018). Coops in sectors involving caring labor can also be fruitful sites to see feminist logics in action (Matthew and Bransburg 2017).

Race and Ethnicity

In contrast to studies of gender in worker cooperatives, relatively few empirical studies investigate inequality based on race or ethnicity. This is somewhat surprising given

contemporary policy discourse around cooperatives as a tool for empowering economically marginalized communities, in particular people of color. For example, the municipal worker cooperative development initiative in Madison, Wisconsin explicitly seeks to support "Black-driven economic security and [sic] neighborhood development from the ground up" (quoted in Schlachter 2016). Similarly, co-op developers in New York City highlight racial gaps in employment and income inequality in the city and propose that worker cooperatives are especially beneficial for Black and Latino workers who have faced systematic discrimination in traditional labor markets (Jones Austin 2014; Pavlovskaya et al. 2016).

The discourse around cooperatives as a tool for empowerment and economic self-sufficiency in policy and philanthropic circles draws on a small but deep literature on the history and theory of cooperative economics in Black communities. The arguments for worker co-ops that bring in race are similar to those about gender: people of color are assumed to disproportionately benefit from cooperatives because democratic ownership and control provides some buffer against structural racism in the labor market and capitalism more broadly. For example, Bell et al. make a theoretical case for the benefits of the solidarity economy – broader than but including worker cooperatives – for Black workers. Pointing to a long history of racial capitalism in the US, they suggest that corporations are built on racial inequality and especially the exploitation and devaluation of Black labor. The solidarity economy challenges these structures directly and is therefore perhaps the best and only hope for reversing inequality (Bell et al. 2018). Gordon Nembhard addresses racial wealth inequality in particular and proposes that cooperative ownership promotes collective wealth accumulation for marginalized groups where conventional policy prescriptions targeting individual savings have failed (Gordon Nembhard 2014b).

Several empirical studies connect historical examples of the theory and practice of Black cooperative economics to contemporary efforts. For example, Jessica Gordon Nembhard's 2014 book explores a long history of mutual aid societies, W.E.B. DuBois's writing on economic cooperation, and co-op activism by a string of important civil rights leaders (Gordon Nembhard 2014a). Monica White argues that Black-owned agricultural cooperatives were an often-overlooked cornerstone of the Civil Rights movement (White 2018). Cooperation Jackson, a co-op development initiative in Jackson, Mississippi, invokes links between cooperatives and Black nationalism (Hill and Rabig 2012) to present itself as a modern example of Black power (Akuno and Nangwaya 2017)

Yet there are also important signs that currently existing worker cooperatives are not working for people of color as well as their champions would hope. A geographic study of the solidarity economy in Philadelphia finds that cooperatives are notably absent from poor Black and Latino neighborhoods. Instead, solidary economy organizations are concentrated in diverse "border areas" between more segregated neighborhoods, both representing conscious efforts at racial justice and anti-poverty work in these areas and raising concerns about co-ops and gentrification (Borowiak et al. 2018). Several ethnographic studies also find that, as with gender, racial inequality isn't automatically negated by cooperative and egalitarian ownership structures and governance practices. Meyers's comparative case study of two worker cooperatives in California demonstrates this well. The study suggests that a lack of formal practices can make way for cultural capital, embodied in race and other identities, becoming a de facto system of distributing power. Meyers also finds that particular organizational discourses matter – intra-firm race and gender inequalities appear in the co-op that ignores non-class-based inequality in its

mission, and not in the other, which interweaves discourses of pluralism in race and ethnicity, gender, sexuality, and religion (Meyers 2011).

Immigration Status

Immigrants are more likely to lack labor law protections than other groups for many reasons – including the difficulty of organizing through conventional channels like labor unions (Estey 2011; Wilson 2008). As such, many proponents of the worker co-op model argue that democratic ownership and control is especially empowering for undocumented workers who can legally start cooperative businesses as LLCs. According to the Democracy at Work Institute, "immigrant worker-owners are the largest and fastest-growing segment of worker-owners in the United States" (DAWI 2019).

As with gender and race, however, few studies have systematically examined these claims empirically. A case study of BeyondCare – a childcare cooperative of immigrant women in Brooklyn, New York – demonstrates how the cooperative model enables workers to secure meaningful living wage labor in a field where there are substantial structural hurdles to doing so with conventional capitalist business models. Born alongside a broader movement for domestic workers' rights, the successful organizing in this case points to immigrant laborers' role as "significant contributors to the cooperative tradition in the U.S." A few recent quantitative papers from Spain have also looked at differential experiences of immigrants in worker coops. The first uses a Social Security dataset containing the employment history of over 500,000 Spanish workers, of which 1,862 belong to worker-owned cooperatives. The paper is on capitalist and cooperative wage differentials overall, but they find that while in conventional firms immigrants are paid worse than non-immigrants, immigrant workers in worker-owned firms face zero wage penalty as compared to non-immigrants (Clemente et al. 2012). Another

study focuses on hiring and firing, finding no difference in the vulnerability of immigrant vs. Spanish-born workers to the business cycle (Sala-Rios, Farré-Perdiguer, and Torres-Solé 2017).

Intersectionality

We apply an intersectional approach to studying these questions, acknowledging that gender and race operate as interlocking systems of economic stratification in the labor market and within organizations (Browne and Misra 2003; Holvino 2010). Work in the cooperative development sector has often taken what Choo and Ferree call a "group-centered" approach to intersectionality; that is, placing multiply marginalized groups at the center (Choo and Ferree 2010). Scholarship that focuses on the particular experiences of women of color in cooperatives is certainly warranted, even if only for their numerical preponderance. Our data reflect this reality, as 44% of our survey respondents are women of color. Primarily though, our practice of intersectionality in this paper is "process-centered" – we assume that gender and race have not only additive but also interactive influences on workers' experiences, and we use comparative analysis to take social location into consideration for not only "marked" but also "unmarked" groups (e.g. White men) (Choo and Ferree 2010).

Inequality Between and Within Firms

The sociology of work contends with multiple levels at which inequality can be generated, from biographies to occupations, organizations, and structural conditions (Abbott 1993). A large-scale study of U.S. employment found that from 1978 to 2013, one-third of the rise in variance in earnings occurred within firms, while two-thirds were caused by a growing dispersion of average earnings across firms (Song et al. 2019). Yet by focusing on single cases or a small number of comparisons, many worker cooperative studies have only been able to address within-firm inequality (Hacker and Elcorobairutia 1987; Meyers and Vallas 2016; Sobering

2016; Wajcman 1983), leaving unanswered the question of worker ownership's impact on broader inequality (Rieger 2016). Miller's 2012 study of gender inequality in 28 cooperative firms is an exception. Surveying 132 workers across these firms enabled her to identify wage gaps, status differentials, and patterns of occupational segregation that generalized to a pool of cooperative workers (Miller 2012). Our study is a response to the call in that paper for further research.

Inequality and Power at Work

Material and Non-material Empowerment

As we can see from the above review, research and practice in democratic workplaces draw on diverse theories and histories of power and inequality. Material empowerment via co-ops is used in development discourse in both the Global South (e.g. Rwandan government's Vision 2020 policy, promotion of women's cooperatives in India) and the U.S. (e.g. Evergreen, DAWI's immigrant co-op initiative, Madison and NYC municipal initiatives). Non-material dimensions of autonomy and participation are also central to theorizing the benefits of democratic workplaces for cultivating values, skills, and a sense of efficacy that promote the well-being of both workers and society at large (Brady, Verba, and Schlozman, Kay Lehman 1995; Dahl 1985; Pateman 1970). For example, citing empirical evidence that workers in cooperatives also tend to be highly engaged in civic life, a number of scholars have argued that empowerment in the workplace begets empowerment in democratic participation off the clock (Greenberg, Grunberg, and Daniel 1996; Maxwell 1981; Sobel 1993). This "civic spillover hypothesis" (Schlachter and Már 2020) has taken hold in the imaginations of co-op advocates like Blake Jones of Namasté Solar, who claims that "Cooperatives have the potential to be fantastic training grounds for great citizens" (quoted in Abell 2014:14).

