Private Benefits, Public Origins: Employer-Provided Childcare and the State

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Abstract

In a context of no national childcare policy in the United States, some employers have stepped in to replace public childcare benefits with private ones. Yet we lack an understanding of the political conditions that shape these employer decisions, and how employer work-family benefits are a part of the welfare state. Meanwhile, we observe an unequal distribution of employer childcare benefits in the US labor force, which disproportionately impacts women. I argue that because state-level childcare regulations effect the childcare market as a whole, they also effect employer-providers of childcare, who are a part of this market. Using an original panel dataset of high-revenue US companies, I show how stronger childcare regulation increases the supply of on-site childcare by private corporations. Contrary to conventional wisdom, Republican-controlled state legislatures, and state tax credits to incentivize employers to offer childcare benefits, do not.

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The COVID-19 pandemic has laid bare the perennial issue of childcare for women in the United States, most starkly observed in the precipitous fall in labor force participation for women with young children (Collins et al. 2020). A long history of entrenched political disagreements has stymied attempts to create a national childcare system (Cohen 2001; Karch 2013; Morgan 2006). This includes social opposition to (white) women working outside the home when they have under-school-age children that continues to this day (Fleche, Lepinteur and Powdthavee 2018).

Meanwhile, the role of private employers in substituting the state by providing childcare benefits to employees has received little scholarly attention. The majority of the welfare state literature focuses on public social policy, not private (see Isakjee 2017 for a review). However, Esping-Andersen (1990) was an early proponent of the view that what we consider the welfare state is really a function of the "public-private mix." Despite this, the legacy of Esping-Anderson's emphasis on "de-commodifacation," or the extent to which the welfare state allows people to survive outside of the labor market, has meant that workplace benefits derived precisely from commodification have been off the political science radar (Greve 2007). Yet employers become part of the welfare state when they substitute or complement it through employment-based social benefits like childcare. Furthermore, as the vast literature on welfare state retrenchment has shown (Pierson 1994, Svallfors and Taylor-Gooby 1999, see Starke 2006 for a review), social policies are not on an inexorable march toward universal public benefits based on the rights of citizenship. The last several decades have seen a strong shift to social policy conditionality based on work status (Watson 2015). In welfare regimes like the United States that already lag in provision of universal, citizenship-based social policies, particularly in the area of family care (OECD Stat), employment-based benefits will continue to play a role in overall provision and merit greater academic scrutiny.

Despite federal and state government tax incentives over the years for more US employers to voluntarily provide childcare as an employment-based benefit (Kelly 2003; Kamerman and Kahn 1989), the results so far have been unequally distributed in the working population and limited in scope (National Women's Law Center 2002, 2017; US Department of Labor 2020). Yet we lack an understanding of how politics shapes the behavior of private employers in the area of work-family reconciliation and the policy conditions under which more employers offer the supports that allow employees to meet these challenges, which disproportionately effect women. This paper aims to be a first step towards opening that black box.

I explore these dynamics starting from the premise that employer childcare is part of the larger childcare market. All markets in social services, such as childcare, are structured by the political antecedents that determine which benefits the state provides and which are delegated to the market (Gingrich 2011). In the United States, non-familial childcare is market based, however, childcare is also a regulated market, primarily at the state level, and regulations play a key role in shaping supply and demand. When employers step into a regulated market to replace the welfare state, employer childcare benefits are, by definition, a product of politics. Although we have a better understanding of how government impacts employer benefits in other regulated markets, particularly healthcare (Gruber 2017; Hacker 2002), employer childcare remains understudied as a political phenomenon.

Focusing on childcare services located on-site at the workplace, I argue that relatively more employers offer on-site childcare benefits when they are indifferent between the costs of offering on-site childcare in order to recruit/retain employees, versus the costs of offering other childcare benefits or salary substitutes, because on-site childcare confers additional advantages. Employers are a childcare market alternative, since employees can chose to use an on-site or off-site childcare provider. On-site childcare centers are also subject to the same state-level regulations as childcare centers in the rest of the market. Stronger state childcare regulations help equalize the average quality – and, therefore, price – between on-site and off-site provision. Employers have little incentive to offer low quality – and therefore cheaper – on-site childcare, so stronger childcare regulations affecting on-site and off-site providers alike reduce employee "exit" options to cheaper off-site care. Because on-site childcare signals a strong commitment to "work-life balance" and gender issues, it attracts high value job candidates, so relatively more employers will offer it in a stronger regulatory environment than in a weaker one.

I test this argument using a difference-in-differences approach with an original, panel dataset of US private sector companies. I track provision of on-site childcare over the years 1983-2017 for the 2018 cohort of the Fortune 500, the highest revenue US companies for the previous year end, comparing firms headquartered in states with stronger childcare regulations to those in states with weaker ones. I find that more firms offer on-site childcare when regulations are stronger. These findings are independent of whether the state legislature is controlled by the Republican Party, which has historically sought an expanded role for private provision of social benefits, or whether states offer voluntary tax credits for employee childcare benefits that employers may elect to take.

Most US government involvement in employment-based social benefit provision has tended to follow labor market trends, rather than lead, which has profound consequences for women. Politicians across the ideological spectrum have been reluctant to impose statutory requirements on employers to provide employee benefits, since companies are widely viewed as engines of the economy that should not be unduly burdened. As a result, most family benefits in the United States are provided by employers voluntarily (OECD Stat), such as childcare (IFC 2019). Yet work-family benefits like childcare are usually targeted at, and taken up by, women (Liu et al. 2019; Vandello et al. 2013) and result in better advancement outcomes for them (Latura 2020; Kalysh, Kulik and Perera 2016). As such, employer childcare benefits serve a gender inequality-reducing function that other employment "perks" do not: women remain the primary caregivers of children regardless of labor force participation or education, and motherhood is still the single largest factor explaining the gender pay gap (Blau 2012; Blau and Kahn 2017; Weeden, Cha and Bucca 2016; Javdani and McGee 2015).

Nevertheless, only about 11% of US workers overall have access to employer childcare benefits, at any level of generosity, although nearly 30% of high-salary private sector employees do (US Department of Labor 2020). If employer childcare remains a benefit only for socioeconomic elites, we should expect to observe a development parallel to that of the US healthcare system, where lower wage workers have fewer and less generous benefits – but with the compound affect of disparities by gender. That pattern has already begun to emerge in paid family leave benefits (US Department of Labor 2020).

