Paid Leave for Caregiving

ISSUES AND ANSWERS

AEI-Brookings Paid Leave Project

NOVEMBER 2020

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A Note from the Codirectors of the AEI-Brookings Paid Leave Project

Paid family leave is getting increased attention in the United States. At the time of this volume's publication, the United States (and world) is still reeling from the COVID-19 pandemic. The public health threat and economic fallout from COVID-19 have left many of us rethinking the relationship between health and economic security. But it did not take a pandemic for the American public to understand the importance of paid time off from work for family or medical needs. Polls show the great majority of Americans favor providing some paid time off to adults facing a medical emergency, parents needing to care for a new baby, or family members caring for a sick or elderly relative. Such policies are common in other countries and adopted by nine states and the District of Columbia in the US. Many US employers offer paid leave voluntarily. Even so, many workers, especially the lowest paid, do not have access to paid leave. During normal times, this creates challenges when parents are both breadwinners and caregivers. Amid a pandemic, it takes on increased urgency.

We established the AEI-Brookings Paid Leave Project four years ago to study these challenges. In light of various assumed goals and the relevant evidence, what should elected leaders do? This volume on caregiving leave, edited by Isabel V. Sawhill and Betsey Stevenson, is simply the latest publication in this stream of crucial work on paid family leave. Its purpose is to provide new research and data to inform policy on caregiving leave specifically.

Two reports preceded this one. The first, *Paid Family and Medical Leave: An Issue Whose Time Has Come*, was released in May 2017. It focused on paid parental leave and recommended, as a compromise among the diverse opinions in the group, eight weeks of paid leave surrounding the birth or adoption of a baby, paid for by a modest increase in employee payroll taxes and some spending cuts in other programs.

Building on that report, we released a second in September 2018, *Paid Family and Medical Leave: Charting a Path Forward*. This report focused on medical and caregiving leave. It also included new estimates of the costs of paid leave and commissioned reports on where paid leave fits in a broader social insurance or budgetary context. We concluded that we lacked sufficient data or evidence to come up with a proposed consensus solution to the issues of caregiving or medical leave. We therefore commissioned the research presented in this volume and the companion volume on medical leave.

In all this work, we have been privileged to work with a distinguished and diverse group of experts and scholars as authors and advisers. You will find all their names at the end of this note. We want to express our deep appreciation for their work without in any way suggesting that they all agree with the conclusions of our various reports on this issue.

In spring 2020, one of us (Aparna Mathur) joined the staff of the Council of Economic Advisers to advise members of President Donald Trump's administration on the new economic challenges raised by the pandemic, ending her work as codirector of this project. In her absence, AEI's Angela Rachidi took over to coedit the medical volume. We especially want to thank Angela, along with all the other staff at

AEI and Brookings, who worked so tirelessly on this project and whose names are also listed below.

We hope all this work will provide a foundation for thinking more clearly about whether a national policy on paid leave is needed, what it might look like, what it might cost, how businesses and households would be affected, and its role in providing more or better care for both the young and the elderly.

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Paid Leave for Caregiving

AN INTRODUCTION

Betsey Stevenson and Isabel V. Sawhill

This volume examines the state of caregiving leave in the United States before the 2020 coronavirus pandemic. Most adults will be responsible for caregiving during their lifetime, yet little public infrastructure exists to support such work. Over a quarter century ago, the Family and Medical Leave Act (FMLA) was signed into law, giving covered workers access to 12 weeks of unpaid parental, medical, and caregiving leave. Yet only 59 percent of American workers have access to FMLA leave due to coverage limitations. Since the passage of the FMLA, changing family patterns, growth in female employment, and improvements in health and life expectancy have all helped shape family caregiving in the 21st century.

Over the past several years, the AEI-Brookings Paid Leave Project has analyzed and deliberated the issues relevant to effective public policy for family caregiving and medical leave. The easiest task for the working group was assessing paid maternity and paternity leave because of the wide-ranging experience outside the United States and the availability of data and research from some of the state-based programs in the US. The United States is the only country in the Organisation for Economic Co-operation and Development (OECD) that does not guarantee paid maternity leave and one of only a handful of OECD countries that does not guarantee paid paternity leave.[1] In addition, some US states now offer their own paid leave plans that allow some insight into the potential impact of a federal plan. Finally, large corporations have experimented with how parental leave affects employee retention, productivity, and investment in skills.

Taken together, these experiences have led to a significant amount of research on the short- and long-run benefits of parental leave, including the effects on parent-child bonding and parents' labor market experiences. The research allowed the group in 2017 to arrive at a compromise plan for paid parental leave. The group agreed that eight weeks of paid parental leave, available to either or both parents, was a reasonable compromise between those who wanted more paid leave and those who favored less.

Beyond parental leave, the group found it difficult to grapple with the wider range of issues associated with providing caregiving leave. In 2018, the group issued a follow-up report that summarized the evidence on caregiving and medical leave and dove into the important details to consider in designing federal policy. Through that effort, we realized there was much social concern about the burdens of family caregiving but too few facts to fully understand these burdens or design effective policy.

Public policy needs to adapt to our changing lives in which workers are also often caregivers. To put together the best policy response, however, it is necessary to understand the current landscape. How many people provide care? Who provides care? How does caregiving shape caregivers' employment outcomes? How many and which employers offer paid leave for caregiving? Why do some offer it while others do not? Which workers are likely to get offered paid leave by their employers? Do employers offer workplace flexibility? How much leave would people likely take if it were available? Will employers offer such policies voluntarily, or is a social solution necessary? What

would be the cost to the government of offering paid caregiving leave to all workers? If we adopt new policies on caregiving, what would be the consequences for the overall economy?

The chapters in this volume try to answer these questions and others, using data and research. While the answers are fleshed out in each chapter, here is a snapshot of what we have learned.

How Extensive Is Caregiving? Slightly more than one in 10 Americans provide care to another adult. Forty percent of families have children under age 18 present. However, this ignores households with singles or unrelated adults. Looking across all households, slightly more than one in four have children present.

Who Provides Care? Men are 40 percent of those providing care to other adults. Increasing longevity and the higher proportion of older adults who are married have led to an increase in spouses providing care for one another.

What Does Care Entail? Care work can run the gamut from scheduling appointments, driving a loved one to appointments or elsewhere, helping with household tasks or shopping, handling financial issues, or intensely helping with daily living. Two in three family caregivers provide assistance with medical tasks at home even though they are rarely trained to provide such help.

How Does Caregiving Intersect with Employment? About half of people providing caregiving to an adult hold jobs, but the vast majority are of working age and therefore might work under different circumstances. Fifteen percent of adult caregivers who stopped working responded that they did so because their job provided inadequate flexibility. About half of adult caregivers who are employed report a loss of work time—such as having to arrive late, leave early, or take some time off—related to their caregiving demands. Two-thirds of married couple households with children under age 18 have both parents working outside the home. Seventy-two percent of women and 85 percent of men of all marital statuses with children in the home were employed in 2019. Nearly half of those employed say that work interferes with family life.

How Many Workers Can Take Leave? Sixty-two percent of workers have access to paid sick leave, while 73 percent have access to unpaid sick leave. Less than half have access to paid caregiving leave or parental leave, while roughly 60 percent have access to unpaid leave for those purposes. Access to leave rises with education and earnings.

How Often Do Employees Use Existing Forms of Leave? In a typical week, about one in five wage and salary workers take some form of leave. Usage of leave rises with education and earnings. Vacation is the most common reason for taking leave. Only 10 percent of people taking leave are using it for caregiving reasons. Caregiving is the least common use of the FMLA. Only 2 or 3 percent of all employees use it.

How Much Paid Leave Is Already Available from Employers? While many employees have access to some paid time off from their employer for vacations, illness, and the like, few have access to paid leave that is specifically designated for caregiving or enabling a parent to stay home around the birth of a child. High earners are more likely to have access to such leave than are lower-paid workers. From an employer's perspective, providing such benefits has obvious costs. They are unlikely to voluntarily provide such leave unless they believe their employees (both men and women) value it and that it will help them attract and retain higher-skilled workers.

Do Employees Use the Leave Currently Available to Them? Low-wage workers not only have less access to paid leave but also are less likely to use that leave. This is likely because they earn less when they take leave (if it is unpaid or only partially paid) or worry that they will lose their job.

How Much Would It Cost to Make Caregiving Publicly Available? The cost of caregiving leave

depends on how many people would use it, for how long, and with what replacement of their usual wage or salary. These may all be affected by the specific design of a public program—who is eligible, how many of those eligible would use the benefit, for how long, and for what purposes. Given the range of care activities seen in practice, some limits are likely to be needed. Because caregiving can be episodic or part-time if ongoing, the shape of any benefit would need to be tailored to this reality.

Given these uncertainties, estimates of the costs of a federal paid caregiving leave policy are also uncertain. Take-up rates are especially difficult to estimate. Current behavior suggests low take-up, but if financial restrictions are loosened, social norms around leave-taking change, and the demand for family caregivers increases, then take-up rates could be much higher. Estimates suggest a national caregiving leave program could cost anywhere from $0.2 billion to $9.4 billion. These costs are small relative to what the nation spends on medical care and care for the elderly. They also entail some offsets in the form of less spending on Medicaid or Medicare.

What Are the Likely Effects of Subsidized Caregiving on the Overall Economy? Caregiving leave can ultimately change the macroeconomy by changing how much people work and how productive they are in their jobs. If people increase their attachment to the labor force because of caregiving policies that increase access to paid leave and increase workplace flexibility, then greater labor force participation will ultimately lead to an increase in gross domestic product (GDP).

Similarly, if businesses invest more in capital and push workers to acquire more skills due to the rising costs of caregiving leave, productivity could increase. On the other hand, paid caregiving leave could induce more workers to drop out of work over the longer run. While the macro effects are not clear, largely because they will ultimately depend on the details of any policy, the research illustrates why they should be an important consideration.

Caregiving and the Pandemic

The coronavirus pandemic has thrown the challenges families face with caregiving into sharp relief. Many parents lost access to the biggest nationally provided form of childcare—public schools—along with early childhood education and childcare facilities. Even alternative forms of care were upended as families face increased risks of interacting across generations. Grandparents caring for grandchildren face the potential risk of COVID-19 exposure, particularly if they are providing care so parents can do essential in-person work.

Similarly, adults who continue to do in-person work or who face other forms of potential coronavirus exposure can no longer safely provide care for the elderly or those with health problems. Yet, care facilities have struggled to protect patients from COVID-19. Families have watched the risks associated with such facilities rise, and families may no longer be able to supplement the care provided at facilities if they have limited, or are even closed to, visitors. As a result, families have wrestled with the decision to remove loved ones from (or prevent them from entering) long-term care facilities. However, bringing a loved one home may not be possible if they need round-the-clock care. The pandemic has exposed the complicated relationship between paid and unpaid caregiving.

New Circumstances Require New Solutions

Long before the pandemic arrived, the American workplace and caregiving landscape began to shift. Women's long march into the workforce over the past 50 years has made them crucial breadwinners. Divorce and changing social norms have led men to increasingly take on caregiving responsibilities. Men play essential roles in caring for children and providing eldercare for aging parents.

Yet, social and workplace policies have not adapted fully to the changing times. Some employers offer paid leave and workplace flexibility, allowing workers to seamlessly transition between their work and

caregiving responsibilities. But this is the exception rather than the rule. Both men and women increasingly report conflict between responsibilities at home and work, arguing that work is the problem. Workers say they could be more productive at work with more flexibility, and many workers have turned down jobs because they cannot make them work with their caregiving responsibilities.[2]

While this burden is increasingly falling on all workers, it continues to disproportionately affect women's well-being and earning potential. Women who take time from work to accommodate their caregiving experience slower wage growth, as they are given—or take—fewer opportunities for promotions and higher wages.

The pandemic has put solving the challenges in designing federal policy on the front burner. It has revealed that caregiving is not a personal issue nor a women's issue. It is an economic issue. To return to the employment levels from the start of 2020, it will be necessary to address the crisis of care in the United States.

Chapters in This Volume

The chapters in this volume provide an up-to-date assessment of the research and data needed to develop policy.

The Caregiving Landscape. The first chapter in the volume sets the stage for thinking about family and unpaid care provided to adults and how family caregiving has changed over time for older adults needing care. Vicki Freedman and Jennifer Wolff discuss fundamental conceptual measurement and demographic issues pertaining to family caregiving to adults in "The Changing Landscape of Family Caregiving in the United States."

Family caregiving is a long-standing—and evolving—issue in American families. American life expectancy rose rapidly at the end of the 20th century, a trend that, combined with the aging baby-boomer cohort, means that an increased number of Americans are reaching older ages. Freedman and Wolff begin by clarifying the concepts and language used to describe family caregiving and then lay out the challenges of measuring it.

There is a wide range of estimates of how many people are providing care to older adults. One explanation for the wide range is that the difference between help (unrelated to health or functioning) and care (related to health or functioning) is not always clear-cut. Surveys of individuals who self-identify as caregivers that do provide details about care recipients may unintentionally include respondents who "help out" an adult without care needs rather than provide "care" per se.

The authors also suggest that some of this difference is explained by the intermittent nature of care. For example, according to one survey, current caregivers make up only about half of those who have provided any care in the past year. Consequently, different reference periods (e.g., last month or last year) will provide different estimates.

Another issue driving differences in survey findings is the nature of care. A broad definition that includes social visits finds more caregivers than one focused on personal care and mobility, household activities, and medical tasks. The authors conclude that roughly 22–26 million family caregivers are providing care to an adult who needs assistance—the vast majority (20–22 million) of which are older adults. Yet, a longer reference period (e.g., looking over a year) yields a larger, albeit less well measured, number of caregivers.

Family caregivers provide various tasks including personal care and household tasks. But the authors also find that the diffusion of medical technologies used to manage care at home, combined with the complexity of the health care system, has turned many family caregivers into medical managers and health care coordinators. The authors report that nearly two in three family caregivers to older adults provide assistance with medical tasks at home even though they are rarely trained to provide such help.

Family caregivers are predominately parents, spouses, or adult children. The increased prevalence of marriage at older ages and increases in life expectancy have led to a greater role for spouses in providing eldercare. Women are more likely than men are

to be family caregivers; however, men comprise a substantial share—roughly 40 percent—of caregivers to adults.

Across a broad range of indicators, the authors conclude that the circumstances of family caregivers who care for older adults with basic self-care or mobility needs have generally improved in the 21st century before the pandemic. Between 1999 and 2015, caregivers on average provided fewer hours of weekly assistance and were less likely to report that their own health was poor or that they were having substantial emotional, physical, or financial difficulties due to caregiving. This pattern occurred despite an increase in the number of adult children with older parents and the fact that caregivers are more likely in recent years to be unmarried with fewer siblings across which they can share care obligations.

The improved circumstances of family caregivers to older adults may be due to shifts in the severity of late-life disability or increases in older adults' ability to use assistive technology for self-care and mobility tasks. Online shopping has provided increased independence for those who cannot physically shop for themselves, as many can now independently shop and arrange delivery. Despite these improvements, the authors argue that it will be important to monitor the well-being of family caregivers as the population continues to age.

An important policy question, and an important issue for families, is how family caregiving intersects with labor force participation. The authors find that the amount of time spent on caregiving differs for family caregivers who are employed and those who are not. Essentially, the closer caregiving is to a full-time job, the less likely a family caregiver is to hold a paid job. Family caregivers who are not employed provide 26 hours per week of care on average.

In contrast, those caregivers who are employed provide 10 hours a week of caregiving. Freedman and Wolff find that roughly half of family caregivers are employed, but the vast majority are of working age (under age 60). Family caregivers who work are more likely to have a college degree, indicating that family caregiving may interfere more with labor force attachment for those with less education. But even among those who work, the authors report that nearly a quarter missed work to care for someone and a third report substantial time pressure.

Most of the adult population does not need care from other adults at any specific point in time. However, the authors point out that most individuals face some kind of care need over their life. There are both predictable and unpredictable episodes, and some adults develop disabilities including long-term progressive disabilities leading to the end of life. While one in three older adults are currently living with a disability, the authors conclude that the number of older adults living with a disability is likely to grow as the baby-boom generation continues to age, even if the age-specific prevalence does not change.

In sum, there is a reason to begin to prepare now to help ensure that caregivers have the flexibility to maintain their connection to the workforce while they meet their family members' caregiving needs. A growing number of people will face intermittent demands on their time to help their loved ones through either a medical crisis or ongoing health- or functioning-related issue. These risks have only become more heightened with the COVID-19 pandemic, since older people are more likely to die or face chronic health problems from exposure to COVID-19.

In addition, the risks of contagious diseases such as coronaviruses at long-term care facilities may affect family decision-making around eldercare in a way that could easily further change the landscape of family caregiving. There are clearly benefits to be reaped from policy planning and action now.

Labor Market Outcomes. In "Family Caregiving, Caregiving Leave, and Labor Market Outcomes for Caregivers," Elisabeth Jacobs explores the changing relationship between work outside the home and family caregiving as the population ages, women work more, and women's earnings rise. The gap between men's and women's labor force participation hit a new low during 2019. Most families now have all adults in the labor force. In families in which men and women both work, women's earnings have risen as a share of household income. As a result, women's labor force attachment is more like that of

men. Jacobs notes that one-fifth of the population is expected to be over age 65 by 2050, underscoring that the tension between work and care for an older parent is only going to worsen over time.

Jacobs examines data on access to paid and unpaid leave from the American Time Use Survey to paint a picture of unequal access to leave and the fact that unpaid leave is more widely available than paid leave is. She shows that higher-wage workers are more likely to have access to paid leave than lower-wage workers are. In addition, data on actual leave usage show that the gap in usage of paid leave between high- and low-wage workers exceeds the gap in access, demonstrating that low-wage workers face even greater challenges in taking paid leave than data on access alone suggest.

She then turns to the admittedly inadequate literature on how family caregiving demands affect women's labor supply, including both employment and hours, and finds that family caregiving needs reduce women's labor supply. The literature is particularly inadequate in assessing the long-term impact of intermittent leave-taking that often occurs over several years for older family members. However, workplace flexibility appears to be correlated with keeping caregivers with intermittent caregiving spells in the labor market, as 15 percent of caregivers who stopped working responded that they did so because their job provided inadequate flexibility.

Additionally, she argues that the literature provides some suggestive evidence that access to caregiving leave can help reduce the negative impact of caregiving on women's labor market outcomes. A growing number of states are filling the federal void and passing paid leave policies, all of which include family caregiving.

An Employer Perspective. Jacobs shows that few workers have access to paid caregiving leave and that those who have access tend to be higher-wage workers. But why do businesses ever voluntarily offer paid family leave? Claudia Goldin, Sari Pekkala Kerr, and Claudia Olivetti explore this question in "Why Firms Offer Paid Parental Leave: An Exploratory Study."

The authors consider the business case for the voluntary provision of paid maternity and paternity leave. They find that while there are large differences across industries in the availability of paid leave, three central facts emerge. First, there has been an increase over the past two decades in the provision of paid parental leave. Second, large firms are more likely to offer such leave. Third, firms have been offering more parental leave to their male workers.

Taken together, growth in the provision of paid parental leave has been greatest among large firms in the professional service and technical sectors. But even in the industries with the highest levels of firm-provided voluntary leave, these offerings are lower than what the typical developed economy provides through government programs. The authors also argue that businesses are more likely to provide paid leave if they expect a higher share of workers to remain with them. The business case for offering paid leave is that workers value it enough to indirectly pay for it by accepting a larger fraction of their overall compensation in this form.

These authors develop a model in which women are more likely to choose to leave the labor force after having a child than are men. Employers cannot be certain that any worker will remain with them after a birth, but women are less likely to return to work than are men. As such, employers are less willing to invest in their female employees' skills.

Applying data to their model, the authors show that the greater the fraction of workers who have skills that are specific to their employer, the greater the likelihood that the employer will provide paid leave. This helps explain why lower-wage workers are less likely to be offered paid parental leave. Because they are less attached to their employer—they have fewer skills that are specific to the employer—they are less likely to return to the job, which lowers the value of paid leave to the employer. In addition, their lower wages make them less able and willing to pay for the benefit in the form of even lower wages.

The authors' contribution helps explain how women's rising attachment to the labor force and investment in their jobs have led to the increased availability of paid leave. But it also highlights the

limitations of expecting businesses to voluntarily provide paid parental leave. Many have hypothesized that businesses will be unlikely to offer paid leave to lower-wage workers, but Goldin, Pekkala Kerr, and Olivetti provide both the theoretical underpinnings and the data analysis to explain why a fully voluntary paid parental leave policy is unlikely to ever be available to all workers. Instead, they see a clear role for policy in ensuring more equal access to paid leave.

The authors also explain the importance of how much value workers place on paid family and parental leave. For example, if men do not value leave as much as women do, then it is hard to offer it without creating a gendered wage gap. This is one reason firms often try to get their male employees to take parental leave. The gender wage gap partially reflects differences in men's and women's desire for alternative forms of compensation.

For example, if women are willing to accept lower wages to get greater work flexibility and access to paid family and parental leave, a gender wage gap will emerge. But that gap also creates a two-track labor market in which men and women cannot easily compete. As such, men may get additional promotions and added responsibilities that women might be equally happy to take on, but the challenge of competing across tracks creates barriers.

Alternatively, Goldin, Pekkala Kerr, and Olivetti argue that if men value paid parental leave, then more firms will offer paid leave. This could not only lead to more paid leave but also help put men and women on a more even playing field much more broadly.

Finally, the framework the authors lay out gives us some insight into which women are likely to be better able to weather the storm created by a lack of childcare during COVID-19. Employers that have invested in women's skills and that expect female workers to remain with them are likely going to be more willing to make necessary accommodations to their employees who are juggling kids and work from home. High-skill women at large firms may be more likely to emerge from the COVID-19 childcare crisis with their jobs and labor force attachment intact. In contrast, many lower-wage parents have already been laid off, and the mothers are less likely to return to work without the availability of schools and childcare.

The Likely Costs of Caregiving Leave. In the next chapter in the volume, Douglas A. Wolf turns to the question of how much a paid caregiving policy might cost. In "Effects of Paid Caregiving Leave on Government Costs," Wolf examines the direct, short-term costs to the federal government of a paid family leave program, focusing specifically on family caregiving leave. To assess the cost, one must identify the number of employed people providing care that would take advantage of such leave.

The challenge is that these variables and others are all potentially affected by the availability of leave and the design of any program. Add to that the difficulty of measuring the number of people who currently provide care. Wolf argues that the data, even on the number of employed caregivers, are surprisingly scarce, but looking across various estimates, he finds that between one and two out of every 10 workers is also a caregiver to an ill or disabled adult.

Some people, in the absence of paid leave, take unpaid leave, while others who have not taken unpaid leave will be induced to do so once it is paid. One approach to estimating costs is to consider those who have used unpaid leave. Another approach considers the prevalence of diseases that require care. Still a third approach is to look at time use studies and cost of time estimates to assess how much a paid leave program might cost if all the unpaid work were to be paid.

Wolf documents how caregiving creates challenges for many workers. For example, about half report a loss of work time—such as having to arrive late, leave early, or take some time off—because of caregiving demands. Only some of these challenges can be addressed by a formal paid caregiving leave program. This may be one reason caregiving leave is the least common form of leave and has been used by only 2 or 3 percent of all employees.

Regardless, the low usage of caregiving leave makes it difficult to assess how many people would participate in a paid caregiving leave program. Estimates of the prevalence of diseases that give rise to caregiving needs indicate a large potential but

unfulfilled demand for paid time off for caregiving, which implies there would need to be clear limits on how much paid caregiving time could be taken.

As take-up is the primary driver of the costs of a paid caregiving leave program, the estimates are extremely sensitive to assumed participation rates. Wolf reviews existing estimates of cost from the AEI-Brookings Paid Leave Project, the Congressional Budget Office, and the Social Security Administration. He shows that a national caregiving leave program could cost anywhere from $0.2 billion to $9.4 billion. Wolf provides a detailed assessment of these estimates and suggests that the costs are likely to cluster toward the lower end of this range. However, ultimately it is impossible to predict how participation might change under a well-publicized national program and a new set of norms about the acceptability of caregiving leave.

All the enacted state programs and some of the proposed national programs are financed by payroll taxes, nominally shared between employer and employee (the share born by each depending on the extent to which higher costs for employers are offset by lower wages). Because caregiving leave is such a small proportion of all leaves, any adjustment in payroll tax rates needed to cover it under current assumptions would likely be small. Possible offsets to these direct costs include revenues generated by the paid leave benefit (if taxable) and lower nursing home costs including Medicare or Medicaid long-term care expenditures. Under one set of illustrative calculations, Wolf shows that paid caregiving leave could pay for itself in reduced outlays for Medicare and Medicaid.

Finally, Wolf highlights how few people use the job-protected and unpaid caregiving leave provided by the FMLA. One reason designing a one-size-fits-all program for caregiving is so difficult is because caregivers' tasks are extremely varied. They include everything from help with the activities of daily living to household maintenance, shopping, transportation, and assistance with managing medications or money. They can be short or long, intermittent or continuing, predictable or unpredictable, onetime or continuing. Wolf argues that older Americans' caregiving needs may not fit well with the parameters of the FMLA, which requires medical certification of need. Paid caregiving leave may be useful for post-hospital recoveries and other acute events, but ongoing or episodic health issues may require flexibility more than leave.

Effects on the Economy. The last chapter in the volume examines how caregiving policy could affect the macroeconomy. Stephanie R. Aaronson uses a growth accounting framework in "Some Thoughts on the Macroeconomic Implications of Providing Caregiving Leave" to explore how policies promoting caregiving could affect the macroeconomy. Caregiving is intimately connected to people's decisions to work, how much they choose to work, and what type of job they choose to take. Caregiving policies could change these choices. In addition, caregiving policies can affect an employer's demand for labor. In sum, such policies may affect potential GDP through both the quantity and productivity of labor.

Aaronson identifies three channels through which caregiving policies could affect the total amount of labor in the economy: the US population level, the attachment of individuals to employment and the labor force, and average annual hours worked. Through an extensive review of the literature, Aaronson finds that a caregiving leave policy is likely to increase the size of the population by promoting fertility. An increase in population size increases the potential labor force.

In addition, she finds that it increases attachment to employment and labor force in the short term—through job protections and paid leave. However, the long-term effect of paid leave on attachment to employment is uncertain. Moreover, the effect on annual hours is also ambiguous. In the short term, a caregiving leave policy will likely depress time spent at work as individuals take time off to care for their loved ones. In the long term, however, there is evidence that a caregiving leave policy could increase hours worked through promoting returns to employment and hence increase attachment to the labor force—after caregiving duties conclude.

Aaronson also pinpoints three channels through which caregiving leave policies could affect labor

productivity: capital deepening, multifactor productivity, and labor composition. As no studies so far have analyzed the effect of a caregiving leave policy on capital deepening, Aaronson theorizes that such a policy is likely to make workers more expensive, which will result in firms shifting to more capital-intensive production processes. There is scant evidence of the effect of a caregiving leave policy on multifactor productivity and labor composition. However, based on the evidence available, Aaronson posits that the effect of a caregiving leave policy could go either way and identifies these two channels as important avenues for future research.

While the macroeconomic effects are uncertain, Aaronson argues that an increase in the growth rate of potential GDP could help ameliorate some of the long-run macroeconomic challenges facing the US economy such as decreasing fertility rates and an increasing dependency ratio. However, these results depend on a caregiving leave policy that ultimately boosts the labor force and labor productivity. Not only are such outcomes uncertain, but they will depend on the exact parameters of any paid leave policy. In sum, paid leave holds the promise of a stronger macroeconomy, but the reality will depend greatly on its execution.

Conclusion

Taken together, the chapters in this volume provide an up-to-date summary of the data, research, and issues relevant to designing caregiving leave policy for the 21st century. While no clear policy design emerges from these chapters, they lay the groundwork necessary for policymakers and the public to discuss the inherent trade-offs in the design of any policy. As many of the chapters illustrate, many facts remain unclear.

Moreover, many uncertainties may be impossible to resolve before adopting a policy. However, the chapters also lay out the potential benefits of taking policy action and therefore serve as a reminder that simply waiting to know more before taking action also comes at a cost.

Notes

1. Organisation for Economic Co-operation and Development, "Parental Leave Systems," https://www.oecd.org/els/soc/PF2_1_Parental_leave_systems.pdf.

2. Council of Economic Advisers, "Eleven Facts About American Families and Work," October 2014, https://obamawhitehouse.archives.gov/sites/default/files/docs/eleven_facts_about_family_and_work_final.pdf.

The Changing Landscape of Family Caregiving in the United States

Vicki A. Freedman and Jennifer L. Wolff

Families have been the mainstay of health- and functioning-related assistance throughout history across all societies. Family caregivers may help a spouse, partner, or adult child during recovery from an acute health event or traumatic injury or a relative, often a parent, coping with chronic or acute illness or end-of-life care needs. They may assist with a variety of household and personal care activities and medical tasks—the latter often without training.

Policymakers' understanding of the demography and experience of family caregiving has been inhibited by conceptual ambiguity in the defining features of family caregiving and related measurement challenges. Because of a lack of agreed-upon definitions and measurement approaches, estimates of family caregiving vary widely, as do estimates of the amount of time and duration individuals will spend providing care. Studies of family caregiving have drawn attention to differences between working and nonworking caregivers, but generalizable evidence that is relevant to understanding employer-based policies has been less readily available.

Several interrelated trends have shifted the nature of family care to older adults in recent years. With increases in life expectancy and the aging of the baby-boom generation, larger numbers of Americans are reaching older ages at which there is heightened risk of chronic conditions, some of which involve protracted periods of serious illness, memory decline, or physical limitations. At the same time, fundamental shifts in families have been occurring because of changes over past decades in family formation, including marriage and fertility. These demographic processes, juxtaposed with the lack of a well-financed long-term service and support system, have led to a perception that there is an impending shortage of family caregivers to assist aging members of the baby-boom generation.

With this backdrop, this chapter draws attention to fundamental conceptual, measurement, and demographic issues surrounding the changing landscape of family caregiving in the United States. We attempt to marshal available evidence to provide a more complete picture of the extent of family caregiving to adults with health needs than is typically available from a single study. Although caregivers to children with health care needs are an important subgroup, children's developmental needs are quite distinct from those of adults requiring assistance with daily activities. We therefore focus this chapter on care to adults.

We begin by describing foundational challenges in the conceptualization of family caregiving and the various roles undertaken by family caregivers. We then discuss measurement challenges that have resulted in a wide range of estimates of the number of family caregivers and the amount of care they provide. We also present new evidence on working family caregivers from two distinct policy-relevant perspectives—first contrasting family caregivers by work status and then, to provide insight into an employer-oriented perspective, contrasting working adults by caregiving status. Given that a substantial share of care is provided to older adults and the

US population is aging, a third section focuses on the changing demography of caregiving to older adults, including trends that may be contributing to the changing profile of family members available to provide care as the baby-boom generation continues to age.

Family Caregiving: Key Concepts

Our understanding of complex social phenomena is influenced in part by choice of language and how well measures align with foundational concepts. Family caregiving is understood—or not so well understood—in part because of the lack of conceptual clarity as to what exactly constitutes care. As background for policymakers and researchers to understand existing estimates of family caregiving, this section reviews the evolving terminology in use; offers a brief overview of conceptual issues surrounding the term adopted in this chapter, "family caregiving"; and then describes the varied roles that constitute family caregiving.

Brief History of Terminology. Various labels have been used to describe aspects of the family caregiving role. Terms such as "surrogate decision maker," "supporter," or "proxy informant" refer to the cognitive role assumed by caregivers in assisting or making decisions or serving as a knowledgeable informant. "Carer" encompasses emotional aspects of the role, while "visit companion" or "care partner" refers to support during health care processes.

Since the 1980s, a dominant term in the academic and policy literatures has been "informal" care. Such a term contrasts those who offer care as part of a "formal" employment or other agency-based arrangement, typically involving payment, from those who provide care not necessarily for pay but because of a preexisting relationship. Some researchers have substituted the terms "unpaid" and "unpaid caregiving" to address that some family members are paid and some volunteers through agencies are not.

Recently, the term "informal care" has been criticized as conveying additional meaning that such care is less organized, less structured, and less demanding (and by extension less important) than formal (paid) care.[1] Researchers and advocates alike have begun to advance the term "family caregiving," arguing that the phrase is less objectionable to those providing care to family and friends who may not consider their work informal, while conveying the importance of the underlying relationship between the caregiver and recipient.[2]

Defining Family Caregiving. In this chapter, we use the term "family caregiving" to mean assistance provided to another person that is (1) *related to the recipient's health or functioning* and (2) *motivated primarily because of a personal relationship* between the provider and recipient rather than financial compensation. Table 1 summarizes key issues related to the conceptualization and definition of family caregiving.

Who Are Family Caregivers? Family caregivers are most often spouses or partners, adult children and children-in-law, and other biological (and less often step-) relatives, but they may also be friends, neighbors, or other legally unrelated individuals who constitute a family.[3] The term acknowledges that the underlying rationale driving provision of assistance is a filial commitment between caregiver and recipient.

When Is Assistance Caregiving? A key attribute of caregiving is that the tasks are carried out because of the recipient's physical or mental health or because of their physical, cognitive, or sensory functioning. In practice, it can be difficult to differentiate normative family exchanges and division of household labor from family caregiving.

What Type of Assistance Constitutes Family Caregiving? Assistance may take many forms including personal care (help bathing, dressing, or walking), household assistance (making meals or shopping), emotional support, transportation, health care navigation and delivery (making appointments, managing medications, or overseeing medical care), or informational support (choosing health plans or handling insurance claims).

Table 1. Issues Related to the Conceptualization and Definition of Family Caregiving

Issue	Clarification
Family	Family may be broadly construed to include both legally recognized and other forms of relationships, including biological, step, and adopted families and families by choice. A key attribute is not necessarily a familial relationship but motivation by a familial commitment between caregiver and recipient.
Caregiving	Caregiving is generally differentiated from normal exchanges or division of labor (e.g., doing laundry or preparing meals) by its purpose: Tasks are carried out because of the recipient's physical or mental health or their physical, cognitive, or sensory functioning.
Types of Assistance	Caregiving encompasses a broad set of activities including daily household and personal-care tasks, social support, transportation, and standby care. There has been growing appreciation of the important role that family caregivers assume with medically oriented activities and navigating the health care system.
Payment	Family caregivers may be paid through government programs (e.g., Medicaid) or by the care recipient. Paid care providers and family caregivers assist with similar activities.

Source: Authors.

Table 2. Schematic of Caregiving Needs by Illustrative Population Segments

Population Segment	Caregiving Needs
Healthy or managing chronic conditions with adequate function (e.g., diabetes)	None
Maternal and infant health (e.g., following a healthy birth)	Short term
Acute, treatable conditions with short-term recovery (e.g., broken bone or planned joint replacement)	Short term
Stable, significant disability (e.g., traumatic brain injury or spinal cord injury)	Long term
Intermittent conditions (e.g., heart failure or depression)	Episodic over years
Short period of decline near death (e.g., cancer)	Short term and progressive
Long dwindling (e.g., frailty or dementia)	Long term and progressive

Source: Modified from Joanne Lynn et al., "Using Population Segmentation to Provide Better Health Care for All: The 'Bridges to Health' Model," *Milbank Quarterly* 85, no. 2 (June 2007): 185–208, https://pubmed.ncbi.nlm.nih.gov/17517112/.

Can Family Caregivers Be Paid? A minority of family caregivers are paid,[4] typically through government programs or directly by the care recipient. Nevertheless, the tasks carried out by family caregivers align with those undertaken by paid home care providers and other personal care attendants.

Family Caregiving Roles and Functions. The type of assistance a family caregiver provides is driven in part by the recipient's underlying care needs. Across and within stages of adulthood, individuals may face short- and long-term bouts of relatively stable and predictable care needs, largely unpredictable episodes associated with flare-ups of chronic conditions, and short- and long-term progressive disability leading to end of life.[5] (See Table 2.)

Short-term family caregiving needs resulting from acute, treatable conditions and certain periods of decline before death may be the most predictable in terms of course and duration and hence the most amenable to planning. In contrast, intermittent conditions such as heart failure and deteriorating conditions such as frailty and dementia are more difficult to plan, as they often involve periods of intense care needs that may be episodic or of long duration.

For each of the illustrative population segments in Table 2, family caregivers may provide assistance

Table 3. Common Roles and Functions of Family Caregivers

Role	Function	Examples
Nonmedical Roles and Functions		
Attendant	Provide assistance with self-care	Provide hands-on personal care assistance with toileting, dressing, and bathing
Administrator	Manage household activities	Purchase food, prepare meals, and perform housekeeping
Companion	Provide emotional support	Discuss ongoing life challenges, troubleshoot problems, and facilitate and participate in leisure activities
Driver	Facilitate transportation	Arrange or provide transportation to appointments
Medical Roles and Functions		
Advocate	Request services	Arrange tests, procedures, medications, or services
Coach	Encourage patient self-care activities	Prompt patients' engagement in health care and encourage lifestyle (diet and exercise) and treatment adherence
Health Provider	Deliver medical care	Administer medications, operate medical equipment, and deliver shots or injections
Information Interpreter	Facilitate patient understanding	Clarify clinician explanations and technical terms and record and remember discussions with clinicians
Navigator	Coordinate care across providers and care settings	Schedule and attend appointments and ensure flow of information among providers
Patient Extender	Facilitate clinician understanding	Clarify and expand on patient history, symptoms, and concerns and introduce emerging issues or symptoms of concern to clinician

Source: Jennifer L. Wolff, "Supporting and Sustaining the Family Caregiver Workforce for Older Americans," Institute of Medicine, 2007, 35.

with both nonmedical and medical functions. (See Table 3.) The roles that are perhaps most widely recognized are nonmedical care related to attendant and administrator functions: providing personal care assistance with eating, dressing, bathing, transferring, and toileting and with household tasks such as shopping, meal preparation, money management, housework, and laundry. Caregivers also often provide (or arrange for) transportation and may be a source of emotional support in the role of companion.