We adopt a broad framework for our research questions, taking into account the multi-dimensional nature of power and inequality at work. In doing so, we follow recent scholarship in the sociology of work that emphasizes job quality. As Kalleberg argues, the U.S. labor market since the 1970s has been marked by a growing gap between not only lower-paying and higher-paying jobs, but also in factors including the autonomy, security, and satisfaction associated with these jobs (Kalleberg 2011). Precarious work, including jobs in the gig economy, characterized by low levels of pay, benefits, job security, union representation, control over one's time, and often meaning, are on the rise (Stern 2016). These realities call for approaches to inequality at work that encompass material and non-material forms of empowerment, as literature on democratic workplaces has long done.

Wage Gaps

The gender wage gap, a key measure of labor market inequality over the past several decades, is a particularly notable finding of our study, so we focus here on providing some context on this particular measure and the questions it raises. Among full-time workers in the U.S., women's annual earnings were roughly 60 percent of men's throughout the 1960s and 1970s. The wage gap declined steeply in the 1980s, as the earnings ratio rose to 70 percent by 1990, and in the twenty years following, the ratio rose more slowly, reaching around 80% in 2010 (Blau and Kahn 2017). Sociologists and economists have looked to a number of theories to explain the gender wage gap, including human capital differences, occupational segregation, employer discrimination, and gendered organizations (Misra and Murray-Close 2014). With decomposition analysis, researchers can estimate what proportion of the wage gap is explained by variables corresponding with these theories. Recent research using the Panel Study on Income Dynamics shows that human capital disparities (differences in education and work experience)

are on the decline and explained little of the gender wage gap by 2010. Gendered differences in location and unionization coverage are also very small contributors. Occupation and industry are now the largest identified factors in explaining the wage gap. This analysis finds, further, that a large portion of the wage gap remains unexplained by the variables tested (Blau and Kahn 2017). The "unexplained" piece suggests that some harder-to-measure factors like discrimination and gendered organizational practices are also significant contributors. Our data enable us to test whether the same trends in human capital and occupational segregation contribute to the gender wage gap in the particular context of the worker co-op sector, and questions on co-op specific variables and qualitative response questions help us to identify or suggest additional factors.

Occupational segregation therefore remains a crucial element of gender inequality in the US labor market. The theory of occupational segregation relies on at least two key processes. On the one hand, gender essentialist views encourage the sorting of women and men into jobs traditionally associated with female and male domains, while on the other, the dominant position of men in social hierarchies encourages the devaluation and lower pay of "women's work" (Cohen 2013; England 2010). Longstanding theories of worker cooperatives suggest that they could potentially present challenges to each of these processes. To the extent that co-ops reflect the ideal type of a collectivist organization in promoting egalitarianism and people-centered values in their structures and institutions (Rothschild-Whitt 1979), we might expect to see workers less constricted by gender in roles they take on, and wages less determined by prevailing norms and more likely to value historically undervalued work. As individual case studies have found mixed results on these hypotheses, our data allow for a broader sector-wide assessment.

Overall, the literature suggests that systematic evidence about the differential empowerment effects of worker co-ops by gender, race, ethnicity, and immigration status would

be interesting to policymakers and practitioners who assume that co-ops benefit the disadvantaged most – as well as to sociologists who suspect the rewards of cooperation could prove illusive for marginalized groups. Next we present an original dataset that allows us to examine these questions in a robust national survey about the workplace experiences of individuals in democratic worker-owned firms for the first time.

DATA & METHODS

The DAWI Worker Cooperative Census

This paper offers a novel contribution to the literature on workplace empowerment and inequality in participatory firms by analyzing race, gender, and immigration status in the Census of Individuals in Worker Cooperatives, the most robust dataset that has ever been collected on worker cooperatives in the United States. We utilize data from an original survey fielded by the second author in spring 2017 in collaboration with the Democracy at Work Institute (DAWI), a nonprofit worker cooperative "think and do tank" based in Oakland, CA. It is the first survey to examine experiences within democratic worker-owned firms in the United States that includes both firm- and individual-level variables. The national sample includes approximately 20 percent of individuals and 25 percent of firms in our target population and reflects the demographic, geographic, and industrial diversity of the sector. A more detailed description of the dataset can be found elsewhere (Schlachter and Már 2020; Schlachter and Prushinskaya 2021)

The target population included the 6,000 individuals DAWI estimated were employed in U.S. worker co-ops in 2017 (Palmer 2018). We used a non-random clustered sample design, creating a custom sampling frame with contact information for each of 306 eligible worker co-ops in DAWI's database. We asked firms interested in participating to identify a point person

who completed an online screener and administered the survey at their workplace. All materials were available in English and Spanish.

The survey itself included two paper self-administered questionnaires (SAQ) mailed to participating firms and completed during an all-staff meeting. The firm SAQ included 13 questions about firm characteristics to be completed by the point person. The worker SAQ included 58 questions about a range of topics including compensation, workplace autonomy, participation in firm governance, demographics, and an open-ended item that asked respondents to describe the most important ways working in a cooperative impacted their life. Firms and individuals are de-identified in the aggregated data.

We distributed 2,313 surveys to 88 firms that completed a screener. In total, the sample includes 1,147 individuals from 82 firms who completed a usable survey (78 of the 82 participating firms completed a usable firm questionnaire). According to the AAPOR Standard Definitions and Outcome Rate Calculator for a mail survey of unnamed persons (AAPOR 2016), our overall worker survey response rate was 19 percent and our cooperation rate was 50 percent. Within firms, worker survey response rates ranged from nine to 100 percent with a mean and median of 72 and 80 percent, respectively.

A lack of baseline data on individuals employed in U.S. worker co-ops makes it difficult to assess how well our sample generalizes to the target population. Using enterprise-level data DAWI collects on an annual basis, we do know that participating firms generally reflect the composition of the sector in terms of structure, geography, and industry. The firm SAQ data on workplace demographics also allowed us to assess how well the characteristics of respondents mirror those of all workers employed by participating firms. Participating co-ops employ a total of 3,544 workers who represent 59 percent of the estimated target population, a large proportion

of individuals in the study universe. This was possible in part thanks to participation from LargeCoop, which employed approximately one-third of the workers in our target population (1,954 in 2017) and contributed approximately one-third of workers our sample (398 respondents). LargeCoop is not only an anomaly in the sector in terms of size – DAWI estimated the average worker co-op employed only nine workers in 2017 (Palmer 2018) – but also in terms of industry, worker demographics, and organizational history. LargeCoop workers are predominantly Latina immigrants, as reflected in the fact that 44 percent of respondents employed by LargeCoop identify as non-White females who reported they were born outside the U.S. and chose to complete the survey in Spanish. Since including LargeCoop in our analysis has the effect of oversampling for immigrant women of color and "skewing" the demographics of our sample, we assessed nonresponse bias among participating firms with and without it. Excluding LargeCoop respondents, full-time workers are the only group overrepresented in our sample of workers. We also re-run all analyses excluding LargeCoop to confirm the robustness of our results to possible nonresponse bias attributable to the outsized influence LargeCoop plays in our sample and the sector overall.

Key Measures

Empowerment

We examine workplace inequality by analyzing the distribution of several measures that capture both material and non-material dimensions of workplace empowerment by workers' race, gender, and immigration status. Recognizing that empowerment is a multifaceted construct, our goal is to identify patterns within and across cooperative firms by incorporating measures of legal and psychological ownership, wealth accumulation, wages, workplace autonomy, and participation in governance. To facilitate readability, we describe the

operationalization of each dependent variable in the relevant findings section and here focus on the key independent variables that appear throughout our analysis.