In this paper, I begin with an historical overview of the politics of US "welfare capitalism" and the development of employment-based benefits as an alternative to the state. I discuss the current distribution of work-family benefits offered by US employers and its impact on inequality. I then situate employer-provided childcare in its regulated market context. Next, I provide a theoretical explanation for the supply of employer-provided, on-site childcare within this context, and an empirical test of my theory. In the conclusion, I discuss the political trade-offs between stronger childcare regulations and socioeconomic inequality, as well as the responsibility to employee social welfare of private corporations who owe their legal existence to the state.

US Welfare Capitalism and Employment-Based, Work-Family Benefits

In order to understand how private employers fit into the modern welfare state as social policy providers, we first need to understand the historical conditions that gave rise to this phenomenon. Those roots date back to the early twentieth century.

The first wave of large US industrialists came to realize that what we now refer to as occupational or employment-based benefits, such as healthcare and disability insurance, were key to maintaining workforce continuity and mitigation of risk against productivity losses (Institute of Medicine 1993). Whereas European countries began to move towards a politico-economic model in which government provided social protections to all citizens, leaders in the US business community – as well as union organizers – largely opposed what they deemed to be the heavy hand of the state. They preferred an employment-based social protection model at the level of the individual firm, allowing employers to use non-wage compensation to bind employees to the company (Stone 2007).

This "welfare capitalism" took a temporary public image blow during the Great Depression, when public opinion favored greater government investment in social policy (Jacoby 1997). However, by the time the Social Security Act of 1935 passed, the first major piece of federal social policy legislation in the United States, corporate, union, and even medical community opposition to anything but a relatively narrow bill meant that the Act did not manage to include healthcare, among other more generous provisions (Blumenthal 2006). Instead, employment-based benefits took an increasingly stronger foothold in the US labor market. By the 1950s, private sector corporate managers, employing new public relations and communications techniques, began definitively turning public opinion in a pro-business direction in an attempt to head off the gains of organized labor by increasing "employee satisfaction" through company benefits (Jacoby 1997).

It was not until after the large scale entrance of women into the labor force beginning in the 1970s that employment-based benefits primarily impacting women, namely childcare and paid family leave, begin to appear on the political and corporate radars. Here again, opposition to federal intervention prevailed, though from a wider range of political actors.

The development of a universal childcare policy at the national level has been hindered by a lack of political consensus in the United States about the role of public versus private financing, religious versus secular pedagogy, and feminist versus traditionalist views about women's role in society (Cohen 2001; Karch 2013; Morgan 2006). These dynamics have been complicated by changing ideas about children's development, as well as inequities along racial and class lines (Michel 1999). Beginning under the Reagan Administration in the early 1980s, federal childcare policy shifted toward an emphasis on privatization of childare via "commodified" or market-based supply (Sosinsky 2012), with limited subsidies for the most socioeconomic disadvantaged families, and remains so today. This includes a policy emphasis on demand-led interventions, such as tax credits to childcare consumers (Kamerman and

Kahn 1989), which are a common form of social spending in the United States (Howard 1997). This differs from supply-side interventions like direct subsidies to childcare providers, which are commonplace across other advanced economies. The net result has been a patchwork of national and state-level policies targeted at some (but not all eligible) low-income families, with tax incentives the primary vehicle to assist the middle class (Kamerman and Gatenio-Gabel 2015). This has left most families either with employer-provided childcare benefits – as well as paid family leave benefits, which also are not federally provided – or none at all.[1]

Today, corporate employers in particular, and the business sector in general, are intimately linked to the welfare state in several ways: as producers of capital that can be taxed – and employers of citizens who can also be taxed – to fund social policy (Farnsworth and Holden 2006); as political actors who actively support or oppose particular policies (Hacker and Pierson 2010; Farnsworth and Holden 2006; Farnsworth 2012); as providers of private social services in the open market, such as healthcare, childcare, and education, that may substitute or complement government provision; and as suppliers of employment-based benefits to their own workforce (Farnsworth 2004). However, while anti-government sentiment in the United States regarding government intervention in social welfare has found animated political representation historically, an explicit political force calling for private sector replacement of public sector benefits has been considerably more tepid.

In the United States and elsewhere, most employment-based social benefits are provided voluntarily, and are not mandated by government (OECD Stat). However, governments in "coordinated market economies" more so than the "liberal market economy" of the United

[1]Childcare policy has been more successfully addressed by the federal government in military contexts. During World War II, the Lanham Act authorized federal spending on childcare facilities to help women work outside the home when male labor shifted to the armed forces, which increased women's paid employment (Herbst 2017). Passage of the 1989 Military Childcare Act mandated and funded a high-quality, subsidized, and universal childcare system housed within the Department of Defense.

States (Hall and Soskice 2001) may be better positioned to require employers to contribute to social policy, especially in the area of work-family benefits. For example, the Netherlands mandates childcare assistance by employers as part of a three-pronged strategy where employers, families, and the state all contribute (IFC 2019). These countries may also be able to incentivize voluntary provision more forcefully. Both the Italian and French governments offer tax credits and subsidies for employer childcare that are comparatively more generous than the United States. Perhaps for this reason, among organizations employing more than 100 people, 23.2% of Italian employers and 19.7% of French employers offer on-site childcare compared to 14.4% of US employers (Cranet Network 2017).

By contrast, US government intervention in private, employment-based social benefits tends to lag, not to precede, widespread adoption. Two of the most consequential regulations of employment-based benefits occurred long after they were commonplace: the Affordable Healthcare Act (ACA) of 2008, which mandated larger employers to provide healthcare to employees, and the Employee Retirement Income Security Act (ERISA) of 1974, which forced employers to adequately fund employee pension plans, if they decided to offer them. Wage controls imposed during World War II led to the inadvertent growth of healthcare benefits as a wage substitute in the first place (Institute of Medicine 1993; Scofea 1994). More recently, legislative proposals to require large employers to offer paid family leave, given that the federal government does not offer it, have followed a steady uptick over the last ten years in employers already offering the benefit (US Department of Labor 2020).

In sum, employment-based social benefits, especially in the area of work-family reconciliation, have arisen out of an absence of state provision. Meanwhile, most of the limited political capital spent on increasing employer childcare benefits in particular has been geared toward incentivizing greater voluntary provision.

Policy Incentives Targeted at Employers

Today, four main childcare benefit types dominate the US labor market: childcare referral programs (usually a part of "employee assistance plans" or EAPs), back-up or emergency childcare care, on-site childcare available full-time at the workplace, and dependent care flexible spending accounts or DCFSAs. (See the Appendix for further discussion of these benefit types.) Less common, employers may instead/also pay out a direct cash subsidy or bonus to employees, typically at the birth or adoption of a child. There are two principal forms of direct federal intervention to encourage greater employer provision of these four childcare benefit types.