There has been growing attention to family caregivers' involvement in medical roles, particularly in light of the diffusion of medical technologies that can be managed at home. Three-quarters of caregivers to older adults are involved in medication management or health care coordination, and nearly two in three caregivers provide assistance with medical tasks at home.[6] Evidence suggests that family caregivers are rarely trained to help with medical tasks.[7]

Family caregivers also play important roles in medical visits. Nearly half of all older adults with limitations are accompanied by family caregivers to medical visits.[8] During visits, family caregivers may advocate for needed services and attention, coach the care recipient about treatment decisions or adherence, interpret information, navigate the health care system, and communicate with clinicians (as a "patient extender") on the patient's behalf. Family caregivers also facilitate health information flow across providers and assist with transitions, particularly after hospital discharge.[9]

Frequently more than one caregiver—or a network of caregivers—may be involved in meeting an adult's needs. Decisions about which family members provide care and which functions they take on are complex and involve trade-offs across several dimensions. How care networks emerge and change depends on not only care needs but also the competing demands on family caregivers' time (e.g., because of work, child-rearing, or household responsibilities), the nature and type of constraints posed by alternative time demands (e.g., if they have flexible work

hours or another source of income), their own physical limitations and supports, and whether they have the economic resources to substitute paid care for their own time.[10] Moreover, within a family, responsibilities may be shared, with some family members specializing in helping with a particular activity (e.g., shopping or accompanying to doctor visits) or taking on a more generalist role, and these roles may change over time as needs evolve.[11]

Despite the heterogeneity of circumstances, family caregivers are predominantly parents, spouses, or adult children who reside together or close to the care recipient.[12] Most caregivers are women, although husbands and sons comprise a substantial fraction of caregivers to older adults and experience many of the same difficulties with the role.[13] Although the vast majority of family caregivers live within a short distance (e.g., 30 minutes or less) from the care recipient,[14] family caregivers who provide care at a distance also play a valuable role.[15] Other, less visible groups of family caregivers include children younger than 18 years of age and millennials in their formative years of educational attainment and professional development who assist a grandparent[16] or a parent with chronic mental or physical disabilities.[17] There is likewise growing awareness of the unique needs of the LGBTQ community, members of which may more often rely on families of choice,[18] and of aging parents who care for adult children with intellectual disabilities and other special health care needs.[19]

Family Caregiving: Key Measurement Issues

National surveys that provide estimates of family caregiving do not consistently distinguish what type of care is provided or why, how much care is given, and how long it is likely to last. For employers and policymakers seeking to determine leave policy, these distinctions are crucial.

In this section, we discuss key issues related to measuring family caregiving and review contemporary estimates. In doing so, we attempt to identify a cohesive set of facts about the number of family caregivers and time spent providing such care and alert readers to the most salient measurement features influencing estimates.

Measuring the Number of Family Caregivers. The estimated number of family caregivers varies widely.[20] One analysis of family caregiving to older adults found estimates from eight different surveys ranged from three to 36 million between 1985 and 2010.[21] In our review of estimates from four different studies between 2015 and 2017, we find estimates ranging from 20 to 40 million (Table 5).

Why do current estimates vary so much? To answer this question, a deeper understanding of the design features of various surveys is needed. Table 4 summarizes the types of measurement issues that have important ramifications for estimated numbers of persons who have a family caregiving role. Surveys differ in the source of information (the person providing care or receiving care), whether (and if so, how) the age of the care recipient is limited (e.g., to over or under a particular age), the specific types of assistance that are mentioned (e.g., providing physical care, helping with household tasks, assisting with medical care, or providing emotional support), whether the purpose of the care is linked to the recipients' health and functioning, whether a time horizon over which help is provided (e.g., in the past year or month) is mentioned or a minimum duration required, and whether the sample is limited to particular types of caregivers (e.g., primary caregivers or spousal caregivers).

We considered each feature when reviewing current estimates shown in Table 5. The top half of the table shows available studies focused on care to an adult of any (albeit unspecified) age needing care. A 2015 study of self-identified caregivers conducted with an online panel by American Association of Retired Persons (AARP) and the National Alliance for Caregiving (NAC) found 40 million adults were family caregivers to an adult in the 12 months before the study; 22 million were currently caring. The Panel Study of Income Dynamics recently added time use questions to its main interview, including

Table 4. Issues Related to the Measurement of Family Caregiving

Issue	Clarification
Source of Information	Family caregivers may be asked to self-identify, or care recipients may be asked who helps them. Some caregivers and care recipients may not consider the assistance "caregiving" per se and may have different perspectives on the types and intensity of help provided.
Age of Care Recipient	Sometimes there is a focus on eldercare, which can be defined using various age cutoffs (e.g., 55, 60, or 65 years old); other times care to any adult is captured.
Types of Assistance Mentioned	Questions vary in terms of whether a definition of care is provided and, if so, the types of assistance for respondents to consider.
Reason for Assistance Linked to Health or Functioning	Some studies explicitly link care to the health or functioning of the recipient, whereas others are not explicit.
Time Frame and Duration	Some studies focus on a particular window of time (e.g., "in the last month" or "at any time in the last 12 months"); others ask about a typical week or if care is currently provided. To approximate the notion of "long-term" care, some studies have imposed arbitrary minimum durations (e.g., providing care for at least three months).
Types of Caregivers	For logistical and practical reasons, a "primary" caregiver has often been identified in research, yet family caregiving is dynamic and often involves a network of multiple caregivers, particularly in the context of more severe impairment.

Source: Authors.

"In a typical week, how much time did you spend caring for or looking after an adult who needs assistance with daily activities?" This item yields an estimate of 26 million current caregivers in 2017.[22]

Three estimates were available for family caregivers to older adults, each with a different time frame. The 2015 National Health and Aging Trends Study (NHATS) and its supplemental National Study of Caregiving (NSOC) yield an estimate for 2015 of nearly 22 million family and unpaid caregivers assisting an adult age 65 or older who received help with mobility self-care or household activities related to their health or functioning using a one-month time frame.[23] The NHATS-NSOC estimate is unique in that the sample is generated from older adults with limitations, rather than having caregivers self-identify directly. In contrast, the 2015–16 American Time Use Survey—for which the time frame is three to four months ago and which has elder caregivers self-identify by answering, "Since [month], have you provided any care or assistance for an adult who needed help because of a condition related to aging?"—yields an estimate of 40 million. The 2015 AARP/NAC study suggests 34 million people provided unpaid care to an adult age 50 or older using a one-year time frame, but when limited to current caregivers, the figure is closer to 19 million.[24]

Taken together, we conclude that approximately 22–26 million adults in the United States report that they currently care for an adult family member or friend who needs help with daily activities, the majority of whom help an older adult. Because many episodes of family caregiving may last only a few weeks or months, the figure could be as high as 40 million if family caregiving at any time in the past year is considered.

Our review also suggests three measurement features contribute prominently to the variation. First, studies that ask caregivers to self-identify yield higher estimates than those originating with the care recipient. Second, because family caregiving is dynamic, the reference period used to capture family caregiving is important. That is, "stock" measures (at a point in time or within a short reference period such as the past month) are substantially lower than those capturing "flow" over a broader time frame

Table 5. National Estimates of Family Caregiving, 2015–17

Source (Year)	Sample Generation Type	Definitions	Estimate
To an Adult of Any Age			
AARP and National Alliance for Caregiving (2015)	Caregivers	A caregiver is defined as anyone in the household who, in the past 12 months, provided unpaid care to a relative or friend 18 years or older to help them take care of themselves. Care is defined as: "This may include helping with personal needs or household chores. It might be managing a person's finances, arranging for outside services, or visiting regularly to see how they are doing. This adult need not live with you."	39.8 million *Currently: 22.3 million*
Panel Study of Income Dynamics (2017)	Caregivers	Caregiving hours include, in a typical week, any time spent caring for or looking after an adult (of any age) who needs assistance with daily activities. Participants are instructed to "exclude hours providing care if this is your/his/her job."	26.4 million
To Older Adults			
National Health and Aging Trends Study and National Study of Caregiving (2015)	Older adults with limitations linked to caregivers	Caregivers are defined as family and unpaid caregivers who assisted an adult age 65 or older with mobility, self-care, or household activities for health or functioning reasons in the past month. Care is defined as providing help with mobility, self-care or household activities, medical care activities, or transportation in the past month.	21.6 million
American Time Use Survey, Bureau of Labor Statistics (2015–16)	Caregivers	Caregivers are defined as individuals who provided care to a person age 65 or older who needed help because of a condition related to aging in the three (to four) months before the interview day. Care is defined as: "For example, as people grow older, it sometimes becomes difficult for them to perform various activities without help—such as grooming, driving, managing the household, taking medication or other common activities. Care may be provided in your home, their home, or at a care facility."	40.4 million
AARP and National Alliance for Caregiving (2015)	Caregivers	A caregiver is defined as anyone in the household who, in the past 12 months, provided unpaid care to a relative or friend 50 years or older to help them take care of themselves. Care is defined as: "This may include helping with personal needs or household chores. It might be managing a person's finances, arranging for outside services, or visiting regularly to see how they are doing. This adult need not live with you."	34.0 million *Currently: 19.5 million*

Note: The time frames are "any time in the last 12 months"(AAPR and National Alliance for Caregiving), "typical week" (Panel Study of Income Dynamics), "in the last month" (National Health and Aging Trends Study and National Study of Caregiving), and "since the first day of [reference month]," where reference month is three or four months before the interview date (American Time Use Survey).
Source: US Bureau of Labor Statistics, "Unpaid Eldercare in the United States—2017–2018 Summary," press release, November 22, 2019, https://www.bls.gov/news.release/elcare.nr0.htm; AARP and National Alliance for Caregiving, *Caregiving in the U.S.*, June 2015, https://www.aarp.org/content/dam/aarp/ppi/2015/caregiving-in-the-united-states-2015-report-revised.pdf; AARP and National Alliance for Caregiving, *Caregivers of Older Adults: A Focused Look at Those Caring for Someone Age 50+*, June 2015, https://www.aarp.org/content/dam/aarp/ppi/2015/caregivers-of-older-adults-focused-look.pdf; Panel Study of Income Dynamics; and Vicki A. Freedman, Brenda C. Spillman, and J. D. Kasper, "Making National Estimates with the National Health and Aging Trends Study," National Health and Aging Trends Study, 2018.

(e.g., in the past year). Third, studies focused on care to any adult generate higher estimates than those focused on care to older adults.

Measuring the Amount of Family Caregiving. Two distinct concepts reflecting intensity of caregiving are useful for policymakers to consider: one

Table 6. Issues Related to the Measurement of Family Caregiving Time

Issue	Clarification
Source of Information	Care recipients may not be aware of care activities carried out while not in their presence. Care recipients and caregivers may not consistently consider some forms of assistance "caregiving."
Unit of Time	Stylized questions ask about a typical or recent week or month. Diary-based measures typically focus on one or more 24-hour periods.

Source: Authors.

reflecting how much time is spent caregiving over a designated period of time—such as hours per week or month—and the other reflecting how long caregiving will proceed (that is, over how many consecutive weeks or months).[25]

Measures of time spent caregiving are sensitive to who is reporting and the unit of time being considered (e.g., a month, week, or day). (See Table 6.) Some studies ask care recipients how many hours caregivers spend helping them. Yet, care recipients may not be fully aware of the scope of caregiving that occurs outside of time spent together (e.g., managing finances, coordinating care, or handling insurance matters) or may not recognize assistance as care-related help.[26] In other studies, caregivers are asked to estimate time spent caring, either with "stylized" questions that ask them to consider a week, a typical week, or some other time frame (e.g., "in the last month" or "in the last year"). For stylized questions, it is difficult to know what specific activities caregivers consider when making such estimates. As the recall period gets longer (e.g., reporting for a yearlong rather than monthlong time frame), estimation is likely to be more cognitively challenging and potentially less accurate.

To simplify the task of reporting on time spent on care activities, NHATS and NSOC ask care recipients and caregivers to estimate hours given or received using a one-month time frame, first asking whether the caregiver provides help on a regular schedule or if it varies. If a regular schedule is reported, respondents are asked to report on the number of days per week and hours per day that help was provided; otherwise, days per month and hours per day are collected. This information is then used to compute hours of care. Studies using NHATS and NSOC have found that older adults with limitations living in the community report receiving 28 hours of assistance per week from their caregiving network, while individual caregivers report providing on average 19 hours per week.[27]

An alternative approach to assessing care activities is to document all activities on the prior day by fielding a 24-hour time diary and identify activities that "count" as caregiving.[28] Our tabulations of NSOC time diaries for family caregivers of any age providing help to an older adult with limitations indicate that 2.6 hours are spent helping on days when care is provided. Diary-based estimates from the American Time Use Survey, which focus on caregivers of any age helping an older adult on the previous day, find 2.8 hours are spent on care activities.[29] Similarly, estimates from a subsample of the Panel Study of Income Dynamics suggest caregivers age 60 and older provide assistance for 2.3 hours per day on average.[30]

National panel data that track individuals in and out of care roles prospectively are not available currently. Instead, duration is typically assessed by asking caregivers how long they have been caregiving. For example, the AARP/NAC caregiver study asks caregivers who have helped in the past 12 months: "How long have you been providing/did you provide care to your [ ]?" NSOC determines if care has been provided for a year or more and, if so, asks the number of years and, if not, asks the month they started caring. These two studies provide different distributions of duration, with the AARP/NAC study suggesting many more caregivers with shorter durations than are suggested by our tabulations of NSOC (30 percent vs. 8 percent caring for less than one year). Such differences may be due in part to different samples in the two studies. (See Table 5.) Such

estimates are also incomplete because of caregiving spells that are in progress (not yet complete).

To address the issue of incomplete data, Vicki A. Freedman drew on life table methods to estimate the number of years over their lifetime that adults can expect to provide care to older adults with activity limitations.[31] Using cross-sectional rates of family care to older adults from NSOC and population estimates from Census data, she estimated a set of caregiving life tables. She found, on average, a 20-year-old adult can expect to provide 5.1 years of family care (with women spending more years than men, 6.1 years vs. 4.1 years). Altogether, 2.4 years on average is spent caring for an older adult with severe limitations (e.g., with limitations in two or more of five activities of daily living or with probable dementia). These estimates may help frame discussion of expected lifetime costs, but they do not provide insights into individual variation (that is, some people will provide care for much longer and others not at all).

In summary, available evidence from national surveys and time diaries indicates that, on average, family caregivers to older adults provide two to three hours of care per day on days that they provide care, or about 20 hours per week. More evidence is needed regarding the duration of care and how it accumulates over the life course.

Working Family Caregivers

Much of what is known about working family caregivers is from caregiver surveys. As a result, the available facts about working caregivers have largely rested on comparisons between working and nonworking caregivers. The ability to contrast working caregivers with working non-caregivers—which is valuable because it reflects an employer's perspective—has been much more limited. With this gap in the existing literature in mind, this section presents new estimates from the Panel Study of Income Dynamics, which provide a national snapshot of family caregivers by work status and of working adults by family care status.

Overall, caregivers to adults comprise nearly one in 10 Americans, of whom just over half—14 million—are employed. (See the left side of Table 7.) Among family caregivers, those who are employed differ from those not currently working. For instance, three-fourths of working family caregivers are younger than age 60, whereas two-thirds of family caregivers not currently working are older than age 60. One-third of working family caregivers identify as a racial or ethnic minority, whereas one-fourth of nonworking family caregivers do so. Working family caregivers are also more highly educated than those not working; nearly four in 10 have a college degree or higher level of education compared with one in four of those who are not working. Nearly one-fourth of working family caregivers reported missing some work in the past year because someone else was ill, 11 percent live with someone in poor health, and one-third report substantial time pressures outside of work.

In a typical week, working family caregivers work 40 hours per week and care for a family member 10 hours per week; nonworking family caregivers provide 26 hours per week of help. The fraction providing high levels of care in a typical week is substantially lower for working than nonworking caregivers (13 percent vs. 32 percent report more than 20 hours).

Working family caregivers also differ substantially by stage of life. (See the right side of Table 7.) Younger caregivers are more racially and ethnically diverse: More than half (53 percent) of working family caregivers age 18–39 do not consider themselves non-Hispanic white; the figure is 30 percent for those age 49–59 and 20 percent for those age 60 and older. Younger working family caregivers are also less likely to have a college degree (although some may still be in the process of earning one) and earn substantially less per hour than their older counterparts do (on average $20 vs. $30 per hour). About 30 percent of younger working family caregivers missed work sometime in the prior calendar year because someone else was ill, and nearly half report substantial time pressure outside of work. For both working and nonworking caregivers across all age groups, women constitute a larger share than men, but the

Table 7. Characteristics of Family Caregivers to Adults by Age and Work Status, 2017

	Family Caregiver (10.5%)		Not Family Caregiver (89.5%)		Family Caregivers by Age Group					
					Age 18–39 (15.4%)		Age 40–59 (42.3%)		Age 60+ (42.3%)	
	Currently Working (54.6%)	Not Currently Working (45.4%)	Currently Working (64.4%)	Not Currently Working (35.6%)	Currently Working (76.6%)	Not Currently Working (23.4%)	Currently Working (69.1%)	Not Currently Working (30.9%)	Currently Working (30.6%)	Not Currently Working (69.4%)
Age										
% 18–39	23.3	8.6	39.9	16.6	—	—	—	—	—	—
% 40–59	53.8	28.9	45.9	21.5	—	—	—	—	—	—
% 60+	22.9	62.6	14.2	61.9	—	—	—	—	—	—
% Female	55.3	63.7	47.1	61.5	55.9	81.5	55.8	60.6	53.6	62.7
Race										
% White, Non-Hispanic	67.2	74.5	69.9	70.5	47.4	56.2	70.1	66.3	80.6	80.7
% Black, Non-Hispanic	14.4	13.3	10.0	11.2	19.4	21.9	13.8	19.5	10.6	9.2
% Hispanic and Other	18.5	12.3	20.1	18.3	33.2	21.9	16.2	14.2	8.9	10.1
Education Level										
% Less Than High School or High School	36.3	51.3	31.9	48.1	39.1	61.0	35.7	54.9	34.8	48.4
% Some College	25.5	22.8	24.4	22.2	29.3	25.5	27.8	25.1	16.4	21.4
% College Degree	38.2	25.8	43.7	29.7	31.6	13.5	36.5	20.1	48.8	30.2
Hourly Wage	$28	—	$29	—	$20	—	$30	—	$30	—
% Living with Someone in Poor Health	11.3	20.6	2.1	3.8	7.3	9.6	9.7	14.9	18.9	24.8
% Who Missed Work in the Prior Calendar Year Because Someone Else Was Ill	24.7	2.7	16.5	1.9	30.3	8.8	26.6	3.9	14.9	1.3
Hours Worked in a Typical Week	39.6	—	40.8	—	39.7	—	41.0	—	36.4	—
Hours Provided to Adult Family in Typical Week	11.0	25.8	—	—	11.1	38.2	10.7	21.3	11.6	26.2
% Provides 1–10 Hours	75.0	52.9	—	—	69.8	50.2	76.0	52.8	78.2	53.5
% Provides 11–20 Hours	12.1	15.5	—	—	13.0	14.0	12.5	19.9	9.9	13.6
% Provides 21–40 Hours	7.3	14.0	—	—	10.0	10.6	7.7	12.0	3.6	15.3
% Provides > 40 Hours	5.6	17.6	—	—	7.2	25.2	3.8	15.3	8.3	17.6
% Often Pressed for Time Outside Work	33.8	27.5	20.0	16.2	45.7	53.3	31.8	36.6	26.3	19.8
Population (Millions)	14	12	145	80	3	1	8	3	3	8

Note: Assumes 251 million adults age 18 and older.
Source: Authors' tabulation of 2017 Panel Study of Income Dynamics.

share is more equalized among working caregivers (54–56 percent for women vs. 44–46 percent for men).

Among those who work, caregivers to adults (14 million) and non-caregivers (145 million) are similar in many ways; for instance, they work similar numbers of hours in a typical week (approximately 40) and are paid similar hourly wages ($28 vs. $29). However, working caregivers are more likely than working non-caregivers to be older than age 60 (23.9 percent vs. 14.9 percent) and female (56.2 percent vs. 47.4 percent). They are also much more likely to live with someone in poor health (11.4 percent vs. 1.8 percent) and to have missed work in the prior calendar year because someone else was ill (22.9 percent vs. 14.2 percent). Working caregivers are also far more likely than working non-caregivers to report that they are often rushed or pressed for time outside of work (33.8 percent vs. 20.0 percent).

The heterogeneity in care needs noted earlier (Table 2) makes crafting and aligning policies to support all working family caregivers challenging. Although all caregivers may benefit from employment protections and flexible work schedules, the short-term and episodic nature of certain types of conditions (e.g., giving birth, recovering from joint replacement, or managing an intermittent acute exacerbation of conditions such as heart failure) are amenable to policies that provide pay during absences. In contrast, long-term needs associated with stable but significant disability or dwindling conditions such as frailty and dementia may require additional, longer-term solutions that support work and care, including respite benefits, help finding paid care for a relative, and, if appropriate, residential care options.

The Changing Demography of Family Caregiving to Older Adults

Whether there will be enough family caregivers in the US available to care for older adults as the baby-boom generation continues to age is an important policy question for older individuals, their families, and the nation. Care to the older population is of particular interest because the share of the population reaching later life is growing, and risks of needing assistance increase substantially at older ages.[32] Some researchers have concluded that because the relative size of cohorts is changing, a much larger share of the working-age population will need to be caregivers in the future to keep up with the growing care needs.[33] A recent study projects that because of these population shifts, one in 10 working-age adults (age 20–64) will provide care to an adult age 65 or older by 2050, up from 7 percent in 2013.[34] Whether the time and difficulties associated with providing care and potential conflicts with work responsibilities will intensify with impending demographic shifts remains unclear.

Underlying these concerns is the recognition that family caregiving to older adults often requires coordinating multiple tasks and sharing responsibilities across family members. Larger families potentially provide more opportunity to share care responsibilities and afford more choices about what types of roles to assume and for how long. At the same time, challenges may emerge in larger families because of the need to coordinate care among multiple family members and align multiple perspectives about how to divide responsibilities. Few studies have focused on family caregiving networks and what features result in competent assistance, family conflict versus harmony, or how networks change over time to meet older adults' needs.[35]

This section aims to provide insights into these issues by examining evidence on how the experience of family caregiving to older adults has changed over the past several decades. We then review several key population trends that are likely to influence older adults' available family networks in the near future.

Changes in the Experience of Family Caregivers to Older Adults. Most studies of family caregiving involve cross-sectional data and thus cannot evaluate population-level changes in caregivers' experiences. A notable exception is a recent study comparing the 1999 and 2004 National Long Term Care Survey with the 2011 and 2015 NHATS.[36] The analysis was restricted to primary family caregivers of community-dwelling older adults with self-care

Table 8. Changing Experiences of Primary Family/Unpaid Caregivers Assisting Older Adults with Limitations in Self-Care or Mobility Activities Living in the Community, 1999–2015

	1999	2004	2011	2015
Birth Years of Care Recipients (Baby-Boom Generation Ages)	1934 and Earlier	1939 and Earlier	1946 and Earlier (65+)	1950 and Earlier (65–69)
Number of Care Recipients and Primary Caregivers (Millions)	2.3	—	—	5.2
Caring for (%)				
Spouse/Partner	42.7	—	—	48.9
Parent	38.7	—	—	36.1
Other	18.6	—	—	15.0
Duration of Caregiving, in Years (%)				
< 1 Year	20.8	15.1	8.0	9.2
1–3 Years	34.4	37.1	39.0	30.3
4+ Years	44.8	47.8	53.1	60.5
Distance				
Live Together	76.1	73.7	75.4	77.4
≤ 10 Minutes	15.7	13.6	12.7	16.1
11–30 Minutes	6.2	9.0	8.8	4.0
> 30 Minutes	2.0	3.6	3.0	2.5
Mean Hours Care per Week	37.1	36.2	30.7	29.9
More Than 40 Hours per Week (%)	28.4	26.3	26.0	24.8
Women (%)	68.2	65.2	62.0	63.7
Co-Residing Child < 18 Years (%)	8.7	11.9	10.8	12.2
Employed (%)	28.3	31.5	29.5	27.5
Substantial Emotional Difficulty (%)	22.2	22.8	18.2	14.9
Substantial Physical Difficulty (%)	16.5	14.6	10.9	9.7
Substantial Financial Difficulty (%)	14.2	11.7	10.2	8.6
Support Group Use	5.3	5.8	3.7	4.5
Respite Care Use	8.5	11.2	15.9	15.7

Source: Data are from the 1999 and 2004 National Long-Term Care Survey and its linked caregiver survey and the 2011 and 2015 National Health and Aging Trends Study and its linked National Study of Caregiving, as reported in Jennifer L. Wolff et al., "Family Caregivers of Older Adults, 1999–2015: Trends in Characteristics, Circumstances, and Role-Related Appraisal," *Gerontologist* 58, no. 6 (November 2018): 1021–32, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6215459/.

or mobility disability. Note that the observation period for this study includes the initial stages of caring for the baby-boom generation, whose leading edge was age 65–69 in 2015.

The number of older adults receiving help from a family caregiver more than doubled between 1999 and 2015, from 2.3 to 5.2 million. (See Table 8.) The demographic and socioeconomic profile of care recipients also shifted: In more recent years, care recipients were younger, were more racially diverse, and had higher levels of educational attainment. Primary caregivers' characteristics were generally stable, although more were spouses and they were in better health, with the percentage reporting fair or poor health decreasing from 32.8 percent in 1999 to 21.7 percent in 2015.

Table 9. Population Trends Expected to Affect Number of Available Family Caregivers

Trend	Expected Effect on Number of Caregivers Available
Mortality	Increase in adult children with older parents; increase in number of adults in the "sandwich" generation, with both elderly parents and adult children
Marital Status	Caregivers more likely to be unmarried; older adults more likely to be living with spouse
Fertility, Family Size, and Kinlessness	Fewer siblings to share care; more older adults with no biological kin (spouse or adult children)
Divorce and Remarriage	Increase in stepfamilies
Proximity	Most adults live fairly close to their parents; difficult to discern trends
Work Patterns	More women and older adults in the workforce

Source: Authors.

Caregiving arrangements were longer lasting in more recent years: The percentage of primary caregivers assisting for four or more years increased from 44.8 percent in 1999 to 60.5 percent by 2015. Mean hours of care per week remained high but decreased from 37 hours in 1999 to 30 hours by 2015; the share caring for more than 40 hours per week ranged from 28 percent in 1999 to 25 percent in 2015. The percentage of caregivers who were women declined slightly, and the percentage reporting substantial care-related emotional, physical, and financial difficulty also declined. Approximately 5 percent of primary caregivers reported attending a support group at all three points in time, but use of respite care nearly doubled from 8.5 percent in 1999 to 15.7 percent by 2015.

Taken together, these findings suggest that family caregivers' circumstances generally improved during the 16-year observation period. Caregivers on average provided fewer hours of weekly assistance, were less likely to report their health to be fair or poor, and were less likely to report substantial emotional, physical, and financial difficulty due to caregiving. Respite care essentially doubled between 1999 and 2015.

Changing Families of Older Adults. Table 9 provides an overview of several ongoing population trends that have implications for availability of caregivers for older adults as the baby-boom generation continues to age. Here we provide a brief review of each trend and its relevance to understanding family members' availability and willingness to become family caregivers to older adults.

Mortality. Decades of declines in mortality have led to growing numbers of older adults who comprise an increasing percentage of the US population. As a consequence, adults are more likely to have one or more parents living into later life. For instance, the percentage of women age 45–64 with a living parent or parent-in-law increased from 60 percent in 1988 to 72 percent by 2013.[37] Declines in mortality have also fueled growth in the "sandwich generation,"[38] a term used to describe the phenomenon by which middle-aged individuals, often women, are sandwiched between and therefore assisting both their parents and (adult) children.

Marital Status. For married older adults, spouses often provide the majority of assistance with daily activities.[39] Marriage trends have been moving in different directions for younger and older adults.[40] Because adults are marrying later and many are cohabiting rather than marrying, the share of married adults under age 65 has decreased over the past few decades, from 60 percent in 1990 to less than 50 percent in 2016. The proportion of black men and women who never married has risen sharply since 1980 and is more than twice the proportion for white men and women.[41]

Marriage rates among adults age 65 and older have been *increasing* slowly over time, from 53 percent in

1990 to 55 percent in 2016, a new high mark compared to any prior time in history, in part because of declines in mortality at older ages. That is, more older adults are staying married longer because their spouses are surviving to older ages. At older ages when the chances of having care needs increase, marriage rates have increased even more: 44 percent of people over age 75 are currently married, compared to 36 percent in 1990.[42] This trend may reverse course as more recent generations with lower marriage rates enter late life.[43]

Fertility, Family Size, and Multigenerational Demands. Because of past fertility patterns, the percentage of childless older adults is expected to continue to increase over the coming decades.[44] Yet declines and postponements in fertility over many years have also led to changes in family size among older adults and consequently in sibship size (i.e., the number of siblings) among those who have an elderly parent.[45] In 2013, 92 percent of adults age 65 and older had at least one biological child, and the average number was 2.5.[46] Flipping these figures to the child's perspective (in which larger families get more weight), adults with at least one parent age 65 or older have 2.5 siblings on average.[47] This figure masks that a sizable share of adults—16 percent—have just one or no siblings with whom they could share parent care responsibilities.

Also relevant, the mean age at birth has been rising—from 22 in 1970 to about 25 in 1990 to 27 in 2017. This means, on average, a 50-year-old woman today has a 72-year-old mother and a 25-year-old adult child—and may have a grandchild in another two to three years (although not necessarily a child-in-law).[48] These patterns may give rise to a new phenomenon of a "double-decker sandwich" generation in which women in their 50s are caring for a parent and grandchild.

Divorce and Remarriage. Increases in divorce and remarriage in the 1970s through the 1990s have led to a substantial number of adults today with one or more living stepparents.[49] For instance, among adults age 45–64 in 2013, 14 percent had a biological and at least one stepparent or stepparent-in-law.[50] In addition, because of increases since 1970 in the percentage of children living with a single parent,[51] a substantial number of adults today did not live with both parents during their childhood. More economically disadvantaged families, who may have fewer resources to rely on for care needs, are more likely to have nontraditional family structures.[52]

Whether norms and expectations about caregiving obligations among family members will change in the future as stepfamilies increase in number remains unclear.[53] Previous research suggests that ties in the form of time transfers are stronger between adults and their biological parents than between adults and their stepparents.[54] Moreover, having a family with stepchildren is associated with reduced chances of any children (even biological children) providing time transfers. Yet other research points to the strong ties between parents from the baby-boom generation and their grown children and strong norms of reciprocity that may lead to adult children assuming care roles as their parents age.[55]

Proximity Between Older Adults and Family Members. Contrary to the popular notion that our society is "increasingly mobile," residential mobility (defined as a change in permanent address) in the US has been on the decline for many years[56] and is now at an all-time low. The percentage reporting having moved in the past year has fallen from 20 percent in the 1960s to 10 percent in 2017–18.[57]

Although it is more challenging to assess trends in proximity between older adults and their family members, data from the early 1990s suggest most adults live fairly close to their parents.[58] A more recent study using data from 2013 found that two-thirds of adults age 25 and older with at least one living parent live within 30 miles of a parent, and 42 percent live within 30 miles of *all* parents (including in-laws).[59] The study also found that only about 9 percent of adults live at a distance of 500 miles or more from a parent. Family caregivers tend to live closer: Approximately 90 percent of adult child caregivers to older adults (primary and other) live within 30 miles of the parent they care for.[60]

Work Status of Family Members of Older Adults. As the proportion of women in the labor force has increased (and that of men decreased), gender differences in work have narrowed substantially. Currently, men's labor force participation is only 12 percentage points higher than women's participation.[61] Labor force rates of older adults have also been rising; in 2018, 24 percent of older men and 16 percent of older women were working or actively seeking work.[62] Despite these trends, family caregivers to older adults constitute a modest fraction of employees in the US. Among caregivers to older adults, 39 percent report working.[63]

Taken together, these demographic trends suggest countervailing forces that may mitigate concerns about a potential family caregiving shortage. On the one hand, fewer biological adult children will be available to serve as caregivers to aging parents in the coming decades; on the other hand, more older adults may have spouses available to provide daily assistance. An outstanding question is whether family ties will weaken as the country experiences an increase in the share of complex families with step relationships and partnerships outside of marriage.

Discussion

This chapter provides the foundation for understanding and evaluating the changing landscape of family caregiving. Although estimates of family caregiving vary, there appears to be a general convergence that approximately 22–26 million adults in the United States currently care for an adult family member or friend who needs help with daily activities, the majority of whom help an older adult. The figure is closer to 40 million if care in a one-year time frame is considered.

Family and unpaid caregivers assist with a variety of personal care and household tasks and increasingly assist with medical tasks, the latter often without training. They may help a spouse, partner, or adult child during recovery from an acute health event or traumatic injury or help a parent coping with chronic and acute illness and end-of-life care needs. On average, family caregivers spend two to three hours providing help on days when they care; those who work provide far fewer hours of care per week than those not currently working (11 vs. 26 hours). More research on duration of care is needed, but one study estimates that the expected number of years spent caring for an older adult over one's lifetime is about five years.

The intersection between work and care remains an important consideration, and about half of family caregivers—including 14 million caregivers providing assistance to an adult—are employed. Although family caregivers comprise less than 10 percent of employees today, modest increases in this percentage are anticipated over the next few decades. These trends are likely to result in more families balancing employment with family responsibilities. Providing such care may require regular or irregular absences or disrupt productivity if employers do not offer accommodations. Steps by policymakers and employers to broaden eligibility criteria for care-related benefits beyond a spouse, child, or parent to encourage sharing of care responsibilities across a larger network may be fruitful in reducing work-care conflicts.

For family caregivers to older adults, evidence suggests that circumstances have generally improved in recent decades. Although a sizable minority of caregivers continue to report substantial time demands and difficulties, on average caregivers today provide fewer hours of care than they did in the past and are less likely to report substantial emotional, physical, and financial difficulty due to caregiving. Why their circumstances have improved is not altogether clear. It may be that the same phenomena that have been linked to declines in late-life disability may be easing the demands on caregivers. For instance, the use of assistive technology for self-care and mobility tasks (e.g., for mobility, bathing, and toileting) has grown substantially, as has the use of the internet for household activities (e.g., for banking, shopping, and ordering prescriptions).[64] As the population continues to age, monitoring the well-being of family caregivers remains an important task.

The future availability of family members to provide care will be shaped by complex, interrelated

demographic and social forces. Grim projections that focus on relative sizes of cohorts ignore the central role that spouses play in family caregiving. Spouse availability is influenced by not only marriage, divorce, and remarriage patterns but also increases in life expectancy. In the recent past, on balance spouses appear to increasingly serve as the primary caregiver.

Others have questioned whether the increasing complexity of families—with more step relationships and partnerships outside of marriage—will lead to weakened family ties as the baby-boom generation continues to age. Yet the majority of parents born to this generation have been actively involved with their grown children's lives, and they may "reap the benefits of reciprocity" as they continue to age.[65] In addition, family norms may shift in unanticipated ways as complex families become more common and new opportunities to share care emerge.

Finally, this chapter has demonstrated that the landscape of family caregiving is shifting and that gaps remain in our understanding of impending family care trends. Monitoring trends in both family and family caregiver availability remains an important task for developing evidence-based policies to support family caregivers. In addition, assembling evidence on federal, state, and local policies that support the diverse spectrum of individuals who serve as family caregiver will be essential in helping employers prepare to support tomorrow's families.

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Family Caregiving, Caregiving Leave, and Labor Market Outcomes for Caregivers

Elisabeth Jacobs

The workforce's composition has changed dramatically over the past half century. Women now make up nearly half of all workers, due to both increases in women's employment and decreases in men's labor force participation. Women's earnings play an increasingly important role in household incomes. The aging of the baby-boom cohort and increases in life expectancy mean that people are living and working longer. Prime working-age men and women face caregiving responsibilities for both children and aging parents, and many older workers may have caregiving responsibilities for a spouse or partner. Taken together, these trends add up to increased conflict between work and caregiving responsibilities and a growing demand for time away from work to provide care.

Caregiving leave is a policy option offering workers a path for navigating the conflict between work and caregiving responsibilities. Unlike sick days, which typically consist of a limited number of on-demand days off to care for minor illnesses such as a child's stomach virus, caregiving leave offers workers access to sustained time away from work to care for a family member's condition that requires continuous attention over a sustained period, typically weeks or months. Caregiving leave may be consecutive (e.g., a month away from work to support an aging parent's recovery from a hip replacement) or intermittent (e.g., two days a week over several months to accompany a spouse to a chemotherapy appointment and support with day-after recovery).

Caregiving leave is distinct from parental or bonding leave, which is specifically for new parents, and from medical leave, which is for one's own serious medical condition. Like medical and parental leave, caregiving leave typically involves a certification process whereby the worker provides medical documentation of the family member's care need to either an employer (for employer-provided caregiving leave) or, in the limited number of states with public paid leave programs, to a public agency.

The COVID-19 pandemic has highlighted the crucial role of family caregivers, as millions of sick Americans have relied on loved ones for care during the crisis. Yet the United States entered the pandemic as an international outlier due to its absence of a federal paid leave policy. The Family and Medical Leave Act (FMLA) of 1993 provides a limited right to 12 weeks of job-protected, unpaid leave for family caregiving and unpaid parental and medical leave, but the United States has no paid caregiving leave policy. Just 59 percent of workers were eligible for unpaid leave covered by FMLA due to the law's eligibility restrictions based on worker hours and establishment size.[1]

Nearly all other Organisation for Economic Co-operation and Development nations offer not only paid caregiving leave but also paid sick days, eldercare, and long-term care supports. As the United States looks toward rebuilding in the wake of the pandemic, understanding the role of caregiving leave—and, especially, paid caregiving leave—is key for building a policy architecture that helps support workers, families, and the economy as a whole.

This chapter begins with an overview of three fundamental shifts in labor markets and demographics

that together are redefining the relationship between labor market work outside the home and informal family caregiving: work, family, and care needs. It then overviews the state of access to caregiving leave, paid and unpaid, with attention to differences across subgroups. An overview of the evidence on the relationship between family caregiving responsibilities and caregivers' labor market outcomes suggests that family caregiving exerts negative pressure on women's labor supply, including both employment and hours, and on women's wages and earnings.