Race/Ethnicity

The survey included a yes/no screener for Hispanic or Latino ethnicity and a question that asked respondents to check all of the following six categories that describe their race: American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, White, and Other. Respondents who checked Other were invited to specify their race in an open-response box. Although these items allowed the expression of a wide range of racial and ethnic identities, they also proved confusing for many respondents. In particular, 147 respondents identified as Hispanic or Latino in the ethnicity screener and then checked "Other" race and wrote in some clear version of "Hispanic or Latino." This had the effect of inflating the "Other" category and obscuring potentially meaningful differences in the workplace experiences of, say, those who identified as "Other - Irish" versus "Other - Hispano." As such, we chose to code race/ethnicity as a variable with five exhaustive and mutually exclusive categories that took write-in responses into account: White, Black, Hispanic or Latino, Multiracial, and Other. The Multiracial category includes respondents who checked multiple race boxes and/or checked other and wrote in some straightforward version of "multiracial." The Other category includes respondents who identified as only Asian, American Indian, Alaskan Native, Hawaiian, or Pacific Islander and those who only checked Other *except* those who wrote in some clear version of Hispanic or Latino, who we coded as Hispanic or Latino.

Gender

We measure gender identity using a question that asked respondents, "Which of the following describes how you identify yourself?" with options of Female, Male, and In another

way with an open-response box to specify. Only four percent of respondents identified their gender "in another way" so we exclude them from our primary quantitative analyses in order to maximize statistical power.

Immigration Status

The worker SAQ did not directly ask about immigration status due to ethical concerns about privacy and nonresponse bias (Brown et al. 2019; Meyers 2017). Instead, the survey simply asked whether or not respondents were born in the United States. We coded those who checked "No" as immigrants. All respondents had the option to choose whether to complete the English or Spanish version of the questionnaire. There is high correlation but incomplete overlap between language and country of birth: almost all (99 percent) of respondents born in the U.S. took the survey in English, while two-thirds of respondents born outside the U.S. took the survey in Spanish. Four percent of respondents who took the survey in Spanish were born in the U.S.

For similar reasons, the firm SAQ asked point people to report the proportion of workers at their firm who are native speakers of English, Spanish, or another language rather than the proportion born in the United States. As such, we use language as a proxy for country of birth in analyses at the firm level.

Other Variables

In addition to these key independent variables, we analyze a number of other worker characteristics. Educational attainment is a categorical variable ranging from one (some high school) to eight (advanced degree). While the firms are worker-owned, not all workers are owners; we use a binary variable for ownership drawn from a question that asks respondents to self-identify as a worker-owner or an employee who is not a worker-owner. Tenure at current

workplace is a continuous variable measured in years. We operationalize prior interest in workplace democracy (a proxy for self-selection) as a dichotomous variable using an item that asked respondents whether the opportunity to work in their current occupation versus the opportunity to work in or start a worker cooperative initially attracted them to their job. Occupation is a categorical variable derived from a question that asked respondents to choose among six occupational groups that best describe their type of job. Hours worked is a continuous variable indicating how many hours respondents reported working at their cooperative in a typical week. A firm ID number links enterprise-level variables with individual workers at each cooperative.

Analytical Strategy

We first examine demographic diversity in the U.S. worker cooperative sector by descriptively analyzing workers' race, gender, immigration status, and intersections of these identities within and across firms in our sample. We also analyze how other worker characteristics such as education, tenure, and prior interest in cooperatives varies by socio-demographics.

Our analysis of the relationship between ascriptive characteristics and material dimensions of empowerment (ownership, wealth accumulation, and wages) begins with a descriptive analysis and then uses OLS regression to test the association between hourly pay and worker characteristics with and without accounting for clustering at the firm level. We use the same approach to investigate non-material dimensions of empowerment (psychological ownership, workplace autonomy, participation in firm governance), again proceeding with a descriptive analysis, individual-level OLS, and multilevel models.

FINDINGS

Diversity in U.S. Worker Cooperatives

The sample suggests substantial demographic diversity across the worker cooperative sector. Overall, about two-thirds of respondents identified as female. Whites constitute almost half the sample (47 percent) followed by 31 percent of respondents who identified as Hispanic or Latino, ten percent as Black, seven percent as Multiracial, and five percent as another race. One-third of respondents reported they were born in the United States and 29 percent chose to complete the survey in Spanish. Accounting for clustering at the firm level, we find that LargeCoop employs a substantial proportion of non-White females, immigrants, and Spanish speakers in our sample.

We first divide the sample by male/female gender identity and three race categories: White, Black or Hispanic/Latino, and Other (which includes those who identify as Multiracial or another race). As Appendix A shows, 28 percent of respondents are White men, five percent are Black or Hispanic/Latino men, and four percent identify as male and another race. The largest group is Black or Hispanic/Latino women (37 percent). Twenty percent of respondents are White women and seven percent are women of another race.

If we examine the intersection of gender, race, and country of birth, we find that about a quarter of respondents are Black or Hispanic/Latino immigrant women and a quarter are White men born in the U.S. This twelve-group scheme, however, leaves us with only seven respondents in the smallest category (White women born outside the U.S.) and insufficient statistical power to conduct our subsequent analyses. As such, we focus on the intersection of gender and racial identity in our descriptive analysis and include immigration status as a control variable in our models.

Next we examine the distribution of other key respondent characteristics by race, gender, and country of birth. Mean educational attainment in our sample is 4.3, indicating the average respondent has some college education. Table 1 shows that White women and men are the most highly educated groups with mean educational attainment between an associate's or bachelor's degree. We find the largest difference by race and ethnicity among women – the average Black or Hispanic/Latino woman in our sample has attended trade school – although men of color are also relatively less educated than White men. Descriptively, we also see large disparities by country of birth: two-thirds of respondents with a high school degree or less are immigrants, whereas 83 percent of those with a bachelor's degree or higher were born in the U.S.

In terms of worker characteristics, we find that median tenure is 3.5 years and mean tenure is six years. On average, White men and White women have the highest tenure of any group. With only a few exceptions, non-immigrant Whites are the only respondents who have been at their cooperative for more than 20 years. Multiracial and other race men reported prior interest in working at a cooperative at the highest rates. Otherwise, we do not see racial disparities in prior interest among women or between White and Black or Hispanic/Latino men.

[Insert Table 1]

Next we examine diversity *within* firms in our sample by drawing on enterprise-level data on all workers employed by cooperatives that chose to participate in the DAWI survey. For the purpose of this analysis, we classify a firm as "mostly" majority if at least 75 percent of its workers are White, male, or native English speakers and "mostly" minority if at least 75 percent of its workers are non-White, female, or not native English speakers. We find that homophily is substantial overall and most pronounced by language and race. According to this metric, just over half of firms in our sample are relatively gender balanced (i.e. less than half are "mostly"

male or "mostly" female). In contrast, over 60 percent of firms predominantly employ either Whites or non-Whites, and about 80 percent of firms are homogenous in terms of language.

[Insert Figure 1]

Material Empowerment: Wealth and Wages

Share Ownership

One of the most significant ostensible material benefits of working in a cooperative is the opportunity for wealth acquisition through the purchase of an ownership share in the cooperative and the accumulation of equity over time. In a typical worker cooperative, financial compensation comes in two main forms: wages and profit sharing. In years when a cooperative is profitable, it is required to pay out at least 20 percent of each worker-owner's share of overall profits in cash ("patronage") and may retain up to 80 percent as equity. Many worker cooperatives establish "individual capital accounts" to track the dollar amount of equity retained by the firm but earmarked for particular worker-owners, who can typically claim a cash payout of their internal capital account if and when they choose to leave the cooperative.