The first is through DCFSAs themselves. Although employers can choose whether to offer DCFSAs to their employees, DCFSAs are better understood as a federal benefit administered by employers. Individuals can only receive a DCFSA through their employer, but most of the cost of the benefit is paid for by the government.

DCFSAs stem from a Reagan era tax bill in the early 1980s. Originally envisioned by Congress as a way to increase the number of employer on-site childcare centers, or direct subsidization of employee childcare used off-site, human resource benefit managers instead advanced a creative tax interpretation of the law that allowed employers to skirt this provision (Kelly 2003). Companies began setting aside employee salary pre-tax for employees to purchase their own childcare off-site, which was ultimately left unchallenged by the IRS (Kelly 2003). DCFSAs represent only an administrative cost to employers, while still reducing their federal tax burdens, and became one of the most common forms of employer childcare benefits (see next section).

Politically, DCFSAs enjoyed bipartisan support, and they were championed by human resource consultants and the popular press alike (Kelly 2003). However, they failed in their primary objective, which was to encourage employers to provide childcare to employees. It took twenty years for Congress to successfully target employers again through the second main federal intervention, the employer-provided childcare tax credit or EPCTC.

Originally sponsored by Democratic Senator Herb Kohl in 1996 and reintroduced by him several times in subsequent legislative sessions, the EPCTC eventually gained bipartisan support with Republican co-sponsors before finally being adopted in the so-called "Bush tax cuts" of 2001. The EPCTC provides employers a tax credit of 25% for childcare expenses that the employer itself provides to employees – or contracts with a third party to provide – and a 10% credit for childcare referrals. The credit is capped, currently a maximum of $150,000 per year.

Expectations for the EPCTC appeared to be high in 2001. The Joint Committee on Taxation (JCT), which estimates Congressional revenue based on tax projections, predicted at the time that the credit would constitute over $1.4 billion dollars in foregone revenue to the federal government. But in its first ten years, only about one-tenth of the anticipated credits were taken by employers. The credit is widely considered ineffective, either because it is insufficient to cover employer costs or because employers do not have sufficient federal tax liability to take full advantage of it (National Women's Law Center 2017, 2002).

This lack of success has not impeded various state governments from implementing their own state-level EPCTCs. More than half of US states have enacted some type of employer childcare tax credit at one point since they emerged in the early 1980s (National Women's Law Center 2002, 2017).

In the ensuing years, employment-based, work-family benefits have been steadily increasing in popularity among both private and public employers. However, the policy efforts of national and state legislatures to spur more employers in this direction have fallen short of their goals, particularly for the most generous work-family benefits that imply the greatest costs for employers. Benefits are also concentrated among higher-salary individuals, which reduces their potential to reduce socioeconomic and gender inequality in the working population.

Distribution of Work-Family Benefits and Inequality

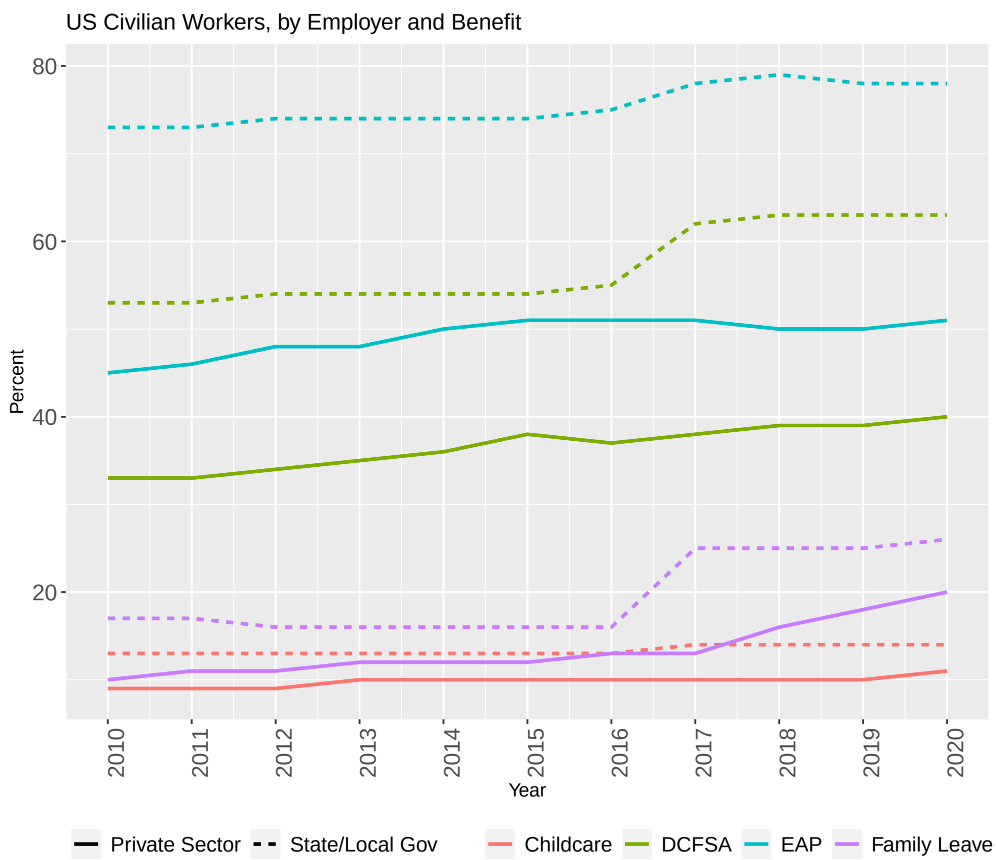
The federal government separately tracks EAP (i.e., childcare referrals) and DCFSA benefits offered by US employers and collapses all other "childcare" benefits, such as on-site childcare or back-up/emergency care, into a single category. The data allow for comparisons between private sector and public sector workers, with state and local government employees undifferentiated and federal employees excluded.[2]

The dotted lines in Figure 1 represent access to work-family benefits among state and local government employees and the solid lines private sector employees. For all benefit types, public sector workers are more likely to receive these benefits than private sector workers. More employers offer less generous childcare benefits, such as EAPs and DCFSAs that imply a smaller financial commitment on their part, and fewer employers offer more generous benefits, such as on-site childcare, back-up childcare, or childcare subsidies. Whereas in 2020 51% of private sector workers had access to an EAP and 40% a DCFSA, only 11% had access to these other childcare benefits.