A review of the limited evidence on the role unpaid and paid caregiving leave play in shifting those outcomes demonstrates that leave may mitigate this negative relationship and that paid leave may be particularly important for low-wage workers, especially low-wage working women. Meanwhile, without federal policy action since the 1993 introduction of FMLA, a growing number of states have enacted paid leave policies, and all include family caregiving. These state interventions, and numerous limited temporary federal interventions enacted as part of the pandemic response, provide an opportunity to better understand paid leave's mitigating role in labor market outcomes for family caregivers.

Changes in Work, Family, and Care

Three interrelated sets of facts provide context for understanding the relationship between work and caregiving in the contemporary United States. First, the gender composition of the workforce has shifted dramatically over the past half century. Second, and relatedly, the role of women's earnings as a share of total household income has changed over time. Third, demographic changes mean that the population is aging. Taken together, these three trends are redefining the relationship between labor market work outside the home and informal family caregiving.

The gender composition of the workforce has shifted because of changes in both women's and men's labor force participation. Prime-age (age 25 to 54) women's labor force participation rose throughout much of the 20th century, with growth accelerating in the 1970s, climbing from 50.1 percent in 1970 to a peak of 76.8 in 1999. While female labor force participation has fallen and risen with the business cycle over the first two decades of the 21st century, it has averaged 75.2 percent, close to its peak. Prime-age men's labor force participation declined over the same period. In particular, it fell from 95.9 percent in 1970 to 89.1 percent in 2019. (See Figure 1.)

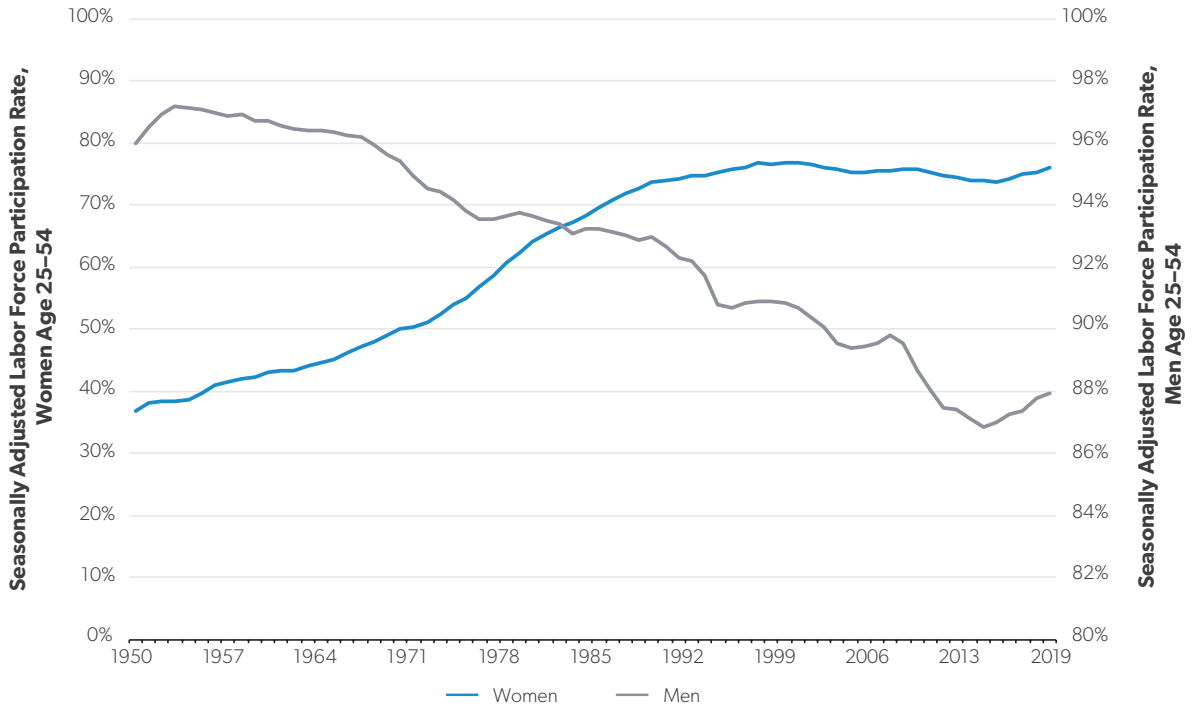
Older women's labor force participation has also risen, with labor force participation rates among women age 55–64 increasing from 43 percent in 1970 to 59.6 percent in 2019 (Figure 2). Over the same period, labor force participation for women age 65 and older rose from 9.7 percent to 16.4 percent.

The rise in women's labor force participation occurred along with increases in women's educational attainment and hours worked. Taken together, these changes led women's earnings to rise as a share of total family income. The share of families with the traditional sole male breadwinner has dwindled, as dual-earner couples are increasingly prevalent among married and cohabiting families.[2]

In addition, the share of families headed by a sole non-married adult rose from 13.1 percent in 1970 to 25.8 percent in 2019, meaning that more families have only one person available to both work for pay and do home production.[3] Most families with children at home have a mother who works outside the home for pay; 67.3 percent of married mothers are employed, along with 73.2 percent of unmarried mothers. While employment rates for mothers of children under age 6 are somewhat lower, the majority of mothers with young children at home (61.4 percent of married mothers and 68 percent of unmarried mothers) work outside the home.[4] These changes in both household formation and women's labor force participation mean that more workers are balancing labor market responsibilities while caring for children.

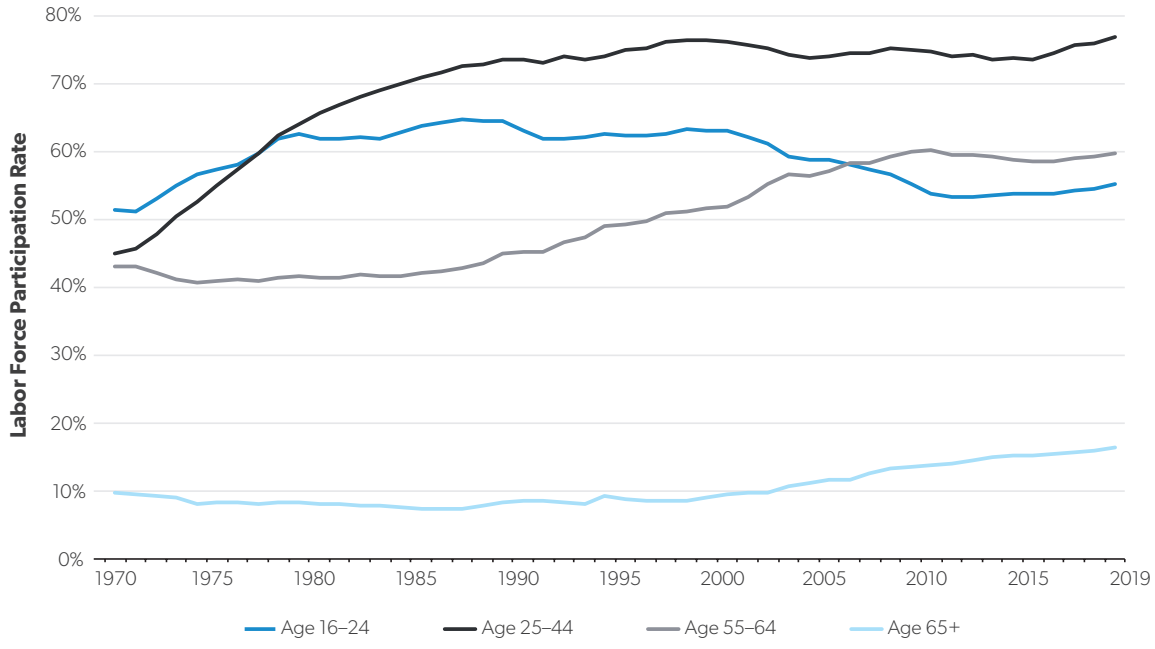
The third trend that is redefining the relationship between labor market work outside the home and informal family caregiving is the aging of the population (Figure 3). Increasing life expectancy and health at older ages have led women and men to be more likely to work longer, but that also means a growing

Figure 1. Prime-Age Labor Force Participation by Gender, 1950–2019



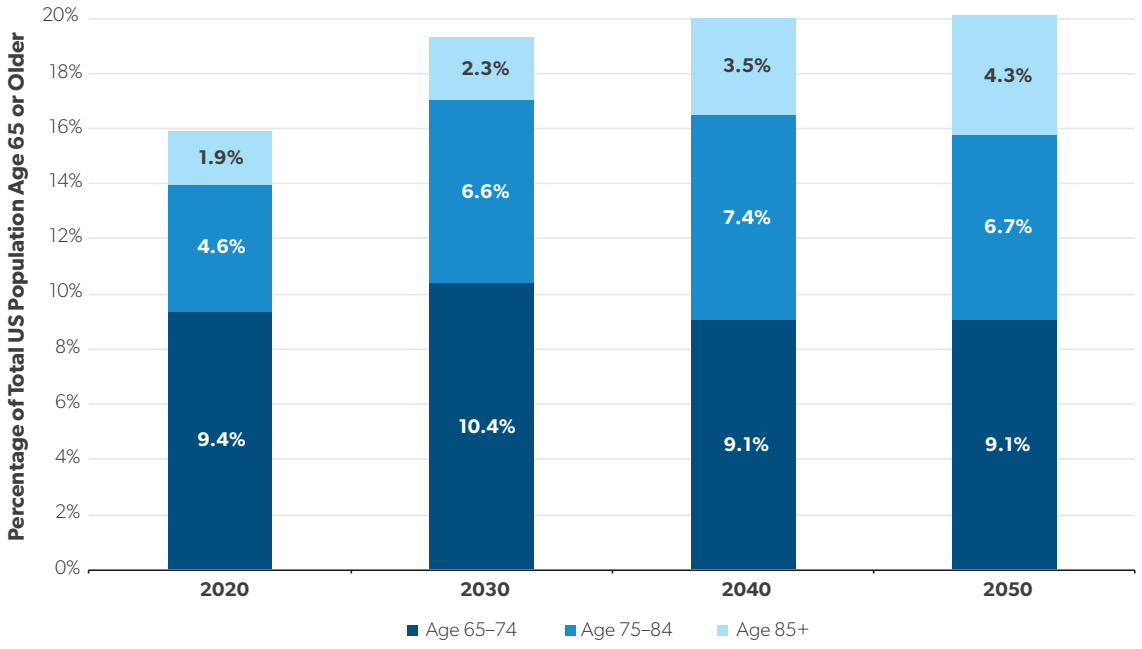
Source: US Census Bureau, Current Population Survey.

Figure 2. Women's Labor Force Participation Rate by Age, 1970–2019 (Not Seasonally Adjusted)



Source: US Census Bureau, Current Population Survey.

Figure 3. Projected Share of the US Population Age 65 or Older, 2020–50



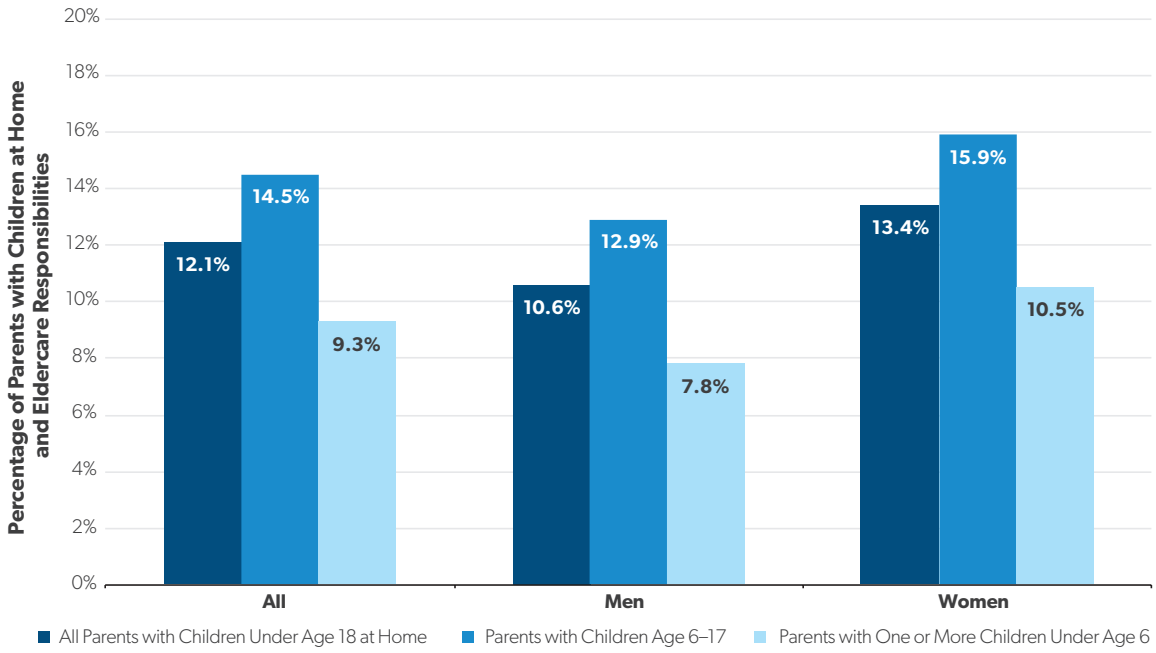
Source: US Census Bureau.

number of elderly adults may need care. By 2050, the US Census projects that one-fifth of the population will be over age 65.[5] The share of the population over age 65 is projected to be increasingly comprised of the "oldest old," with the proportion of those over age 85 more than doubling from 1.9 to 4.3 percent between 2020 and 2050. Aging is associated with a range of disabilities requiring care. For instance, in 2016, 7.6 percent of 65- to 74-year-olds, 17.2 percent of 75- to 84-year-olds, and 43.4 percent of those 85 or older reported they could not live independently due to a physical, mental, or emotional condition.[6]

Family caregiving needs may extend in both directions, with delays in childbearing leading to a "sandwich generation" shouldering care responsibilities for both young children and aging parents. In 2019, 40 percent of families had children under age 18 at home. Among families with children at home, 12.1 percent report providing unpaid eldercare in the past quarter, defined as care for an individual age 65 or older for a condition related to aging. In all cases, mothers were more likely than fathers were to have dual-facing care responsibilities. Of that group of parents providing care for both children at home and an elderly relative, 47.8 percent were caring for an aging parent, 20.1 percent were caring for an aging grandparent, and 26.1 percent were caring for another relative. Parents of young children (under age 6) providing both childcare and eldercare were just as likely to be caring for a parent (33.2 percent) as they were for a grandparent (33.7 percent). (See Figure 4.)

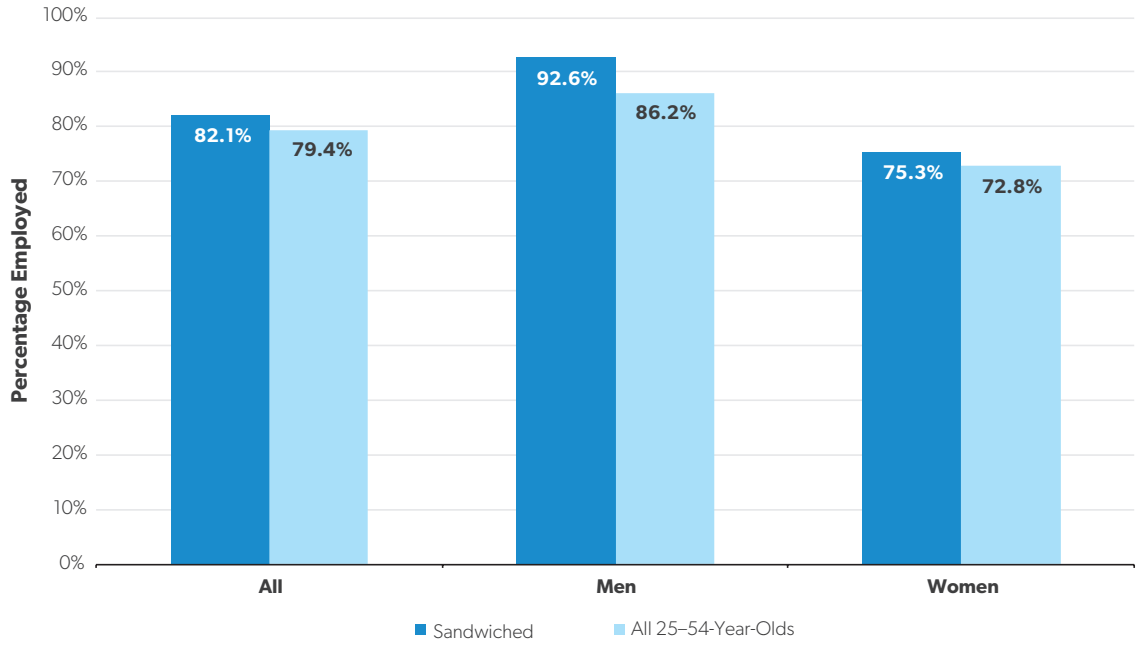
Sandwich caregivers' employment rates are similar to those of the total prime-age working population (Figure 5). The majority of parents with children under age 18 at home and eldercare responsibilities are employed (82.1 percent), compared to 79.4 percent of the total prime working-age population.[7] Yet these changes in workforce composition, earnings and family incomes, and demographics add up to substantial levels of work-family conflict for many. In 2018, 44 percent of full-time, non-self-employed workers reported that their job interferes with family life "sometimes" or "often," up from 39.3 percent in 2002. Self-reported work-family conflict is somewhat higher for men, though the gender gap narrowed in 2018.[8]

Figure 4. Share of Parents with Children at Home and Eldercare Responsibilities, 2017–18



Source: US Census Bureau, American Time Use Survey.

Figure 5. Employment Rates, Sandwich Caregivers vs. All Prime-Age Individuals, by Gender, 2017–18



Source: US Census Bureau, American Time Use Survey; and US Census Bureau, Current Population Survey.

Table 1. Share of Wage and Salary Workers with Access to Leave by Type, 2017–18

	Paid (%)	Unpaid (%)
Own Illness or Medical Care	61.8%	72.7%
Illness or Medical Care of Another Family Member	51.5	67.3
Childcare, Other Than for Illness	42.7	57.8
Eldercare, Other Than for Illness	42.2	59.3
Birth or Adoption of a Child	50.0	62.9
Vacation	62.5	56.8
Errands or Personal Reasons	46.5	62.9

Note: Childcare leave access figures are for respondents with children under age 18 living at home. Eldercare leave access figures are for respondents who reported providing care to someone age 65 or older with an aging-related condition in the past three to four months.
Source: Author's calculations from US Census Bureau, American Time Use Survey.

Caregiving Leave: Access and Usage

Competing caregiving and work demands may mean taking unpaid or paid leave or needing a flexible schedule to accommodate performing care duties. The richest and most current available relevant data come from the American Time Use Survey's (ATUS) 2017–18 Leave and Job Flexibilities Module, a nationally representative survey of wage and salary workers that sheds light on leave access and use, along with information on access to flexible work arrangements that may also help workers balance competing work and family demands.[9] Because ATUS is linked to the US Census Bureau's Current Population Survey, ATUS also allows for a descriptive picture of leave access and use across various key demographic categories, including race and ethnic background, gender, and earnings.

ATUS asks wage and salary workers about access to paid and unpaid leave in their sole or main job and then asks respondents whether they can use leave for the following specific purposes: own illness or medical care, illness or medical care of another family member, childcare (other than for illness), eldercare (other than for illness), birth or adoption of a child, vacation, and errands or personal reasons. (See Table 1.) Sixty-six percent report access to paid leave of some form, and 78.3 percent report access to unpaid leave of some form. While workers may have access to leave in general, the ability to use paid or unpaid leave for caregiving reasons may vary by type and the quantity of leave available. For example, a worker may not be able to use vacation for a caregiving leave if vacation scheduling requires prior approval from a supervisor, yet a caregiving need may come up as an unscheduled emergency.

Access to unpaid leave is more common across all leave categories than is access to paid leave. While 51.5 percent of wage and salary workers report access to some form of paid leave for illness or medical care of another family member, 67.3 percent report access to some form of unpaid leave for this purpose. Further, 42.2 percent of workers who reported providing care to an individual age 65 or over for aging-related reasons other than illness had access to paid leave for that care, while 58.3 percent report access to unpaid leave for that purpose.

Given the diversity of aging-related reasons requiring caregiving, including assistance with daily household and personal care tasks and social support and navigating the health care system, the non-illness-related eldercare category of leave may capture access to leave relevant for family caregiving. Access to leave for childcare reasons among workers with a child under age 18 at home mirrors eldercare leave access: 42.7 percent reported access to paid leave for this purpose, and 57.8 percent reported access to unpaid leave. Non-illness-related childcare reasons

for family caregiving leave could include support for an intellectually or physically disabled child, such as preventative care or assistance with daily life activities. Thus, this category may also capture an element of leave access relevant for family caregiving.

Access to paid leave for family caregiving was slightly higher in the 2017–18 ATUS data than in the 2011 data. In 2011, the last time the ATUS Leave Module was collected, 48 percent of wage and salary workers reported access to paid leave for illness or medical care of another family member, and 71 percent reported access to unpaid leave for this purpose.[10]

At the time of the 2011 ATUS, California and New Jersey were the only two states with paid leave policies in place that covered family caregiving leave, representing about 15 percent of the workforce. At the time of the 2017–18 ATUS, Rhode Island had joined that group, but the size of the Rhode Island workforce, compared to the national workforce, means that the state's paid leave provisions are unlikely to explain the small national uptick in access to paid caregiving leave among wage and salary workers.[11] Workers with access to paid family caregiving leave in states other than California, New Jersey, and Rhode Island either had employers that voluntarily provided family caregiving or could use other leave time (such as vacation time, personal days, or sick days) to help cover time away from work for family caregiving responsibilities.

FMLA requires that covered employers provide 12 weeks of access to unpaid, job-protected leave to eligible workers. However, qualifying reasons for leave are limited to a serious health condition, either a worker's own condition or a family member's, and parental leave for the birth of a newborn or newly adopted child. An FMLA-eligible serious health condition is defined as an illness, injury, impairment, or physical or mental condition that involves inpatient care or continuing treatment by a health care provider. Employers may require that leave requests be supported by a certification issued by the eligible employee's health care provider or that of the family member for whose care the employee is requesting to take leave.[12]

FMLA's narrow definition of serious illness means the law does not provide access to a right to sick leave. Without serious complications, FMLA leave cannot be used to care for a family member with a short-term illness—such as a child's cold, flu, or respiratory illness, including COVID-19.[13]

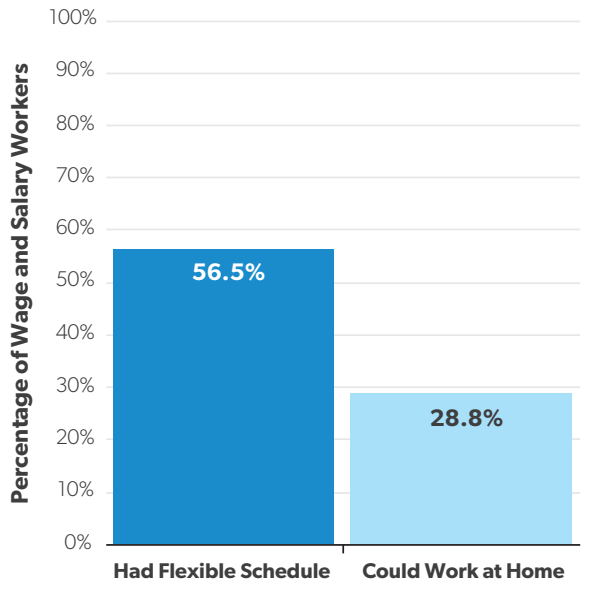
Moreover, FMLA coverage applies only to employers with 50 or more employees within a given radius of a given worksite, which excludes many small business employees and those at larger firms whose workers are spread across many small establishments. Second, FMLA coverage applies only to employees with at least one year of job tenure and excludes workers with fewer than 1,250 hours in the previous year (about 25 hours per week). FMLA likely explains why reported access to unpaid leave for one's own illness, a family member's illness or medical care, and the birth or adoption of a child are somewhat higher than are rates of access for other forms of family caregiving leave (such as non-illness-related childcare and eldercare).

The limits to FMLA coverage may explain why access to unpaid leave for eligible reasons under the law remains well under 100 percent. And, for both unpaid and paid leave access, respondents may not be aware of their access to specific types of leave that they have not had reason to use. On the other hand, reported access numbers may overestimate availability of leave. Workers' ability to access leave that appears on paper may in practice prove more difficult due to managerial discretion regarding leave approval.

Moreover, workers may misinterpret FMLA protections as providing more generous leave than actually provided for under the law. For instance, ATUS asks respondents whether their employer "would approve of you taking unpaid/paid leave for the illness or medical care of another family member."[14] The vague question may mean that FMLA-eligible workers could plausibly answer that they do indeed have access to leave, but, in lieu of an employer-specific policy or a state or local statute, workers may not have access to a day off to care for a family member with an upset stomach or a respiratory illness.

Access to workplace flexibility may also play a role in allowing workers to better balance work and

Figure 6. Share of Workers with Access to Workplace Flexibility, 2017–18



Source: US Census Bureau, American Time Use Survey.

caregiving responsibilities (Figure 6). Flexibility around where and when work gets done may facilitate workers' ability to meet unanticipated care needs and continuing to meet employer expectations.[15] Among all wage and salary workers, 56.5 percent reported access to scheduling flexibility, defined by ATUS as the ability to vary or change the times they began or stopped working. Only 28.8 percent of workers reported that they could work from home.

Uneven Access to Leave

The lack of access to paid leave for low-wage workers is a driving force of compensation inequality across the wage distribution. Higher-paid workers are more likely to receive paid leave as part of their compensation. While 56.5 percent of wage and salary workers in the bottom quartile of the earnings distribution have access to at least some type of paid leave, the share jumps to 80 percent for those in the 25th to 50th quintile and climbs to 86 percent for those in the top quintile. This gap in access to paid leave means the total compensation gap between low- and high-wage workers is substantially larger than wages alone suggest.[16] (See Table 2.)

The paid leave access gap between high- and low-wage workers is consistent with a related literature documenting the relationship between wage inequality and total compensation inequality. Total compensation includes wages plus benefits, including health insurance, retirement and savings, paid leave, legally required benefit contributions (state and federal unemployment insurance, Social Security, Medicare, and workers' compensation), and non-legally required benefits (e.g., severance pay, sick and accident insurance, and life insurance).

Repeated studies using the National Compensation Survey (NCS), a survey of employers discussed in further detail below, find that compensation inequalities between low- and high-wage workers are about 10 percent higher once benefits are taken into effect, and the effect is driven entirely by voluntary employer benefits.[17] Legally required benefits such as unemployment insurance, Social Security, and Medicare reduce total compensation inequality and thus play an equalizing role across the distribution.

The most recent study of the NCS data suggests that the role that voluntary employer benefits play in the total compensation gap rose between 2007 and 2014. In 2007, hourly workers' wages in the top decile were 4.8 times those of the bottom decile and five times those of the bottom decile in 2014. Compensation in the form of leave (i.e., paid leave voluntarily provided by employers) was 20.8 times that of those in the top decile of earners, compared to those in the bottom decline in 2007. In 2014, earners at the top were receiving 24 times as much paid leave as earners at the bottom were.[18] In other words, leave (and other benefits) inequalities exacerbate wage inequalities (Figure 7).

Access to paid leave varies across the economic sector as well. Some industries are characterized by relatively high levels of access to paid leave. For instance, 88 percent of public administration workers report access to some form of paid leave. Over three-quarters of workers in the information (80.1 percent), manufacturing (79.8 percent), and financial activities

Table 2. Share of Wage and Salary Workers with Access to Leave, by Worker Characteristics, 2017–18

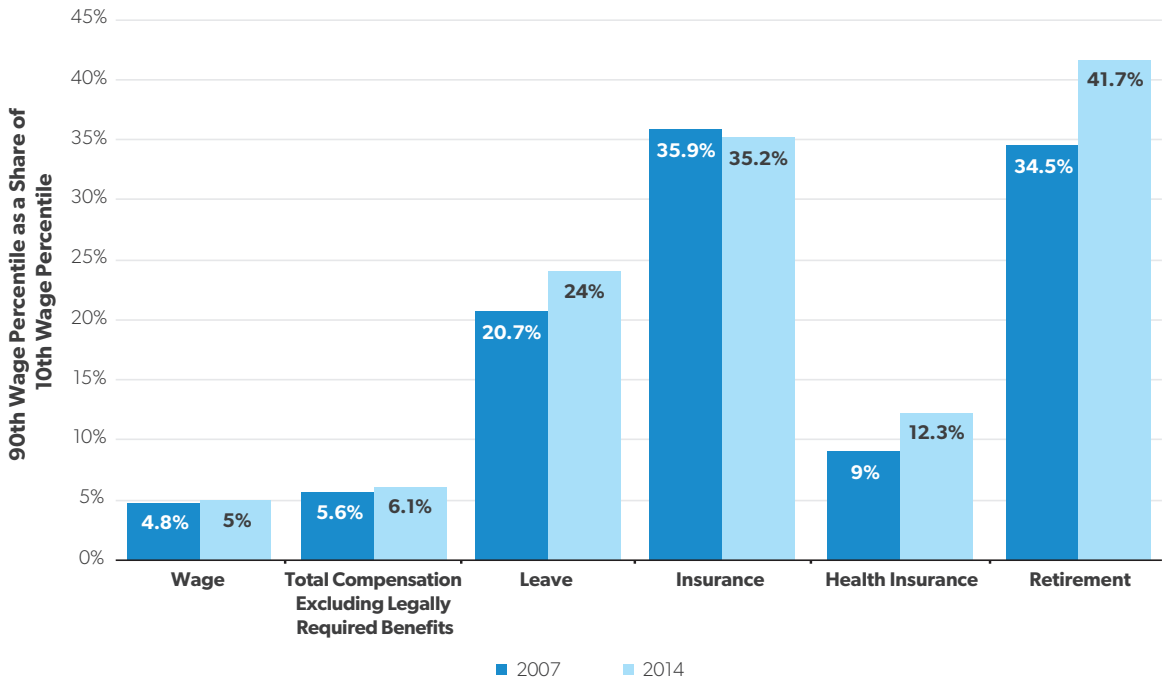
	Paid (%)	Unpaid (%)
Total	**66.0%**	**78.3%**
Gender		
Men	66.8	78.0
Women	65.0	78.6
Race/Ethnicity		
White, Non-Hispanic	66.3	78.6
Black, Non-Hispanic	62.6	77.6
Asian, Non-Hispanic	71.5	74.7
Hispanic	49.9	77.0
Age		
25–34 Years Old	70.3	77.2
35–44 Years Old	71.7	78.0
45–54 Years Old	74.4	77.5
55–64 Years Old	74.2	76.5
65 Years Old or Older	51.7	76.1
Educational Attainment		
Less Than High School	38.9	73.7
High School	64.0	80.5
Some College or Associate Degree	71.8	78.6
Bachelor's Degree or More	79.0	75.2
Weekly Earnings		
25th Percentile or Lower	56.5	80.0
25th–50th Percentile	80.0	76.5
50th–75th Percentile	83.9	75.9
Greater Than 75th Percentile	86.0	74.2
Work Hours		
Full-Time	77.0	76.6
Part-Time	23.3	84.3

Note: Total is for all wage and salary workers age 15 and older at their main job.
Source: US Census Bureau, American Time Use Survey.

(78.8 percent) industries report paid leave access. In other industries, paid leave access is much lower. A third (33.4 percent) of workers in the leisure and hospitality industry have access to any form of paid leave.

Several underlying factors may help explain industry differences in access to paid leave. First, industries characterized by relatively higher rates of union density (e.g., public administration and some forms of manufacturing) may be covered by collective bargaining agreements that include paid leave benefits. Second, industries with higher concentrations of highly educated, highly paid workers (e.g., information and financial activities) may offer more generous access to paid leave as an incentive to retain workers with higher levels of firm-specific human capital. In contrast, industries characterized by lower-wage,

Figure 7. Wage, Compensation, and Benefits Inequality Between High- and Low-Wage Workers, 2007 and 2014



Note: High-wage workers are defined as the 90th percentile. Low-wage workers are defined as the 10th percentile. Data are expressed as the 90th wage percentile as a share of the 10th wage percentile. For instance, in 2007, compensation received in the form of paid leave was 20.7 times higher for workers in the 90th percentile as compared to those in the 10th percentile of wages.
Source: Author's calculations from Kristen Monaco and Brooks Pierce, "Compensation Inequality: Evidence from the National Compensation Survey," US Bureau of Labor Statistics, Monthly Labor Review, July 2015, https://www.bls.gov/opub/mlr/2015/article/compensation-inequality-evidence-from-the-national-compensation-survey.htm.

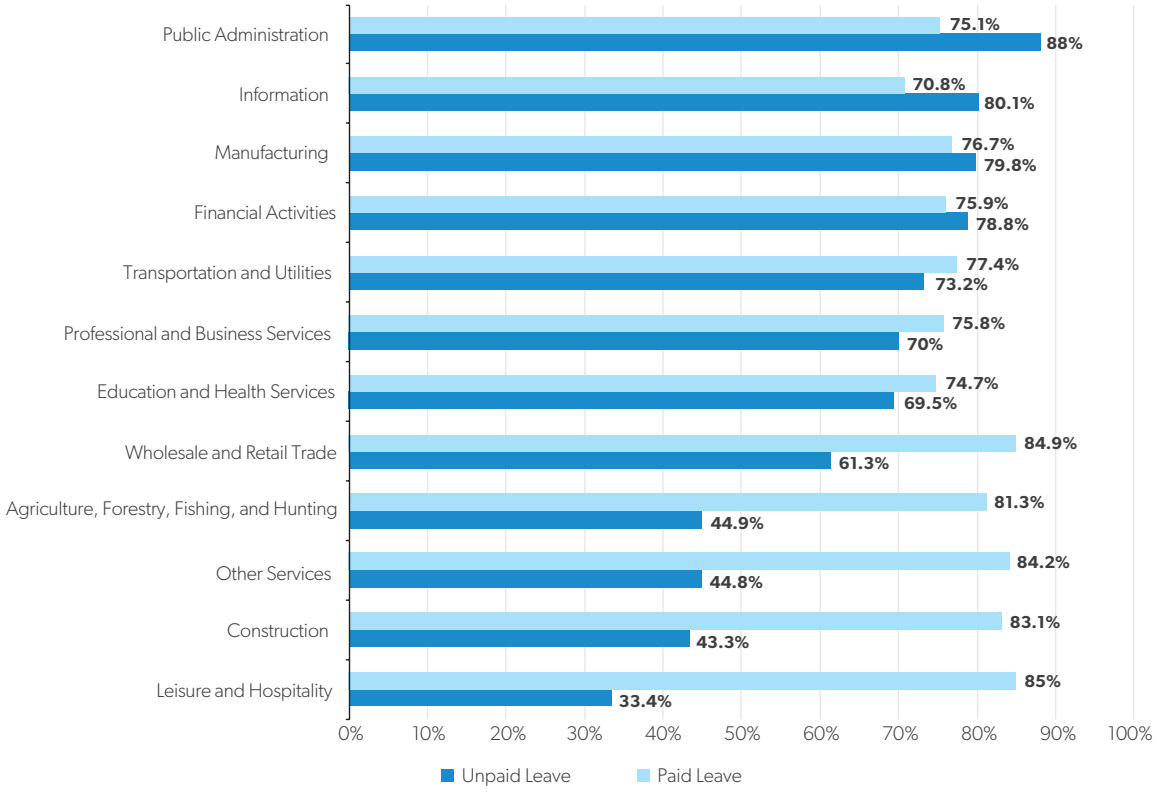
less-educated workers with high turnover rates, such as hospitality and retail, offer lower rates of coverage.[19]

Some jobs may require workers to be physically present at certain times to avoid productivity losses, while the trade-off between productivity and flexible schedule or location may be much lower in other jobs. The value of paid leave to a worker and the cost of flexibility benefits to an employer may vary significantly depending on the job. In jobs in which work can productively be accomplished remotely or on a flexible schedule, benefits such as remote work and flexible scheduling may serve as a partial substitute for paid leave.

A 2014 study using an earlier ATUS Leave Module compares the availability of paid leave across industry and demonstrates that industries fall in clusters around paid leave and flexibility availability (Figure 8). Some offer relatively high rates of flexibility but low rates of paid leave access (e.g., leisure and hospitality, agriculture, and other services). Others offer relatively high rates of paid leave access but low rates of flexibility (e.g., public administration, financial activities, educational and health services, manufacturing, and transportation).[20]

Eighty percent of the lowest-earning wage and salary workers report the ability to take unpaid leave of some form. However, evidence suggests that low-wage workers may not be willing or able to give up a paycheck to take leave. For example, the introduction of unpaid parental leave access under the federal FMLA and subsequent state-level extensions of unpaid parental leave beyond those provided by

Figure 8. Share of Workers with Access to Leave by Industry, 2017–19



Source: US Census Bureau, American Time Use Survey.

FMLA resulted in increased leave-taking among college-educated, married women but had no effect on leave use for less-educated women.[21]

In contrast, the introduction of California's paid family leave policy doubled the overall use of maternity leave, with particularly large increases in leave use for disadvantaged women. For instance, use of maternity leave increased over threefold for non-college-educated mothers with new infants (from 2.4 to 7.7 percent), over fivefold for those who were unmarried (from 1.9 percent to 9.3 percent), and sevenfold for black mothers with new infants (2.0 percent to 13.7 percent).[22] To date, no study has investigated the role of paid leave versus unpaid leave for family caregiving, but the causal evidence on the role of paid parental leave suggests that wage replacement is an important factor in determining who uses available leave.

The data present a clear picture of the differences in overall leave access across key demographic groups. Data on leave usage and unmet demand for leave are disaggregated by type of leave, allowing for an examination of caregiving-related leaves in particular. This more granular focus helps fill in a more comprehensive picture of the demand for leave.