Descriptively, we find substantial demographic disparities in the distribution of ownership status and individual capital accounts within our sample. As Figure 2 shows, male, White, and non-immigrant respondents are disproportionately represented both in worker-ownership status and ownership of an individual capital account. Whereas men constitute only 36 percent of our sample, they are half of all respondents that reporting having these wealth-creation vehicles. Similarly, Whites and those born in the U.S. are about half and two-thirds of the sample, respectively, but 70 percent of those with an individual capital account are White and 83 percent were born in the U.S.

[Insert Figure 2]

In total, 209 respondents reported the current value of their internal capital account. The mean value was $10,091 but ranged widely from $2,000 at the median to a maximum of $150,000. This group is relatively balanced by gender but predominantly White and non-immigrant, so we can't reliably analyze demographic differences in wealth accumulation. Descriptively, however, we find that the mean internal capital account value for Whites ($12,202) is about double that for any other racial group, the mean value for men ($13,170) is over $5,000 larger than the mean for women, and the mean for migrants ($5,870) is about half of that for those born in the U.S.

Hourly Pay

Descriptive Findings

Three-quarters of respondents reported they are paid hourly, 11 percent that they earn an annual salary, and 13 percent that they are paid "some other way" such as barter, patronage, or in-kind services. We imputed hourly pay for salaried respondents by dividing their reported annual salary by weeks per year and the number of hours they reported working in a typical week. We were unable to impute hourly pay for respondents paid "some other way" so dropped them from the analysis that follows. We did investigate the demographics of those in this category, however, and did not find any clear patterns in mode of compensation by gender, race, or immigration status.

We first examine variation in hourly pay by gender and race descriptively. As Figure 3 shows, mean hourly pay is higher for men regardless of race. White men in our sample earn the most with mean hourly pay of about $25 per hour. Black or Hispanic/Latino men earn $1.44 more per hour than White women on average. There is a substantial pay gap between Black or Hispanic/Latino women, who earn only $12 per hour on average, and all other groups.

[Insert Figure 3]

Regression Models

Model 1 is simply a linear regression of hourly pay on individual-level characteristics for all respondents in our sample reporting hourly pay (n = 609 when observations with missing data in the independent variables are dropped). Independent variables in this model are: gender, race, the interaction of gender and race, immigration status, education, job type, hours worked, tenure (logged), ownership status, and co-op interest. This model is incomplete, since we know that there is clustering at the firm-level that it fails to account for, but it is useful in illustrating and testing the statistical significance of the descriptive differences in pay observed.

Namely, the gender wage gap in workers across the sector is verified. Controlling for education and other relevant labor market characteristics, the model estimates a $4.43 hourly wage penalty associated with being female. Black and Hispanic/Latino workers face a $2.00 decrease in hourly pay as compared to Whites (though this effect is not statistically significant at conventional levels), and the intersection of being Black or Hispanic/Latino and female is associated with an additional $2.99 decrease (also not statistically significant).

Professional or technical jobs have the strongest wage premium ($9.82 over the reference category of management jobs), and service jobs have a significant negative coefficient. Hourly pay for owners is $2.47 higher than for non-owners, and hourly pay also increases with tenure and weekly hours worked. Consistent with the literature, education also has a strong effect.

In model 2, we use a linear multi-level model to account for firm-level clustering. The independent variables from model 1 are all included as fixed effects, and there are additionally random effects for firm.

The gender wage gap disappears in this model – the estimated coefficient on female dropping to only -$0.25 and losing statistical significance. The pay decrease associated with being Black or Hispanic/Latino similarly drops to $0.15. The interaction between female and Black or Hispanic/Latino remains a bit higher, predicting $2.10 less in hourly wages for this group when the three effects are combined, but again this is not statistically significant. The advantage for professional and technical workers is less pronounced, and a clear disadvantage for administration jobs also emerges. The effect of education is somewhat weakened, and ownership and tenure remain important.

[Insert Table 3]

The lack of significant gender and race effects on pay in the multi-level model tells us that within firms, these identity characteristics don't determine pay when controlling for education and job-specific characteristics. The gaps we saw in the descriptive findings are to some extent "explained" by these other factors and their correlations with gender and race. As described, Whites in our sample have more education on average, so this explains some of the racial wage gap. Similarly, professional and technical jobs, which are associated with the highest pay, are held disproportionately by White men and White women. Black and Hispanic/Latino workers of both genders also have significantly lower tenure at their firms than White men. Further contributing to the higher pay of White men, they are the group that works the most weekly hours on average, and are more likely than any other group to be worker owners.

The difference in results from model 1 to model 2 also suggests that wage differentials in race and gender – especially gender – operate largely at the level of the firm. As we find that men and women are paid roughly equally within coop firms (model 2's null result), the substantial sector-wide gender pay gap identified in model 1 is instead attributable to men and

women being sorted into higher and lower paying firms. Indeed, co-op wage structures are largely flat in general. We run an intra-class correlation of hourly pay and find that 78% of variation in our sample appears across rather than within firms.

Descriptive analysis re: occupational segregation

As noted earlier, there is a high level of gender segregation in firms in our sample. Of the 64 firms where we have respondents providing hourly pay data, average hourly pay across the 17 "mostly" (75% of more) male firms is $26. Average pay at the 14 mostly female firms and at the 33 more gender-balanced firms are lower – each about $20.

[Insert Figure 4]

There are clear patterns in worker gender with regard to firm sector that help us explain this trend. Figure 5 plots mean hourly pay on percent of workers who are male, in the seven sectors that account for 90% of our survey respondents. Male dominated sectors, like construction and manufacturing, pay much more on average than female-dominated sectors like healthcare and social assistance, retail, administration, and accommodation. We find preliminary evidence that the well-documented phenomenon of occupational segregation in these sectors carries over into the co-op field.

[Insert Figure 5]

Our firm-level survey data does not include the composition of co-op workforces by workers' intersectional identities. One important driver of differences at this level is evident nonetheless. Professional/scientific/technical firms are the notable exception to the trend in gendered pay – they are the highest paying firms in the sample but rather than being male dominated, have close to a 50/50 gender split. When it comes to race though, the workers of the

22 co-op firms in this sector are 75% White. White women's participation in these high paying jobs contributes to the wage gap between them and Black and Hispanic women.

Finally, we look more closely at those firms that have substantial internal gender pay gaps. This is a simple calculation of the difference in mean hourly pay reported by men and women in a firm, which our data enables us to generate for 42 firms. As seen in figure 6, this comes out to about zero for the majority of firms. Looking at the 11 firms that have at least a $2 pay gap, common to about half of them was a clear trend of within-firm occupational segregation, with women occupying the service and administration positions and/or men occupying the management positions within the co-op.

[Insert Figure 6]

Non-Material Empowerment: Psychological Ownership, Autonomy, and Participation in Governance

Non-material power is hard to measure, and there are no universally accepted criteria for operationalizing the concepts. The worker SAQ asks about dimensions of non-material empowerment that the literature on worker cooperatives has raised as theoretically and empirically relevant. Our measures also align well with indices used in organization and management studies, which include individuals' feelings and beliefs about the meaning of their work and their degree of self-efficacy (Spreitzer 1995).

Psychological Ownership

Alongside the material benefits that workers may derive from cooperative share ownership, the non-material benefit of feeling like an owner of one's workplace is frequently discussed in the literature. We investigate whether there are differences in worker owners' psychological ownership by gender and race.