Importantly, there are substantial differences by employee type, wage, and location. Focusing only on childcare benefits, we see in Figure 2 that these are highly contingent on salary in the private sector, but this distribution is much flatter in the public sector, as we see in Figure 3. In 2020, nearly 30% of the highest-wage private sector workers had access to childcare benefits of some kind compared to about 2% of the lowest-wage workers. Salary differences in access among the highest and lowest-paid state and local government

[2]The federal government is an important source of employment-based childcare benefits. The Department of Defense is the single largest employer-provider of childcare in the United States (Floyd and Phillips 2013). The General Services Administration, which acquires and manages federal property, counts 97 childcare centers operating on federal property, not including those under Department of Defense purview. See `https://tinyurl.com/bdhtxmtv`.

Figure 1: Employees with Access to Work-Family Benefits



Source: National Compensation Survey, US Department of Labor workers are much flatter and have shrank over time. Geographic variation also favors larger metropolitan areas, and industries with more educated workers tend to offer more of these benefits (US Department of Labor 2020).

Figure 2: Private Sector

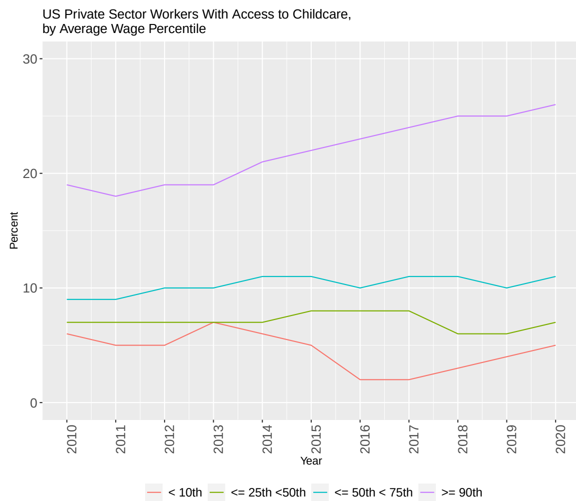
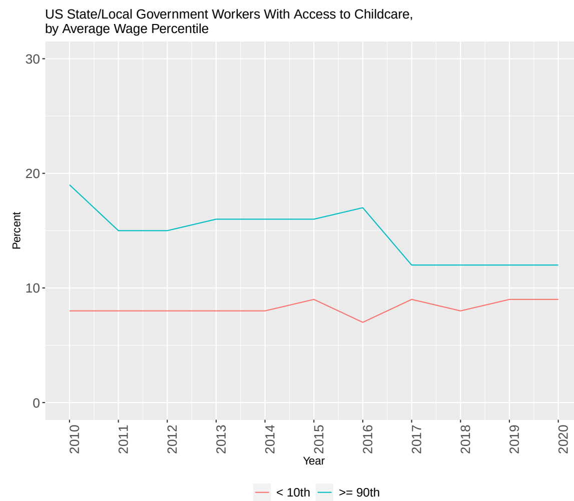


Figure 3: Public Sector



Source: National Compensation Survey

In these circumstances, the potential for employment-based benefits like childcare to help alleviate socioeconomic and gender inequality is constrained. Women are most likely to suffer from this negative impact.

The popular assumption that the distribution of employment-based childcare benefits is strictly due to local or industry differences in the labor market fails to take into account how the childcare market actually works, and how employers fit into it. Government doesn't have to *directly* incentivize private benefits through explicit policy initiatives to still *indirectly* influence their provision. In the case of childcare, this is because the childcare market is already impacted by the state through regulations, and employer childcare benefits, especially on-site childcare, are a part of that regulated market. Therefore, we cannot understand what drives the supply of employer childcare without understanding employers in a state-regulated childcare market context.

Regulated Childcare Markets and Employer-Providers of Childcare

Unlike markets for other goods and services, childcare has a social welfare dimension. It is purchased by a proxy for a vulnerable population. Children require high-quality care to thrive, but evaluating the quality of care is difficult due to information asymmetries between childcare providers and parents or guardians (Mocan 2007). Hence, government steps in with quality regulations to correct for this market failure, as in other regulated markets (den Hertog 1999).

Scholars and activists have long pushed for unified, federal regulation of childcare in the United States to even out quality across the nation (Karch 2013), but with a few exceptions most childcare is regulated independently at the state level. It is beyond the scope of this paper to take a deep dive into the political dynamics of childcare regulation in each individual state, however, we can make some orientating generalizations.

The political push and pull of childcare as public welfare vs childcare as a private business has created obstacles to the effective design and implementation of childcare regulations. The sheer number of interested parties – pediatric groups, child welfare agencies, women's organizations, anti-poverty networks, small-business associations, and legislators – is vast, and all have competing preferences over what is regulated and how stringently. As a rule, conservative groups tend to favor weaker childcare regulations so as to increase the number of providers that are able to stay in business and therefore increase family choice – or to oppose regulation in principle as stifling free enterprise (Cohen 2001). Furthermore, the difficulties in enforcing regulations because of insufficient government staff – itself a consequence of conservative opposition to public sector employment – complicates efforts to strengthen regulations in the first place (Gormley 1999). Overall, childcare regulation in the United States is widely considered to be weak (Child Care Aware of America 2013), especially by international standards.

What exactly is regulated and how stringently varies across states. Nationally, however, the relationship between stronger regulations and the cost of childcare is well established (Hotz and Xiao 2011; Gorry and Thomas 2017). The main input in provider costs is labor, and regulations that increase the number of childcare workers a provider must hire – or qualifications workers must possess that increase the salaries they can demand – are then passed on to the market. As a consequence, states whose regulations raise provider labor costs have childcare markets with more expensive childcare on offer.[3]

In this milieu, employer-provided on-site childcare is a market alternative to provision available off-site. Importantly, this is *not* the case for other employer work-family benefits such as paid parental leave, which cannot be purchased in the market. As such, while primarily firm-level explanations about employment-based benefits make sense for benefits without a market substitute (see e.g., Goldin, Pekkala and Olivetti 2020), on-site childcare needs a market-level explanation. Since on-site childcare is a part of the regulated childcare market – on-site childcare centers are subject to the same regulations as off-site centers – this explanation necessarily involves government. Only in this state-market interface can we understand what drives supply.