Leave Usage and Unmet Leave Demand

Workers with access to leave may or may not be able to take leave when they need it. As noted earlier, low-wage workers (and higher-wage workers who are their family's main earner) may be unable to give up a paycheck in exchange for leave. Others may not be able to take leave, paid or unpaid, due to employer pressure, managerial discretion, or pressure from

coworkers. Data on actual leave usage, distinct from leave access, provide another window into which workers' demand for leave is being met.

ATUS asks workers whether they used leave in the past week and treats these one-week look-back periods as a "typical week." In a typical week, about a fifth of all wage and salary workers were taking some form of leave, with leaves for family caregiving reasons totaling 11.1 percent of all leaves taken in an average week. The average weekly leave for family caregiving is about 10 hours. In contrast, in a given week, nearly three times as many workers are on vacation as are out for family caregiving reasons, and vacations last nearly twice as long as caregiving leaves do. (See Table 3.)

Among those taking leave for the illness or medical care of another family member, 60.5 percent used paid leave, 37.1 percent used unpaid leave, and 6.1 percent used a combination of paid and unpaid leave. Compared to illness-related family caregiving leave, leave for childcare or eldercare reasons unrelated to illness was more likely to be unpaid (41.9 percent).

Leave use varies by not only leave type but also worker characteristics. Among leave takers, those with higher earnings were much more likely to use paid leave, consistent with the fact that access to paid leave increases with earnings. High-wage workers' paid leave usage roughly matches their paid leave access; 86 percent of those in the top quartile had access to paid leave, and 86.5 percent of those workers who took leave used paid leave. In contrast, while 56.5 percent of workers in the bottom earnings quartile reported access to paid leave, just 42.4 percent of those workers who took leave reported using paid leave.

Among workers with paid leave access, low-wage workers may be less likely to use paid leave than higher earners are for several reasons. Low-wage workers' ability to access paid leave may be limited by manager discretion, they may not be aware of how to navigate human resources systems to access their right to paid leave, or they may fear negative consequences from taking leave. Low-wage workers' reasons for leave may be less likely to be covered by paid leave policies than high-wage workers' leave needs, due to either differences in policy or workers' leave needs. More research is needed to uncover the mechanisms explaining the differential patterns of paid leave use among those eligible for paid leave.

While the use of leave does not differ substantially for those with access to workplace flexibility such as scheduling flexibility or the ability to work from home, the share of leave takers who used paid leave for their time away from work was notably higher for those who could work from home than those who could not. Exactly 79.6 percent of leave takers who could work from home used paid leave, compared to 57.4 percent of those who could not work from home.

Taken together, these data provide suggestive evidence that wages and benefits inequality are accompanied by a "flexibility" inequality described by the access to flexible work schedules and locations. Given the potential complementarity of paid leave and workplace flexibility in meeting the demand for leave, the relationship between the two is a topic deserving further attention in future research.

Demand for leave is partially captured by leave used, but the data also indicate substantial unmet demand for leave (Figure 9). For instance, 8.7 percent of all wage and salary workers reported an unmet leave demand in the past month. Of those workers with an unmet demand for leave, 17.4 percent reported an inability to take leave to care for an ill family member, and another 9.5 percent reported an unmet leave demand related to childcare or eldercare for reasons other than illness. Taken together, the unmet demand for family-caregiving-related leaves totals 34.9 percent of all unmet leave demands, nearly as great as the 35.8 percent of workers with an unmet demand for sick or medical leave to care for themselves. In contrast, the unmet demand for vacation leave is much smaller at 3.7 percent.

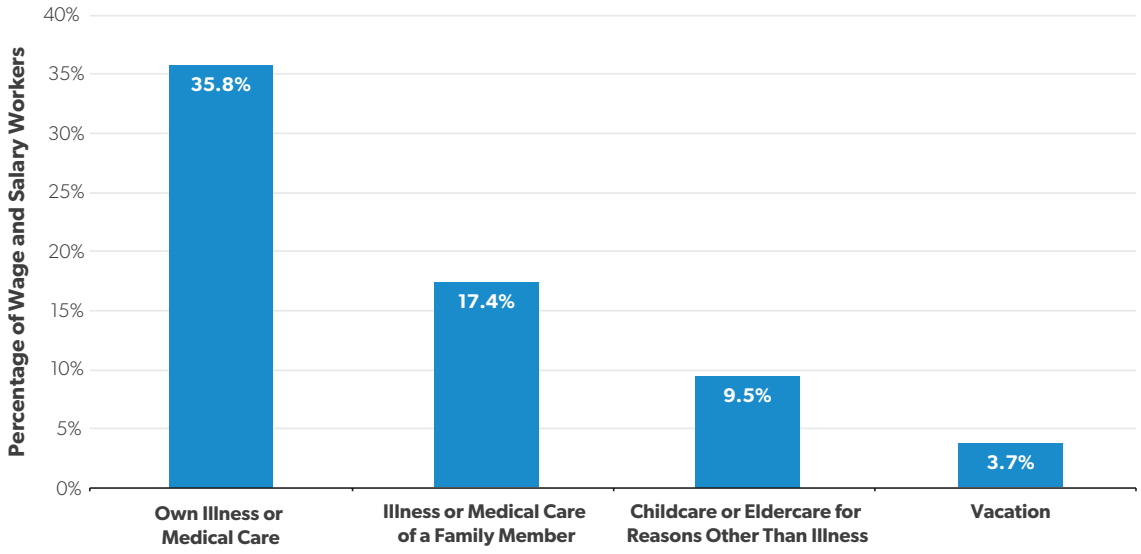
The share of workers with unmet demand for any type of leave varies by worker characteristics in ways that are roughly consistent with the variation in access to leave (Table 4). In general, lower-earning, less-educated workers have higher rates of unmet leave demands. These are the same groups that are less likely to have access to paid leave than more

Table 3. Leave Use by Select Worker Characteristics and Type of Leave Used, 2017–18

			Among Leave Users		
	Took Leave Last Week (%)	Average Hours Leave Used	Used Paid Leave (%)	Used Unpaid Leave (%)	Used Both Unpaid and Paid Leave (%)
Total	**20.7%**	**13.7**	**64.5%**	**33.0%**	**2.4%**
Gender					
Men	19.2	13.5	67.4	30.3	2.3
Women	22.5	13.5	61.9	35.6	2.6
Weekly Earnings					
25th Percentile or Lower	15.3	14.8	42.4	55.1	2.5
25th–50th Percentile	23.5	13.2	78.1	19.2	2.7
50th–75th Percentile	23.2	13.9	80.4	15.7	3.9
Greater Than 75th Percentile	22.6	14.5	86.5	11.6	1.9
Educational Attainment					
Less Than High School	16.5	13.4	33.5	65.1	11.4
High School	19.3	14.87	60.7	34.8	4.5
Some College or Associate Degree	21.1	13.97	66.9	30.2	2.9
Bachelor's Degree or More	20.2	13.47	62.9	19.5	1.5
Work Hours					
Full-Time	21.3	14.0	75.0	22.3	2.8
Part-Time	17.1	11.4	17.3	81.8	0.9
Flexibility					
Had Flexible Schedule	21.5	13.5	65.2	33.2	1.6
Did Not Have Flexible Schedule	19.8	13.9	63.5	32.8	3.7
Could Work from Home	22.9	12.8	79.6	18.5	1.9
Could Not Work from Home	19.8	14.1	57.4	39.9	1.7
Form of Leave					
Own Illness or Medical Care	21.9	13.7	64.5	33.0	2.4
Illness or Medical Care of a Family Member	8.0	10.3	60.5	37.1	6.1
Childcare or Eldercare (Other Than Illness)	3.1	9.4	52.0	41.9	3.4
Birth or Adoption of a Child	1.4	—	—	—	—
Vacation	31.0	19.1	76.0	22.2	1.8
Errands or Personal Reasons	19.8	9.5	60.2	37.5	2.2

Note: Total is for all wage and salary workers age 15 and older at their main job.
Source: US Census Bureau, American Time Use Survey.

Figure 9. Share of Unmet Leave Demand, by Type of Leave, 2017–18



Source: US Census Bureau, American Time Use Survey.

advantaged workers are and may not be able to afford to forgo wages to take unpaid leave.

The unmet demand for caregiving-related leave does not vary substantially by worker characteristics, with one exception: gender. Of those who had an unmet leave demand, 29.9 percent of women needed leave for family caregiving reasons, compared to 22.7 percent of men. Further analysis is necessary to determine the portion of the gender gap in unmet demand for caregiving leave that remains after gender differences in wages and work hours are considered.

ATUS offers workers with unmet need demands a range of potential reasons for their inability to take leave, including too much work (22.9 percent), no one available to cover (6.7 percent), made alternate arrangements (6 percent), wanted to save leave (4.8 percent), did not have enough leave (6.5 percent), could not afford it (15.2 percent), feared negative consequences (20.7 percent), and did not have access to paid or unpaid leave (8.9 percent). Reasons for unmet leave demands vary by worker characteristics (Figure 10).

High-wage workers were much more likely than other groups to report unmet leave demands due to too much work (46.3 percent), whereas workers in the bottom 25th percentile of earners and part-time workers were more likely to report that they could not afford to take leave (25.1 percent and 23.1 percent, respectively). Workers in the top earnings quintile and those with a college degree were least likely to have an unmet leave demand due to a fear of negative consequences for taking leave (12.7 percent and 16.8 percent), while part-time workers were especially concerned about negative consequences to leave-taking relative to other groups (29.6 percent).

The extent to which access to leave shapes a worker's ability to take leave depends on not only availability but also the level of wage replacement. Workers who are offered only unpaid leave—effectively a zero wage replacement rate—may be less likely to take needed caregiving leave. While no direct evidence exists on the relationship between wage replacement rates and caregiving leave, related research on the role of wage replacement and parental leave-taking suggests a potential link.

Evidence on the effects of the introduction of a 50 percent wage replacement via California's paid family leave policy in 2004 shows that the program nearly doubled leave-taking rates for new mothers,

Table 4. Share of Unmet Leave Demand, by Select Worker Characteristics and Type of Leave Needed, 2017–18

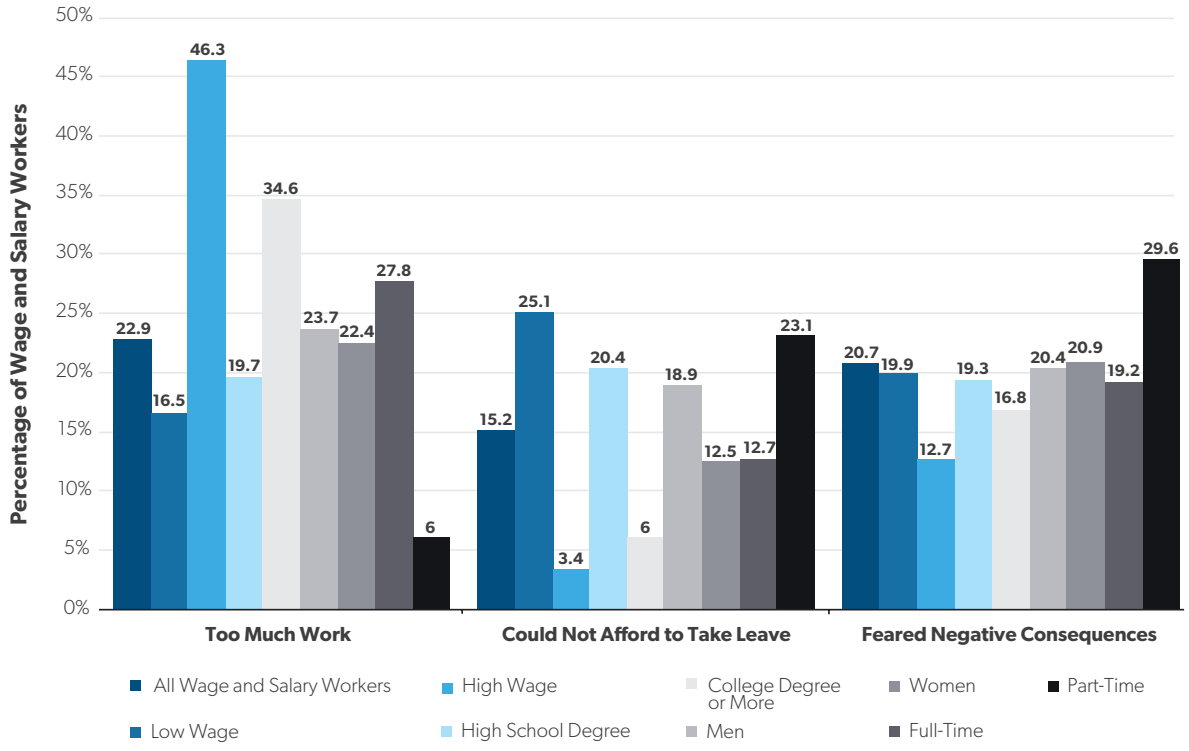
		Among Those with Unmet Leave Demand			
	Share with Unmet Leave Demand	Own Illness or Medical Care	Illness or Medical Care of a Family Member	Childcare or Eldercare (Other Than Illness)	All Family Caregiving-Related
Total	**8.7%**	**35.8%**	**17.4%**	**9.5%**	**26.9%**
Gender					
Men	7.1	38.0	14.1	8.6	22.7
Women	10.3	41.6	19.8	10.1	29.9
Weekly Earnings					
25th Percentile or Lower	11.1	43.3	17.4	6.5	23.9
25th–50th Percentile	8.0	29.9	26.8	8.7	35.5
50th–75th Percentile	8.3	32.1	18.2	9.1	27.3
Greater Than 75th Percentile	7.1	31.7	11.5	15.3	26.8
Educational Attainment					
Less Than High School	10.5	—	—	—	—
High School	9.0	38.1	22.5	8.3	30.8
Some College or Associate Degree	9.0	35.2	19.0	13.1	32.1
Bachelor's Degree or More	7.5	33.3	16.4	12.7	29.1
Work Hours					
Full-Time	8.6	35	18.5	9.6	28.1
Part-Time	8.5	39.2	12.2	6.7	18.9
Flexibility					
Had Flexible Schedule	7.0	36.9	17.2	10.3	27.5
Did Not Have Flexible Schedule	10.8	34.9	17.6	8.7	26.3
Could Work from Home	6.9	32.9	18.1	13.0	31.1
Could Not Work from Home	9.4	36.7	17.2	8.4	25.6

Note: Total is for all wage and salary workers age 15 and older at their main job.
Source: US Census Bureau, American Time Use Survey.

relative to control groups of similar mothers in other states and mothers of slightly older children in California who were not eligible for the program.[23] The wage replacement rate is particularly important for low-wage workers and explains why they are less likely to take paid leave even when it is available if the replacement rate is low. The estimated effects of paid leave on mothers' leave-taking are largest for the least-advantaged mothers (those who are unmarried, are minorities, and have low levels of education).[24]

While the ATUS Leave Module is a rich source of data on leave access, three important limitations deserve mention. First, ATUS includes only wage and salary workers—that is, it excludes self-employed workers and cannot capture information about leave access or use for contract employees or others employed through alternative work arrangements.

Figure 10. Reasons for Not Taking Needed Leave, Share by Select Worker Characteristics, 2017–18



Source: US Census Bureau, American Time Use Survey.

The share of workers engaged in alternative work arrangements (including temporary help agency workers, on-call workers, contract workers, and independent contractors or freelancers) rose from 10.7 percent in 2005 to nearly 16 percent in 2015.[25] While the majority of workers, including the majority of low-wage workers, in the United States still receive a W-2 rather than a 1099, changes in the structure of work may mean that a survey of wage and salary workers is less representative of the workforce today than in the past.[26]

Second, the structure of the questions in the ATUS Leave Module allows for a cross-sectional snapshot of leave access and needs at a given point in time, but the absence of a longitudinal component means that the data do not allow for an assessment for leave access or demand during a worker's earnings trajectory, and they do not allow for any assessment of the impact of leave on future earnings decisions or outcomes. Third, while ATUS allows for a distinction between types of leave (e.g., family-caregiving-related or parental leave), the data do not identify the source of the leave (e.g., public or private), nor do they offer any detail on the characteristics of the leave policy (e.g., wage replacement rates or length of available leave).

Leave Access as Reported by Employers

A second snapshot on leave access comes from the NCS, a survey of employers hosted by the US Bureau of Labor Statistics. NCS provides data on the number of people with access to formal leave policies according to their employees, but it does not provide information on leave use or unmet demand for leave. It also does not include data on access to or use of flexible scheduling. While the NCS offers a descriptive portrait of how formal leave policies vary on numerous

Table 5. Percentage of Workers with Access to Leave by Type, 2019

	All	Private	State and Local Government
Paid Sick Leave	76%	73%	91%
Paid Vacation Leave	76	79	61
Paid Personal Leave	46	44	60
Paid Family Leave	19	18	25
Unpaid Family Leave	89	88	94
Consolidated Leave Plan	38	41	14

Note: All workers refers to the civilian workforce. Paid and unpaid family leave may total more than 100 percent, as some workers may have access to both plans. A consolidated leave plan provides a single amount of time off for workers to use for multiple purposes, such as vacation, illness, or personal business.
Source: US Bureau of Labor Statistics, National Compensation Survey, 2019.

employer characteristics (e.g., employer size), the data do not provide information on the characteristics of people who lack access to leave.

Despite the limitations, NCS data are a useful complement to ATUS in that workers may say they have access to leave for a specific purpose, including family caregiving, but that access may be based on informal policies or an ability to use other forms of leave for family caregiving purposes. NCS provides a picture of formal leave policies from the employer perspective.

Nineteen percent of civilian employees have access to paid family leave, according to 2019 NSC data, in addition to 89 percent with access to unpaid family leave. (Because some workers may have access to both paid and unpaid family leave, totals add up to greater than 100 percent.) Twenty-five percent of state and local government employees have access to paid family leave, compared to 18 percent of private-sector employees. Private-sector employees are substantially more likely than public-sector employees are to receive leave access via a consolidated benefits plan that can be used for various leave reasons, including vacation, illness, or personal business. The average total paid days available for private-sector workers with consolidated leave plans varies by length of tenure, from 14 days for those on the job for a year up to 23 days for those with 20 or more years of service. (See Table 5.)

Access to paid and unpaid family leave varies not only between the public and private sector but also across various employee and establishment characteristics. Employers report that 8 percent of part-time workers have access to paid family leave, compared to 22 percent of full-time workers. Access to paid family leave grows for workers in occupations with higher average wages, from 9 percent of workers in the bottom 25th percentile of the occupational wage distribution to 30 percent for those in the top quartile. Small businesses are less likely than larger businesses are to offer a paid family leave benefit (14 percent of establishments with one to 99 employees, compared to 20 percent for establishments with 100 or more employees). Establishments in service-providing industries are more likely than goods-producing industries (i.e., construction and manufacturing) are to report paid family leave benefits (20 percent compared to 12 percent). (See Table 6.)

In short, access to paid family leave as reported by the workers surveyed in ATUS appears substantially larger than employers' reported paid family leave benefit availability in NCS, though the same picture emerges from both data regarding the discrepancies in access to paid leave across key populations that may least be able to afford to take an unpaid leave. Low-wage workers and part-time workers have far fewer options for paid leave, including not

Table 6. Percentage of Workers with Access to Family Leave, by Select Employee and Establishment Characteristics, 2019

	Paid Family Leave	Unpaid Family Leave
All Civilian Workers	**19%**	**89%**
Work Schedule		
Part-Time	8	81
Full-Time	22	94
Average Wage in Employee's Occupation		
Less Than or Equal to 25th Percentile	9	82
25th–50th Percentile	18	89
50th–75th Percentile	22	91
Earnings Greater Than 75th Percentile	30	94
Establishment Size		
1–99 Workers	14	82
100 or More Workers	20	95
Type of Industry		
Goods Producing	12	87
Service Providing	20	89

Note: All workers refers to the civilian workforce. Paid and unpaid family leave may total more than 100 percent, as some workers may have access to both plans.
Source: US Bureau of Labor Statistics, National Compensation Survey, 2019.

only dedicated family caregiving leave but also paid sick leave, paid vacation days, or paid personal days. ATUS data also reveal substantial unmet demand for family caregiving leave, and many report that taking unpaid leave is simply too costly.

How Does Family Caregiving Shape Caregivers' Labor Market Outcomes?

When faced with a family caregiving demand, workers face four basic options. First, workers could reduce their labor supply to meet the care demand by dropping out of the labor force (extensive margin) or reducing work hours (intensive margin). Second, workers could remain employed and fail to meet the family caregiving need. Third, workers could remain employed but take a temporary leave to provide care, either as a consecutive period of leave (days, weeks, or months) or via a temporarily reduced work schedule (intermittent hourly or daily leave). Fourth, a worker could remain employed but use workplace flexibility (e.g., flexible scheduling or remote work) to simultaneously meet both family care and labor market demands.

A small body of rigorous evidence reviewed below sheds light on family caregiving's effects on the prevalence and consequences of labor supply reductions, with demonstrated negative effects on employment and hours, especially for women. Evidence on the prevalence and labor market outcomes of temporary leaves taken for family caregiving is even thinner, partly because data limitations make it extraordinarily difficult to identify brief and potentially intermittent leaves.

Likewise, virtually no evidence exists on how flexible workplace policies may shape the labor market outcomes associated with family caregiving. Surveys of family caregivers suggest that flexibility is an important job characteristic for those successfully

balancing work and caregiving. One survey finds that half of working caregivers reported needing to arrive at work late or leave early from time to time due to caregiving responsibilities, and 15 percent of caregivers who stopped working did so because their job did not provide flexibility.[27] However, whether flexibility at work can mitigate the negative labor supply effects of family caregiving remains an open research question.

While men's family caregiving responsibilities have risen over time, women continue to provide the majority of family care (39 percent and 61 percent of family care, respectively).[28] A large related literature documents the effect of children on women's market work and finds a strong negative correlation between the presence of young children at home and women's labor supply.[29] The evidence of a causal relationship between family caregiving and labor supply is much thinner than that on the relationship between childbirth and the presence of young children in the household. This is due partly to the paucity of available high-quality data, including consistent measures of family caregiving and labor market outcomes. In addition, establishing a causal relationship between family caregiving demands and labor force attachment suffers from the methodological challenge of an endogeneity problem that leads to upwardly biased estimates of the causal effect of informal care on work. If adults with poor labor market opportunities or weaker labor force attachment are more likely to become family caregivers, then estimates will suffer from selection bias.

Despite these challenges, recent rigorous studies provide causal estimates demonstrating that family care responsibilities erode labor force attachment on both the extensive and intensive margins. On the extensive margin, family caregiving responsibilities decrease the probability of employment (for men) and increase the probability of retirement (for women). Using the University of Michigan Health and Retirement Survey (HRS), Courtney Van Houtven, Norma Coe, and Meghan Skira assess the causal relationship between parental caregiving and labor market outcomes. The authors look at both men and women and estimate separate effects for personal care (e.g., help bathing, dressing, and walking), medical and chore assistance (e.g., household chores, errands, transportation, and doctors' visits), and intensive caregiving as measured by hours.[30]

They find that providing personal care decreases men's employment probabilities by 2.4 percentage points, representing a 3.9 percent reduction in mean employment rates for men. Caregiving, regardless of hours intensity, increases women's probability of being retired by 2.4 percentage points, representing a 6.7 percent increase in the share of women self-reporting as retired. The impact of caregiving on women's retirement decision appears to be entirely driven by chore assistance, which the authors interpret as women anticipating their parent's future caregiving needs and trajectory.

Caregiving may have short-term effects on labor supply that the biennial panel structure of the HRS fails to capture, as workers may adjust their labor supply in the months before and after caregiving starts. Yulya Truskinovsky and Nicole Maetsas capture labor supply decisions at the onset of a caregiving spell by linking the ATUS's eldercare module to the Current Population Survey to create a short (18–21 month) panel of caregivers.[31] In the month after a caregiving spell begins, the likelihood of a caregiver being absent from work increases by 22 percent, which is indicative of a temporary leave need.

Caregiving effects on labor supply are asymmetrical across gender: Employment falls by 2.9 percent among women, but the authors find no significant relationship between caregiving and employment for men. The difference is not entirely due to differing amounts of care provided by men and women; the gender gap persists even among caregivers providing care weekly. The patterns are also asymmetric by education, as college graduates are more likely than non-college graduates are to both increase absences and stop working when they start providing care.

These education- and gender-based differences in the employment response to caregiving responsibilities may be due to women being more likely than men to hold a job without flexible hours, which in turn may push women toward separating from

employment. Similarly, workers with less education are less likely to have access to leave or flexible scheduling, which may mean that less-advantaged workers are limited in their ability to provide needed care to loved ones.[32]

On the intensive margin, family caregiving may affect hours, weeks worked, or the type of job chosen as workers seek ways to combine employment with caregiving needs. The literature on the impact of childbirth on parents' labor supply indicates large and significant impacts on the intensive margin. For instance, estimates using longitudinal data from the Panel Study of Income Dynamics show that the birth of a first child results in significant reallocations of time by married parents, with average hours worked decreasing by 45 percent for new mothers. New fathers' work hours do not change significantly for the sample as a whole, but in households in which mothers' work hours decrease, paternal hours increase.[33]

Several recent studies use the HRS to assess the causal impact of family caregiving on hours worked, for women only. While each use different methods and definitions of family caregiving, all find that family caregiving negatively affects women's hours worked.

Richard Johnson and Anthony Lo Sasso estimate a model with full-information maximum likelihood to control for unmeasured person-specific heterogeneity and endogeneity and estimate that women reduced their hours worked by an average of 41 percent when they provided 200 hours or more of personal or chore care to aging parents.[34] Van Houtven, Coe, and Skira use a two-stage least squares model, an instrument for caregiving with a range of indicators of poor parental health.[35] They find that informal care of any kind negatively and significantly affects hours worked for working women, decreasing work by about three hours per week on average, or about 150 hours per year. This represents about a 9 percent decrease in hours worked per week among working women. Female intensive caregivers reduce work hours even more sharply, by 10 hours per week or 500 hours per year.

Sean Fahl and Kathleen McGarry use the HRS to assess the impact of caring for an aging parent or in-law, restricting their sample to women.[36] Caregiving in their sample is defined as spending a total of 100 or more hours in the past two years helping a parent or parent-in-law with personal care activities (e.g., dressing, eating, or bathing). Using linked Social Security earnings data from the beginning of a woman's career, they control for the effect of prior labor force attachment on the impact of caregiving on a worker's labor force attachment (i.e., their empirical strategy plausibly eliminates the selection effects that may be contributed to upwardly biased effects in cross-sectional descriptive literature). Fahle and McGarry find that caregiving reduces hours worked by 1.7 hours, or about 8.5 percent. In other words, the impact of caregiving on labor force attachment appears to be small but significant, and it is not driven by those with weak labor force attachment exiting the labor force upon experiencing a family care demand.

These labor supply shifts have both short- and long-run effects on earnings. Research shows that even temporary gaps out of the labor force can negatively affect earnings, particularly for highly educated women. For example, Claudia Goldin and Lawrence Katz trace the earnings and employment trajectories of three cohorts of Harvard graduates and find that any time out of the labor force results in earnings penalties for women ranging from 0.16 log points (for doctors and other medical professionals) to 0.53 log points (for MBAs) 15 years after graduation, a finding echoed by Marianne Bertrand, Claudia Goldin, and Lawrence Katz's later work on University of Chicago MBAs.[37]

Family caregiving may impose a long-term wage penalty, particularly for women. This wage penalty could occur as a wage plateau; that is, a worker balancing long-term caregiving demands with work may stop moving up the earnings ladder due to a flattening out or reduction of actual (or perceived) productivity. A robust literature has shown that mothers pay a significant wage penalty for having children and demonstrates that (for women only) having and raising children interferes with accumulating human capital and hence the level of productivity, which translates into lower wages.[38]

Some researchers have also demonstrated that the motherhood wage penalty may stem from employer discrimination, wherein mothers are viewed as less committed or less competent than fathers and childless women and men are, though discrimination is harder to measure empirically.[39] Family caregiving could create similar wage penalties through job choice, behavior on the job, or discrimination.

The limited rigorous evidence available on causal impacts of family caregiving on wages shows a negative relationship between family caregiving and wages for women, but not for men. Van Houtven, Coe, and Skira find that providing chore care leads to a 3.1 percent reduction in women's hourly wages, on average, compared to not caregiving.[40] They find no effect of family caregiving on men's wages.

Female caregivers are predicted to have a wage of about $20.74, compared to $21.40 for non-caregivers, a loss of about $0.66 per hour in absolute terms. Extrapolating to a year's worth of work given mean hours worked per week among female workers suggests that the wage penalty accumulates to $1,155 in lost earnings for one year, on average. Combined with their estimates of the causal impact of caregiving on hourly wages, the authors sketch a back-of-the-envelope calculation suggesting that working female chore care providers forgo over $5,000 per year from the combined effect of chore care provision on hours and wages.

Because their estimate of the wage effect comes from within-person variation, one explanation for the wage penalty may be female chore caregivers moving to lower-paid occupations than they are qualified for, perhaps in exchange for flexible work arrangements in anticipation of future caregiving demands. These women may also experience a decrease in productivity due to caregiving that is reflected in their reduced wage. Future research should explore the explicit causal reasons for the observed wage penalty to inform policy decisions.

One difficulty in assessing the extent to which family caregiving needs drive adjustments along the intensive margin is that family care expectations may have an anticipatory effect, such that individuals select into lower-wage occupations that offer more flexibility in hours, precise times worked, predictability, and the ability to schedule one's hours even before they actually need to provide care. Goldin and Katz show that gender differences in earnings across occupations and occupation groups substantially concern job flexibility and continuity—that is, women are concentrated in occupations that impose lighter penalties on employees who want fewer hours and more flexibility and employment.[41]

Experimental research from Alexandre Palais and Amanda Mas suggests that women may value flexible work arrangements somewhat more than men do, particularly women with young children, though the authors do not provide any insight into the role that other forms of family caregiving demands play in shaping workers' preferences for flexibility.[42] Better understanding the interplay between leave availability, including paid leave, and flexibility is an important avenue for future research designed to inform policy around work-care conflict.

In sum, care demands appear to be negatively correlated with labor supply on both the extensive and intensive margins. These negative effects are especially clear for women, though significant work remains to be done to understand the precise channels through which they play out. The literature to date does not tell us much about men. It also tells us virtually nothing about how households make joint labor supply adjustments when faced with family care demands.

Does Paid Family Leave Mitigate the Impact of Family Care Demands on Labor Market Outcomes?

Access to paid leave for family caregiving could affect both short- and long-term labor market outcomes for caregivers through several channels, including labor force attachment across the life cycle and earnings via both wages and hours. While a small but growing body of research provides an empirical basis for exploring these channels, the causal relationship between family caregiving and both short- and

longer-term labor market outcomes for caregivers remains tentative in the research because of various methodological challenges. And while a growing body of empirical research establishes a causal role for paid parental leave on mothers' (and, to a lesser extent, fathers') labor market outcomes, no evidence to date makes a clear empirical case for the mitigating role of paid family caregiving leave on caregivers' labor market outcomes.

The impact of access to paid family caregiving leave may affect labor force behavior in the face of a care need via several pathways. First, paid family caregiving leave may induce a worker who might otherwise have dropped out of the labor force to stay in the labor force and instead take a paid leave from employment. Second, paid family caregiving leave may induce a worker who might otherwise have remained at work to take leave. This group could include those who would otherwise have failed to meet their family caregiving demand and those who otherwise might have attempted to multitask by using flexible scheduling or location policies.

Finally, knowledge of the availability of paid family caregiving leave may have an anticipatory effect on labor market decision-making for workers. If workers know that paid caregiving leave will be available to help smooth the conflicting demands between employment and care, they may be more inclined to take a job, knowing they will be able to hold onto the job when a care need arises. These decisions highlight how the existence of paid leave policies may shape workers' long-term labor market trajectories by influencing decisions made before the actual need for care.

There is little evidence on the causal impact of paid caregiving leave on labor market outcomes for family caregivers. However, growing literature uses the introduction of paid family and medical leave in the United States to estimate the labor market impacts of paid parental leave for mothers and finds generally positive results. Multiple studies exploit variation created by the introduction and expansion of California's paid family leave policy to understand its short- and long-term labor market impacts on mothers. Several papers find evidence that paid family leave led to sizable increases in usual weekly hours for employed mothers and that their wage incomes may have risen as well.[43]

However, a recent working paper from Martha Bailey et al. exploits the same variation analyzing large-scale administrative tax data from the IRS and finds no effect on women's employment, wage earnings, or attachment to employers.[44] They also present suggestive evidence that paid family leave reduced employment and lowered annual wages for mothers six to 10 years after giving birth, though these estimates have been subject to various methodological critiques.[45]

In addition to the evidence from the United States, research on the introduction and expansion of paid parental leave policies in Europe suggests that paid leave has positive labor market outcomes for mothers, but those positive effects begin to attenuate for longer leaves. For example, Christopher Ruhm uses a pooled cross-country sample of European countries to assess the labor market impacts of public parental leave policy and finds that it increases the employment-to-population ratio of women, especially those of childbearing age. He also finds that while short (three-month) paid maternity leave entitlements may raise wages for women, leave entitlements of nine months or more lead to negligible additional impacts on employment and sizable negative impacts of about 3 percent on women's wages.[46] These effects suggest that extended leave periods may hinder women from effectively reentering employment on their pre-maternity trajectory.[47]

Is the paid parental leave literature relevant for understanding the mitigating effects of paid family caregiving leave? On the one hand, a new baby's care needs may result in a similar set of options for parents as those described in the above theoretical framework for family care demands. On the other hand, while childbirth and the first months of a child's life follow a relatively predictable trajectory, family care needs are unpredictable and diverse, as described in detail in this volume by Vicki Freedman and Jennifer Wolff.[48] The high degree of heterogeneity in family care demands, compared to those for parental care, makes it difficult to draw direct conclusions from the literature on paid parental leave's labor market effects.

Various other heterogeneity concerns raise questions complicating the assessment of how paid family caregiving leave affects labor market outcomes for caregivers. For example, the causal impact of paid leave for low-wage workers' labor market outcomes may differ from those of more advantaged workers. Older workers may have a different calculus as well, as paid leave may shape the retirement decision differently for those near retirement age, compared to younger workers with family care demands. Care needs may shape these relationships, including not only the type of care needed but also whether the care recipient is an elderly relative or a child.

Approximately 9 percent of all working parents have children with special needs, but there are no causal estimates of the impact of family caregiving for disabled children on caregiver's labor market outcomes.[49] Assets may shape the relationship between paid leave for family caregiving leave and labor market outcomes by effecting a caregiver's ability to use formal and family care as substitutes rather than complements. To further complicate matters, intergenerational assets may matter a great deal for family caregiving as well, because caregiving often spans generations in a given family.

Finally, social networks, cultures of care, and discrimination across race, ethnicity, and nation of origin may matter deeply in shaping both caregiving preferences and the nature of the balance between work and care demands. All are rarely considered in the empirical literature. Taken together, this constellation of issues combined with the absence of comprehensive longitudinal data on caregiving, leave use, and leave access make assessing both the benefits of paid leave and the cost of not having leave difficult to assess.

The Paid Leave Policy Landscape

The primary federal policy that gives families access to caregiving leave is the FMLA, which provides up to 12 weeks of job-protected unpaid leave for family caregiving purposes to eligible workers at covered establishments. In addition, a temporary and limited paid leave program was passed into law in the wake of the COVID-19 outbreak. The Families First Coronavirus Response Act, later amended by the Coronavirus Aid, Relief, and Economic Security Act, provided pay for workers unable to work because they were caring for an individual subject to quarantine or for a child whose school or childcare provider was closed or unavailable for reasons related to COVID-19. Employers pay their leave-taking employees directly, but the federal government will reimburse them for wages and the employer's contribution to employee health insurance premiums through a refundable tax credit that counts against their payroll tax.

This provision is due to expire on December 31, 2020.[50] Reports in the popular press suggest that the policy's coverage restrictions have limited take-up, but to date no systematic data exist to assess which workers used leave or what outcomes are associated with leave take-up.[51] Access to private employer-provided paid leave for family caregiving remains limited and largely inaccessible for disadvantaged workers, including low-wage and less-educated workers.

However, a growing number of states have passed and are in various stages of implementing paid leave policies that include not only paid parental and paid medical leave but also paid leave for family caregiving (Tables 7 and 8). All these policies use a social insurance model, funded either by employee contributions, a combination of employee and employer contributions, or, in the sole case of the District of Columbia, by employer contributions only. Eligible workers are entitled to four to 12 weeks of paid leave for family caregiving purposes, with wage replacement rates generally determined on a sliding scale based on earnings and subject to a weekly maximum.