Our survey asked workers, "How much do you feel like an owner of this company?", with response items on a 5-point Likert scale ranging from "not at all" to "a great deal." As expected, co-op employees who are not owners report lower feelings of ownership in the company, with the median response being "not at all." Among worker owners, 90% say they feel like owners of the company at least "a little" (value of 2), and over 60% feel like owners "quite a bit" or "a great deal" (values of 4 and 5). Looking within worker owners (n = 666) at the breakdown by demographic groups, the mean response of Black and Hispanic/Latino women is more than one point lower than other groups. This effect is driven by LargeCoop, which has particularly low levels of psychological ownership.

[Insert Table 2]

Workplace Autonomy

The survey asks workers how much involvement and direct influence they have in (a) how they do their jobs, (b) work group or department goals, and (c) overall company decisions. A principal components analysis finds that these responses are strongly correlated and there is one factor that accounts for 82% of variation within them. The eigenvalue for this component is 2.47, and the other components have eigenvalues below one. Therefore, we use the scores generated from that factor as an index for worker autonomy. Index values are centered at a mean of 0, with a standard deviation of 1.6, and range from -3.3 to 1.8.

First we run an "empty" multi-level model – a regression model with autonomy as the dependent variable, using firm random effects and no fixed effects as independent variables. (In R, we use the function *lmer* from the package *lme4*.) The intraclass correlation determined from this model is .17. Unlike with wages, where most variation was found between firms and within firm distributions were relatively egalitarian, most variation in autonomy is within firms.

Mean values of the autonomy index vary substantially by demographic group. When testing these factors in a multilevel regression though, we find that race and gender are largely insignificant. In table 4, we present results from a basic OLS regression and linear mixed-effects model that accounts for within-firm clustering. When controlling for differences at the firm-level, we don't see a gender or race gap. However, there is an immigration effect that persists, suggesting that being born outside the US is associated with a decrease of 0.3 points on the autonomy index. To some extent, this effect is likely to be a result of disparities in the one large firm in our sample where the most immigrant workers are concentrated. Being an owner has the strongest effect on reported autonomy, and coop interest also has a significant positive effect. As compared to management jobs, jobs in production, administration, service, and "other" are associated with less autonomy. While intra-firm correlation is low, there is at least one firm-level factor that seems to impact individual workers' autonomy: average reported value decreases as firm size increases.

[Insert Table 4]

Participation in Governance

A separate set of measures concerns the degree to which cooperative workers participate in the democratic governing of their firms. The survey questions we use to assess participation ask how often a respondent typically participates in (a) attending general assembly meetings, (b) attending meetings of committees addressing workplace issues, (c) voting for the board of directors or governance body, and (d) attending meetings of the board of directors or governance body. We use the same approach as for the autonomy index to generate a participation index from these variables. PCA identifies a factor with an eigenvalue of 2.8 that accounts for 70% of

variation. Using these scores, the index takes on values ranging from -2.5 to 2.4, with a mean of 0 and standard deviation of 1.7.

Running the empty multi-level model on the participation index to decompose variance, we find an ICC of .27. Workers within a firm resemble one another on participation somewhat more than they do on autonomy, but it is again the case that most variation on this factor is found within firms. Descriptive differences in participation look similar to those in autonomy, with Black and Hispanic/Latino workers, and especially Black and Hispanic/Latino women, reporting lower values on average (Table 2).

As seen in Table 4, the only demographic effect that persists in the multi-level model is the association between men of the "other" race category and higher participation. There are only 38 respondents in this category so it's hard to say how robust this finding would be to replication on a different sample, but it is a relatively large effect (0.5 points on the participation scale). Being an owner has the strongest effect on participation (unsurprising, as we would expect that some of these ways of participating are not even open to non-owners), followed by coop interest. Tenure and hours worked also have effects. There is not so much variation by job type – the only occupations that participate significantly less than management are production and "other."

DISCUSSION AND CONCLUSION

This study has used large-scale data to test existing theories of inequality in worker cooperatives. Consistent with theory and previous research, we find low levels of material inequality within firms, both in terms of overall dispersion and gaps by gender and race. On the other hand, we find large variation within firms in the extent to which individual workers feel empowered by their job and participate in cooperative governance. This is also consistent with ethnographic studies of cooperatives, which illustrate how beyond formal policies, informal

structures, discourses, and practices develop that may not treat all workers equally. Because of the novel structure of our data, the study is the first to systematically reveal material inequalities *between* firms in the U.S. cooperative sector. These findings support the observation that "women benefit from working in these alternative organizations, but gender disparities persist due to occupational segregation and the devaluation of domestic work" (Sobering et al. 2014).

Future research should address limitations of this study. First, we have only cross-sectional data for a single point in time, making it impossible to see how gender and race might impact workers' trajectories at cooperative firms, or how overall patterns in inequalities might be changing over time. We also have relatively few variables in our firm-level data, precluding a closer look at how particular policies and structures instituted by cooperatives correspond with inequality. More sophisticated modeling may also help with the main structural difficulty of our sample, which is the extent to which the racial diversity in the sample is concentrated in LargeCoop. Finally, we intend to look more closely at the qualitative data collected in an open-response survey question and follow-up interviews to deepen the processual account of inequality. For example, our quantitative analysis looks at material and non-material factors separately, yet we know from interviews that these are considered interactively by many coop members, who may accept a lower wage "in exchange" for working in a setting with more autonomy and support. Furthermore, indicators like weekly hours worked need to be understood in light of the qualitative dimension, as in some cases fewer hours are constraining to workers, while in others they are a hard-won choice. While this study provides a baseline on gender- and race-based inequality in the U.S. worker cooperative sector, further research in these directions is warranted.

REFERENCES

AAPOR, The American Association for Public Opinion Research. 2016. *Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys, 9th Edition*. AAPOR.

Abbott, Andrew. 1993. "The Sociology of Work and Occupations." *Annual Review of Sociology* 19(1):187–209. doi: 10.1146/annurev.so.19.080193.001155.

Abell, Hilary. 2014. *Worker Cooperatives: Pathways to Scale*. Tacoma Park, MD: The Democracy Collaborative.

Acker, Joan. 1990. "Hierarchies, Jobs, Bodies: A Theory of Gendered Organizations." *Gender & Society* 4(2):139–58.

Acker, Joan. 2006. "Inequality Regimes: Gender, Class, and Race in Organizations." *Gender & Society* 20(4):441–64.

Akuno, Kali, and Ajamu Nangwaya, eds. 2017. *Jackson Rising: The Struggle for Economic Democracy and Black Self-Determination in Jackson, Mississippi*. Montreal, Québec: Daraja Press.

Bell, Myrtle P., Joy Leopold, Daphne Berry, and Alison V. Hall. 2018. "Diversity, Discrimination, and Persistent Inequality: Hope for the Future through the Solidarity Economy Movement." *Journal of Social Issues* 74(2):224–43. doi: 10.1111/josi.12266.

Blau, Francine D., and Lawrence M. Kahn. 2017. "The Gender Wage Gap: Extent, Trends, and Explanations." *Journal of Economic Literature; Nashville* 55(3):789–865. doi: http://dx.doi.org.ezproxy.princeton.edu/10.1257/jel.20160995.

Borowiak, Craig, Maliha Safri, Stephen Healy, and Marianna Pavlovskaya. 2018. "Navigating the Fault Lines: Race and Class in Philadelphia's Solidarity Economy." *Antipode* 50(3):577–603. doi: 10.1111/anti.12368.

Brady, Henry, Sidney Verba, and Schlozman, Kay Lehman. 1995. "Beyond SES: A Resource Model of Political Participation." *The American Political Science Review* 89:271–94.

Brown, J. David, Misty Heggeness, Suzanne Dorinski, Lawrence Warren, and Moises Yi. 2019. *Estimating the Potential Effects of Adding a Citizenship Question to the 2020 Census*. *SSRN Scholarly Paper*. ID 3323202. Rochester, NY: Social Science Research Network.