Theory of On-Site Childcare Supply

Employee benefits, childcare or otherwise, are a form of non-wage compensation. Two prominent economic explanations for the advantage of non-wage benefits are that 1) they may be taxed at lower rates than wages, and 2) they may be especially attractive for the recruitment and retention of certain demographic groups, such as women (Liu et al. 2019). Although

[3]In this paper, I focus on formal, center-based childcare regulations, not home-based or "family care" offered in private residences, which is often not regulated or is loosely regulated. On-site childcare is also formal and center-based.

“family-friendly” benefits like childcare could be helpful to both women and men, they are usually targeted at and used by women (Vandello et al. 2013). Evidence broadly suggests that although women continue to face a number of organizational and societal biases inhibiting their leadership potential (Lyness and Grotto 2018), benefits like childcare lead to better advancement outcomes for them (Latura 2020; Kalysh, Kulik and Perera 2016).

For employers, non-wage compensation is relatively more fixed in terms of costs than wages (Hart 2010). Fixed costs are consistent over time, but more difficult to reduce or eliminate than variable costs. They also imply a larger up-front, per employee investment. This means that the greater a fixed cost a type of non-wage compensation represents, the greater the possibility that it becomes a sunk cost to employers if it fails in its objective.

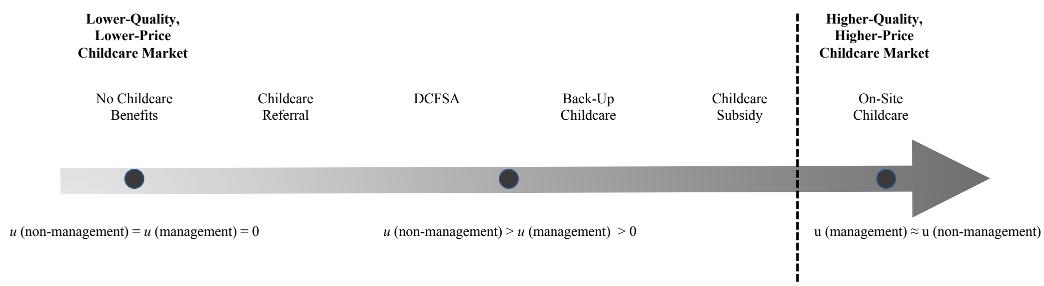
Of the kinds of childcare benefits available in the labor market, on-site childcare implies the greatest fixed cost for employers, including construction and labor costs, followed by back-up or emergency childcare, which typically involves contracting with third-party providers. DCFSAs, childcare referral programs, and cash subsidies vary in cost according to the number of employees using the program. Those costs are mostly administrative. In expectation, relatively more employers will offer childcare benefits when they imply the fewest fixed costs.

However, the extent to which this employer preference is actionable depends upon two factors. The first is the employer's human resources strategy regarding higher value (and higher wage) management and management-oriented employees, especially women. The second factor is the average quality, and therefore price, in the local childcare market.

From the perspective of employees, childcare benefits exist along a continuum of expected utility in terms of mitigating the cost and reducing the logistical burden of childcare. Figure 4 presents a stylized depiction of this continuum, where employee utility increases moving to the right as does the the fixed-cost nature of the benefit for employers. Offering one type of benefit does not preclude offering others, so employee utility increases either by replacing less generous benefits with more generous benefits further along the continuum, or with a larger bundle of less generous benefits.

For lower wage, non-management types in lower average quality – and, therefore, less expensive – childcare markets, the benefits on the left side of the continuum will reduce a greater share of childcare costs then they would in higher average quality, and therefore more expensive, childcare markets. While any benefit or benefits to the right of "no childcare benefits" moving along the continuum will increase employee utility to some value greater than zero, how much greater depends upon the market.

Figure 4: Employee Utility According to Childcare Benefit, Market, and Employee Type



For higher wage, management and management-oriented types, however, the utility of the same lower fixed cost childcare benefits will be inferior to the utility of non-management types. This is because the value of the benefits reduces the same share of employee childcare costs but the benefits represent a smaller share of these high-value employees' wages.[4] Hence, if the employer is actively seeking to recruit and retain management types, especially women, via childcare benefits, it will have to move further to the right along the employee utility continuum.

In higher average quality, and therefore more expensive, childcare markets, the employer will have to move even further to the right along the continuum if it wants to increase the utility of its non-management employees and further still to attract management types. The

[4]This assumes higher-wage employees also use the same, lower-quality childcare as lower-wage employees. Since higher-wage employees could also afford to purchase above average, higher-quality childcare, the benefits would reduce a smaller share of childcare costs.

investment employers have to make bundling lower-fixed-costs childcare benefits will eventually approach the cost of on-site childcare. At that point, employers could offer a package of less costly benefits plus cash that would equal the per-employee investment required for on-site childcare, such that they would be indifferent between the two. Yet on-site childcare confers additional advantages to employers compared to the other benefit types. It signals to the labor market a strong commitment to "work-life balance" and employee dependent care in a way that less generous childcare benefits or cash subsidies cannot, particularly if the benefits are not available to all employees. Employers can also offer extended-hours on-site childcare open 11 + hours a day versus the 8-9 hours a day, on average, available off-site (NSECE 2012, 2019). This can help female employees work longer hours in management positions or to signal their ambition to advance into them (Latura 2020; see also Allemann-Ghionda, Hagemann and Jarausch 2013).[5] In expectation, then, relatively more employers will shift their preferences to on-site childcare under these conditions.

The argument outlined so far rests on two assumptions. The first is that employers who offer on-site childcare will only offer *high-quality* on-site childcare, never low-quality, regardless of the average quality available in the rest of the market. Low-quality childcare does not augment employer bona fides in the area of work-family balance and therefore does not help employers attract the highest quality workers.

The second assumption holds that employers prefer *both* management and non-management types to use the on-site childcare center, especially if it is open extended hours. When both groups of employees have fewer "exit" options to cheaper off-site care, this pushes relatively more employers to offer on-site childcare to everyone. Higher-quality childcare markets reduce those exit options. This also allows firms to take advantage of economies of scale

[5]For a discussion of the relationship between women's work hours and their professional advancement, see section III of the Appendix. For an empirical analysis of the relationship between employer childcare benefits and women's work hours in the general population using nationally-representative panel data, see section IV of the Appendix.

because it is more efficient to offer on-site childcare to all employees.

Therefore, we should expect to observe that US states with stronger childcare regulations have relatively more private sector employers offering on-site childcare than states with weaker childcare regulations.

Empirical Strategy

To test this hypothesis, I constrain the universe of employers to high-revenue US corporations, making this a "hard test" of my argument: this is the group of employers we should expect to be least constrained by the problem of the fixed costs in on-site childcare. I focus on the 2018 cohort of the US Fortune 500, the highest-revenue companies in the United States as of the previous year end.