While all eight states plus the District of Columbia that enacted paid leave legislation have included family caregiving leave along with parental and own medical leave, their policies vary substantially in the design details, which may affect take-up and leave use and, in turn, the labor market effects of leave policy on caregivers. For instance, wage replacement rates vary from more to less generous, as does the generosity of the maximum weekly benefit cap. Lower rates of wage replacement may reduce take-up, and benefit

Table 7. Paid Family Caregiving Leave Policy in the United States

	California	New Jersey	Rhode Island	New York	Washington State	Washington, DC	Massachusetts	Connecticut	Oregon
Policy History									
Year Enacted	2002	2008	2013	2016	2017	2017	2018	2019	2019
Year Effective	2004	2009	2014	2018	2020	2020	2021	2022	2022
Expansion Years	2018 and 2020	2020	—	2019 and 2021	—	—	—	—	—
Definition of Covered Family	Child, spouse, parent, or domestic partner	Child, parent, parent-in-law, spouse, domestic partner, civil union partner, sibling, grandparent, grandchild, any person related by blood, or any person with whom employee has close association that is equivalent of a family relationship	Child, parent, spouse, domestic partner, or grandparent	Child, parent, spouse, domestic partner, grandparent, or grandchild	Child, parent, spouse, domestic partner, grandparent, or sibling	Child, parent, spouse, domestic partner, grandchild, grandparent, or sibling	Child, parent or parent of a spouse or domestic partner, spouse, domestic partner, grandchild, grandparent, or sibling	Child, parent, parent-in-law, spouse, grandparent, grandchild, sibling, or individual related by blood or affinity whose close association to the employee shows to be the equivalent of those family relationships	Child, parent or parent of a spouse or domestic partner, spouse, domestic partner, grandparent or grandparent's spouse or domestic partner, grandchild or grandchild's spouse or domestic partner, sibling or sibling's spouse or domestic partner, or individual related by blood or affinity whose close association with the employee is the equivalent of a family relationship
Legal Protections									
Discrimination Prohibited?	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes

(*continued on the next page*)

Table 7. Paid Family Caregiving Leave Policy in the United States (continued)

	California	New Jersey	Rhode Island	New York	Washington State	Washington, DC	Massachusetts	Connecticut	Oregon
Legal Protections									
Job Protected	No	No	Yes	Yes	No	No	Yes	Yes, if employee has three months job tenure	Yes
Employee Eligibility									
Earnings and Hours	$300 in base period	$168/week over 20 weeks in base year or $8,400 in base period	$12,120 in base period or $4,040 in base period if $2,020 high quarter earnings plus total base period earnings is equal to or greater than 150 percent of high quarter earnings	None	820 work hours in four of five quarters before application	None	Aligned with unemployment insurance eligibility rates	Must have earned at least $2,325 from one or more employers during highest-earning quarter of base period	Must have earned at least $1,000 in wages during base period or alternative base year and paid into the trust fund
Length of Covered Employment	None	20 weeks in base period, unless base year earnings are greater than or equal to $8,400	None	26 consecutive weeks for full-time workers or 175 days for part-time workers	Work in four of five quarters preceding application	"Some or all of the calendar weeks in the preceding year"	None	Previous 12 weeks	None
Other Eligibility Requirements	None	None	Wages must have been paid in Rhode Island; must have paid into trust fund	Must by currently employed by covered employer	None	Employment must be with a covered Washington, DC, employer for greater than or equal to 50 percent or be self-employed in DC for equal to or greater than 50 percent plus opted-in	None	None	None

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Table 7. Paid Family Caregiving Leave Policy in the United States (continued)

	California	New Jersey	Rhode Island	New York	Washington State	Washington, DC	Massachusetts	Connecticut	Oregon
Employee Eligibility									
Covered Employers	Private, some public	Private and public covered by unemployment insurance	Private, some public	Most private, opt-in for public	All	Private covered by unemployment insurance	Private and state government; local government opt-in	Private; opt-in for state or local collective bargaining units	All
Self-Employment Opt-In	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes, also explicit opt-in right for independent contractors
Funding									
Employee Contribution	1 percent up to $114,967	0.09 percent of first $33,700 of calendar-year covered wages	1.1 percent of worker's first $69,300 annual earnings	0.126 percent of worker's first $67,300 annual earnings	Employers can deduct from an employee's wages to cover 45 percent of the employer's required contribution	None	Employers can deduct employee's wages to cover the entirety of the employer's required contribution	Set by public authority, not to exceed 0.05 percent	60 percent of a total contribution rate not to exceed 1 percent of the worker's first $132,900 in wages, adjusted annually based on fund expenditures
Employer Contribution	None	None	None	None	0.4 percent of taxable wage base for employers with more than 150 employees, assistance available to employers with 50–150 employees, none for employers with fewer than 50 employees (rates adjust to fund solvency)	0.62 percent of annual wages	0.63 percent of employee wages for employers with more than 25 employees (rates adjust to fund solvency)	None	40 percent of a total contribution rate not to exceed 1 percent of the worker's first $132,900 in wages, adjusted annually based on fund expenditures; employers with fewer than 25 employees are exempt but eligible for state assistance if they pay into fund

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Table 7. Paid Family Caregiving Leave Policy in the United States (continued)

	California	New Jersey	Rhode Island	New York	Washington State	Washington, DC	Massachusetts	Connecticut	Oregon
Benefits									
Maximum Weekly Benefit	$1,126 (adjusted annually)	$637	$817 (adjusted annually)	50 percent of state average weekly wage (planned increase to 67 percent by 2021)	50 percent of state average weekly wage (planned increase to 67 percent by 2021)	$1,000	$850 (adjusted annually to 64 percent of state average weekly wage)	60 times the state minimum wage	120 percent of the state average weekly wage
Wage Replacement Rate	Determined based on worker's quarterly earnings:	66 percent of worker's average weekly wage	4.62 percent of worker's wages paid in the base period with highest earnings, with minimum benefit of $89 per week plus dependency allowance of $10 per dependent or 7 percent of benefit rate per dependent	Determined based on worker's weekly earnings:	Determined based on worker's weekly earnings:	Determined based on worker's weekly earnings:	Determined based on worker's weekly earnings:	95 percent of average weekly wage for workers paid less than state minimum wage; 95 percent of average minimum wage plus 60 percent of the amount by which the worker's average weekly wage exceeds the minimum wage	100 percent of worker's average weekly wage for workers paid less than or equal to 65 percent of state average weekly wage; 65 percent of state average weekly wage plus 50 percent of employee's wages above that amount for workers paid more than 65 percent of the state average weekly wage
	Less than $929 per quarter: $50 per week			Less than $20 weekly: 100 percent average weekly wage	Equal to or less than 50 percent state average weekly wage: 90 percent of worker's average weekly wage	Equal to or less than 60 times the DC minimum hourly wage: 90 percent of worker's average weekly wage	Equal to or less than 50 percent state average weekly wages: 80 percent worker's average weekly wage		
	$929 up to one-third of state average quarterly wage: 70 percent of worker's average weekly wage			$20+ weekly: 50 percent average weekly wage	50 percent or more state average weekly wage: 90 percent replacement up to 50 percent of state average weekly wage, 50 percent replacement on all wages above 50 percent of state average weekly wage	More than 60 times DC minimum hourly wage: 90 percent for average weekly wages up to 60 times DC minimum hourly wage plus 50 percent replacement on remaining earnings	More than 50 percent state average weekly wage: 80 percent replacement up to 50 percent state average weekly wage, 50 percent replacement for remaining earnings		

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Table 7. Paid Family Caregiving Leave Policy in the United States (continued)

	California	New Jersey	Rhode Island	New York	Washington State	Washington, DC	Massachusetts	Connecticut	Oregon
Benefits									
Wage Replacement Rate	One-third state average quarterly wage or more: 60 percent of worker's average weekly wage or 23.3 percent of state average								
Waiting Period Required?	None	Seven days	Seven days	None	None	One week	Seven days	None	None
Maximum Leave Length	Six weeks	Six weeks (increasing to 12 in 2020)	Four weeks	10 weeks (increasing to 12 weeks in 2021)	Six weeks	12 weeks	12 weeks (26 if care is for a covered service member)	12 weeks	12 weeks
Minimum Increment of Leave Time for Which Benefits Are Paid Out	—	—	Seven consecutive days of leave necessary before eligible for any benefits	One full day or one-fifth of the weekly benefit	One day	Eight consecutive hours	—	—	One work day

Source: Author; and National Partnership for Women & Families, "State Paid Family and Medical Leave Insurance Laws," August 2019, https://www.nationalpartnership.org/our-work/resources/economic-justice/paid-leave/state-paid-family-leave-laws.pdf.

Table 8. Federal Family Caregiving Leave Policy

	Family and Medical Leave Act	Tax Cuts and Jobs Act Section 45S	Coronavirus Aid, Relief, and Economic Security Act— Emergency FMLA Expansion Act
Policy History			
Year Enacted	1993	2018	2020
Years Effective	1993–present	2018–19	March 2020–December 2020
Expansion Years	2008, 2010, and 2015	—	—
Definition of Covered Family	Spouse, child, or parent; "next of kin" and adult children for military families	Spouse, child, or parent; "next of kin" and adult children for military families	Son or daughter under age 18 whose school or place of care is closed or whose child-care provider is unavailable because of a public health emergency
Legal Protections			
Discrimination Prohibited?	Yes	Yes	No
Job Protected?	Yes	Yes	Yes for employers with 25 or more employees
Employee Eligibility			
Earnings or Hours	1,250 hours	1,250 hours	30 days
Length of Covered Employment	12 months	12 months	Two months
Other Eligibility Requirements	Must be employed by covered employer	Must be employed by covered employer	Must be employed by covered employer
Employer Eligibility			
Covered Employers	Private sector with 50 or more employees within a 75-mile radius of a given worksite in 20 or more workweeks in the current or preceding calendar year; public agency regardless of number of employees; public or private elementary or secondary school regardless of number of employee	Any employer with a written policy in place that provides at least two weeks annually of paid family and medical leave to qualifying employees other than part-time employees, and a prorated duration of paid leave to part-time employees (30 hours or fewer)	Private employers with fewer than 500 employees; state and local government employees; employers of health care providers and emergency responders can opt out; Department of Labor can exempt small businesses with fewer than 50 employees and certain health care providers and emergency responders; certain self-employed individuals can also file for a tax credit

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Table 8. Federal Family Caregiving Leave Policy (continued)

Funding			
Covered Employers	—	Tax credit for up to 12.5 percent of wages paid to qualifying employees during the tax year, increased by 0.25 percentage points for each percentage point by which the wages paid for family and medical leave exceed 50 percent of the employee's normal wages; maximum credit is 25 percent of the wages paid for which leave is taken where those wages are paid at 100 percent of an employee's normal wages	Employers pay their employees but will be reimbursed by the federal government for wages plus the employers' contribution to employee health insurance premiums via a refundable tax credit that counts against their payroll tax
Benefits			
Maximum Weekly Benefit	—	None specified	None, but employers are not required to pay more than $200 per day and $10,000 total
Wage Replacement Rate	—	50 percent or greater	Two weeks at 100 percent, 12 weeks at two-thirds of full wages
Waiting Period Required?	30 days' notice	30 days' notice	10 days
Maximum Leave Length	12 workweeks; 26 workweeks to care for covered service member	12 workweeks; 26 workweeks to care for covered service member	12 workweeks
Minimum Increment of Leave Time for Which Benefits Are Paid Out	No minimum increment for job-protected leave without pay	No minimum increment for job-protected leave without pay	No minimum increment for job-protected leave without pay

Source: Compiled by the author from data from US Department of Labor; the Center for Law and Social Policy; and the Internal Revenue Service.

caps may reduce take-up among higher earners if they are set too low.

State policies also vary in who they define as a covered family member for the purposes of leave-taking: In general, the early adopter states have a narrow definition of family (e.g., child, spouse, parent, and domestic partner), while states that more recently enacted legislation have expanded definitions of covered family that include grandparents, grandchildren, siblings, and those with whom the worker has "the equivalent of a family relationship." Varying kin relationships across the income distribution and across race, ethnic, and immigrant groups may mean that more generous definitions of covered family expand the impact of family caregiving leave. Finally, while some states provide job protection for paid leaves, others do not. Determining the impact of job protection as distinct from that of wage replacement for family caregiving, and other forms of leave, is a key open question for researchers.

Before the pandemic, take-up of paid family caregiving leave was low relatively to take-up of parental and own medical leave. However, administrative data suggest that caregiving leave use was on the rise.[52] For example, in California, caregiving leave take-up increased substantially between 2005 and 2014, from 9,287 to 12,597 for women and from 3,812 to 5,816 for men. Caregiving leaves tend to be short, with 65 percent of women's leaves and 70 percent of men's leaves totaling less than six weeks. Employees from small firms (one to 99 employees) are underrepresented in the data, while those in large firms are overrepresented. Older individuals are overrepresented in the claims data, as are those from the highest-earning quintiles.

The earnings disparities in claim rates for paid caregiving leave in California could be explained by several factors, including policy design choices. For instance, wage replacement rates may be too low to make leave economically viable. Limits to job protection may mean that taking a leave from work for caregiving could increase the risk of losing a job following the paid period of leave. Differential levels of access to information about leave could mean that low earners are less likely to know about the policy than higher earners are. And differential levels of worker power for low-wage workers may mean that workers who know about the policy and would like to use it have higher levels of fear of retaliation than do higher-wage workers.

The expansion of paid family and medical leave policies means that a growing body of administrative data presumably exists that could allow for the exploration of many of these questions. As the first cohort of states with paid leave policies grows more mature, the number of years of available data for studying questions of how access to paid leave mediates the impact of family caregiving on caregivers is growing as well, which in turn means more potential statistical power and variation to exploit. Before the COVID-19 pandemic, the states provided a rich source of evidence for a wide range of natural experiments that should allow for cleaner causal identification of the effects of paid family caregiving leave on caregivers' labor market outcomes. Whether this will still be the case once the public health crisis has subsided remains to be seen.

Remaining Avenues for Exploration

The relationship between family caregiving and labor market outcomes for caregivers remains an under-researched topic, particularly in light of the salience of the conflict between responsibilities at work and at home for many Americans. Promising avenues for future explanation include questions on both the demand and supply side.

What is the "true" demand for family caregiving leave? Elsewhere in this volume, Freedman and Wolff provide evidence of improving circumstances for family caregivers over time, on average.[53] Yet recent public opinion data suggest high levels of pent-up demand for policies that foster a better balance between work and care. For instance, Pew Research Center survey data from 2017 demonstrate that 10 percent of workers needed to take leave to care for a seriously ill family member at some point in the past two years but were unable to do so.

Reports of unmet needs for family caregiving leave are higher for black workers (26 percent) and Hispanic workers (23 percent), compared to white workers (13 percent). Low-income workers (those with annual incomes below $30,000) were more than twice as likely as those with higher incomes were to report unmet need for family caregiving leave (30 percent versus 14 percent).[54] While demand for work-family supports appears high, the existing literature has little to say on whether and how this demand matches up with the paid leave policies currently in place at the state level and from employers.

To date, the paid family caregiving leave programs in the states have experienced low levels of take-up, especially relative to medical leave and, to a lesser degree, parental leave. On the one hand, these low take-up rates may reflect Freedman and Wolff's conclusion that family caregiving is substantially less of a burden on caregivers than the popular press imagines. On the other hand, evidence from the state

programs suggests that those who take up paid family caregiving leave may be an especially high-need group. If this is the case, paid caregiving leave may be a crucial policy for expanding access to a certain segment of the market, while others may benefit more from other policies designed to support the growing need for balancing work and care, such as flexibility regarding schedules and location, paid sick days, and support for a more robust system of high-quality paid care work (e.g., home health aides).

The relationship between access to flexibility in both scheduling and work location and access to paid time off may be especially important to understand in the context of family caregiving. Family care needs often look remarkably different from new parents' needs, yet parental and family care leave remain bundled in policy. In contrast to the all-encompassing experience of new parenthood, family caregiving may be more episodic, more intermittent, and more persistent over longer periods.

While paid family caregiving leave plays a role in supporting workers balancing labor market and home responsibilities, the ability to work remotely or adjust one's schedule to accommodate care demands is likely substantially greater for family caregivers than for new parents. Yet remote work or scheduling flexibility is simply impossible for some workers, and paid leave represents the best option for navigating work-care conflict in these cases. Future research should explore whether and how flexibility and paid leave function as complements or substitutes, for which workers, and in what circumstances.

The heterogeneity in take-up rates of paid family caregiving leave raises questions about policy design as well. For instance, what is the role of the wage replacement rate in shaping paid leave take up for low- versus high-wage workers? Does job protection for leave matter in shaping uptake and future labor market outcomes and for which workers? What about the duration of allowed leaves?

In addition, future research should investigate questions on the supply side of the family caregiving leave equation. Defining the "product" that workers use to cover their family caregiving needs is challenging, because family caregiving leaves can vary from a few days off (which may be covered by paid sick days or paid personal days) to longer stretches (which may be covered by paid family caregiving leave or other forms of paid leave such as vacation time). Care needs may also be met by using flexible workplace policies. As a result, tracking the true supply of available leave to meet the demand has proved difficult and remains a challenge for researchers to continue to strive toward meeting.

The COVID-19 pandemic has highlighted the key role family care plays in moments of crisis for millions across the country. The disease's enduring effects may generate ongoing demand for family caregiving (e.g., through waves of school closures and periodic new spikes in infection rates until a vaccine is discovered and distributed sufficiently to generate widespread immunity). The long-term health consequences of the virus are still unknown but may create new medical issues for virus survivors that persist for a generation as the United States population ages with the disease and its aftereffects.

Both the potential near- and long-term consequences of the virus may mirror the stark racial disparities that characterized infection and mortality rates in the first wave.[55] Long-standing labor market and demographic trends before the pandemic teed up a national conversation about the need for evidence-based policies to better support workers with both work and care responsibilities. In the wake of the pandemic, the need to build out the evidence base with rigorous data and the identification of causal relationships to inform policy is greater than ever.

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Why Firms Offer Paid Parental Leave

AN EXPLORATORY STUDY

Claudia Goldin, Sari Pekkala Kerr, and Claudia Olivetti

Even though the US is in last place in the paid and job-protected family leave Olympics, many states have stepped up, offering paid family and medical leave. Until a few years ago, the only states that offered paid leave (or passed paid leave legislation) were those with temporary disability insurance programs (California, New Jersey, New York, and Rhode Island).[1] But, more recently, other states have begun to formulate paid family leave (PFL) legislation following the leads of Washington state and Massachusetts. Massachusetts recently passed a paid leave law using its unemployment insurance system to administer the additional tax contributions.

At the time of this writing, two more have joined the list of states that have passed PFL leave legislation, and more than a dozen states across the political spectrum are expected to introduce legislation soon, including liberal states such as Colorado, Maine, and Minnesota and more conservative ones such as Indiana, Nebraska, and Oklahoma. PFL could soon become law in enough states to render a federal act unnecessary, similar to what happened to workers' compensation from 1910 to 1921 when all but five states passed a law.[2]

But even if all states passed a PFL law at the level of the most generous state today, the US would still be last in the world, most likely tied with Mexico at 12 weeks of (partially) paid leave.[3]

At the same time that states have been filling in for the federal government, firms have been filling in for both. Firms in states without PFL are providing their own form of insurance, and firms in states with leave often "top off" the amount of earnings replacement and extend the number of paid weeks.

We should be clear at the outset that this chapter mainly concerns paid parental leave (PPL)—paid employee leave to care for newborns (and adopted children). PPL can be gender-neutral. But, in most cases, firms offer mothers more PPL than they offer fathers, and birth mothers often must take the firm's short-term disability before they are eligible for PPL. Even though firms often require employees to use personal days off (e.g., vacation or sickness) before they access PPL days, our compilations of PPL try to measure the PPL benefit separately from other leaves.

PPL is generally distinct from benefits that grant paid leave to care for sick children and other family members, also known as PFL. It is also distinct from medical leave, often termed short-term disability. Many firms lump vacation, personal, and sick days together and offer them as an aggregate paid time off (PTO) benefit.[4] Because monitoring is costly, except with births and adoptions, firms that offer PPL often also provide a lump of PTO days for all other reasons. One exception is short-term disability, which is occasionally a separate benefit that is free or offered at

subsidized rates. We provide summaries on PTO levels from our firm data.

Our reasons for concentrating on PPL as a subset of paid family and medical leave are several. Even though paid family and medical leave can encompass a host of circumstances, including leave by the worker to care for relatives and for the worker's own short-term disability, a substantial fraction of such leaves is taken by new parents, both mothers and fathers. In California, for example, about 70 percent of PFL claims by female workers, age 20 to 39, are for births and adoptions.[5]

Another reason to concentrate on the maternity and infant bonding aspects of the family and medical leave benefit is that firms tout those benefits when recruiting new employees, possibly because applicants are younger than existing workers are. Also, most of the economics literature on the impact of current state plans emphasizes their impact on birth mothers' employment and earnings post leave.[6] Finally, a main drawing card of the state plan advocates is that PPL is both woman- and child-centered.

The focus of our chapter on PPL does not imply that other forms of caring and medical leave are unimportant to firms and their employees. In fact, our discussion of the US Bureau of Labor Statistics (BLS) data concerns PFL, rather than PPL, since the data collected are for PFL even though the majority taken is probably in the form of PPL.

We begin with an overview of national data on paid leave at the individual level as provided by the National Survey of Family Growth (NSFG). We then move to firm-level data, first those collected as part of the BLS's Employee Benefit Survey (EBS). Finally, we present and analyze our collection of firm-level data for a vast array of firms and compare the aggregate findings from the EBS to ours at the firm level.

The firm-level data motivate our central questions: Why do firms that compete in product (and labor) markets provide PFL or PPL, and which firms provide this benefit and at what levels? We frame our answers to these questions in a two-period model with competitive firms and workers who are, ex ante, identical except for the expected value they place on returning to work after a birth. That determines their optimal firm-specific training and the degree to which each will remain on the job if PPL is taken. The model has a number of implications regarding which firms provide PPL and how much is provided.

We then move to an analysis of our firm-level data using the insights from our model. We provide data on the levels of PPL by industry, size of firm, percentage female, age distribution of employees, and the state of the home office. We provide extensions to our data for three professional service industries for which we know the identity of all firms by number of employees. We also explore the provision of fully paid PTO. We end with a summary of our findings.

Paid Parental and Family Leave: Evidence from Firms

To understand the amount of paid family or parental leave private-sector firms offer and employees use, we use three sources. The first is the NSFG, which asks respondents about the leave they took after a birth. We tabulate the leave they took for which they received remuneration. One potential drawback is that the NSFG data do not specifically concern leave provided by private-sector firms, about which we are concerned here. In addition, the benefit used may include accumulated sick and vacation days.

The second source is the BLS's EBS. The EBS is the most comprehensive source to measure firm-level benefits in the US, including PFL. The data are available consistently from 2010 to 2018. But because they are confidential, they can be accessed only as tabular materials by industry, occupation, and, separately, characteristics of firms and workers, such as number of employees and wage percentiles.

The final source, and the one that is our main contribution, is our extensive collection of firm-level PPL information. The main data used come from Great Place to Work (GPTW) and are for 2017–18.[7] We also use a host of other sources including compilations by various aggregators and the *Working Mother* magazine.

We have compiled extensive information on 1,135 firms, 960 of which we have PPL benefits

information. The availability of various correlates—including employment, the state of the headquarters, and the composition of the firm's workforce—reduces our sample to around 500 to 600 for the regression analyses.

The policies firms list are often complex. Firms do not always clearly state whether their short-term (or temporary) disability program is included in the number of PPL weeks they claim to offer and whether workers who take PPL are first required to exhaust their vacation and sick days. Even more difficult is figuring out whether all workers at the firm are covered. When the firm provides data for full-time and part-time workers separately, we use data for only full-time workers.

The coverage that we list was given as the full replacement rate. Some firms offer full replacement for some period and then partial replacement beyond that. In most cases, we use only instances of full replacement and exclude partial replacement.[8] We emphasize that we have tried to use data only for the firms that provide *nearly universal fully paid* parental leave.

There is also the question of employee coverage. Many firms we list are professional-service firms. We often do not have direct information on whether firm policies cover staff positions to the same degree they cover professionals. But auxiliary information indicates that most cover both. Recent news articles reveal that large law firms generally have leave equality between attorneys and administrative staff. Many have recently changed from a previous two-tiered system in which administrative staff had been eligible for a shorter paid leave than the attorneys had been.[9] A 2017 survey of 18 law firms by the Diversity & Flexibility Alliance shows that just 22 percent of the firms had no PPL for staff.[10]

Because much of the firm-level information we have collected comes from aggregator websites that applaud the family-friendly policies of our sample firms, we will be missing firms that provide no, or few, benefits. Firms tout their benefit packages, such as PPL, but do not advertise a program's absence or its restrictions in covering only those in salaried positions. To address the "missing zeros" problem, we have supplemented our sample. We have dived deeper into three well-defined sectors—accounting, law, and finance and insurance—for which the top 100 or so firms by number of employees are clearly known. (See Appendix A.)

We also present evidence on changes in PPL coverage from around 2000 to 2017 for various industries to demonstrate how benefits have increased in a follow-the-leader manner. Finally, we analyze information on a broader form of "caring leave"—fully paid personal days or PTO.

NSFG. The NSFG provides the best individual-level estimates of the fraction of women who received PPL. The survey spans 2001 to 2010. Female respondents, age 15 to 45, were asked whether they were at work at the time of their most recent pregnancy and whether they could take any leave after that birth.[11]

Of those who could take any kind of leave, the number of paid weeks was requested. Those who could not take leave include those who left employment at the time of birth with no intention of returning and those working in firms or business that were not subject to Family and Medical Leave Act (FMLA).

We divide the sample into two groups by education. Among the college graduate group, about 80 percent of those who were at work while pregnant took some leave (paid or unpaid).[12] In addition, 64 percent of those who were at work while pregnant received paid leave of some duration. Among the group who received paid leave, 45 percent received six or more weeks; 20 percent received 10 or more. The mean number of weeks for those receiving some paid leave was about eight.

The situation for mothers with an education below college graduate is rather different. In the lower-educated group, 64 percent of those who worked while pregnant took some leave (paid and unpaid). Just 36 percent of women who were at work while pregnant received some paid leave. Of those, 30 percent received six or more weeks, and 10 percent received 10 or more weeks. Even though a much smaller fraction of the lower-educated group received any paid leave, the mean number of weeks

for those receiving some paid leave—at 7.6 weeks—was almost the same as for the college graduate group.

The NSFG is useful for placing the firm-level data in a larger context.[13] The comparison we will make is of the mean number of leave weeks conditional on having paid leave. The more-educated group of mothers receives far more leave than does the less-educated group.

But all women with paid leave receive about eight weeks. The firms in our data provide more leave, but that is to be expected since they were chosen because of their more generous leave policies and because they provide fully paid leave. The surprising finding is that they do not provide that much more paid leave than the national average of what new mothers take.

BLS EBS Data. The EBS is the only source of benefits statistics of private-sector firms at the national level. Because of the confidentiality of the firm-level microdata, BLS researchers kindly provided us with cross tabulations of industries by firm-size bins and occupations by wage bins (when the number of observations is sufficiently large by cell). We use the EBS industry data since they are most comparable with our firm data.

An important point about the EBS data is that they give the fraction of employees with *any* level of a particular benefit, such as paid vacation, paid sickness and family leave, and unpaid family leave. In Figure 1, we give annual information from 2010 to 2018 for the fraction of firms that offered PFL (of any length) in six industries (the BLS uses North American Industry Classification System codes) by firm size.[14] EBS data are at the firm level and implicitly assume that all workers are covered by a benefit if the firm offers that benefit. We cross classify size of firm in two buckets (fewer than 100 workers and 100 or more workers) as that is the only firm-size variable that has no missing cells for the six industries.[15]

Access to PFL across all industries increased from 11 percent to 17 percent of all workers between 2010 and 2018.[16] A main finding from the EBS industry data is that the trend in PFL provision from 2010 to 2018 was distinctly upward, particularly in industries having significant levels in the base year. In the information, professional, and technical sectors, for example, the fraction of firms offering PFL nearly doubled from around 15 percent to 20 percent to 30 percent to 40 percent in the eight years. But in industries such as manufacturing and retail, where the initial levels were low, there was only a minor increase.

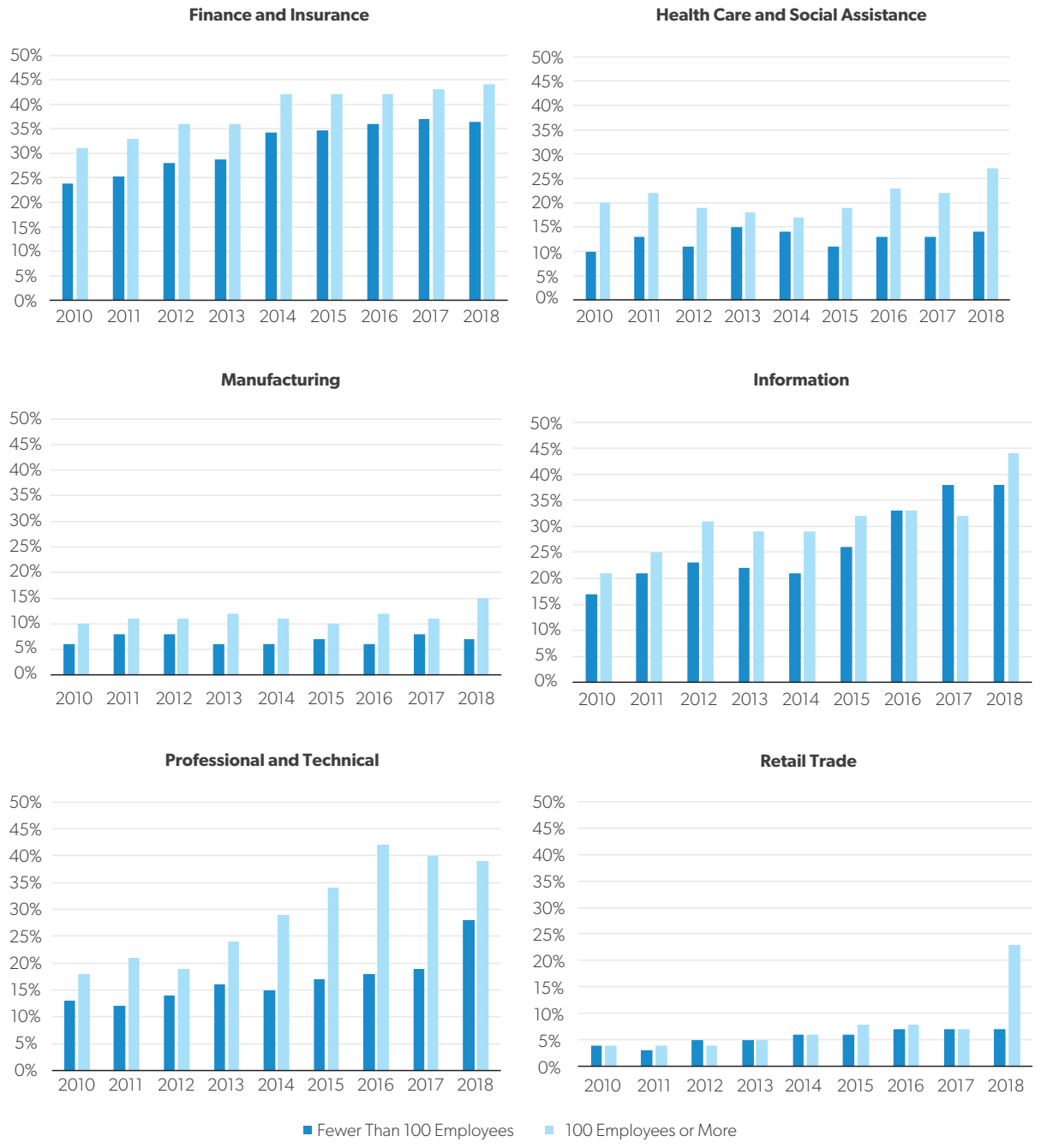
Also important is that there are significant differences by industry in all years, given size of the firm. In the information, finance and insurance, and professional and technical industries, 45 percent of larger firms offered PFL to their workers in 2018. In the manufacturing and retail trade sectors, however, barely 10 percent of the larger firms offered PFL, and 20 percent of the larger firms in the health sector offered PFL.

Large firms (100 or more workers) in all industries offer more paid leave than small firms (fewer than 100 workers) do. In the professional and technical sector, 19 percent of the small firms offered PFL, but 40 percent of the large firms did in 2017. In finance and insurance, 37 percent of the small firms offered PFL, but 43 percent of the large ones did, and in health care and social assistance, it was 13 percent versus 22 percent. The low levels of provision in manufacturing conceal the large differences by size. Retail shows little difference by size, although the enormous increase for larger firms in 2018 was almost certainly caused by Walmart's PFL change that year.[17]

Comparing the EBS and Firm-Level Data. Our firm-level data give the number of days of paid leave (separately for birth mothers, fathers, and, often, adoptive parents) conditional on having some PPL.[18] The construction of the EBS data makes the implicit (and not always believable) assumption that a firm policy for any worker applies to all workers equally.

As shown in Figure 2, the finance and insurance, information, and professional and technical industries all have high fractions of PFL in the EBS sample and, generally, the greatest number of days of PPL leave offered in the firm-level data. Because the

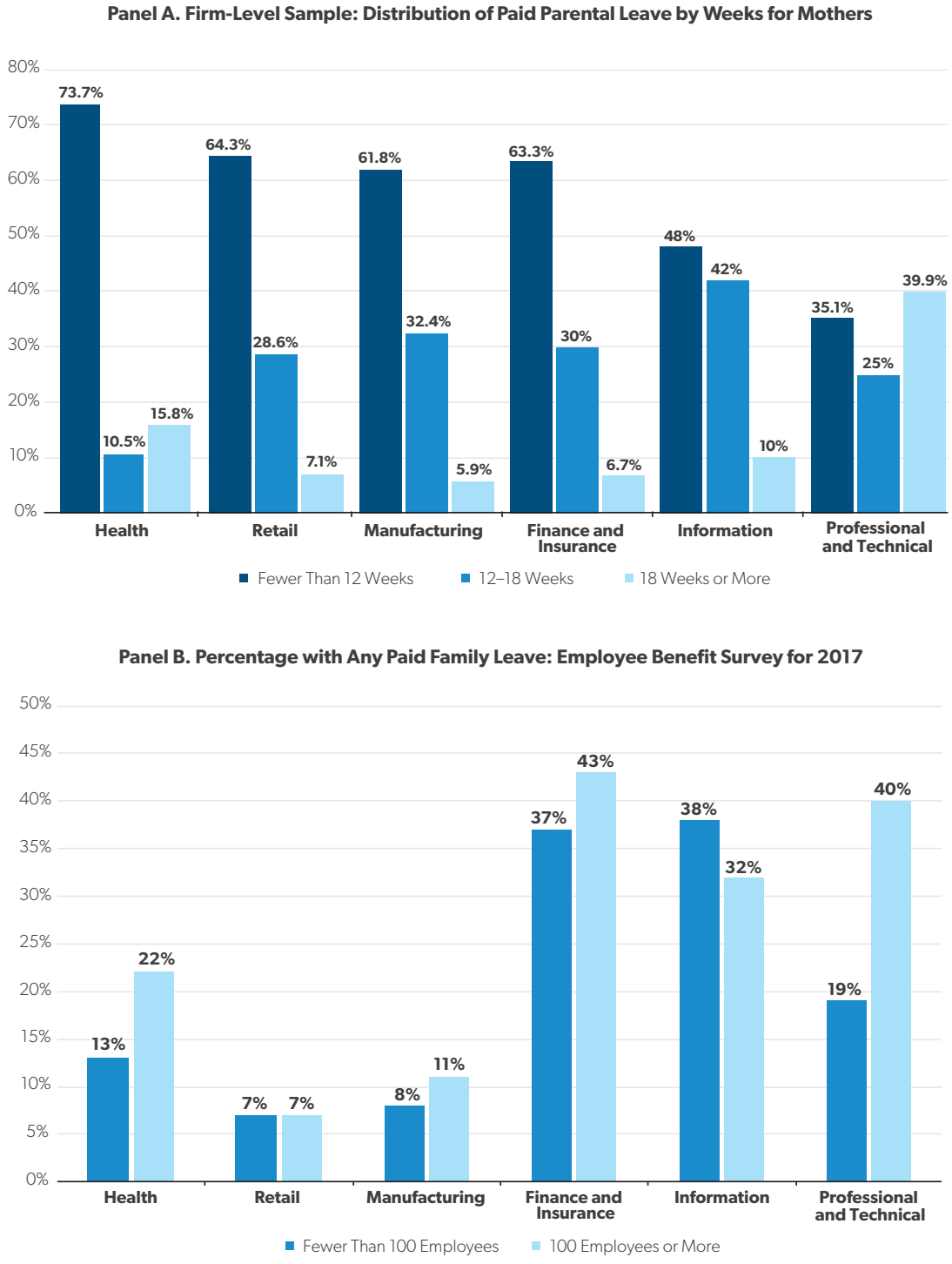
Figure 1. Percentage of Workers in Firms with Paid Family Leave by Industry



Note: The EBS asks firms about aspects of their benefit provision. The data are confidential, and information about firm benefits is released in tabular form by industry, occupation, firm size, wage quartile, region, and part-time and union status. US BLS researchers created cross tabulations for us of industry by firm size. The division of fewer than 100 workers or 100 or more workers provided the most cells that BLS could release. There are no small firms for colleges and universities. The spike for retail trade in 2018 is almost certainly due to Walmart's provision of paid family leave.

Source: US Bureau of Labor Statistics, "National Compensation Survey-Employee Benefits Survey," https://www.bls.gov/ncs/ebs/home.htm. The cross tabulations of industry by firm size were done by researchers at the US Bureau of Labor Statistics at the Office of Compensation and Working Conditions.

Figure 2. Firm-Level Paid Parental Leave and Paid Family Leave, 2017



Note: The firms in Panel A are in the seven US BLS industrial sectors that harmonize with those in the EBS. There are 686 firms across the seven sectors and 808 in the full sample with information on paid parental leave for mothers. We use 2017 in the EBS for consistency with our information for the separate firms. All firms in Panel A have some paid parental leave for mothers.
Source: Great Place to Work, website, https://www.greatplacetowork.com/.

firm-level dataset has disproportionately large firms, the EBS data for the larger firms are more relevant.[19]

As seen in Table 1, Panel B, the mean number of PPL days for mothers in the analysis sample of firms is 46, and it is 54 when weighted by the firm's employees. In the expanded sample of firms, the mean number of PPL days is 55, and it is 69 when weighted by the firm's employees. Around 10 to 12 weeks seems to be a norm for firms that offer leave.[20] Some sectors have higher PPL than suggested by the EBS data. For example, the retail sample, while small, indicates that leaders in the industry are providing PPL for all employees.[21]

Earlier, we produced estimates from the NSFG on weeks of paid leave taken by women by education group. For the college graduate group, about eight weeks were taken, and for the non-college graduate group, a slightly smaller number of weeks were taken. As we pointed out, even though leave length conditional on some paid leave is about the same by education, the fraction of non-college graduate women who can take paid leave is just half that for college graduate women.

Of the weighted means in Table 1, those in Panel A are higher than those in the NSFG. That is to be expected given that the firm-level data come from firms that provide paid leave and boast about it. But the differences are not enormously large—around 54 days for our firms versus around 40 days for new mothers in the NSFG.[22]

Not surprisingly, firms offer fewer days of PPL to fathers than to mothers. The mean firm, weighted across all industries, in the analysis sample offers 24 fewer days to fathers, or about five fewer weeks.[23] The difference is consistent with the notion that birth fathers get baby-bonding time that is often similar to that offered to birth mothers, but mothers also get five to six short-term disability weeks.