Browne, Irene, and Joya Misra. 2003. "The Intersection of Gender and Race in the Labor Market." *Annual Review of Sociology* 29(1):487–513. doi: 10.1146/annurev.soc.29.010202.100016.

Castilla, Emilio J. 2005. "Gender, Race, and Meritocracy in Organizational Careers." *Academy of Management Proceedings* 2005(1):G1–6.

Choo, Hae Yeon, and Myra Marx Ferree. 2010. “Practicing Intersectionality in Sociological Research: A Critical Analysis of Inclusions, Interactions, and Institutions in the Study of Inequalities.” *Sociological Theory* 28(2):129–49.

Clemente, Jesús, Millán Diaz-Foncea, Carmen Marcuello, and Marcos Sanso-Navarro. 2012. “The Wage Gap Between Cooperative and Capitalist Firms: Evidence from Spain.” *Annals of Public and Cooperative Economics* 83(3):337–56. doi: 10.1111/j.1467-8292.2012.00466.x.

Cohen, Philip N. 2013. “The Persistence of Workplace Gender Segregation in the US.” *Sociology Compass* 7(11):889–99. doi: 10.1111/soc4.12083.

Dahl, Robert. 1985. *A Preface to Economic Democracy*. Berkeley, CA: University of California Press.

DAWI. 2019. “Support for Immigrant Cooperatives.” *The Democracy at Work Institute*. Retrieved January 26, 2019 (https://institute.coop/support-immigrant-cooperatives).

DAWI. 2019. *Worker Cooperatives in the United States*. Oakland, CA: The Democracy at Work Institute.

England, Paula. 2010. “The Gender Revolution: Uneven and Stalled.” *Gender & Society* 24(2):149–66. doi: 10.1177/0891243210361475.

Estey, Ken. 2011. “Domestic Workers and Cooperatives: Beyondcare Goes Beyond Capitalism, a Case Study in Brooklyn, New York.” *WorkingUSA* 14(3):347–65. doi: 10.1111/j.1743-4580.2011.00345.x.

Gordon Nembhard, Jessica. 2014a. *Collective Courage: A History of African American Cooperative Economic Thought and Practice*. University Park, Pennsylvania: The Pennsylvania State University Press.

Gordon Nembhard, Jessica. 2014b. “Community-Based Asset Building and Community Wealth.” *The Review of Black Political Economy* 41(2):101–17. doi: 10.1007/s12114-014-9184-z.

Greenberg, E. S., L. Grunberg, and K. Daniel. 1996. “Industrial Work and Political Participation: Beyond" Simple Spillover".” *Political Research Quarterly* 49(2):305–30.

Hacker, Sally L., and Clara Elcorobairutia. 1987. “Women Workers in the Mondragon System of Industrial Cooperatives.” *Gender and Society* 1(4):358–79.

Hill, Laura Warren, and Julia Rabig. 2012. *The Business of Black Power: Community Development, Capitalism, and Corporate Responsibility in Postwar America*. Rochester, NY: University of Rochester Press.

Hoffmann, Elizabeth A. 2005. “Dispute Resolution in a Worker Cooperative: Formal Procedures and Procedural Justice.” *Law & Society Review* 39(1):51–82. doi: 10.1111/j.0023-9216.2005.00077.x.

Hoffmann, Elizabeth A. 2016. “Emotions and Emotional Labor at Worker-Owned Businesses: Deep Acting, Surface Acting, and Genuine Emotions.” *The Sociological Quarterly* 57(1):152–73. doi: 10.1111/tsq.12113.

Holvino, Evangelina. 2010. “Intersections: The Simultaneity of Race, Gender and Class in Organization Studies.” *Gender, Work & Organization* 17(3):248–77. doi: 10.1111/j.1468-0432.2008.00400.x.

Hudson, Lauren. 2018. “New York City: Struggles over the Narrative of the Solidarity Economy.” *Geoforum*. doi: 10.1016/j.geoforum.2018.04.003.

ILO. 2014. *Leveraging the Cooperative Advantage for Women’s Empowerment and Gender Equality*. *Fact sheet*. Geneva, Switzerland: International Labour Organization.

Jones Austin, Jennifer. 2014. *Worker Cooperatives for New York City: A Vision for Addressing Income Inequality*. New York, NY: Federation of Protestant Welfare Agencies.

Kalleberg, Arne L. 2011. *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970s-2000s*. New York, NY: Russell Sage Foundation.

Magne, Nathalie. 2017. “Wage Inequality in Workers’ Cooperatives and Conventional Firms.” *The European Journal of Comparative Economics; Castellanza* 14(2):303–29. doi: http://dx.doi.org.ezproxy.princeton.edu/10.25428/1824-2979/201702-303-329.

Matthew, Rebecca A., and Vanessa Bransburg. 2017. “Democratizing Caring Labor: The Promise of Community-Based, Worker-Owned Childcare Cooperatives.” *Affilia* 32(1):10–23. doi: 10.1177/0886109916678027.

Maxwell, Elden. 1981. “Political Efficacy at Work: The Connection between More Autonomous Forms of Workplace Organization and a More Participatory Politics.” *The American Political Science Review* 75(1):43–58.

McGuire, Gail M. 2002. “Gender, Race, and the Shadow Structure: A Study of Informal Networks & Inequality in a Work Orgainization.” *Gender & Society* 16(3):303–22.

Meyers, Joan S. M. 2011. “Employee Ownership, Democratic Control, and Working-Class Empowerment.” in *Employee Ownership and Shared Capitalism: New Directions in Research*. Champaign, IL: Labor and Employment Relations Association.

Meyers, Joan S. M., and Steven Peter Vallas. 2016. “Diversity Regimes in Worker Cooperatives: Workplace Inequality under Conditions of Worker Control.” *The Sociological Quarterly* 57:98–128.

Meyers, Mikelyn. 2017.“Respondent Confidentiality Concerns and Possible Effects on Response Rates and Data Quality for the 2020 Census.” Presented at the National Advisory Committee on Racial, Ethnic, and Other Populations Fall Meeting, November 2.

Miller, Genna R. 2012. “‘Gender Trouble’: Investigating Gender and Economic Democracy in Worker Cooperatives in the United States.” *Review of Radical Political Economics* 44(1):8–22. doi: 10.1177/0486613411418049.

Misra, Joya, and Marta Murray-Close. 2014. “The Gender Wage Gap in the United States and Cross Nationally.” *Sociology Compass* 8(11):1281–95. doi: 10.1111/soc4.12213.

Oerton, Sarah. 1997. “Gendered Constraints and Opportunities: An Analysis of Workers’ Experience in UK Cooperative and Collective Organizations.” *Economic and Industrial Democracy* 18(2):201–29. doi: 10.1177/0143831X97182003.

Ortiz, Susan Y., and Vincent J. Roscigno. 2009. “Discrimination, Women, and Work: Processes and Variations by Race and Class.” *The Sociological Quarterly* 50(2):336–59. doi: 10.1111/j.1533-8525.2009.01143.x.

Oseen, Collette. 2016. “‘It’s Not Only What We Say but What We Do’: Pay Inequalities and Gendered Workplace Democracy in Argentinian Worker Coops.” *Economic and Industrial Democracy* 37(2):219–44. doi: 10.1177/0143831X14539571.

Ozdemir, Gulen. 2013. “Women’s Cooperatives in Turkey.” *Procedia - Social and Behavioral Sciences* 81:300–305. doi: 10.1016/j.sbspro.2013.06.432.

Palmer, Tim. 2018. *2017 Worker Cooperative State of the Sector Report*. Democracy at Work Institute.

Pateman, Carole. 1970. *Participation and Democratic Theory*. Cambridge, UK: Cambridge University Press.