Data and Measurement

I collected childcare benefits data on all companies in the cohort using publicly available sources, recording whether each firm offered on-site childcare, back-up/emergency childcare, EAPs, and DCFSAs as of the spring of 2019.[6] Additional data on organizational-level variables was collected through the Orbis corporate database. Each of the four childcare benefits was coded as 1 if the benefit in question was offered by the company to any number of employees at any company location. Because of the limitations in publicly-available data, the measure does not capture the monetary value of the benefit nor how many employees

[6]Publicly available sources included: companies' own websites, press releases, and annual reports; media reporting; "best of" awards for corporate employers; directories in third-party childcare management companies; and government licensing agencies. Online message boards such as GlassDoor, where individuals can anonymously post unverified reviews of employers, were not consulted.

receive it.

For companies with on-site childcare centers, I then identified the year each center first opened, using the same set of publicly-available sources, to create a panel dataset. The dependent variable *center_year* is coded 1 for all years 1983 through 2017, inclusive, that the center was open. The final dataset contains 17,465 company-year observations.

Regulatory data comes from multiple sources. For the years 1983-2000, I use the data cited in Hotz and Xiao (2011), which was generously shared with me by the authors.[7] For the years 2001-2014, I use data from a series of childcare licensing studies released by the US Department of Health and Human Services. For the year 2014 and through the end of the study period, regulations were manually collected from each of the childcare regulatory agencies for all 37 US states in which the 2018 Fortune 500 companies are headquartered. (See the Appendix for additional details on data sources and coding.)

The regulatory data collected focuses on two types of regulations that directly affect labor costs and are frequently used in the early childhood and economics literatures as indicators of childcare quality: minimum child-to-staff ratios that must be maintained at all times, and the maximum group size for the number of children than can be cared for in one space, regardless of the child-to-staff ratio. I then create two variables, *ratios* and *groups*, which sum the maximum child-to-staff ratios and the maximum number of children per group, across the ages 0 to 5 years, for each state in each year. Higher values indicate weaker regulations, so I then multiply the values by negative one to make indicators of regulatory strength, which are more easily interpretable.

Using a difference-in-differences design, I compare state-years in which childcare regulations are stronger to state-years in which they are weaker. Company and year fixed effects control for unobserved variation.

The baseline regression is

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[7]The data were provided by V. Joseph Hotz and M. Rebecca Kilburn and its assembly was funded, in part, by NICHD Grant R01-HD35382.

$$Y_{center\_year[i,s,t]} = \beta_0 + \beta_1 * ratios[s,t] + \beta_2 * groups[s,t] + \delta_{i,s} + \eta_t + \epsilon$$

where the dependent variable $center\_year[i,s,t]$ measures each company i headquartered in state s that offered on-site childcare in year t. The $ratios[s,t]$ and $groups[s,t]$ variables measure regulatory strength in state s in year t. I include company fixed effects in $\delta_{i,s}$ and year fixed effects in η_t. Although the DV is binary, the model is linear, which is superior to logit models when fixed effects are used (see e.g., Beck 2018).

The *ratios* and *groups* measures are yearly, however, they will capture some degree of time lag between the month when the regulations become effective – often but not always the first of the year – and when they could reasonably be expected to impact the childcare market that year, and, therefore, employer behavior. On the intuition that employers may need a longer time horizon to react to market changes resulting from regulatory shifts, I re-estimate the baseline including a lagged *ratios* and a lagged *groups* variables as

$$\begin{aligned} Y_{center\_year[i,s,t]} = &\beta_0 + \beta_1 * ratios[s,t] + \beta_2 * groups[s,t] + \\ &\beta_3 * lag\_ratios[s,t-1] + \beta_4 * lag\_groups[s,t-1] + \\ &\delta_{i,s} + \eta_t + \epsilon \end{aligned}$$

where $lag\_ratios[s,t-1]$ and $lag\_groups[s,t-1]$ measure regulatory strength in state s for the previous year $t-1$ for the *ratios* and *groups* variables, respectively.

To capture the effects of stronger regulations in particular, not just relative strength overall, I re-estimate the baseline specification, operationalizing regulations as

$$Y_{center\_year[i,s,t]} = \beta_0 + \beta_1 * ratios\_stronger[s,t] + \beta_2 * groups\_stronger[s,t] + \delta_{i,s} + \eta_t + \epsilon$$

where $ratios\_stronger[s, t]$ and $groups\_stronger[s, t]$ are indicators taking on the value of 1 if the regulations in state s in the current year t are stronger than the regulations in the previous year $t-1$ for the *ratios* and *groups* variables, respectively.

Although descriptive evidence does not give us strong theoretical reason to suspect that state-level EPCTCs exert an independent effect on corporate provision of on-site childcare, this supposition has not been rigorously tested. Therefore, I re-estimate the baseline specification adding the variable $epctc[s, t]$, which indicates that state s offered an EPCTC of any kind, at any level of financial incentive, in the current year t. EPCTC data is manually coded from the statutes listed in National Women's Law Center (2002) and (2017). This variable only measures presence or absence, not degree.

Finally, childcare regulations are enacted by technocrats at regulatory agencies after having been codified into law more generally by state legislatures, so we might have reason to believe that regulations are a proxy for the "pro-business" agenda of the party in legislative control. In particular, we may suspect that Republican-controlled legislatures are more likely to support liberalizing policies and programs aimed at strengthening the private sector, such as corporate tax breaks, which might be driving any observed effect on provision of on-site childcare. To test this possibility, I re-estimate the baseline specification adding the variable $rep\_leg[s, t]$, which indicates that state s in year t was led by a Republican-controlled legislature. This data comes from the National Conference of State Legislatures and covers years 1983-2013 of the dataset.

Results

Beginning with some descriptive statistics, 73 companies from the 2018 US Fortune 500 cohort currently offer on-site childcare.[8] By contrast, 97 companies offer back-up childcare,

[8]Six of these companies opened their centers after 2017, the last regulatory year of the dataset, and are not represented in the longitudinal analysis. The year one company first opened its center could not be ascertained, and so this company is also not represented.

293 offer EAPs, and 298 offer DCFSAs, providing additional evidence that more employers offer less generous childcare benefits.