The firms in our sample have worker benefits that are more generous than those of the average firm. Firms in our analysis sample have been singled out as being a "good place to work." Although some are large, there are also many small firms in our sample. In the analysis sample (for mothers) of 384 firms, the mean number of employees is 5,444, but the median is 440, and 25 percent have fewer than 110 employees.[24]

All but small firms in the US are mandated to have a policy regarding protected, unpaid family leave since firms with more than 50 employees (within a 75-mile radius of the company's worksite) are covered by FMLA. In the EBS, 88 percent of all firms have such a policy, and 95 percent of those with more than 500 employees do.[25]

Changes in PPL over Time. The EBS data show substantial increases in PFL over time for industries that had a modicum of coverage in 2010, the base year. To explore changes over time by firm, we also collected information on leave policies from *Working Mother* magazine's best companies from around 2003 to 2017, similar to the years given in the EBS. Only the largest firms are included by *Working Mother* in each of the following sectors: professional services, financial services (consumer finance, insurance, and corporate banking), biotech, manufacturing, health care, and technology.

PPL increased in each sector during the 15 or so years. The largest gains were in professional services and financial services, but all had gains. We have the most complete information by firm in professional services. Those data reveal a follow-the-leader strategy in which one company increases benefits and the others follow within a few years until they all bunch at about the same number.

For example, in 2003, the big accounting and consulting firms all offered between two and nine weeks PPL for mothers. PricewaterhouseCoopers (PwC) and Deloitte were in the lead with nine. But in 2006, Boston Consulting Group led with 12, and in 2015, KPMG was in the lead at 16. By 2017, Deloitte was leading the pack at 22 weeks of paid leave. Accenture, PwC, KPMG, and McKinsey & Company were all bunched around 14. They are probably still playing a game of leapfrog, competing for workers with similar skills in the same markets.[26]

Table 1. Summary Statistics on PPL in Days for Mothers and Fathers by Industry, 2017

Panel A. Analysis Sample from Table 2, Columns 1 and 2

	(1)	(2)	(3)	(4)	(5)	(6)
	Days PPL, Mothers			Days PPL, Fathers		
Industry	Raw	Weighted	(Number of Firms)	Raw	Weighted	(Number of Firms)
Health Care and Social Assistance	32.9	34.9	(19)	9.1	7.5	(12)
Retail	49.6	50.4	(14)	19.5	29.3	(11)
Manufacturing	47.0	56.3	(33)	22.3	28.6	(28)
Finance and Insurance	42.3	62.5	(60)	23.8	34.1	(48)
Information	52.9	62.0	(47)	30.2	38.9	(47)
Professional and Technical	47.6	66.6	(133)	25.0	35.4	(128)
Industry Not Categorized	41.9	25.2	(78)	19.1	14.7	(62)
Sample Means	45.6	53.9	—	23.5	30.1	—
Total Number of Firms	—	—	(384)	—	—	(336)

Panel B. Expanded Great Place to Work Dataset

	(1)	(2)	(3)	(4)	(5)	(6)
	Days PPL, Mothers			Days PPL, Fathers		
Industry	Raw	Weighted	(Number of Firms)	Raw	Weighted	(Number of Firms)
Health Care and Social Assistance	34.3	36.5	(20)	13.0	12.7	(13)
Retail	51.6	52.6	(48)	28.8	26.1	(28)
Manufacturing	51.4	53.9	(59)	23.2	27.8	(50)
Finance and Insurance	48.7	62.6	(123)	24.9	33.8	(96)
Information	58.2	77.5	(70)	32.4	40.7	(68)
Professional and Technical	61.6	83.7	(320)	29.1	46.4	(278)
Industry Not Categorized	47.6	45.5	(107)	23.7	33.3	(82)
Sample Means	55.0	68.6	—	27.3	38.9	—
Total Number of Firms	—	—	(747)	—	—	(615)

Note: The sample in Panel A is primarily the GPTW data and includes firms with information on fraction female and the age distribution of employees. These are the firms in the Table 2, Columns 1 and 2 regressions. The sample in Panel B is the expanded GPTW dataset and includes only firms with positive levels of PPL and non-missing firm size (number of employees). We give the "raw" numbers, which are unweighted, and those that weight by the number of employees for comparability with the EBS estimates. The EBS data implicitly weight.
Source: Great Place to Work, website, https://www.greatplacetowork.com/.

Why Firms Provide PPL: A Simple Two-Period Model

Paid leave is a cost to the firm. Its value to workers depends on age, gender, and various circumstances. Why are firms in some industries more apt to offer PPL than in other industries? Why do firms provide paid leave, and why have firms increased their PPL coverage in the past decade?[27]

We develop a two-period model to understand why competitive, profit-maximizing firms offer PPL.

Simply put, a firm will offer PPL if its workers value it sufficiently and if enough of its workers are bonded to the firm so that the workers return after taking PPL. The model's structure is reminiscent of that in a well-known article by Edward Lazear and Sherwin Rosen.[28]

The model has two key ingredients for workers. One is firm-specific human capital investment (α_i) undertaken in period one (P_1) and increasing the worker's wage in the second period (P_2). The second is a stochastic value of time (v) after a worker has a birth, which occurs with probability p between P_1 and P_2. The precise value of v is unknown at the time of the human capital investment, but its distribution is known.

Each of N firms (i) has a unique minimum amount of firm-specific human capital investment (α_i) required by each of their employees to be a productive worker in the firm. All employees of firm i will invest the same α_i in P_1. In addition to paying wages, firms can offer PPL of some duration covering all employees who have a birth.

Firms have two types of workers, male (M) and female (F), who are potentially perfect substitutes in production. Each worker has a cost of investment effort (ε), identically distributed f (e), and known to all. All workers face a probability p of having a child after P_1. In the event of a birth, they will value time at home at v, distributed $g_m(v) < g_f(v)$ for all v, known to all. But workers do not know the precise value of v until experiencing the birth and taking leave in P_2. The cost of effort function, f (ε), and the value of time, $g_{m,f}(v)$, distributions are orthogonal.

The key source of gender difference in our model is that women have a higher value of nonmarket time in expectation. Gender matters because $g_m < g_f$. Women will do less investing because they know that, on average, they are more likely to value home time more than wage in P_2 and exit the firm after leave. Some men will also exit at the end of their leave.

At the start of P_1, men and women sort into firms by their investment effort cost and by gender. Workers choose whether and how much to invest in firm-specific human capital leading to proportionally higher earnings in P_2. To invest, workers have to forgo earnings during the investment period (α). Because workers have children with probability p, they will not recoup their investment with certainty. Women know they stand a higher probability of exiting the firm after taking PPL and will therefore invest less.

The demand for PPL arises because workers all stand a chance of having a child. In the model, all workers with a birth (which occurs with probability p) take some leave from work and then determine how much they value remaining at home beyond their paid leave. They compare their wage to their value of v to determine whether they will return to the firm.

On the supply side, firms will provide PPL if a sufficient number of their workers return to the firm after taking PPL. The reason is because the PPL benefit is financed by lower earnings among those working. Therefore, PPL will be offered if workers engage in enough firm-specific human capital investment giving them a high-enough P_2 wage.

Which firms will offer PPL with respect to worker investment and the fraction female? At one extreme, we assume that firms with workers having zero investment ($\alpha = 0$) will not offer PPL since their workers are less likely to return to work at the end of the unpaid leave. That is especially true of their female workers. If workers come back to work, they will not necessarily return to the same firm because they will receive the same wage wherever they work.

At the other extreme, firms with workers having the maximum investment ($\alpha = 1$) will offer PPL. The higher the level of investment, the lower the fraction female. Therefore, there is a tension between the fraction female and the level of PPL, and the relationship can be monotonic or non-monotonic depending on the parameters.

If there is no investment, firms will not offer PPL. But at some higher level of investment, PPL will be positive. Greater investment leads to greater bonding of workers to the firm. But a greater fraction female leads to a greater willingness to pay for the benefit.

The mechanism we describe does not involve compensating differentials. In addition, there is no

adverse selection. Men and women in the same firm are offered the same contracts: They receive the same wage, and they are offered the same parental leave. Men are just as likely to have a child as are women, although women have a higher value of nonmarket time (in expectation).

In the real world, workers will probably have a good sense if and when they would like to take advantage of a PPL benefit. That possibility heightens the notion that employees with more specific human capital and those at higher pay grades will be less apt to exit the firm after taking paid leave. It is also why firms with a low fraction of female employees have more generous PPL offerings.[29]

Analyzing Firm-Level Parental Leave Policies

The central question we have posed is why firms offer PPL. Such leaves are disproportionately taken by younger employees and women, yet all employees in the firm pay for them.[30] The model we developed suggests the characteristics of firms that would be more likely to provide fully paid parental leave as an equilibrium condition.

A main prediction of the model is that paid leave will be provided by firms if their workers are effectively "bonded" to the firm because they have sufficiently invested in firm-specific training in the first period. The firms, in the model, are the higher-wage firms since their workers have more training. Lower-wage firms, with lower levels of firm-specific investment, would generally not be able to offer PPL because workers would have less incentive to return to the firm and even to work more generally after taking parental leave. In addition, the lower the wage, the less able and willing the workers would be to fund the benefit.

We also noted a factor going in the opposite direction. Firms with a greater fraction of female employees will have a larger group of workers who value PPL even if the firm-specific investment was low. Although firms with a low fraction of female employees will have lower costs of providing paid leave, firms with a high fraction of females have a larger group willing to pay for the leave. Similarly, firms with a larger fraction of workers in their childbearing years should have the greatest willingness to pay.

Thus, the relationship between PPL and fraction female is an empirical question. They may be negatively related, or the relationship may take the form of a quadratic. However, firms with no firm-specific training, and thus the highest fraction female, will likely not provide PPL.

An additional implication of the model is that because of the insurance nature of the benefit, larger firms should offer more PPL.[31] In addition, firms that compete in the labor market (firms that are close in their minimum human capital investment requirement) will evolve a follow-the-leader strategy in providing the benefit. Although we cannot explore this prediction using the GPTW data, the firm-level evidence from *Working Mother* magazine suggests that firms that hire particular professionals compete for labor in this manner. It is possible that they are learning about what benefits are valued by their workers, both male and female.

We mentioned before that the PPL benefit in our sample is generally for full-time salaried workers. Most firms in our sample also have a group of salaried staff covered by the same PPL benefit as are the salaried professionals. But are the admins also bonded to the firm through investments in specific human capital, as the model would predict? Some of the admins could have specific human capital related to that of the professionals. But they also could receive the same benefit because of horizontal equity concerns that the professionals essentially pay for.

Analysis of the Firm-Level Data on PPL

To understand why firms provide PPL, we examine the correlates of fully paid leave days offered to new parents. We regress the number of days of leave (for mothers and fathers, separately) on the fraction female (and its square), the (log of) number of employees, indicators of the workforce's age, and

dummies for states with active policies and those with active policies in the near future. We also include industry fixed effects, when relevant.

We use the GPTW sample and thus are exploring the correlates of days of fully paid family leave given that firms are providing some PPL. We also take as a given that some states had a paid family and medical leave policy in operation (or were anticipated to pass one in the near future). We later explore three industries for which we know the full list of firms and can with some accuracy identify those with no PPL.

The analysis sample firms in Table 2, Columns 1 and 2 span almost the entire range of percentage female, from 6 percent to 100 percent with a mean and a median of 46 percent.[32] As can be seen in the regression results in Table 2, Column 1, the fraction female is nonlinear in its impact. Days of PFL decrease from around 60 for the highest percentage female to 46 around the mean and then increase to around 60 again for the lowest fraction female.[33]

Larger firms offer their workers more leave. Because of the insurance aspect of paid leave benefits, larger firms should be more willing to provide social insurance programs, all else equal.[34] The size distribution of our analysis sample firms has a long right tail with a median of 440 but a mean of 5,444. Limiting to firms with fewer than 50,000 employees yields a median of 417 and a mean of 3,241. Increasing firm size by 100 employees would, according to the estimates in Column 1, increase days of paid leave for mothers by 7 percent or by 16 percent of the mean.

Firms with a larger fraction of their workforce in childbearing age offer more leave. The coefficients are largest for the fraction of Generation X (born 1965–79) and millennials (born 1980–2000)—that is, those who were age 17 to 37 in 2017.[35] The omitted group is mainly the baby-boom generation (born 1946–64).

Interestingly, the results are similar for men's PPL benefits (Table 2, Column 2). As mentioned before, men receive fewer weeks than do birth mothers because of the implicit (or explicit) short-term disability portion of PPL. The relationship to state laws is a bit more tenuous, which may be because men take less leave than do women and the issue of "topping off" is less important for men.

In sum, the analysis of the GPTW dataset shows that larger firms, those with workforces disproportionately in the childbearing ages, and firms that have either a high or a low percentage of female employees offer the most leave. These findings are consistent with the implications of the model we developed to explain why firms offer PPL at all and why some offer more than others.[36]

The GPTW data are less clear about the degree to which workers accumulate firm-specific human capital, a key part of the model and our understanding of why firms provide PPL. That PPL generosity is highest in the professional, technical, and finance sectors is suggestive of that factor.[37]

Law, Accounting, and Finance: Expanding the Sample. We noted before that because the GPTW dataset contains firms that are the "better places to work," they have benefit programs almost by definition. To explore a less select group of firms, we expanded the sample in three sectors for which we could compile a full listing of the largest firms.

For law firms, we have used the ALM Intelligence Legal Compass, which lists information on every law firm. For accounting, we used the list in *Accounting Today*. For finance, we used a host of lists, since the industry is broad and encompasses several different sectors from banking to insurance.[38]

Our next challenge was to find the relevant information on benefits for the firms on these lists. Armed with a fairly complete list, we then intensively searched for benefit programs using company websites, other online information, and direct contact. These methods provided us with a reasonably good sense when a PPL benefit exists and when it does not. We have listed, in Table 3, the distribution of weeks of PPL (for mothers), including the zeros, for the three industry groups.

In the law and finance groups, about 20 percent of the firms have no benefits, whereas about half of the accountancy firms have none. Law has significant bunching at both 60 and 90 days, which is not surprising given that competition for lawyers is regional,

Table 2. Correlates of Private-Sector Firm Paid Parental Leave, 2017

	(1)	(2)		(3)	(4)
	Sample with PPL > 0			Sample with PPL ≥ 0	
Variables	PPL in Days for Mothers	PPL in Days for Fathers	Variables	Lawyers, Days for Mothers	Lawyers, Days for Fathers
Mean of Dependent Variable	45.6	23.5	Mean of Dependent Variable	66.4	25.0
Percentage Female	–0.755*	–0.786*		—	—
	(–1.98)	(–2.44)		—	—
Percentage Female^2	0.00709	0.00984**		—	—
	(1.90)	(3.09)		—	—
Employment Length	1.586*	2.035**	Number of Lawyers	0.00619	0.00648*
	(2.11)	(3.03)		(1.43)	(2.04)
Percentage Millennials	0.370*	0.357*	Percentage of Total Association	0.910***	0.477**
	(2.39)	(2.53)		(4.31)	(3.09)
Percentage Generation X	0.359	0.413*	Percentage Total Equity Partner	–0.519	0.111
	(1.60)	(2.00)		(–1.71)	(0.50)
California	13.54**	9.511**	California	5.908	–2.410
	(3.29)	(2.71)		(0.66)	(–0.37)
Washington, DC	–1.406	3.731	Washington, DC	25.64*	6.509
	(–0.10)	(0.34)		(2.50)	(0.87)
Massachusetts	0.734	2.034	Massachusetts	10.60	0.0595
	(0.08)	(0.27)		(0.89)	(0.01)
New Jersey	–9.205	8.085	New Jersey	–19.45	14.91
	(–0.94)	(1.01)		(–0.86)	(0.90)
New York	9.786*	9.619*	New York	3.005	–3.005
	(2.19)	(2.51)		(0.39)	(–0.53)
Washington State	12.85	9.931	Washington State	–8.131	–11.26
	(1.34)	(1.32)		(–0.36)	(–0.69)
Industry Fixed Effects	2-Digit SIC	2-Digit SIC		—	—
Constant	18.79	–12.64	Constant	30.09*	–3.803
	(0.98)	(–0.73)		(2.19)	(–0.38)
R^2 (Adjusted)	0.125	0.0981	R^2 (Adjusted)	0.277	0.0839
Number of Observations	384	336	Number of Observations	147	147

Note: * $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$. Employment is the number of US employees for the firm with the stated policy. Some firms may be subsidiaries of others but have different benefits. T-statistics are in parentheses. In Columns 1 and 2, firm employment data are from Dun & Bradstreet. Post-millennials are birth years post-2000s, millennials are 1980–2000, and Generation X are 1965–79. The omitted generation is those born before 1965, mainly baby boomers (1946–64). Post-millennials are not listed since they are a small group and the coefficients are small and insignificant. Only firms with positive benefits are included. Industry fixed effects at the two-digit Standard Industrial Classification (SIC) level are included. Our results are fairly robust to using the four-digit SIC codes and the more aggregated North American Industry Classification System codes. In Columns 3 and 4, the ALM Intelligence Legal database is the main source that provides information on the number of lawyers per firm and their distribution by sex and level (e.g., equity partners and associates). Firms with no PPL are included. Approximately 18 percent of the law firms in this sample offer no PPL to mothers, which is approximately the same as in the total sample of law firms. (See Table 3.) In addition, 28.5 percent offer no PPL to fathers.
Source: Great Place to Work, website, https://www.greatplacetowork.com/. See text for more details.

if not national. Finance is less bunched probably because the job categories are broad. Accountancy has the largest variance in size. Although there is little bunching overall in PPL levels, there is some for the four largest national accounting firms.

In all three industries, firms without PPL are those with below average employment levels, although the relationship is not always strong. Some of the correlation could be because it is harder to obtain reliable data on small firms. But the smallest of our accountancy firms have around 250 employees, and the smallest in the finance group have around 500 employees.[39] We do not think that we are missing a publicly stated leave policy because a firm is small, but we are surely missing leaves that are negotiated separately by individual employees.

By using the ALM Intelligence Legal Compass, we found detailed information on the employee makeup of law firms including the fraction at different ranks and the fraction female at each rank. We have included, in Table 2, two columns on the lawyers (Columns 3 and 4) that report the correlates in a manner similar to those for the larger sample (Columns 1 and 2) drawn from the GPTW dataset.

The most important correlate for lawyers is the fraction of the employees who are associates. These would be the youngest workers and would be the ones the firms would be trying to attract and keep to determine if they should eventually make partner. The fraction who are equity partners has a slight negative impact. The other categories are non-equity partner and an "other" category of lawyers that is a non-ladder group. The fraction of the group that is female does not matter much. The main factor in analyzing the law firm data is the fraction in the associate pool. Given the sample size and the bunching at various levels, we do not think that adding more variables is sensible.

Relationship Between State and Firm PPL and PFL Policies. Some firms in our sample have headquarters in states that have long had a PFL policy, such as California. But some are in states that have only recently passed PFL or passed a law just after the cutoff year (around 2017). State policies could have been anticipated, although there have been PFL policies floating around many state legislatures for some time. Another potential issue is that the location of the home office of a firm may not be the location of the majority of its employees. It would be difficult to obtain estimates of the number of employees in each state.

The question is whether firms in states with active or anticipated PFL laws by 2017 have more or less generous paid family leave policies. On average, the states with PFL policies have firms with more generous PPL benefits. (See Table 2, Columns 1 and 2.) The causal channel could be that if a firm is on the margin of instituting PFL and PPL benefits, the implicit subsidy from the state, due to the ability to top off the payment to the worker by the state, will push them over the edge.[40]

Much of the previous literature on PFL and PPL has examined state policies, and some of that research has analyzed the relationship between state and firm policies. Eileen Appelbaum and Ruth Milkman surveyed firms in California and found that although workers registered slim awareness of the state program, employers stood ready to provide this information when needed.[41] According to the authors, employers with their own PPL receive an implicit subsidy from the state program, and, since these firms tend to employ higher-wage workers, their programs are used to top off the state amount.

Sarah Bana et al. examine the role of employer characteristics in the take-up of disability insurance and PFL in California and find, consistent with Appelbaum and Milkman, that employees in larger and higher-wage firms have greater take-up of both.[42] Again, a major reason is that employers with the most generous policies encourage workers to use the state system to reduce the firm's contribution when they top off the state payout.

State fixed effects have been added for states (and Washington, DC) that have policies or passed a relevant law around 2017.[43] California and New Jersey laws went into effect in 2004 and 2009, respectively. New York enacted a law in 2016 that became effective in 2018. Washington state enacted one in 2017 that

Table 3. Distribution of Paid Parental Leave (for Mothers) in Three Sectors, 2017

	Law		Accountancy		Finance	
Days of PPL for Mothers	Number of Firms	Percentage of Firms	Number of Firms	Percentage of Firms	Number of Firms	Percentage of Firms
No PPL	32	18.5	49	50.5	35	21.7
1–20	5	2.9	16	16.5	28	17.4
21–30	1	0.6	4	4.1	19	11.8
31–40	4	2.3	12	12.4	13	8.1
41–50	2	1.2	4	4.1	7	4.4
51–60	25	14.5	3	3.1	20	12.4
61–70	1	0.6	3	3.1	9	5.6
71–80	9	5.2	2	2.1	18	11.2
81–90	77	44.5	3	3.1	6	3.7
91–100	13	7.5	0	0	3	1.9
101+	4	2.3	1	1.0	3	1.9
Total	173	100	97	100	161	100

Note: "No PPL" means that no information was found on websites and no information was provided during a call to a member of the human resources team. This sample contains firms that are not in the regression sample in Table 2, Columns 1 and 2 because information on the other variables was not available.
Source: Great Place to Work, website, https://www.greatplacetowork.com/. See text for more details.

took effect in 2019. The Washington, DC, and Massachusetts laws were passed in 2017 and 2018, respectively, and are not yet operational at the time of this writing. Eligible Massachusetts employees can apply for benefits in 2021, and those in Washington, DC, can apply in 2020. Connecticut and Oregon passed laws the apparatus of which will begin collecting taxes in January 2022.

Relative to states with no PFL laws, the aggregated PFL states have firms with more generous paid leave (Table 2, Columns 1 and 2, given industry, size of firm, and the included employee characteristics). But the results are mixed at the individual state level. California and Washington state firms offer more generous paid leave benefits, but New Jersey firms do not. New York firms are more generous than are those in the average state, but Massachusetts, with the most recently passed law, is not. The results for the law firms (Table 2, Columns 3 and 4) do not indicate any clear relationship between the state law of the firm's headquarters and the firm's PPL.[44] Our results are correlational but cannot be considered causal given our single cross section of data.

Fully Paid PTO Days

Thus far, we have analyzed the provision of fully paid leave to new mothers and fathers for a birth or adoption.[45] Firms also provide paid leave for other reasons. Almost all firms provide paid sick and vacation leave to their full-time employees. Some firms designate paid leave that can be taken for a host of reasons including caregiving to family members. These are generally called "discretionary leave" or PTO days. Many firms aggregate vacation, sick leave, and discretionary leave into one bundle of PTO days that can be taken whenever the employees would like and can often be banked.

Days of PTO are given in Table 4 by the six industry groups used previously, plus the industries that are not in those six categories. The variance in the

Table 4. Paid Time Off Days by Industry, 2017

Industry	(1) Mean PTO Days	(2) Fraction Firms with "Unlimited" PTO	(3) Total Number of Firms
Health Care and Social Assistance	19.87	0.038	82
Retail	20.35	0.115	26
Manufacturing	24.35	0.085	47
Finance and Insurance	25.36	0.110	82
Information	24.94	0.485	66
Professional and Technical	25.45	0.301	183
Industry Not Categorized	21.80	0.052	135
Total	—	—	621

Note: All the firms in this table are from the GPTW list since only those had information on fully paid discretionary days off. Column 1 gives the number of fully paid PTO days listed by the firm, excluding those listing "unlimited." When firms had a short-term disability policy with no stated number of weeks, we assumed the firm provided 35 days, or seven weeks, since that is the average for short-term disability taken for maternity leave. Some firms did not list a number but stated that they had a policy or that the number of days was unlimited. Column 2 gives the fraction of firms with unlimited PTO. Column 3 gives the total number of firms in each industry listing a benefit of fully paid PTO. Source: Great Place to Work, website, https://www.greatplacetowork.com/. See text for more details.

number of PTO days is small and far less than for parental leave, given in Table 1. The lower variance is because most firms have paid vacation and sick days and provide, in total, about four to six weeks of PTO leave. The ordering of the industries is approximately the same as for maternity leave, but there is only a slight relationship between PTO days and maternity leave days.

Discussion and Conclusions

This chapter has concerned the provision of PFL and PPL by firms in states that currently have and do not have a paid leave policy.

The first point is that PPL and PFL provided by private-sector firms have been increasing. Using a cross-tabulated version of the BLS EBS data, we find that PFL increased from 2010 to 2018 across US firms from 11 percent to 17 percent of the total employment in firms. We have emphasized that the EBS measure includes all employment in firms that offer some PFL, even if all employees are not covered. The EBS data do not divulge the precise fraction of workers in these firms covered by the policies and the rate of coverage.

We also find, using data compiled from *Working Mother* magazine, that PPL increased considerably during the past 15 years for large firms in the professional service sector. For example, days offered increased in consulting from around seven weeks in 2003 to 15 weeks in 2017 for the median firm.

The next point concerns the length of leave. The individual-level data from the NSFG show that among employees who could take paid leave, the mean leave taken is about eight weeks independent of education level. But the fraction of more-educated women who could take paid leave is considerably greater than for the less educated. Even for the more educated, about 20 percent did not take any leave (and may have left the workforce at the time of the birth), and 65 percent of new mothers took advantage of paid leave.

For the less-educated group, 36 percent took no leave, and just 36 percent of new mothers could access paid leave. (The equivalence of those numbers is coincidental.) Across all new mothers, 42 percent accessed some paid leave. The NSFG does not show increased leave during the 2000s, but it seems likely, given the evidence we have presented, that paid leave increased in the next decade.

Our firm-level data reveal large differences in paid leave by sector, size of firm, and fraction female. It appears that firms headquartered in states with current paid leave laws have higher firm-based paid leave levels, which would be consistent with their topping off the amount given by the state. Although these firms are a special group that are more open about their leave policies, mean leave levels are not that much above those of workers in the NSFG.

The question we pose is why firms provide PPL and which firms do. To understand the provision of PPL, we needed a larger group of identifiable firms that provide fully paid parental leave for all full-time workers. To accomplish this, we collected our own sample beginning with data from GPTW. The information we have compiled contains data on PPL and other benefits for 1,135 firms across a wide range of industries. We added data on employment, composition of the labor force, and geographic location of the headquarters.

We have been guided in our thinking by a simple two-period model in which male and female workers are identical except that female workers have a higher expected valuation of time outside the labor market after taking parental leave. Workers engage in training in the first period and reap its rewards in the second period. All workers have some probability of having a child between period one and period two. Because women have a higher value of home time, they will engage in less training and will be found in firms that hire workers with lower human capital. Firms offer PPL when a sufficient number of workers will return to the labor force in period two. The model has implications for the provision of PPL.

Our firm-level data show that firms that provide PPL are disproportionately those that hire workers who invest in firm-specific human capital generally before the birth. The firms with more generous leave are larger. Their workforces are younger (but not too young).

Our model and the empirical results do not tell us what relationship should exist between PPL and the fraction female. On the one hand, women have greater demand for PPL. But, on the other, they stand a higher probability of leaving the firm once they take it. One of our estimations prefers the quadratic form. Firms headquartered in states that already have PFL tend to have more generous PPL policies.

But PPL across the firms in our sample is not generous relative to that provided by many social insurance programs in other countries. The mean firm in our analysis sample (Table 2, Column 1, unweighted) gives 46 days to new moms. Firms in the top quarter offer at least 60 days or 12 weeks.

Our analysis sample contains only firms that offer positive amounts of PPL. To learn more about the firms that do not offer PPL, we collected information from sectors for which we knew the identities of all firms above some size (e.g., accounting, finance, and law). The conditional means in those samples are higher than in the analysis sample for all sectors. For example, the female lawyers in the median firm that offers some leave are offered 90 days or 16 weeks, and 18.5 percent of the firms offer no leave.

The vast majority of firms—88 percent—that offer PPL to their female employees also offer PPL to their male employees. The average difference in leave length is 29 days (about five weeks) or approximately the short-term disability leave allotted to women when they have a birth. Firms realize that female employees would like the PPL benefit but that if firms do not get sufficient buy-in from male workers, they could not afford it. Therefore, many firms have been trying to encourage men to take PPL.[46]

This strategy may seem counterproductive. But it is not. If males and females both value PPL, then they are both willing to pay for it with lower earnings. Firms can then hire more women and be less constrained.

The business case for offering PPL is that workers value it sufficiently to pay for it when specific human capital bonds most workers to firms after the leave. A positive feature of firm-provided PPL is that firms benefit from getting buy-in from their male workforce. A key negative feature is that lower-income members of the workforce will not be offered the benefit since they will be insufficiently bonded to the firm. There is a clear role for policy. State-mandated PFL or PPL fills a gap since more firms hiring low-income workers will not provide it.

The landscape of PPL is changing rapidly for US firms. As more states are mandating PFL, firms that would have provided PPL (or PFL) without state requirements can top off the amount given by the state. Male buy-in for state mandates has been meager because the replacement rate is low and negative future promotion effects may be high. A potential role exists for firms to top off state-provided PPL and incentivize their male workers to support the higher levels of PPL that the firm would like to supply.

Acknowledgments

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Appendix A. Firm-Level Data

We use multiple sources of both publicly available and proprietary (or subscription-based) data to collect information on parental leave policies in private US firms. We briefly describe the process of collecting and verifying data for a sample of 1,135 private firms. See also Tables A1 and A2. The main industries covered include (using the North American Industry Classification System classifications): health care and social assistance, retail, manufacturing, finance and insurance, information, and professional and technical. Firms that are not in these six industries are classified as "industry not categorized."

Great Place to Work Dataset

Multiple websites and magazines report information on the "family friendliness" of workplaces. The website Great Place to Work (GPTW) partners with companies to document and certify their workplace practices and employee benefits and maintains a large, detailed, company-level database on these certified companies by sector and geographic area.[47]

We used the GPTW website to obtain (1) total days of job-protected leave for new mothers and fathers, (2) total days of partially or fully paid leave for new mothers and fathers, (3) total days of paid leave for personal use (paid time off, or PTO), and (4) the demographic composition of the workforce such as percentage female and the age distribution.[48] To supplement and verify the information from GPTW, we collected similar data from other online sources, including the *Working Mother*'s Best 100 Companies annual listings and other aggregator websites such as Glassdoor, Indeed, Fairy God Boss, Law Crossings, and the Paid Leave for the United States (PL+US) campaign. Our research assistants scoured the web for information and cold-called hundreds of firms.

When we identified conflicting data for a company, we gave priority to the information from the firm's website benefits page. To maintain comparability across firms, we used the following guidelines.

First, we focused on explicitly stated maternity and paternity leaves applicable to birth mothers and birth fathers respectively. Many firms, especially recently, provide paid parental leave (PPL) that can be used by mothers and fathers alike. In such cases, we assign the same number of days off to both mothers and fathers.

Second, some firms offer leaves for "primary caregivers" and "secondary caregivers." In those cases, we apply primary caregiver leaves to birth mothers and secondary caregiver leaves to birth fathers. A sex discrimination case against JPMorgan Chase & Co. was recently settled in favor of the plaintiff, a father (argued as a class action case). This case may alter our interpretation of benefits going forward.

Third, we do not consider leaves or monetary benefits offered to adoptive parents in the current analysis, although many provide them. Fourth, many websites note that short-term disability (STD) leave is available but do not provide further details. Because the usual amount of STD is six to eight weeks (six for normal delivery and up to eight for delivery by C-section) and can be used to fund maternity leave, we added 35 days of leave for birth mothers in firms that provide the benefit.

Many firms will require their workers to exhaust other paid leaves, such as vacation and sick days, before taking parental leave. We do not include vacation or other paid days off (e.g., sick leave or personal days) in our estimate of maternity and paternity leave. We include those days under the PTO category.[49]

For each firm in our sample, we obtained data on its North American Industry Classification System

(NAICS) and Standard Industrial Classification (SIC) industry codes and employment from the Dun & Bradstreet company database, when available.

Expanded GPTW Dataset

Because the information we have collected comes from aggregators that are created to applaud firms' family-friendly policies we also sought to obtain fuller information for certain industries in which the top 100 to 200 firms by number of employees are clearly known. We have done that for three major professional fields: accounting, finance, and law.

To define the "universe" of top firms in these sectors, we used *Accounting Today*'s list of the 100 largest accounting firms in 2018, Internet Legal Research Group's America's Largest 150 Law Firms (as of 2015), and various lists of firms offering specific types of financial services (including the US Federal Reserve's list of large commercial banks, broker-dealer firms based on assets under management, insurance firms, wealth management firms, and largest banks in the US by assets according to Wikipedia).

We searched for the parental leave policy for each firm by first visiting the benefits and career page on their websites and noting whether they mentioned having a parental leave program. If they did, we collected the program's details. If the firm mentioned having a PPL program without providing any additional details, we assumed a provision of 15 days, or three weeks, of PTO for mothers (equal to the 25th percentile of days available for mothers in our dataset). If a firm's website simply mentioned that it "complies with FMLA," we coded the firm as having no paid days off for parental leave.

Once again, for each firm in our sample, we obtained data on its NAICS and SIC industry codes and employment from the Dun & Bradstreet company database, when available. Additional details about data construction by sector are provided. A summary of the number of firms in each area is given in Table A3.

Law Firms Dataset. We have used the ALM Intelligence Legal database for information on the total number of lawyers in each firm and the numbers in each of the various lawyer categories (associate, equity partner, non-equity partner, and other lawyer) by gender. We searched websites and called law firms to ascertain their level of PPL benefits. We assigned a zero level to firms whose benefits we could not reasonably find and learn of in other ways.

We began with the Internet Legal Research Group's America's Largest 350 Law Firms (as of 2015). We obtained ALM data on 177 firms, of which 173 had sufficient information to determine their PPL policies and 147 had complete information on lawyers by staff level in the firm.

Accounting Firms Dataset. Similar to the law firm dataset, we began with a known list of firms and then searched websites and called firms to learn of their PPL policies. We began with *Accounting Today*'s list of the 100 largest accounting firms in 2018, and we obtained information on employment for 97 of them. (Eleven were already in the GPTW data.) As with law firms, if no information could be reasonably gathered on their PPL policies, we allocated the firm a zero.

Financial Firms Dataset. Financial firms can be of many types and have different functions. These include commercial banks, investment banks, insurance companies, brokerage firms, and nonbank financial institutions such as credit unions. We assembled lists of each group and then searched for information on them. We assembled data in 163 firms and were able to assign PPL levels, including zeros, to 160 of them.

Table A1. Availability of Data for Birth Mothers and Fathers

Analysis Sample	Expanded GPTW Sample	Full Dataset
Data available on the following variables: • Total days of partially or fully paid days off for mothers and fathers (only firms with positive leave are included) • Employment • Percentage female • Age (percentage of workforce in silent generation, baby boomers, Generation X, millennials, post-millennials, and those born after 2000) • State where the US head office is located	Data found through Google search to expand coverage of firms in law, finance, insurance, and accounting industries with available information on: • Total days of partially or fully paid days off for mothers and fathers (> 0) • Employment • State where the US head office is located	Data available on at least one of the following variables: • Total job guaranteed days off for mothers (1,131 non-missing) • Total days of partially or fully paid days off for mothers (960 non-missing) • Total job guaranteed days off for fathers (968 non-missing) • Total days of partially or fully paid days off for fathers 710 non-missing)
Mothers: 384 Firms Fathers: 336 Firms	Mothers: 747 Firms Fathers: 615 Firms	Total: 1,135 Firms

Source: Authors.

Table A2. Number of Firms in Sample for Birth Mothers (Fathers) by Industry

Industry	Analysis Sample	Expanded GPTW Sample	Full Dataset
Health Care and Social Assistance	19 (12)	20 (13)	90
Retail	14 (11)	48 (28)	75
Manufacturing	33 (28)	59 (50)	73
Finance and Insurance	60 (48)	123 (96)	162
Information	47 (47)	70 (68)	81
Professional and Technical	133 (128)	320 (278)	447
Industry Not Categorized	78 (62)	107 (82)	207
Total	383 (336)	747 (615)	1,135

Source: Authors.

Table A3. Firms in the Expanded GPTW Dataset

	Number of Firms				
Industry	GPTW+	Expanded Sample	With Total Employment	With PPL Information > 0; ≥ 0	With Percentage Female
Accountancy	12	98	93	41; 98	12
Finance and Insurance	88	162	159	119; 158	81
Law	9	177	151	145; 173	140

Note: "GPTW+" is the original sample from Great Place to Work and other sources. "Expanded Sample" is described below for each of the three industries and includes the group in GPTW+. "With Employment" means that we have obtained reliable information on the number of employees. "With PPL Information" is the existence of information on PPL for mothers; "> 0" means that these are the firms that listed positive PPL. "With Percentage Female" means that the firm had information on the fraction of its workforce that is female. In the case of law firms, the employees are all lawyers. The number of firms is given with information on each variable.
Source: Great Place to Work dataset.

Appendix B. Two-Period Model of Paid Parental Leave

We consider a two-period model (P_t, t = 1, 2), where each period is normalized to one.

A continuum of firms ($i = 1 \ldots N$) exists, and each firm has a productivity factor (ϕ_i) that determines the minimum level of firm-specific investment (α_i) required of a worker in firm i. Firms can operate with workers who exceed the minimum but not with workers who have less.

In addition, a continuum of male and female workers (M, F) exists on the unit interval each with a baseline productivity of (ω). Men and women sort into firms by their (firm-specific) investment levels. Investment is determined as follows.

In P_1, each worker chooses whether to invest and, if so, the fraction of the first period to spend in firm-specific investment, denoted by α. Workers who invest α are paid

$$w_t = \begin{cases} (1-\alpha)\omega & t = 1 \\ \omega + (1+r)\alpha\omega & t = 2 \end{cases}$$

where r is the rate of return to human capital investment P_1. The only pecuniary cost of the investment is forgone earnings in P_1. Workers also face an investment effort cost (ε), which is known and identically distributed across genders according to the cumulative distribution function, Σ. Workers who do not invest receive a wage $w_t = \omega$ in both periods.