Raniga, Tanusha. 2017. “Participatory Experiences of Women in Economic Development Cooperatives in Bhambayi, KwaZulu-Natal, South Africa.” *Research on Social Work Practice* 27(2):215–22. doi: 10.1177/1049731516671595.

Reskin, Barbara F., and Irene Padavic. 2006. “Sex, Race, and Ethnic Inequality in United States Workplaces.” Pp. 343–74 in *Handbook of the Sociology of Gender*, *Handbooks of Sociology and Social Research*, edited by J. S. Chafetz. Boston, MA: Springer US.

Rieger, Shannon. 2016. *Reducing Economic Inequality through Democratic Worker-Ownership*. New York, NY: The Century Foundation.

Rothschild-Whitt, Joyce. 1979. “The Collectivist Organization: An Alternative to Rational-Bureaucratic Models.” *American Sociological Review* 44(4):509–27. doi: 10.2307/2094585.

Sala-Rios, Mercè, Mariona Farré-Perdiguer, and Teresa Torres-Solé. 2017. "Immigrants' Employment in Spanish Cooperatives: Outcomes in Relation to the Business Cycle." *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations* 28(5):1940–61. doi: 10.1007/s11266-016-9817-x.

Schlachter, Laura Hanson. 2016. *MCDC Milestone Reflections: City of Madison Grant Writing Process*. University of Wisconsin Center for Cooperatives.

Schlachter, Laura Hanson, and Kristinn Már. 2020. "Spillover, Selection or Substitution? Workplace and Civic Engagement in Democratic Firms."

Schlachter, Laura Hanson, and Olga Prushinskaya. 2021. *How Economic Democracy Impacts Workers, Firms, and Communities: A Census of Individual Workers in Worker Cooperative*. Oakland, CA: Democracy at Work Institute.

Sobel, Richard. 1993. "From Occupational Involvement to Political Participation: An Exploratory Analysis." *Political Behavior* 15(4):339–53.

Sobering, Katherine. 2016. "Producing and Reducing Gender Inequality in a Worker-Recovered Cooperative." *The Sociological Quarterly* 57:129–51.

Sobering, Katherine, Jessica Thomas, and Christine Williams. 2014. "Gender In/Equality in Worker-Owned Businesses." *Sociology Compass* 8(11):1242–55.

Song, Jae, David J. Price, Fatih Guvenen, Nicholas Bloom, and Till von Wachter. 2019. "Firming Up Inequality." *The Quarterly Journal of Economics* 134(1):1–50. doi: 10.1093/qje/qjy025.

Spreitzer, Gretchen M. 1995. "Psychological Empowerment in the Workplace: Dimensions, Measurement, and Validation." *The Academy of Management Journal* 38(5):1442–65. doi: 10.2307/256865.

Stern, Andy. 2016. *Raising the Floor: How a Universal Basic Income Can Renew Our Economy and Rebuild the American Dream*. PublicAffairs.

Wajcman, Judy. 1983. *Women in Control: Dilemmas of a Workers' Co-Operative*. Milton Keynes, UK: The Open University Press.

White, Monica. 2018. *Freedom Farmers: Agricultural Resistance and the Black Freedom Movement*. Chapel Hill: University of North Carolina Press.

Wilson, Amanda. 2008. "Co-Opting Precariousness: Can Worker Cooperatives Be Alternatives to Precarious Employment for Marginalized Populations? A Case Study of Immigrant and Refugee Worker Cooperatives in Canada." thesis.

Wright, Erik Olin. 2010. *Envisioning Real Utopias*. London and New York: Verso.