There is a negative but low correlation between a firm's 2017 revenue – based on its rank in the 2018 list – and whether the company currently offers on-site childcare, meaning higher revenue companies are only slightly more likely to offer the benefit ($r = -0.18$). Most on-site childcare centers are located in the states of New York and Illinois, which tie with 9 each, however, there is a low overall correlation of a firm offering on-site childcare and the number of Fortune 500 companies in its state ($r = .003$). This suggests there is not a strong network effect at play.[9]

Figures 5 and 6 plot the change over time in average regulatory strength across the United States for child-to-staff ratios and maximum group size, respectively. We see variation in both measures, however, group size regulations have changed the most, generally becoming stronger. In large part, this is due to the fact that group size was frequently unregulated in many states, or only regulated for the youngest children, until the early 2000s, which would be coded as regulatory weakness in the dataset. The most significant periods of regulatory weakening, on average, occurred around the time of the Great Recession of 2008, when politicians across the spectrum frequently debated the merit of loosening various kinds of regulations to accelerate business activity. However, overall, the modal regulatory state is stasis: across all state-years in the dataset, regulations strengthened over the previous year 12% of the time, weakened 10% of the time, and remained unchanged 78% of the time.

Table 1 shows the regression results of the baseline regression testing the hypothesis that stronger regulations lead more companies to offer on-site childcare. Specification (1) includes the complete model with both types of regulations, and specifications (2) and (3) separate them. We observe that the *ratios* variable is consistently positive and significant, while the *groups* variable is never significant. While both types of regulations have the potential to increase labor costs for childcare providers, in practice we should not be surprised to observe

[9] There is also a low correlation with industrial sector ($r = .009$)

Figure 5: Ratios Regulations Over Time

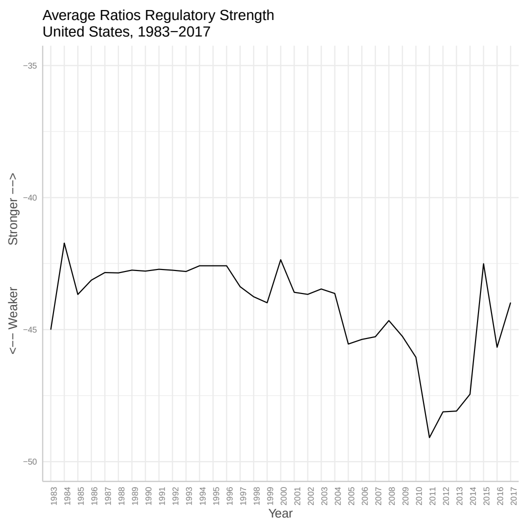
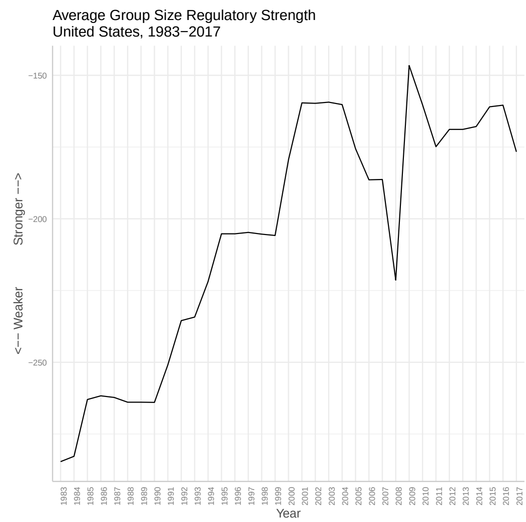


Figure 6: Group Size Regulations Over Time



a greater impact from stronger child-to-staff ratios. Childcare centers have space limitations, and may not be able to have more than a few groups of children cared for simultaneously, so when group size maximums are imposed, this might not effect their hiring significantly. However, stronger child-to-staff ratios always imply a greater number of staff.

Although the coefficients are not large in absolute terms, the degree of change is substantial. In terms of predicted probabilities, we would expect the average company (i.e., rank 250 in the Fortune 500), in the average year (i.e., the year 2000, midway through the dataset), in a state at the national average for the *ratios* and *groups* variables in that year to have a -0.08% predicted probability of offering on-site childcare. If the *ratios* variable strengthened such that it entered the top quarter of strongest regulations for that year, we would expect the same company to have a 0.72% predicted probability of offering on-site childcare. This represents a likelihood more than double the average. In the aggregate, more companies with a positive instead of negative predicted probability of offering on-site childcare would increase the overall number of firms offering the benefit across the country.

Specification (4) in Table 1 shows the results of the *epctc* variable alone, while specification (5) includes the *ratios* and *groups* variables. Consistent with what descriptive evidence would lead us to predict, *epctc* is never significant. The *ratios* variable retains its significance.

Table 1: Baseline Regression Results

	Dependent variable: center _year				
	(1)	(2)	(3)	(4)	(5)
ratios	0.0004**	0.0004**			0.0004**
	(0.0002)	(0.0002)			(0.0002)
groups	0.00002		0.00002		0.00002
	(0.00004)		(0.00004)		(0.00004)
epctc				0.003	0.003
				(0.011)	(0.011)
Company FEs	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	17,245	17,265	17,284	17,465	17,245
R^2	0.585	0.585	0.583	0.579	0.585
Adjusted R^2	0.572	0.572	0.570	0.566	0.572

*p<0.1; **p<0.05; ***p<0.01

Note: Standard errors clustered at company level.

Specification (1) in Table 2 reports the results of the baseline regression including the *lag_ratios* and *lag_groups* variables. Specification (2) reports the results with the ratios measures only, dropping groups, which were not significant in the baseline model. We observe that the *ratios* variable remains significant and the *groups* variable remains insignificant, and including the lagged variables provide no additional information to the model. This suggests that regulatory strength measured in the baseline regression captures sufficient temporal lag to show how quickly stronger regulations can impact the childcare market.

Specification (3) in Table 2 reports the results of the operationalization of regulatory strength as *ratios_stronger* and *groups_stronger*, which hone in on the effect of state-years in which the *ratios* and *groups* variables were stronger than in the prior year. Specification (4) reports the results for *ratios_stronger* only. We see in both specifications that *ratios_stronger* is positive and significant, at $p < .10$ with both variabales and $p < .05$ with *ratios_stronger* only. This tells us that, beyond just the relative position of a state-year's regulatory strength, state-years in which regulations strengthened – compared to having weakened or remained unchanged – led more firms to offer on-site childcare.