Each male and female worker has a newborn, between P_1 and P_2 , with probability p, and each takes a fraction, λ, of P_2 as fully paid leave, if it is offered by the firm. All workers in firms without paid leave take a minimum amount of unpaid leave, denoted as $\underline{\lambda}$, if they have a birth.

At the end of the leave period, parents choose whether to return to work. They do so only if their P_2 wage, w_2 (α, r), over the remainder of the period, ($1 - \lambda$), exceeds the value of time with their child, ν, which is a random variable revealed to the worker only after the birth.

The only difference between men and women is the distribution function of ν. That for men, $G_m(\nu)$, is stochastically dominated by the distribution for women, $G_f(\nu)$; that is, $G_m(\nu) \geq G_f(\nu)\ \forall\ \nu$, with strict equality over some interval. Women are, ex ante, willing to pay more than men are for the paid family leave benefit because they have a higher value of nonmarket time (in expectation). However, a worker's investment choice occurs before knowing the value of time with their newborn, ν.

Formally, a worker (M, F) with investment effort cost ε chooses firm-specific investment, α, in P_1 to maximize:

$$EV(\alpha; \lambda, p, r, w, G_{f,m}) = w_1(\alpha) + w_2(\alpha, r) - \varepsilon\alpha + p(1-\lambda)(1 - G_{f,m}(w_2(\alpha, r)))(E(\nu|\nu \geq w_2(\alpha, r)) - w_2(\alpha, r))$$

The first line of the equation is the (net) return of P_1 investment without P_2 children. The second line is the (net) opportunity cost of the investment in P_2. That value is the difference between the gained (conditional) expected utility and the forgone investment income (in expectation) if, at the end of the leave, the worker exits the firm. The higher the investment, α, and the higher the rate of return, r, the more likely the worker is to return to the firm at the end of the leave period. This is the paid parental leave demand side of the model.

The assumption that women have a higher expected value of nonmarket time ($G_m \geq G_f$) implies that, all else being equal, a lower fraction of women

will choose a positive investment. Moreover, at any α^*, the fraction of women whose cost of effort is low enough, according to the distribution function (Σ), is smaller than that of men, since women are less likely to return to the firm if they have a child.

Formally, we define $F(\alpha^*) = \Sigma(\varepsilon_f^*)$ and $M(\alpha^*) = \Sigma(\varepsilon^*_m)$ as the shares, respectively, of women and men who invest α^*, $F(\alpha^* < M(\alpha^*)$. The higher the α^*, the lower the share of women who will be willing to invest. Ordering the N firms by their required firm-specific investment and denoting by α_{min} the minimum required amount, we also have that $(1 - F(\alpha_{min})) > (1 - M(\alpha_{min}))$. That is, women are more likely to be found in no investment firms (those with flat wage profiles). We assume that no investment firms do not offer paid leave but that all their workers with a birth take $\underline{\lambda}$ without pay.

Since there is a continuum of firms ordered by the minimum α requirement, workers sort into them based on their investment decisions. We assume that employers are subject to antidiscrimination laws and hire men and women based only on their period one training. There is no separating equilibrium whereby women would like to enter a firm but are barred.

Profit-maximizing firms effectively "offer" a wage profile over the two periods (which depends on α and r) and the benefit PPL = λ, to satisfy workers' incentive compatibility constraint—that is, the solution from the worker's problem above—subject to a free entry condition. We assume that all firms offer (or have) the same r and that λ is pinned down by the "zero profit" condition, which means that workers as a group pay for their leave. Formally,

$$(1 - p)w_2(\alpha, r) + p(1 - \lambda)G_{f,m}(w_2(\alpha, r))w_2(\alpha, r) + \omega - \frac{\lambda p}{(1-p)+p(1-\lambda)(1-G_{f,m}(w_2(\alpha)))} w_2(\alpha, r) - (1 - \alpha)\omega = 0,$$

where the first line is expected gain to the firm over the two periods and the second line is expected cost. This is the PPL supply side of the model.

The properties of the reduced form equilibrium condition of our model—the implicit function $\lambda(\alpha)$—depend on two different constraints. First, since workers as a group effectively pay for their leave, the more workers remain at the firm in P_2, the less costly is the benefit to all workers. This mechanism implies that firms requiring higher would offer higher.

The second condition is the incentive compatibility constraint. The slope of $\lambda(\alpha)$ resulting from the worker's first-order condition will depend on the properties of the G distribution function. Using a Pareto distribution, $G(v) = 1 - \left(\frac{1}{v}\right)^{\gamma}$ with $\gamma > 1$ and $E(v) = \frac{\gamma}{\gamma - 1}$ the first-order condition becomes:

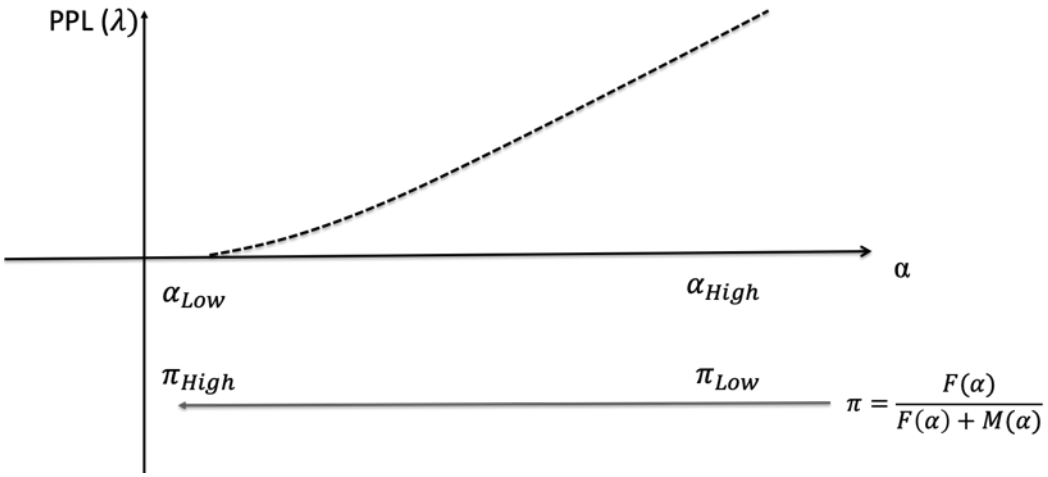
$$\frac{dEV}{d\alpha} r\omega - \varepsilon + p(1 - \lambda)\omega^2(1 + r)^2\left(\frac{1}{\omega + \omega(1+r)\alpha}\right)^{\gamma-2} = 0$$

Define the above function as $Z(\alpha, \lambda)$. Using the implicit function theorem, by total differentiation, we can show that $\lambda(\alpha) = -Z_\alpha / Z_\lambda \geq 0$ for $1 < \gamma < 2$ and $\lambda(\alpha) < 0$ for $\gamma > 2$.

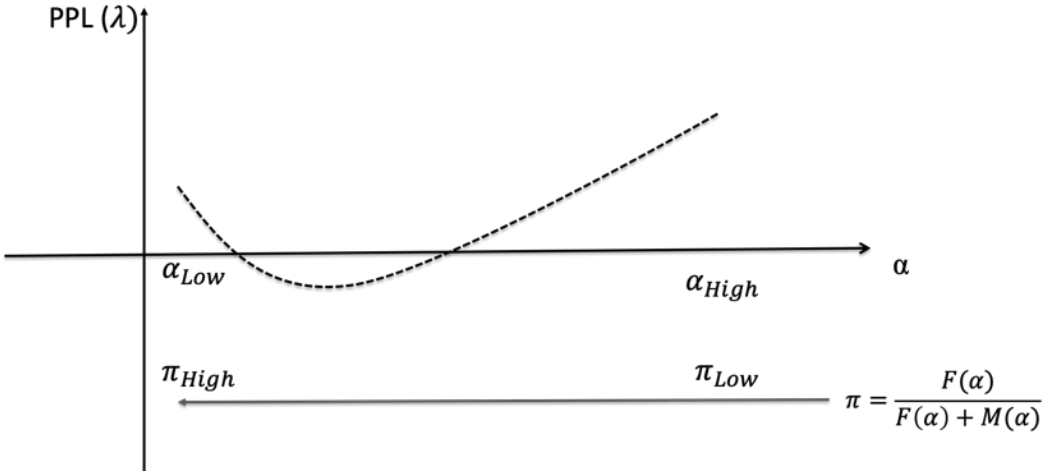
In the first case, $(1 < \gamma < 2)$, $\lambda(\alpha) > 0$ for any α, as given in Figure A1. The relationship between α and λ is monotonic, and λ is strictly increasing in α. This case occurs when the expected value of being home is relatively high. In the second case ($\gamma > 2$), the equilibrium curve could exhibit a U-shape, as given in Figure B1. This case means that the G distribution is more concentrated around low values of μ. (The expected value is between one and two.) Therefore, more employees will go back to their firm at the end of their leave.

Figure B1. Paid Parental Leave, Firm-Specific Investment ($\alpha > 0$), and Percentage Female (π)

Panel A



Panel B



Source: Authors.

Notes

1. One reason that US states with temporary disability programs can have paid family leave is that it provides the fiscal apparatus needed to fund the social insurance program. Another is that pregnancy is treated as a disability. Washington, DC, also has a paid family leave policy.

2. On the history of workers' compensation, see Price V. Fishback and Shawn E. Kantor, *A Prelude to the Welfare States: The Origins of Workers' Compensation* (Chicago: University of Chicago Press, 2000).

3. California, with six weeks of disability leave for mothers and another six to eight weeks of paid family leave, is the most generous state today. The replacement rate is 70 percent, and the maximum weekly payment is $1,216. For comparison, in 2018, the median duration of paid maternity leave across Organisation for Economic Co-operation and Development countries was 16 weeks, with a median average payment rate of approximately 80 percent of average national full-time earnings. See Organisation for Economic Co-operation and Development, "Parental Leave Systems," August 2019, https://www.oecd.org/els/soc/PF2_1_Parental_leave_systems.pdf.

4. Most of these terms are defined in the Employee Benefit Survey glossary. See US Bureau of Labor Statistics, "National Compensation Survey: Glossary of Employee Benefit Terms," September 2019, https://www.bls.gov/ncs/ebs/national-compensation-survey-glossary-of-employee-benefit-terms.htm#paid_leave.

5. Sarah Bana et al. indicate that, among women age 20 to 39, there were 0.778 disability claims and 0.345 "bonding" claims. Assuming that each bonding claim is also a disability (maternity) claim and that 0.235 (the value for men) claims have nothing to do with a birth, then 0.198 claims were for births without a bonding claim. This implies that 70 percent (0.543 / 0.778) of all claims for women age 20 to 39 involved a birth (or adoption). The 0.235 figure assumes that disability claims that are not for births are the same for males and females. That is probably an overstatement for women, so the fraction of all claims for women that involve a birth would be even higher. We ignore the small fraction with caring leaves. Sarah Bana et al., "Unequal Use of Social Insurance Benefits: The Role of Employers" (working paper, National Bureau of Economic Research, Cambridge, MA, October 6, 2018), Table 3.

6. Charles Baum and Christopher J. Ruhm, using the 1997 National Longitudinal Survey of Youth (NLSY79), find that female employment increased with California paid family leave (CAPFL) seven to 12 months after a birth. Charles L. Baum and Christopher J. Ruhm, "The Effects of Paid Family Leave in California on Labor Market Outcomes," *Journal of Policy Analysis and Management* 35, no. 2 (February 2016): 333–56. Maya Rossin-Slater, Christopher Ruhm, and Jane Waldfogel show that CAPFL increased leaves for mothers by about three weeks and that paid family leave positively affected their later employment. Maya Rossin-Slater, Christopher J. Ruhm, and Jane Waldfogel, "The Effects of California's Paid Family Leave Program on Mothers' Leave-Taking and Subsequent Labor Market Outcomes," *Journal of Policy Analysis and Management* 32, no. 2 (2016): 224–45. Tanya Bycker finds that the increase in worker attachment after leave comes mainly from the lower-educated group of women. Tanya Bycker, "Paid Parental Leave Laws in the United States: Does Short-Duration Leave Affect Women's Labor-Force Attachment?," *American Economic Review Papers & Proceedings* 106, no. 5 (2016): 242–46. Others have noted that employers may be less likely to promote women (and possibly men) who take leave and that maternity leave takers may have had slower wage growth after passage of Family and Medical Leave Act (FMLA). Colleen F. Manchester, Lisa M. Leslie, and Tae-Youn Park, "Screening for Commitment: The Effect of Maternity Leave Usage on Wages" (working paper, University of Minnesota, Minneapolis, MN, 2008); and Mallika Thomas, "The Impact of Mandated Maternity Benefits on the Gender Differential in Promotions: Examining the Role of Adverse Selection" (working paper, Cornell University, Ithaca, NY, March 6, 2016).

7. The benefits data we obtained from Great Place to Work were listed for 2017. Our web scouring and phone calls may include some data for 2018. See Appendix A for details.

8. Our dataset has just a small number of firms with partial replacement or a mixture of both.

9. Based on a 2017 survey of 44 large law firms, the issue is discussed further in Casey Sullivan and John Crawley, "Big Law Firms Have Sharp Divide on Parental Leave Policies," Bloomberg Law, November 24, 2017, https://news.bloomberglaw.com/daily-labor-

report/big-law-firms-have-sharp-divide-on-parental-leave-policies.

10. See Diversity & Flexibility Alliance, "Action Step—Truly Inclusive Flexible Work and Leave Policies Must Include Staff," April 27, 2018, https://dfalliance.com/action-step-inclusive-flexible-work-policies-include-staff/.

11. We have tabulated the data by the year of the child's birth, but the sample sizes are too small to allow consideration of year effects. In addition, there are few consistent differences by birth year.

12. Those who did not take leave probably left the workforce, although some may have not been covered by FMLA and left employment without any job protection.

13. The National Survey of Family Growth does not distinguish between women who had been employed in the private and public sectors, whereas our evidence here concerns only the private sector. For evidence on paid and unpaid leave taken by women working in the private sector, see Sari Pekkala Kerr, "Parental Leave Legislation and Women's Work: A Story of Unequal Opportunities," *Journal of Policy Analysis and Management* 35, no. 1 (2016): 117–44. It uses the NLSY79 and explores the impact of FMLA.

14. The US Bureau of Labor Statistics (BLS) uses the North American Industry Classification System (NAICS). We use the higher level of aggregation, except for the professional and technical and health care and social assistance industries. US Department of Labor, Bureau of Labor Statistics, "National Compensation Survey: Employee Benefits in the United States," March 2017, https://www.bls.gov/ncs/ebs/benefits/2017/ebbl0061.pdf.

15. Missing cells occur when the number of firms in a cell is too small for the BLS to report.

16. See US Bureau of Labor Statistics, "Databases, Tables & Calculators by Subject," August 21, 2020, https://data.bls.gov/timeseries/NBU18700000000000033349.

17. In March 2018, Walmart began to offer 10 weeks of fully paid maternity leave to all full-time hourly and salaried employees. Walmart also offers six weeks of paid parental leave, giving 16 weeks total for birth mothers and six weeks for fathers. See Walmart, "Maternity and Parental FAQs," 2018, https://smartguide.walmartone.com/SmartPages/Media/Default/LeadershipGuide/Maternity-Parental-FAQ-2018.pdf.

18. There are some firms that list "primary caregiver" (referred to in some literature as "primary custodial parent") as the individual who can collect the paid parental leave (PPL). A class action sex discrimination case against JPMorgan Chase & Co. brought by male plaintiff Derek Rotondo was recently settled for $5 million and may provide an important precedent giving men the ability to be considered as primary custodial parents when they request the full PPL. However, case law in the area is still in flux. See Kate Gibson, "Dad Sued Employer JPMorgan Chase over Parental Leave Pay—and Won," CBS News, May 30, 2019, https://www.cbsnews.com/news/pmorgan-chase-to-pay-5-million-to-male-employees-who-say-they-were-unfairly-denied-parental-leave/.

19. The largest size division we have for the EBS is 500 workers, and the median size for the firm-level sample is 1,000 workers. In addition, the EBS cross-classified data for the large firms are not available for all industries and all years.

20. Table 1 indicates that firms in finance and insurance have only slightly higher (by about two weeks, employment weighted) PPL than those in manufacturing do, which would appear different from the EBS data. The manufacturing firms in the firm-level data are the larger ones (e.g., GM, GE, Ford, PepsiCo, Boeing, Johnson & Johnson, Eli Lilly, Merck, and Abbott). The relationship is attenuated when the firm's employment is held constant. But the difference between the firm and the EBS data shows the importance of finding the firms that provide no PPL.

21. It is likely that benefits are provided for those who have some tenure with the firm.

22. We use the analysis sample in Table 1, Panel A that does not include the added professional service firms. The data weighted by the number of employees average 54 days; the unweighted mean is 42 days.

23. This was calculated using only firms with positive PPL and averaged by firm across all industries, including those "not classified."

24. In the expanded sample (for mothers), which by design has larger firms, the mean number of employees is 21,785 (745 firms), but the median is 1,237, and 25 percent have fewer than 278 employees.

25. See US Department of Labor, Bureau of Labor Statistics, "National Compensation Survey: Employee Benefits in the United States," Table 32. The reason 100 percent of the larger firms do not have a policy is because there are many smaller work sites, more than 75 miles apart.

26. McKinsey & Company is not listed in Great Places to Work (GPTW), probably because it does not need to advertise the generosity of its benefits. The GPTW firms omit several other well-known employers.

27. The question is related to the literature on the provision of employee benefits versus higher wages. See Tor Eriksson and Nicolai Kristensen, "Wages or Fringes? Some Evidence on Trade-Offs and Sorting," *Journal of Labor Economics* 32, no. 4 (2014): 899–928; and Paul Oyer, "Salary or Benefits," *Research in Labor Economics* 28, no. 1 (2008): 429–67. Paul Oyer points out that including nonpecuniary benefit in the compensation package acts as a sorting mechanism to attract and retain key employees.

28. The full-blown version is provided in Appendix B. Edward P. Lazear and Sherwin Rosen, "Male-Female Wage Differentials in Job Ladders," *Journal of Labor Economics* 8, no. 1 (2008): S106–23.

29. See Manchester, Leslie, and Park, "Screening for Commitment."

30. This point can be made for all benefits in which there is heterogeneity in use and even in ex ante probabilities of use, including health care. But PPL is more clearly gender and age specific in its take-up.

31. The prediction is in line with the empirical literature showing that larger firms generally pay higher wages and provide more employee benefits. See Charles Brown and James Medoff, "The Employer Size Wage Effect," *Journal of Political Economy* 97, no. 5 (1989): 1027–59; Harald Dale-Olsen, "Wages, Fringe Benefits and Worker Turnover," *Labour Economics* 13, no. 1 (2006): 87–105; and Steven J. Davis and John Haltiwanger, "Employer Size and the Wage Structure in U.S. Manufacturing," *Annales d' Economie et de Statistique* (January/July 2006): 323–68.

32. The median and mean given are for the Table 2, Column 1 firms. Firms with more than 90 percent female employees are mainly in health and professional services, and they contain both small and large firms. (For example, Bright Horizons has many thousands of employees, whereas Beyond Blue Consulting is small.)

33. These estimates come from using the fact that the regression goes through the means.

34. The rationale is simply the law of large numbers.

35. The age cutoffs are from the GPTW website from which we obtained these data.

36. As we noted previously, we do not have a good sense of which firms offer no PPL or paid family leave (PFL). In doing a deeper dive into three professional service sectors, we uncovered a number of firms that have no PPL or PFL. Our analysis suggests that these firms are smaller than the median firm in their industry. But otherwise we cannot identify any obvious differences between them and other firms of their size. These firms may soon converge on the PPL and PFL benefits of their closest competitors in the labor market as has occurred among the larger firms in various industries.

37. Data from the 2004 Survey of Income and Program Participation indicate that the prevalence of on-the-job training (OJT) is positively related to firm size, wages, employee educational attainment, and being in a service-providing (versus goods-producing) sector. The prevalence of OJT is particularly high in finance, real estate, and insurance. US Small Business Administration, *The Small Business Economy. A Report to the President* (Washington, DC: US Government Printing Office, 2010).

38. For more details, see Appendix A.

39. We mean that in the finance group we encounter somewhat more zeros around 500 employees, but the smallest firm is around 200 employees. Finance also contains mega-firms with more than 200,000 employees.

40. There is another reason for the relationship. States may allow firms to have their own policies and avoid the tax, as a form of self-insurance. Washington state has such a policy termed a "voluntary plan." See Washington State, Employment Security Department, "Voluntary Plans," https://esd.wa.gov/paid-family-medical-leave/voluntary.

41. Eileen Appelbaum and Ruth Milkman, *Leaves That Pay: Employer and Worker Experiences with Paid Family Leave in California* (Washington, DC: Center for Economic and Policy Research, 2011).

42. Bana, Bedard, and Rossin-Slater, "Trends and Disparities in Leave Use Under California's Paid Family Leave Program"; Bana et al., "Unequal Use of Social Insurance Benefits"; and Appelbaum and Milkman, *Leaves That Pay*.

43. There are no firms in the dataset with a home office in Rhode Island.

44. Similarly, studies for the second half of the 1990s do not find a clear cross-country relation between firm-based, extra-statutory maternity leave and the generosity of paid maternity leave provision. See John M. Evans, "Work/Family Reconciliation, Gender Wage Equity and Occupational Segregation: The Role of Firms and Public Policy," *Canadian Public Policy* 28 (2002): S187-S216;

and Organisation Economic Co-operation and Development, "Balancing Work and Family Life: Helping Parents into Paid Employment," in *OECD Employment Outlook 2001* (Paris, France: OECD Publishing, June 2001). However, nations with extremely generous paid maternity leave (e.g., Denmark, Finland, and Sweden) had an extremely low number of workers reporting additional firm coverage.

45. When a firm distinguishes between birth and adoptive parents, we record data for birth parents.

46. See Joanne Lipman, "Want Equality: Make New Dads Stay Home," *Wall Street Journal*, September 28, 2018, https://www.wsj.com/articles/want-equality-make-new-dads-stay-home-1538151219. The article is about a Boston-based company that offers fully paid parental leave to its male and female employees who are new parents but also requires that all (male and female) employees take the leave. As Ben Waber, Humanyze cofounder, stated: "Bias plays such a clear role, we decided we are going to say, 'It's not an option. You [men] have to take the time off.'" As the author of the article noted: "After all, if men and women have to take equal leaves, there's no excuse to penalize either one." See also Julian Johnsen, Hyejin Ku, and Kjell Salvanes, "Competition, Paternity Leave and Career Advancement" (conference paper, National Bureau of Economic Research Summer Institute, Cambridge, MA, 2019).

47. Great Place to Work, website, https://www.greatplacetowork.com/.

48. The dataset provides information on the proportion of workers who were born between 1925 and 1945 (silent generation), 1946 and 1964 (baby boomers), 1965 and 1979 (Generation X), 1980 and 2000 (millennials), and post-2000 (post-millennials).

49. Some firms have replaced separate categories of leave such as vacation and sick days with an aggregate category called "paid time off" (PTO), which can be taken whenever employees need to and can often be banked. We cannot be certain whether the number of days for PTO in our dataset is inclusive or exclusive of other types of leaves.

Effects of Paid Caregiving Leave on Government Costs

Douglas A. Wolf

Paid time off from employment to address a family member's illness and its associated care needs is an issue attracting much attention. At the national level, the Family and Medical Leave Act (FMLA) of 1993 requires covered employers to offer employees up to 12 weeks of *unpaid*, job-protected leave from work for qualified reasons, including to care for a seriously ill family member. Coverage is generally limited to employers with at least 50 employees and employees who meet a minimum-hours threshold in the year preceding the leave.

Several states have enacted laws that expand on this coverage in various ways, but the leave provided remains unpaid. However, as of 2019, eight states plus the District of Columbia had passed laws mandating the provision of some form of *paid* family leave by nearly all private employers.[1] Because some of these states have relatively large populations, by 2018 nearly 21 percent of total US employees worked in the four states that had implemented a paid family leave law; more than 28 percent of total US employees (in 2018) worked in states that by 2023 will have implemented their paid family leave program.[2]

While many states have enacted paid leave policies, others have taken actions that limit the spread of such employee benefits. As of 2019, 18 states, in addition to *not* having a statewide law that requires employers to offer paid sick or family leave days, have also adopted legislation that preempts lower-level governments (i.e., counties or cities) from passing such laws.[3] This hostility toward employee-benefit mandates suggests that continued adoption of paid leave laws by states may eventually slow or cease.

Absent state-imposed mandates, however, private-sector employers are offering a growing percentage of the workforce a paid family leave benefit. Bureau of Labor Statistics data indicate that over the 2010–19 decade, the share of civilian employees with employer-provided paid family leave grew from 11 percent to 19 percent.[4] The overall coverage figure for 2019 overlooks considerable heterogeneity, however: Paid family leave was available for only 8 percent of workers in transport and materials moving occupations but for 31 percent of registered nurses. Differences are also present by region, with coverage ranging from a low of 14 percent (in East North Central and East South Central states) to a high of 25 percent (in Middle Atlantic states). Similarly, only 6 percent of workers in the lowest decile of the wage distribution—but 34 percent of those in the highest wage decile—have access to paid family leave.

Progress toward more widespread and uniform access to paid leave will likely require federal action. However, whether a federal paid leave mandate is adopted will depend partly on its anticipated costs, and those costs are the subject of this chapter. Specifically, I focus on the direct, short-term costs to the federal government of a paid family leave program while recognizing that there are doubtless both indirect and longer-term costs to the government and costs (or changes in costs) borne by other entities such as families and employers.

I also narrow my focus to costs associated with *family caregiving* leave. "Paid family leave" is a term that encompasses three categories: leave to attend to one's *own health* issues, *parental* leave to address care issues associated with the birth or adoption of a child, and *family caregiving* leave, to be used for providing or managing the care of a family member whose needs are associated with a serious illness or medical issue. Although all nine of the state (including DC) paid leave programs mentioned cover all three types of leave, these components can be considered separately.

To date, several federal initiatives have been proposed, including the Family and Medical Insurance Leave (FAMILY) Act, cosponsored by Sen. Kirsten Gillibrand (D-NY) and state Rep. Rosa DeLauro (R-FL), and the New Parents Act proposed by Sens. Marco Rubio (R-FL) and Mitt Romney (R-UT), which would provide paid parental leave after the birth or adoption of a child. The president's 2018 State of the Union address also promoted the idea of a national paid leave program. These various proposals—and others mentioned by advocates for a national paid leave initiative—differ in coverage, generosity, and financing mechanisms and therefore in their likely costs. For example, the Rubio-Romney and the administration's proposals are limited to parental leave. Accordingly, some past studies of program costs have addressed parental leave but not caregiving leave.[5] Here, the focus is exclusively on the caregiving leave component of such programs.

The three categories of paid leave also have major conceptual differences, and those differences justify separate consideration of each type of leave program. In particular, parental leave is occasioned by an event that, in nearly all cases, results from individual choices and purposive actions taken by the program's beneficiaries. Becoming a parent is generally viewed as a utility-increasing event, which adds to the complexity of assessing the costs and benefits and the distribution of costs and benefits of a paid parental leave program. It has also been argued that child-rearing produces large positive fiscal externalities,[6] which can, in turn, be invoked as a rationale for publicly underwriting some of the costs of child-rearing.

In contrast, the changes in health or functioning that give rise to a need for family caregiving have, I would argue, unambiguously negative effects on the well-being of both those who experience them and their family members. Broadly held norms dictate that individuals meet their own care needs if possible. Needing help from others to carry out everyday tasks and providing—however willingly—help to a family member unable to engage in self-care are likely situations that people would prefer not to arise. Yet those situations do arise, quite commonly, and are surrounded by considerable uncertainty concerning their duration, the level and continuity of care needed, and many other factors. For some, these attributes make the entire idea of paid leave for caregiving infeasible or unappealing. For others, the adverse impacts on affected individuals and the unpredictability of many adverse health events provide a rationale for thinking of paid caregiving leave as a type of social insurance.

Work-Caregiving Conflicts and Accommodations

The target population for a paid caregiving leave program is employed family caregivers. Empirical evidence on this population's size and care activities is surprisingly scant, partly because "caregiver" is neither a widely used nor uniformly defined category in public data collection. Much of what is known about these groups comes from one-time and often small-scale surveys that employ a range of definitions and measures. As Vicki A. Freedman and Jennifer L. Wolff point out in this volume, surveys taken in 2015–17 produce a range of values for the number of caregivers, from about 22 million to more than 40 million people.

Given this range, it is unsurprising that there is also a range of estimates of the overlap between the employed and the caregiver populations. Freedman and Wolff, for example, estimate that there were about 14 million employed family caregivers in 2017, compared to 12 million family caregivers not working

at the time. Employed caregivers, in turn, constituted slightly under 10 percent of the employed population. In contrast, a 2010–11 Gallup survey found that 18 percent of employed Americans "report assisting with care for an elderly or disabled family member, relative, or friend."[7]

Similarly, a 2014 National Alliance for Caregiving (NAC)/AARP Public Policy Institute survey found that of an estimated 43.5 million caregivers, 26.1 million (or 60 percent) were, or were at some time during their period of caregiving, employed.[8] Employed caregivers, in turn, represented 17.8 percent of the employed civilian labor force in 2014.[9] The 2011 National Study of Caregiving (NSOC) found a somewhat lower prevalence of paid employment among caregivers—44.2 percent—but this difference can be explained by the age distributions of care providers and care recipients in the two surveys: The NAC/AARP survey was of caregivers helping adults of all ages, whereas the NSOC surveyed those caring for people age 65 and older. In the NAC/AARP survey, 19 percent of caregivers themselves are age 65 or older, and in the NSOC sample, more than 32 percent of caregivers are age 65 and older.[10]

Although these estimates differ substantially, they consistently support two conclusions: *First*, caregivers—those most likely to take advantage of a paid caregiving leave program—represent only a small percentage (10–18 percent) of all employed people, and *second*, a large proportion—a majority, in some data sources—of caregivers are simultaneously employed and therefore may be facing the problems that a paid caregiving leave program is intended to address.

There is no evidence that employed and nonemployed caregivers perform different types of caregiving tasks. Among these tasks are the time-intensive and physically demanding work of helping those with advanced dementia or other debilitating conditions; providing hands-on help with activities of daily living such as dressing, eating, bathing, or toileting; completing routine household tasks such as shopping, meal preparation, laundry, and housework; assisting with medications, money management, and business transactions; and providing transportation to and accompanying patients during doctor visits.[11] These tasks vary greatly with their time demands, regularity, frequency, and predictability and therefore with their capacity to be fit into a routine schedule. Most require face-to-face contact with the care recipient, although some, such as household-maintenance tasks, do not. Care needs may stretch over long (albeit uncertain) periods, while others can be brief. And even extended spells of care needs have, at some point, a moment of onset; an unexpected event such as a stroke or a fall and even a scheduled intervention such as major surgery can for many caregivers signal a transition from "no need" to "extensive need" for care.

Given the great variability in care needs, accommodations to these needs among employed caregivers are expected to be common, as are residual work-caregiving conflicts despite those accommodations. Indeed, adverse work impacts of caregiving are routinely reported in surveys of caregivers. A 2010 Gallup survey found that among persons working at least 15 hours per week and providing care to an aging family member, relative, or friend, 36 percent reported missing one to five days of work per year, and 30 percent reported missing six or more days, due to their caregiving activities.[12] Similarly, in the 2014 NAC/AARP survey, 49 percent of employed caregivers reported a loss of work time—getting to work late, leaving early, or taking time off—while 15 percent reported taking a leave of absence.[13] Fourteen percent had either reduced their regular working hours or switched to a less demanding job; 4 percent had "retired early," while another 6 percent gave up work "entirely" (without, evidently, viewing themselves as being "retired").

Statistical analyses confirm several of these self-reported employment impacts. For example, Courtney Harold Van Houtven, Norma B. Coe, and Meghan M. Skira find that neither male nor female caregivers are significantly less likely to be working, although caregiving women are more likely to be retired and employed female caregivers work fewer hours per week than their non-caregiver counterparts.[14]

Family caregiving leave programs, including the FMLA, the increasingly available employer-specific care-leave benefit plans, and state paid leave

programs, are all inspired in part by a desire to attenuate work-family conflicts. Yet it is apparent from the range of adverse impacts reported by employed caregivers that a paid (or unpaid) leave program cannot address all such conflicts. A care provider who takes on care responsibilities sufficient to justify early retirement undoubtedly has care commitments that require much more time than can be freed up by taking a few weeks of leave from employment; that same retiree may, however, have availed themselves of a caregiving leave before retiring. Someone who reduces their work hours or changes jobs to achieve a less demanding or a more flexible work environment is likely to anticipate an extended period of routine daily or weekly caring episodes that go beyond whatever a leave program can provide. Short-term or unanticipated care emergencies might cause absences from work that are compensated by vacation or paid sick days.

Self-employment is more common among employed caregivers than in the workforce as a whole,[15] and self-employment can be said to offer what is, in effect, the possibility of unlimited and preapproved, but unpaid, "leave" from work. Some workers may transition from employed to self-employed status to obtain the autonomy needed to adjust their work schedule to accommodate irregularities in their care recipient's needs, although evidence to support this possibility appears to be lacking. Other types of workplace accommodations—for example, working from home, a rapidly growing phenomenon,[16] or arranging compensatory time off—are not, perhaps, widely available but may prove helpful to family caregivers.

Use of Existing Leave Programs

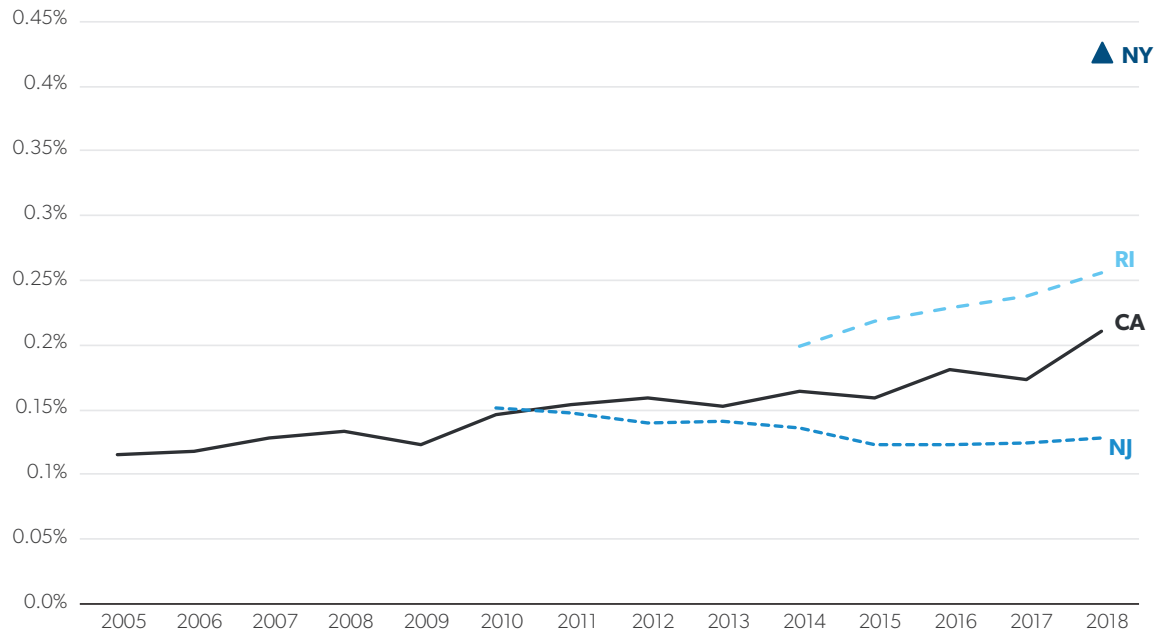
Beyond any incompatibilities between the scheduling and temporal scope of caregiving demands and the opportunities offered by leave-from-work provisions, other features of available caregiving leave programs may limit their usefulness and usage. Among the salient structural attributes of the FMLA program are that up to 12 weeks of unpaid leave (caregiving leave, parental leave, or leave for own-health needs) can be taken, the unpaid leave is job protected, and a substantial proportion of the workforce is ineligible for FMLA leave due to either employer characteristics (e.g., firm size) or employee characteristics (e.g., minimum hours-of-work and job-tenure requirements).

The most recent and authoritative source of information on the extent of caregiving leave-taking at the national level is a 2012 survey of employees that was directed particularly at the FMLA program.[17] Calculations based on that survey indicate that only about 59 percent of employees are eligible for FMLA leave.[18] Moreover, the 2012 employee survey suggests that only a low percentage of employees—from 2.2 percent to 3.3 percent, depending on the inputs into this calculation—has taken "family caregiving" leave—that is, leave for which the medical reason is a "parent's, spouse's or child's health condition."[19] An additional 0.2 percent or so of employees reported an unmet need for family caregiving leave.[20]

Family caregiving leave-taking at the national level, as revealed in the 2012 FMLA survey, is therefore low both in absolute terms and relative to the prevalence of caregivers among the employed. Moreover, leave-taking for purposes of family caregiving understates the extent of work reductions associated with care needs because time "lost from work"—arriving late, leaving early, or missing part or all of a workday—is surely not included in the reported leaves. "Taking leave" suggests some sort of bureaucratic procedure, accompanied by paperwork, whereas "missing work" is likely to happen informally. And, this low rate of family caregiving leave-taking occurs in an environment in which more than half of the employed are covered by FMLA, about 12 percent (in 2012) of employees have access to paid family leave,[21] and many have at least some sick- or vacation-day coverage that can be diverted to family caregiving purposes.

Although the rate of leave-taking for family caregiving purposes is low nationally, it is much larger than the extent to which employees have taken paid caregiving leave in the four states that have so far implemented such programs. Figure 1 plots available trend data on the use of paid leave benefits in

Figure 1. Family Care Claims Relative to Civilian Employment, PFL States (2005–18)



Source: Overview of California's Paid Family Leave Program, 2019.