TABLES AND FIGURES

Figure 1: Firms by demographic composition of workers

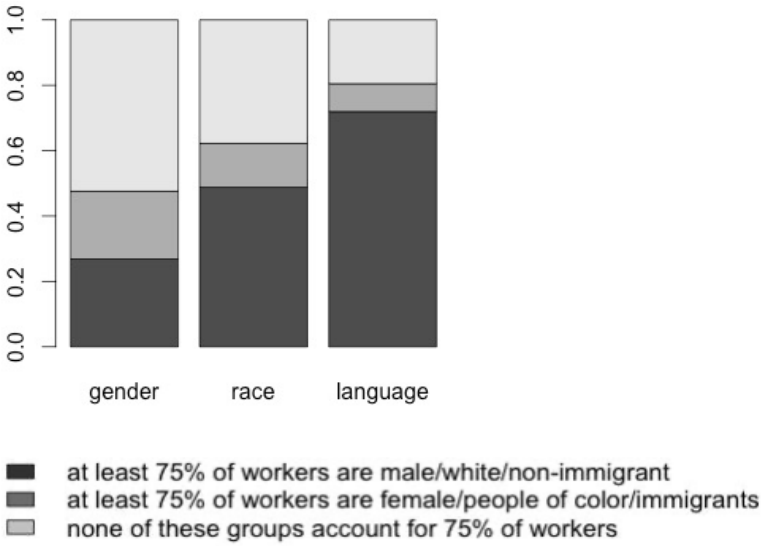

Figure 2: Percent majority workers at levels of share ownership

Figure 3: Mean hourly pay by worker gender and race

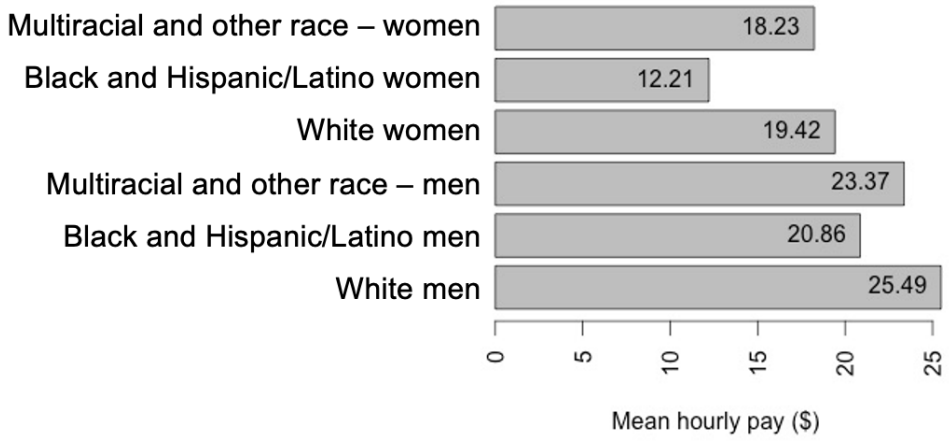

Figure 4: Mean firm-level hourly pay by gender composition of firms

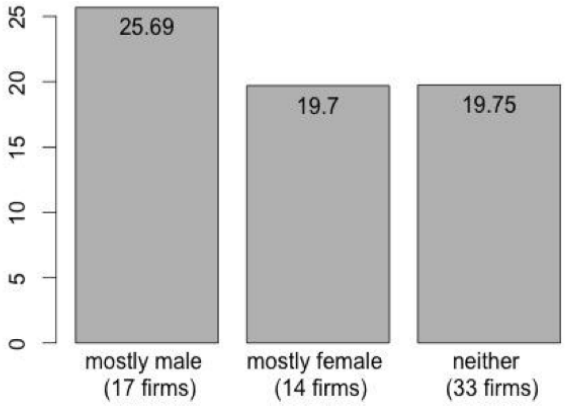

Figure 5: Sector-wide mean pay versus percent of sector workforce that is male

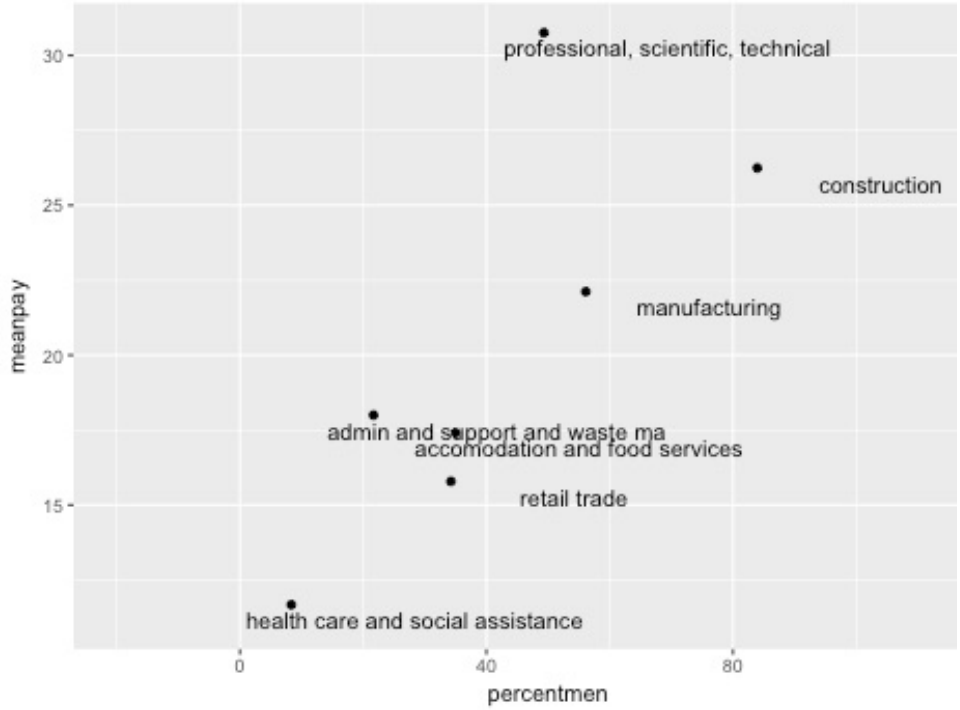

Figure 6: Within firm gender pay gaps (for 42 firms)

Table 1: Mean sample values of worker characteristics by gender and race group

	Education	Tenure	Co-op Interest
White men	5.2	7.2	.52
Black and Hispanic/Latino men	4.4	4.7	.49
Multiracial and other race - men	4.8	4.7	.68

White women	5.5	6.6	.58
Black and Hispanic/Latino women	3.1	5.4	.62
Multiracial and other race - women	4.6	6.1	.58

Table 2: Mean sample values of non-material outcome variables by gender and race group

	Feel like an owner*	**Autonomy index**	**Participation index**
White men	4.2	.34	.44
Black and Hispanic/Latino men	3.9	.02	.07
Multiracial and other race - men	4.0	.26	.91
White women	4.1	.47	.51
Black and Hispanic/Latino women	2.8	-.68	-.99
Multiracial and other race - women	4.0	.30	.46

* Includes only worker owners (n = 609)

Table 3: Hourly pay models

	Dependent variable:	
	hourlypay	
	OLS	*linear mixed-effects*
	(1)	(2)
female	−4.432***	−0.251
	(1.156)	(0.817)
Black or Hispanic/Latino	−1.997	−0.152
	(2.000)	(1.370)
other race	−0.060	1.175
	(1.983)	(1.322)
immigrant	1.657	0.987
	(1.164)	(0.824)
education	0.851***	0.300*
	(0.251)	(0.169)
job type - production	−1.385	−1.640
	(1.482)	(1.005)
job type - administrative	−0.420	−2.613**
	(1.922)	(1.264)
job type - professional	9.823***	2.444**
	(1.475)	(1.107)
job type - service	−2.968**	−1.312
	(1.342)	(0.917)
job type - other	0.097	−0.552
	(1.592)	(1.088)
weekly hours worked	0.066*	0.049
	(0.038)	(0.030)
tenure (logged)	0.621*	0.887***
	(0.355)	(0.249)
owner	2.471***	2.482***
	(0.921)	(0.678)
co-op interest	−1.023	0.016
	(0.819)	(0.560)
female * Black or Hispanic/Latino	−2.991	−1.699
	(2.317)	(1.671)
female * other race	−0.388	−1.238
	(2.553)	(1.715)
Constant	14.996***	16.589***
	(2.596)	(2.241)

Table 4: Autonomy and participation models

	Dependent variable:			
	autonomy.ind		participation.ind	
	OLS	*linear mixed-effects*	*OLS*	*linear mixed-effects*
	(1)	(2)	(3)	(4)
female	0.145	0.131	0.096	0.075
	(0.135)	(0.128)	(0.141)	(0.129)
Black or Hispanic/Latino	0.095	−0.097	0.001	−0.127
	(0.245)	(0.225)	(0.251)	(0.223)
other race	0.050	−0.061	0.639***	0.500**
	(0.239)	(0.218)	(0.243)	(0.214)
immigrant	−0.401***	−0.304**	−0.270*	−0.008
	(0.149)	(0.140)	(0.156)	(0.143)
education	0.036	−0.012	0.019	−0.042
	(0.031)	(0.029)	(0.032)	(0.029)
job type - production	−0.625***	−0.681***	−0.287	−0.442**
	(0.186)	(0.175)	(0.189)	(0.172)
job type - administrative	−0.638***	−0.585***	−0.036	−0.059
	(0.244)	(0.224)	(0.251)	(0.222)
job type - professional	0.023	−0.105	0.162	0.009
	(0.190)	(0.190)	(0.195)	(0.188)
job type - service	−0.538***	−0.612***	−0.107	−0.225
	(0.177)	(0.166)	(0.178)	(0.162)
job type - other	−0.323*	−0.520***	−0.196	−0.319*
	(0.195)	(0.182)	(0.199)	(0.178)
weekly hours worked	0.002	0.006	0.011***	0.013***
	(0.004)	(0.004)	(0.004)	(0.004)
tenure (logged)	−0.006	0.012	0.032***	0.044***
	(0.008)	(0.008)	(0.008)	(0.008)
owner	0.982***	0.797***	1.169***	0.915***
	(0.110)	(0.109)	(0.113)	(0.108)
co-op interest	0.319***	0.226**	0.429***	0.284***
	(0.100)	(0.093)	(0.103)	(0.093)
female * Black or Hispanic/Latino	−0.728**	0.206	−0.942***	0.208
	(0.288)	(0.283)	(0.297)	(0.282)
female * other race	0.005	0.196	−0.589*	−0.338
	(0.309)	(0.283)	(0.317)	(0.280)
Constant	−0.374	0.104	−1.246***	−0.564*
	(0.313)	(0.305)	(0.319)	(0.303)

Appendix A: Nonresponse bias

	Percent of All Respondents (n=1147)	Percent of All Workers Employed by Participating Firms (n=3544)	Percentage Point Difference Between All Respondents and All Workers Employed by Participating Firms
Ownership Status			
Worker-Owners	63%	53%	10%
Employees	37%	47%	-10%
Hours Worked			
Full-Time	65%	31%	33%
Part-Time	35%	69%	-33%
Race			
White	47%	28%	19%
Hispanic or Latino	31%	54%	-23%
Multiracial	7%	2%	5%
Black or African American	10%	14%	-4%
Other	5%	2%	3%
Gender			
Female	61%	79%	-18%
Male	34%	20%	14%
Identify in Some Other Way	4%	1%	3%
Language			
English	71%	51%	20%
Spanish	29%	49%	-20%
Firm Size by Co-op Specific Thresholds			
Micro firms of 1-5 workers	8%	3%	5%
Small firms of 6-12 workers	14%	6%	7%
Mid-sized firms of 13 to 20 workers	9%	5%	5%
Medium firms of 21 to 49 workers	23%	13%	10%
Large firms of 50 to 249 workers	12%	17%	-6%
Very large firms of 250 workers or more	35%	56%	-21%
Notes:			
Point people reported that 62 workers are native speakers of another language.			