Table 2: Additional Regression Results

	Dependent variable:			
	center _year			
	(1)	(2)	(3)	(4)
ratios	0.0003**	0.0003**		
	(0.0002)	(0.0002)		
groups	0.00002			
	(0.00002)			
lag_ratios	0.0002	0.0002		
	(0.0001)	(0.0001)		
lag_groups	0.00000			
	(0.00002)			
ratios_stronger			0.011*	0.011**
			(0.006)	(0.004)
groups_stronger			0.0004	
			(0.006)	
Company FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Observations	16,729	16,753	17,151	17,175
R^2	0.598	0.598	0.589	0.588
Adjusted R^2	0.585	0.585	0.575	0.575

*p<0.1; **p<0.05; ***p<0.01

Note: Standard errors clustered at company level.

Using a more explicitly political lens, we see in the dataset that there is a low, but negative correlation between the *ratios* and *groups* regulatory strength variables and Republican party control of the state legislature ($r = -0.164$ and $r = -0.050$, respectively). By contrast, for Democratic party control or control split between the two parties, there is a slightly higher, though still low, positive correlation ($r = 0.188$ and $r = 0.076$). In other words, increased childcare regulatory strength may be slightly more likely in Democratic legislatures, but does not appear to be an overtly partisan phenomenon.

Stepping back and thinking of the political environment generally, what we might expect to produce clearer signals of partisanship would be Republican-controlled legislatures attempting to implement the sorts of policies they believe to be the most conducive to greater private, employment-based childcare benefits. This would be observable independent of childcare regulations. Therefore, if that conventional wisdom holds, then we would expect to observe more on-site childcare when state legislative leadership is held by Republicans.

However, this is not what we observe. In Table 3, specification (1) shows that there is no statistically significant relationship between firms in the dataset offering on-site childcare and Republican control of the legislature in that year. In specification (2), we see that, comparing the independent effects of Republican-controlled legislatures and the regulatory strength variables in the baseline specification, the *ratios* variable remains positive and significant, as in other models, but *rep_leg* is not significant.

Summing up, we see that regulatory strength as variously operationalized by the stringency of child-to-staff ratios (though not group size) is a consistent predictor of companies offering on-site childcare to employees. These findings are robust to company and year fixed effects as well as models with leads, which indicate no time trends. (See Appendix for results.) Therefore, we can conclude that the effect of regulatory strength on employer provision of on-site childcare is causal. Meanwhile, Republican Party control of state legislatures exerts no independent effect on provision, nor does a favorite Republican policy instrument, tax credits, targeted at employers who offer childcare benefits.

Table 3: Regression Results for Republican-Controlled Legislatures

	Dependent variable:	
	center_year	
	(1)	(2)
rep_leg	−0.006	−0.006
	(0.009)	(0.009)
ratios		0.0004**
		(0.0002)
groups		0.00002
		(0.00004)
Comp. FEs	Yes	Yes
Year FEs	Yes	Yes
Observations	17,465	17,245
R^2	0.579	0.585
Adjusted R^2	0.566	0.572

*p<0.1; **p<0.05; ***p<0.01

Note: Standard errors clustered at company level.

Conclusion

Employment-based social benefits like childcare serve as a substitute for the welfare state, and can help reduce gender inequality. These benefits are also are a product of politics. The findings in this paper show that although direct policy incentives to encourage more private employers to offer employee childcare have been mostly unsuccessful, states indirectly impact employer behavior through childcare regulations. Because employer-provided on-site childcare in particular is a part of the childcare market, state-level regulations impact employers as well as other providers. Stronger regulations lead more employers to offer on-site childcare than weaker ones because they even out overall quality in the market, which reduces employee exit options to lower quality, non-employer childcare.

The study of employment-based family benefits offered privately by employers has important implications not only for women, but for the study of how government impacts inequality in general. Stronger childcare regulations may raise the overall quality of childcare available in the market, but may also price out lower income families (Gorry and Thomas 2017, Hotz and Xiao 2011), especially those not employed by the types of corporations likely to offer childcare benefits. Therefore, how to increase employer participation in work-family benefits in an equitable way is a question of paramount importance. Additional research on this question is needed.

Childcare advocacy groups have pointed out that employer-provided childcare benefits are rare and therefore not a substitute for public policy. While this is true in a narrow sense, the reality is that provider diversity is the hallmark of any public childcare system, including those we typically think of as "universal." On-site childcare can be an integral part of any national strategy focused on increasing supply.

Most childcare systems are a mix of three broad types of provider auspice: publicly-operated publicly-funded; privately-operated publicly-funded; and privately-operated privately-funded. The main source of variation is the degree of public funding. But even with strong political support for government investment in childcare, demographic and labor market changes – to say nothing of evolving best practices for early childhood – create new childcare needs that can quickly outpace the supply and staffing capacity of the current system.

Maintaining the right balance of high-quality childcare for an entire population is no small logistical feat. At the national level, more on-site childcare can help in this goal, since, as I have argued here, few private sector employers would be expected to offer low-quality childcare.[10] It would also decrease the aforementioned inequality associated with on-site childcare's limited supply.

Since women would most likely benefit more from on-site childcare than men, additional research about what women want for themselves is also needed. Existing data is limited but suggests a slight preference for employer over government childcare benefits. Whereas

[10] About half of the on-site centers in my US subset are currently accredited, which means they voluntarily commit to meeting even higher standards than regulated by the state. This compares to a national average of around 10%. See `https://tinyurl.com/2p9ehvsk`

9.9% of US women overall prefer employers to pay for or provide childcare, only 4.5% prefer government (ISSP 2012, weighted data). That gap grows in the 30 to 34 year old age group, peak fertility for women, to 16.2% in favor of employers and only 4.4% in favor of government. This compares to 8.5% and 5.6% of men favoring employers or government, respectively. Considering that corporations mobilize their own workers as political lobbyists in the corporate interest (Hertel-Fernandez 2018), women's political preferences for greater employer participation in childcare may receive even less representation before the state than they might otherwise have.

Finally, researchers should probe more deeply into public opinion about what responsibilities employers ought to have in total social benefit provision. Corporate employers in particular owe their legal existence to the state and, therefore, a more accurate description of corporations may be as public-private entities, not purely private ones (Ciepley 2013). In such a framework, what the public expects of corporate employee benefits is not merely an academic question, especially if women's interests diverge from corporate interests. This paper opens up a new channel for researchers to begin to explore what citizens believe the appropriate role for corporations in the welfare state should be. The issue is especially urgent given that individuals made wealthy by corporations are more politically active than the population at large (Page, Seawright and Lacombe 2018) and political interest groups aligned with corporations have attempted to implement their own legislative agendas (Hertel-Fernandez 2019). As such, highlighting the constitutive role of corporations in the welfare state, and the welfare state's role in the reduction of inequality – gender or otherwise – is critical.

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