California (where full-year usage data begins in 2005), New Jersey (beginning in 2010), Rhode Island (2014), and New York (with a single year of program data to date, 2018). Counts of caregiving leaves in these states come from the states' annual reports and other administrative sources.[22]

These participation rates are not ideal: The numerators are counts of claims rather than of workers who took leave and therefore overstate to a small degree the number of participants, while the denominators are the Bureau of Labor Statistics' annual civilian employment figures, which therefore include an unknown number of workers ineligible for paid leave benefits. The net effect of having both numerators and denominators that are too large cannot be determined, but given the magnitudes of the resulting ratios, the errors are likely to be relatively small in absolute magnitude.

What is most striking about the participation rates shown in Figure 1 is how low they are. In nearly all cases, annual rates are under 0.25 percentage points. California's and Rhode Island's rates show near-uniform year-to-year growth, yet New Jersey's rates show slight declines. New York, with only one year of program experience to date, is clearly an outlier, but it still shows a family caregiving participation rate of less than one-half of a percentage point. The rate of leave-taking shown in the 2012 FMLA survey—2.2 to 3.3 percent, as reported above—is five to 21 times higher than the rates plotted in Figure 1 for either 2012 (the year of the FMLA survey) or the most recent years shown.

Table 1 presents selected features of the existing state paid leave programs, aimed at understanding the strikingly low rates of paid leave-taking relative to national levels.[23] These state paid leave programs and the federal FMLA have several major differences: The leaves covered are considerably shorter in the state programs—four to 10 weeks, in contrast to FMLA's 12—but are paid rather than unpaid, at partial-replacement rates of 55–70 percent of a worker's weekly wage. The lost-earnings

Table 1. Selected Features of State Paid Family Leave Programs Operating in 2018

	California	New Jersey	Rhode Island	New York
Wage-Replacement Rate	70% (low tier); 60% (high tier)	66%	4.62% of highest quarterly base-year earnings*	55% of worker's average weekly wage
Maximum Benefit	$1,252	$637	$852	55% of state average weekly wage ($1,305 in 2018)
Maximum Leave	6 weeks	6 weeks	4 weeks	10 weeks
Average Weekly Payments	$626 (all leaves)	$505 (care leaves, 2017)	$551 (all leaves)	Not reported
Average Duration of Leaves Taken	5.42 weeks (all leaves)	4.0 weeks (care leaves, 2017)	Not reported	4.2 weeks
Job Protection	No	No	Yes	Yes
Advance Notice Requirement	None mentioned	"Reasonable notice" for continuous leave; 15 days for separate periods	30 days except if "unforeseeable"	30 days "if foreseeable," otherwise "as soon as possible"
Waiting Period	No	No	Must miss work seven consecutive days	No

Note: *Equivalent to 60 percent of weekly earnings, if earnings are spread evenly throughout the quarter.
Source: Various state websites and reports.

cost of leaves in these state programs is far less than for an FMLA leave.

Another major difference is that California's and New Jersey's programs do not provide guaranteed job protection, although Rhode Island's and New York's do. It is tempting to speculate on the reasons for the state differences shown in Figure 1. New York's considerably higher participation rate may reflect its longer upper limit on leave duration, although the average duration of leaves actually taken in New York is close to those in the other states. The fact that Rhode Island's and New York's rates exceed those of both California and New Jersey, in turn, may be because both states' programs provide job protection. However, such speculation must remain inconclusive; there are more potential explanations than observed differences needing explanation.

A possible reason for the low utilization rates in the state paid caregiving leave programs is their reliance on a "medical" model of care needs. All the state programs require formal certification by a medical professional of the care recipient's "serious health condition." However, caregiving is often a response to needs other than those that result from purely medical conditions.

One indication of the loose connection between disease and caregiving is found in the 2014 NAS/AARP survey of caregivers. Survey respondents were asked, "At any time in the last 12 months, has anyone in your household provided unpaid care to a relative or friend 18 years or older to help them take care of themselves?"[24] This yielded a relatively broad population of identified caregivers. Among care recipients age 65 and older (the largest age group of care recipients), the leading "problem" or "illness" for which the recipient reportedly needed care was old age or frailty, neither of which is a serious medical condition.[25] The second most common problem producing care needs was Alzheimer's disease or other dementias, followed by mobility problems (again, not a disease), cancer, and heart disease.

Existing Cost Estimates of a Paid Caregiver Leave Program

Against this backdrop of what is known about leave-taking under current federal and state caregiving leave programs, I examine several efforts at estimating the costs of a national paid caregiving leave program.[26] As pointed out by Ben Gitis, Sarah Jane Glynn, and Jeffrey Hayes,[27] the costs have two components: benefit payments and overhead costs. All the estimates reviewed here have addressed only the benefit payment component.

Table 2, which summarizes several cost estimates, is restricted to those that allow caregiving leaves to be considered separately from other leave types (i.e., own-health or parental leave). The program designs considered include expansions of the existing California, New Jersey, or Rhode Island programs to the national level; a hypothetical program used for illustrative purposes by the AEI-Brookings Working Group on Paid Leave; and the program proposed in the FAMILY Act. Accordingly, these cost estimates reflect variations in the generosity of benefits, with respect to the wage-replacement rate (from a low of 60 percent in Rhode Island to a high of 70 percent in the post-revisions version of the California program) and the maximum duration of benefits (from Rhode Island's four weeks to the FAMILY Act's 12 weeks).

There are two overall approaches to cost estimation and three categories of data inputs used to produce the cost estimates summarized in Table 2. The first approach is basically applying an estimated (or possibly assumed) value for the participation rate (or "take-up rate") to a sample of individual-level observations on employed individuals, each of which is characterized by a wage rate (or earnings level) and possibly other key characteristics. These samples of individual-level observations are listed in the "Base Population" column of Table 2.

Two sources for the participation rates that are applied to the base population have been used to date. The first is the 2012 FMLA survey mentioned earlier, shown as "FMLA" in the "Participation Model" column of Table 2, but also used in all the "Simulation"-based estimates listed. Note that the "take-up rate" approach to cost estimation could, in its simplest form, consist of applying a single and uniform rate to all employees or to a subset of employees distinguished according to their observed (or assumed) eligibility status. A more complicated variation on the "take-up rate" approach would employ different take-up rates for different groups of employees (e.g., part-time versus full-time workers and public- versus private-sector workers), but this more complicated approach demands both more detailed data on the affected population and stronger assumptions about the behavior of individuals in the affected population. In general, the sources for the cost estimates summarized here have provided relatively little information about such underlying and fine-grained details.

The second source for participation rates is administrative data of the sort plotted in Figure 1. These data, taken from published state-level counts, provide an accurate picture of the extent of program usage, but they offer little or no basis for differentiating participation rates by individual characteristics such as age, race, and wage rate. Additionally, the denominators of any such administrative-data-sourced participation rates necessarily come from some other, external source (although none of the cited sources that take this approach have provided values for the participation rates they use).

The second overall cost estimation approach uses microsimulation,[28] which applies to individual-level data a complex sequence of stochastic determinations of whether leaves are taken; the number, types, and durations of leaves; and payment (if any) received during the leave.[29] Each step in this sequence uses a probabilistic prediction equation whose parameter values have been estimated using the 2012 FMLA survey. The microsimulation approach, unlike the take-up-rate approach described before, allows for individual-level variation in characteristics such as age, gender, and marital status. Characteristics used to introduce heterogeneity into simulated leave-taking outcomes are limited to those included in the FMLA survey.[30]

The estimated total benefit costs of a national caregiving leave program shown in Table 2 range

Table 2. Selected Cost Estimates: Benefit Payments in National Paid Caregiving Leave Programs

	Program Simulated	Base Population	Participation Model	Total Cost of Benefits (Millions)	Participation Rate	Number of Beneficiaries (1,000s)
(1)	CA (Original), National	2009–13 ACS	Simulation	$965.6	2.00%	—
(2)	CA (Revised), National	2009–13 ACS	Simulation	$1,308.1	2.00%	—
(3)	NJ, National	2009–13 ACS	Simulation	$820.1	1.70%	—
(4)	RI, National	2009–13 ACS	Simulation	$775.8	1.90%	—
(5)	FAMILY	2009–13 ACS	Simulation	$1,223.5	1.90%	—
(6)	FAMILY	2011–15 ACS	Simulation	$1,390.4	—	—
(7)	AEI-B	2012–16 ACS	FMLA	$7,050.0	4.00%	5,900
(8)	AEI-B	2012–16 ACS	CA, Admin	$499.3	0.18%	300
(9)	AEI-B	2012–16 ACS	NJ, Admin	$198.8	0.14%	200
(10)	AEI-B	2012–16 ACS	RI, Admin	$909.6	0.32%	500
(11)	AEI-B	2012–16 ACS	Simulation*	$1,895.1	1.10%	1,700
(12)	AEI-B	2012–16 ACS	Simulation**	$6,235.8	3.10%	4,600
(13)	FAMILY	2018 CPS/ASEC	FMLA	$9,400.0	4.00%	5,200
(14)	FAMILY	2018 CPS/ASEC	"State Program Experience"	$1,300.0	0.50%	700

Note: *Participation rates chosen to resemble state admin-data levels. **Participation rates of 100 percent among those eligible.
Source: IMPAQ International and Institute for Women's Policy Research, "Estimating Usage and Costs of Alternative Policies to Provide Paid Family Leave in the United States," January 2017, https://www.dol.gov/sites/dolgov/files/OASP/legacy/files/IMPAQ-Family-Leave-Insurance.pdf; Institute for Women's Policy Research, "Paid Family and Medical Leave Insurance: Modest Costs Are a Good Investment in America's Economy," February 2018, https://iwpr.org/wp-content/uploads/2020/08/B368_Paid-Leave-Fact-Sheet-1.pdf; Ben Gitis, Sarah Jane Glynn, and Jeffrey Hayes, "Comparison of Methods for Cost Estimates of a Federal Paid Leave and Medical Leave Program Using Public Data," in *The AEI-Brookings Working Group Report on Paid Family and Medical Leave: Charting a Path Forward*, ed. Aparna Mathur and Isabel V. Sawhill (Washington, DC: American Enterprise Institute and Brookings Institution, 2018), 79–94, https://www.aei.org/wp-content/uploads/2018/09/The-AEI-Brookings-Working-Group-Report-on-Paid-Family-and-Medical-Leave.pdf; and Ben Gitis, "The Fiscal Implications of the FAMILY Act: How New Paid Leave Benefits Increase Leave-Taking and Drive Up Estimated Program Costs," American Action Forum, March 21, 2019, https://www.americanactionforum.org/research/the-fiscal-implications-of-the-family-act-how-new-paid-leave-benefits-increase-leave-taking-and-drive-up-estimated-program-costs/.

from about $0.2 billion to $9.4 billion—a rather broad range. Nevertheless, the estimates can be at least roughly placed into a "low" category, in which the participation rates come from administrative data and the estimated costs are (mostly) well below $1 billion, and a "high" category, in which the participation rates are based on the FMLA survey. The estimates in the "low" category imply national-level

participation rates almost identical to those found in actual state-level experience (plotted in Figure 1); this is to be expected when a state-level participation rate is uniformly applied to a national-level base population. Estimates in the "high" include one cluster in the neighborhood of $1 billion and another cluster in the range of $6–$9 billion. Where available, Table 2 also shows estimated counts of family caregivers receiving benefits; these counts exhibit variability that closely tracks that found for the benefit payments.

Not shown in Table 2 are two recent estimates of the costs of the proposed FAMILY Act, one produced by the Social Security Administration (SSA)[31] and one produced by the Congressional Budget Office (CBO).[32] Neither source provides much detail on the underlying methods used, although the SSA estimates appear to reflect the application of assumed values for participation rates to projected data on the size of the working population subject to Social Security payroll taxes, while the CBO estimates appear to reflect the application of their assumed values for participation rates to individual-level earnings data found in the Current Population Survey. Also, neither source provides detailed cost or beneficiary estimates specific to caregiving leave, but the information provided suggests that both the SSA and the CBO estimates lie within the range of estimates summarized in Table 2.

For example, the SSA estimates suggest there will be around 800,000 family-care leaves taken by those in the eligible population in 2023, the first full year of program operations according to the FAMILY Act's legislative language. This number, in turn, lies within the range of the various estimates produced by the AEI-Brookings Paid Leave Project. Particularly relevant is that the SSA estimates indicate that revenues generated by a new payroll-tax levy of 0.62 percent would be needed to fully finance the program—all three leave types plus administrative overhead costs—but that only about 9 percent of program beneficiaries would be taking caregiver leaves. Similar to the SSA estimates, the CBO estimates imply that about $1.7 billion in benefit payments will go to leave takers who are caring for family members in 2023, again within the range of values found in Table 2.

One important distinction between the state-specific administrative data and the FMLA survey data used to develop participation rates is that in the state paid leave programs, participant counts are by definition limited to program beneficiaries—workers who actually took leave and for whom wage-replacement pay was actually received—whereas the FMLA survey identifies workers who took *any* type of leave (whether paid through a state program; paid by a private employer's plan; paid at least in part using sick days, vacation days, or personal days; or unpaid under FMLA provisions) and an additional group of workers who reportedly "needed" but did not take a leave. This inclusiveness—and the resulting uncertainty about likely rates of participation in a national paid leave program—contributes to the large range of cost estimates shown in Table 2.

Not shown in Table 2 is one exceptionally high cost estimate—$68 billion—that uses participation rates based on a 2018 paid leave survey conducted by the Cato Institute.[33] The Cato survey was intended to gauge the demand for a national paid leave program; however, the survey questions did not provide an upper limit on the amount paid leave respondents would "want or need" to take (and some respondents reported that they would take a full year of leave). The respondents were not reminded that paid leave provides less pay than their usual paid work, nor was there a stipulation that such leaves are contingent on certification of the medical necessity for them. It is not entirely surprising, therefore, that nearly 30 percent of workers responding to the survey indicated a demand for some type of paid leave.

The 16.4 percent participation rate used in this cost estimate is nearly 40 times larger than that found in New York's paid leave program, the most generous of the four for which we have program information and the one that comes closest to the FAMILY Act in generosity. This difference between hypothetical and actual program participation seems puzzlingly large.

As another indication of what appears to be an inflated demand for paid leave expressed in the Cato survey, note that the parental leave component projects participation by 16.5 million leave takers for 2017, a year in which just 3.85 million babies were actually

born in the US.[34] This, in turn, implies that about 4.3 parental leaves would be taken per child born, an implausibly high number. To put that number in perspective, note that in the parental leave components of California's, New Jersey's, Rhode Island's, and New York's paid leave programs, 0.54, 0.28, 0.50, and 0.38 paid parental leaves per birth were taken in 2018, respectively.[35]

While they undoubtedly contribute to the differences found in Table 2, differences in program generosity and base population adopted for the estimation exercise have no obvious systematic role in explaining those differences. What does seem to matter a lot are the differences produced by the low participation rates found in actual state paid leave programs and the considerably higher participation rates implied by the FMLA survey (and adopted, in the form of assumptions about hypothetical behavior, in the simulations and other FMLA-survey-based cost estimation exercises). The participation rates in the four paid leave states are well below the rates of actual leave-taking in the country as a whole (on average), which suggests that at least some workers are more likely to take an unpaid than a paid leave, even when both types are available to them; we do not, however, have convincing evidence that this is true.

Finally, it is important to recognize the distinct roles of program *eligibility* and worker *behavior* when characterizing program participation rates. In the state-level participation data plotted in Figure 1, I used a state's total labor force as the denominator, disregarding between-state differences in program eligibility rules. Among these differences are conditions on pre-program earnings levels, the hierarchy of available benefits (for example, whether accumulated sick days must be taken before paid leave days), and a private employer's ability to opt into or out of the program. Eligible workers' decisions to apply for benefits are the outcome of choice behavior that may be influenced by any number of factors specific to their family and economic situation, while variations across workers in their eligibility for paid leave benefits reflects, in part, programmatic and administrative rules. Incorporating distinctions such as these into cost estimation models is extremely challenging both analytically and empirically.

The preceding assessment of available cost-estimate results, and particularly of the empirical basis for those estimates, gives rise to two important critiques of the data widely used to support analysis of leave-taking, the 2012 FMLA survey. First, the FMLA survey data do not contain adequate information on the array of potential leave mechanisms available to individual employees. Currently employed survey respondents are asked whether their employer offers paid family leave, paid vacation, paid sick time, or other paid time off (i.e., "personal time"), although the accuracy of employee reports of such features might be doubted. It is also possible to at least approximate whether the combination of employer and employee attributes makes the employee FMLA eligible. However, only 90 percent of actual leave takers returned to their pre-leave employer, and for the admittedly small group that did not, the leave opportunities facing them at the time of their leave are unknown. Moreover, for those with access to sick or vacation days, their accumulated unused days—and therefore their potential to take time off at full pay—remains unknown.

Another problem with the FMLA survey data is the survey's failure to include information on the care demands facing workers. The survey does not record current caregiver status. For both those who take leave and those who need it but did not take leave, a few details regarding the nature of the care need prompting their leave (whether or not taken) are known. However, for those who neither took nor reported an unmet need for leave, the actual or potential claim on their caregiving time—from, for example, a frail or elderly parent—is unknown. As suggested earlier, many employed caregivers may accommodate the various claims on their time without taking or needing a caregiving leave; they may, in other words, not perceive a "need" to take leave.

The absence of information on an employee's potential care efforts could introduce serious errors into cost estimation, particularly when uniform participation rates are applied throughout a base population. In particular, the existence of a family member

with care needs may be correlated with other characteristics known to influence whether, for how long, and at what cost the employee takes leave. For example, due to the well-known positive intergenerational correlation of income,[36] higher-income employees tend to have higher-income and therefore longer-living parents. But this in turn implies that a higher-income employee is a greater risk of having a living parent with care needs. Higher-income employees are also more likely to have access to paid leave, are more likely to claim paid leave benefits,[37] and will receive higher paid leave benefits (although they are also more likely to reach the maximum-benefit threshold found in all existing and proposed paid leave programs).

Differences such as these introduce heterogeneity into the probability of claiming a benefit and the expected benefit amount within the population of covered employees. The more such variations can be brought to bear on cost estimation, the more accurate those estimates will be.

Potential Cost Offsets and Other Program Benefits

All the cost estimates reviewed in the preceding section are accompanied by estimates of the revenue streams needed to cover those costs. All the state paid leave programs that have been enacted and at least some of the proposed national-level programs use payroll taxes, in some cases shared between employer and employee, to finance the benefits.[38] Paid leave legislation would likely include provisions for raising payroll-tax-financed revenues sufficient to cover the anticipated costs (of both benefits and administrative overhead) of the new program. However strong might be the support for the sort of benefits that a caregiving leave program would provide, that program's legislative chances would presumably depend, in part, on its anticipated budgetary costs.

However, beyond the direct expenditure and revenue implications of any such caregiving leave program, the breadth and depth of support for it might also depend on the program's other costs and benefits. These second-order or indirect program benefits cannot, under current budgeting rules, be subtracted from estimated direct program costs, but they could help shape advocacy directed at the passage and provisions of a new paid leave program. Here I discuss two categories of these less-direct cost elements.

Taxation of Paid Leave Benefits. Few of the cost estimates reviewed before mention the taxation of benefits. The benefits paid through the current state paid leave programs are included in taxable income for federal purposes. Among federal benefit programs, Social Security payments—which, like paid caregiving leave, would represent a payroll-tax-financed social insurance benefit—are, subject to exclusions defined by the tax filer's total income, taxable income for federal purposes. Paid leave benefits might be treated the same way, thereby producing at least a modest offset to program costs.

Any effects on income tax revenues depend on the care and leave-taking behavioral responses from the program. For someone who *does* take unpaid FMLA leave in the current policy environment and who takes the same amount of leave, with pay, in a paid leave environment, there would be an increase in federal tax revenues: Their unpaid FMLA leave was, by definition, untaxed, whereas their paid leave would produce tax revenues at the appropriate marginal tax rate (assuming the benefits are taxed), producing at least a modest amount of offsets to program costs. In that same situation, state income taxes might rise as well—state income taxes are often harmonized with federal taxes—which would produce a small windfall for at least some state budgets. In contrast, someone who does *not* take caregiving leave in the FMLA environment but does take leave if it is paid creates a small increment to program costs, inasmuch as the paid leave benefits reduce taxable income—paid leave replaces less than 100 percent of earnings—and therefore tax revenues (again, at both the federal and state levels). Both patterns of behavior can, of course, exist, making it hard to predict what the net program-induced changes in tax revenues would be.

Changes in Use of Publicly Financed Care and Health Services. A federal paid caregiving leave program could change the level and mix of paid and unpaid care services provided to those who need it, including not only elderly parents, who are the principal focus of so much informal-care research, but also other adults with care needs. Broadly speaking, the resources devoted to eldercare fall into three categories: institutional care provided (at high cost) in nursing homes and, to a growing extent, in other types of specialized residential situations such as assisted living facilities; paid home- and community-based services, including specialized clinical providers and casual or gray-economy helpers; and unpaid family caregivers, which is the target group for a paid leave program.

Past research provides evidence of the potential substitutability of nursing home and home care, in which home care encompasses any mix of family-provided and paid services. Anthony T. Lo Sasso and Richard W. Johnson find that frequent help from children with basic personal care reduces the likelihood of nursing home use over a subsequent two-year period by about 60 percent for disabled Americans age 70 and older.[39] Other studies also conclude that informal care reduces paid home health care use and delays nursing home entry.[40] Some research has demonstrated that because of this substitution, informal care provided to parents by adult children reduces Medicare-funded long-term care expenditures—that is, those associated mainly with post-acute skilled nursing home stays or home care services for the homebound.[41]

One study investigated the direct link between paid family leave and nursing home use, examining California's implementation of paid leave benefits in mid-2004.[42] The researchers concluded that there was a small, but statistically significant, reduction in the proportion of the over 65 population with any time spent as a nursing home resident in a year, and they argued that such a result could only occur if the availability of paid leave benefits produced an increase in the time that employed family members devoted to parent care. However, a direct test of the hypothesis that introducing paid family leave induced increases in the time devoted to family caregiving has not, apparently, been undertaken to date.

Kanika Arora and Douglas A. Wolf calculated that the predicted impact of California's paid leave program was a reduction in the number of 65-and-older nursing home residents in a year by 20,800.[43] That number must be understood to be an average over the four-year post-program period (2005–08) spanned by their data. California's own reports on the volume of leaves taken in its paid leave program show an average of 20,764 caring leaves taken—to care for a child, spouse, or parent of *any* age—during those same years. Even allowing for the fact that the Arora-Wolf predicted value represents the midpoint of a prediction interval (which they did not compute) and recognizing the approximations (e.g., of at-risk population) that underlie that prediction, the predicted program impact and the reported program experience cannot be easily reconciled. Replication of these past findings using a longer span of post-implementation data and extension of the research to additional states is clearly needed to strengthen the claimed magnitude of programmatic impacts.

If introducing a paid caregiver leave program were, however, to prompt an increase in the volume of family caregiving, well-established evidence on the substitutability of institutional and informal home-based care suggests an accompanying reduction in nursing home use. It is therefore worth considering the cost implications of such resource substitution. In particular, we can investigate possible offsets to paid leave program outlays produced by reductions in publicly funded institutional care expenditures.

For this exercise, I use the maximum benefit payable under the proposed FAMILY Act: $4,000 per month (or $923 per week allowing for 4.33 work weeks per month). For nursing home costs, I assume a daily rate of $480 (the median Medicare skilled nursing facility payment rate).[44] Using these figures, if the per-leave "yield rate" in terms of averted nursing home spells were 0.1—that is, a week of paid caregiving leave has a 10 percent chance of averting a five-day nursing home spell—then the net programmatic outlay would average $-\$923 + 0.1 \times \$2{,}400 = -\$683$.

The yield rate is logically and plausibly more than zero but probably well below one.

This admittedly simplistic exercise shows that if there are about 0.4 fewer five-day nursing home episodes per weeklong paid leave, then the paid leave program will actually reduce Medicare outlays more than it increases paid leave outlays; the paid leave benefits will basically come free of charge. With a higher yield rate, the paid leave program would actually reduce rather than increase government costs. These figures are, of course, only illustrative; more research is needed to support the claimed trade-off between programmatically induced increases in family caregiving and reductions in publicly funded nursing home use.

Beyond nursing home use, other types of publicly supported care costs might also change under paid caregiving leave. One recent study found that payment-induced family caregiving reduced hospital usage and the likelihood of Medicaid spending on inpatient care.[45] Others have noted the growing involvement of family caregivers in tasks that might otherwise be performed by clinicians, suggesting additional domains in which paid caregiving leave may reduce ancillary health care costs; among the tasks mentioned are caring for wounds, tending to feeding tubes and other intrusive devices, administering medications and injections, and operating medical monitoring devices and other equipment.[46]

Note that any reductions in Medicaid-funded service usage that could be attributed to increases in family caregiving brought about by a paid caregiver leave program would flow, in part, to states rather than to the federal government. While a convincing demonstration of this consequence might help build enthusiasm among state-level policymakers for a federal paid leave program, it greatly complicates the task of conducting a thorough cost analysis of the federal program.

Conclusions

The preceding survey raises two major questions: First, why is leave-taking for family caregiving (as revealed in the 2012 FMLA survey) so low (2–3 percentage points), relative to both the level of family caregiving activity among employed people and the reportedly high prevalence of work-caregiving conflict? Second, why is the level of paid caregiving leave-taking so much lower still—far lower than what is reported in the FMLA survey—in the four states for which we have reports on program usage?

One reason for the low prevalence of caregiving leave-taking in general may be because both family caregiving and paid work might be integrated into one's schedule in many ways—including reducing hours of work, adopting (where possible) a rigid schedule of care activities (e.g., weekends only), or achieving a flexible work schedule (including, possibly, ready access to "comp time")—making formal leave unnecessary. And for many people, taking formal leave is simply not possible: They are ineligible for FMLA leave, or their employer provides no leave benefits of any sort. In the latter case, "time missed" (but not "leave") may be the form of accommodation adopted, with consequent loss of pay and possible risks of subsequent job loss.

More broadly, much of the family care needed seems to fit poorly with the bureaucratic demands of paid leave programs available to the employed population. A substantial proportion of family caregivers report that their care recipient's main problem is old age, which by itself does not constitute a clinical rationale for obtaining an approved paid leave from work for medically certified needs. Furthermore, the recipients of family caregiving often experience flare-ups of chronic conditions, irregularities in their daily routines, and other day-to-day surprises that stand in the way of applying for paid leave, obtaining the required certifications, and otherwise following procedures required by the extant paid leave programs.

The irregularities of care needs manifested by an elderly parent with severe functional limitations are far different from the situation of a pregnant worker or her employed partner. The timing and duration of care needs that accompany childbirth are much more predictable and controllable than is the case for eldercare, which is surely part of the reason that parental leave rates are so much higher than are other caregiving leave rates.

However, in cases in which a caregiving leave is prompted by an unexpected medical emergency, such as a stroke or fall, which leads to a hospital stay followed by a period of rehabilitation with an expectation of recovery, the medical necessity for a caregiving leave is much more clear-cut. Moreover, a time-limited period of posthospital recovery and rehabilitation has a much better "fit" with the programmatic features of paid leave than does an open-ended episode of long-term care associated with declining function. For cases like this, paid leave programs may in fact appreciably reduce the use of nursing home care.

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Report, Abt Associates Inc., April 18, 2014, https://www.dol.gov/sites/dolgov/files/OASP/legacy/files/FMLA-2012-Technical-Report.pdf.

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Some Thoughts on the Macroeconomic Implications of Providing Caregiving Leave

Stephanie R. Aaronson

The US economy is facing a series of long-run macroeconomic challenges. The first is a demographic challenge. US population growth in 2018 was lower than at any time in 80 years, largely due to a declining natural increase (the number of births minus the number of deaths).[1] Correspondingly, the population is aging. About half of the large baby-boom cohort has already entered retirement age, contributing to the decline in the aggregate labor force participation rate. This demography-induced decline has been exacerbated by a fall in the labor force participation rate of young people and working-age adults.[2] The result is that after rising between 1965 and the late 1990s, the aggregate labor force participation rate is now 3.8 percentage points lower than when it was at its peak in the late 1990s.

Slow productivity growth is another challenge to US macroeconomic performance. Since 2003, productivity growth in the business sector has averaged 1.6 percent, compared with 2.6 percent in the postwar period through 2002. With working-age individuals making up a smaller share of the population, the dependency ratio has risen. Combined with slower productivity growth, real annual per capita gross domestic product (GDP) growth, a good measure of the rise in the standard of living, has slowed from about 2.4 percent per year between 1948 and 2000 to 1.1 percent in the 18 years since.

This slow growth has implications for not only the well-being of families but also the ability of individuals, communities, and the government to make investments in, for instance, health, education, and our physical infrastructure that will enhance growth going forward.

Obviously, there is no single solution to challenges facing the US economy. That said, the paid caregiving policies analyzed in this volume represent a potential avenue for ameliorating the headwinds. For instance, female labor force participation in the United States, which was once one of the highest among industrialized countries, has flattened out at a level that puts us closer to the middle of the pack. Meanwhile, many other industrialized countries have undertaken specific efforts aimed at promoting fertility and work-family balance.[3]

There is clearly a demand for these policies. Financial stability consistently ranks as an "extremely important prerequisite to having children."[4] At the other end of the caregiving spectrum, AARP estimates that approximately 34.2 million Americans in 2015 provided unpaid care to an adult age 50 or older in the past year.[5] Altogether, in September 2019, 10.5 percent of adults who were marginally attached to the labor force[6] cited family caregiving as the reason for not participating in the labor force. These examples suggest that policies that support caregiving

could boost both fertility rates and labor force participation. Such policies could also have spillover effects on productivity. Of course, providing paid caregiving leave could also depress labor force participation, and depending on how it is financed, it could reduce the demand for labor or strain government finances. As is the case with many policy proposals, the actual outcomes depend on the details.

The purpose of this chapter is to elucidate the channels through which the provision of paid caregiving might affect the macroeconomy, providing estimates of likely effects when there is sufficient evidence. The analysis is largely static, but at the end, I say a few words about potential general equilibrium effects, including how the outcomes could depend on funding mechanisms. In addition, because the chapter is focused on the macroeconomic impact, I do not substantially address the issue of inequality, but I will touch on the topic.

The decision to provide paid caregiving leave should depend on a variety of factors, including how much these policies benefit the families that use them and those who are cared for, the impact on employers, the direct cost to employees, employers and taxpayers, and opportunity costs. That said, given the macroeconomic challenges facing the country, any impact that such a policy might have on the aggregate economy would be worth factoring in.[7]

Growth Accounting Framework for Analyzing the Impact of Paid Leave

The potential GDP of the economy is the level at which the economy could operate if all factors of production—the people in the labor force and the machines and tools they use—were being used to their fullest extent. Potential GDP provides, in a sense, a sustainable frontier for the flow of resources available to individuals and the government. If caregiving policies were to change the amount of labor or capital available for production, that could raise or lower the level of potential GDP in the economy. If the growth rate of potential GDP in the US were higher, we might better be able to handle many challenges facing our economy, including our aging population and infrastructure and the high cost of education and health care.

For this reason, a simple way to think about the macroeconomic effects of the nationwide introduction of paid caregiving leave is by looking at its impact on potential output. To do so, I deconstruct potential GDP into its constituent pieces. I start by writing down potential GDP, *Y**, using a Cobb-Douglas production function, with factor shares given by α.[8]

$$Y_t^* = A_t^* K_t^{*\alpha} L_t^{*1-\alpha} \qquad (1),$$

where *A** represents the state of technology, *L** is labor input, and *K** is capital input. The asterisks indicate that all these variables are at their potential levels—the levels they would obtain if the economy were operating at full capacity. Taking logs and derivatives with respect to time, potential GDP growth can be written as

$$\%\Delta Y = \%\Delta A + \alpha\%\Delta K + (1-\alpha)\%\Delta L \qquad (2),$$

where I have dropped the asterisks and time subscripts for simplicity. The equation can then be rewritten as

$$\%\Delta(Y) = \%\Delta L + \%\Delta A + \alpha\%\Delta(K/L) \qquad (3).$$

Let's assume that labor input is measured in hours. Then total labor input can be written as

$$L = Pop * \frac{LF}{Pop} * \frac{Emp}{LF} * \overline{Hours} \qquad (4),$$

where *Pop* is the working-age population (typically measured as the population age 16 and older), the labor force (*LF*) is written as a share of the population (the labor force participation rate, or *LFPR*), employment (*Emp*) is written as the share of the labor force (the employment rate, or *Emprate*), and $\overline{Hours}$ is average hours worked. Note that *Emprate = 1 – unemployment rate,* which is the more common aggregate indicator.

Thus, the growth rate of labor input is

$$\%\Delta L = \%\Delta Pop + \%\Delta LFPR + \%\Delta Emprate + \%\Delta\overline{Hours} \qquad (5),$$

which can then be substituted into Equation 3 to get the full growth accounting equation.

The first step in understanding the likely impact of greater access to paid caregiving on economic output is to analyze its partial equilibrium impact on the components of output as summarized in the growth accounting framework. I will now explore the available evidence on each in turn.

Population

The provision of paid caregiving will primarily affect population growth through its impact on fertility.[9] In many advanced economies, desired fertility is higher than observed fertility is, suggesting that policies that make it easier for parents to care for children could boost fertility.[10] A small amount of empirical evidence examines the relationship between paid caregiving leave and fertility, which centers around paid parental leave programs.[11] On balance, these studies find that the provision of parental leave (which could include paid leave or at least job protection) does promote fertility.[12] Such leave appears to boost fertility by increasing the likelihood of a first birth and reducing the time between births, which raises overall fertility.

However, not all studies draw this conclusion, and the design of the program substantially influences the ultimate impact. A study of the long-term effects of the introduction of paid parental leave in California showed a decline in childbearing after 10 years of 2 percent for all mothers and 5 percent for new mothers.[13] With respect to program design, in Sweden, the linking of benefits to wages around the time of birth appears to have resulted in a delay in age at first birth.[14]

Meanwhile, an examination of reforms to the Austrian paid family leave policy found that while wage replacement was the most important element for low-income workers, the extension of job protection contributed to the boost in fertility for white-collar occupations.[15] Consistent with this finding, studies of the Family and Medical Leave Act (FMLA) tend to find that fertility is boosted more for white women, who are more likely to be married, and those with a college education—individuals who can more likely afford to take unpaid leave.[16] The evidence on whether providing paternal leave also boosts fertility has been mixed, with studies of Sweden finding some positive effect, while a study of the introduction of two weeks of paid leave reserved for fathers in Spain found a reduction in fertility among older women.[17] See Table A1 for a summary of these studies.

Labor Force Participation and Employment

Caregiving policies are likely to have important implications for labor supply because the policies change the cost associated with taking time off for caregiving. If the policy provides job protection, it is easier for workers to remain attached to their jobs, which, in a labor market characterized by search frictions, should reduce unemployment and perhaps boost participation. Policies that provide wage replacement directly lower the cost of taking time for caregiving.

On the other hand, caregiving leave could depress labor force participation if periods of leave are long and weaken labor force attachment. Moreover, if the leave is paid, women could have a lower financial incentive to return to work (a negative income effect). On the firm side, if providing leave raises firms' costs, firms could reduce their demand for labor and, all else equal, result in a higher unemployment rate and lower labor force participation.[18]

For the most part, the literature examining the impact of caregiving policies on labor supply does not separate labor force participation and employment (the second and third elements of Equation 5), but rather focuses on the unconditional probability of being employed, which includes the probability of being in the labor force and the probability of being employed conditional on being in the labor force, specifically

$$Prob(Employed) = Prob(Laborforce) \times Prob(Employed \mid Laborforce) \quad (6).$$

As such, in this section, I include studies on labor force participation, unconditional employment, and, in one case, unemployment.[19] See Table A2 for a summary of these studies.

Starting with the literature on parental leave, the evidence suggests, on balance, that these policies boost labor force participation and work among women.[20] The evidence is ambiguous as to whether work falls in the period immediately following birth due to increased leave-taking or not, with most, but not all, studies finding an increase in leave-taking, at least for policies providing moderate amounts of leave, especially when it is paid.[21] Whether there is an increase in leave-taking or not, the evidence suggests that labor force participation is higher in the immediate postpartum period, since the job guarantee means women are more likely to report themselves as employed but on leave.[22]

This attachment then appears to pay off in the form of higher employment and labor force participation in the medium term, but the result is not unanimous. Charles Baum and Christopher Ruhm found that in the medium term, the California Paid Family Leave (CAPFL) program was associated with nearly 20 percent the probability of being employed 12 months after birth.[23] However, recent work by Martha Bailey and colleagues finds that CAPFL was associated with a decline in labor force participation after 10 years among women in the first cohort who were eligible.[24]

Moreover, periods of extended leave-taking could result in lower labor force participation over the longer term, if women lose valuable human capital or networks or if employers are wary of hiring women who might take long periods of parental leave. Claudia Olivetti and Barbara Petrongolo look at a cross section of countries and find that parental leave (paid or unpaid) boosts female employment up to about 50 weeks, and, after that, the boost begins to decline, although at a slow rate.[25]

A much smaller amount of literature focuses on the impact of other types of caregiving on labor supply. Table A3 summarizes this literature. An important question in evaluating the likely impact of such policies is whether caregivers and non-caregivers differ in their labor force participation rates. Meredith Lilly, Audrey Laporte, and Peter Coyte provide a thorough evaluation of the literature on this question, using studies primarily from the United States.[26] They find that caregivers do not differ notably from non-caregivers in their labor force participation rates and that only those with particularly heavy caregiving responsibilities are more likely to withdraw from the labor force.

Other studies also provide evidence that caregiving depresses participation for certain populations or types of caregiving. Unfortunately, studies that have examined the issue do not always agree on who those groups are—men or women, those caring for spouses or others, and so forth.[27] Despite this variation, the overall implication seems to be that on aggregate there is limited scope for paid caregiving leave policies to affect labor force participation or employment.

The few studies that directly examine the impact of caregiving policies other than parental leave on employment focus on earned sick leave policies.[28] Consistent with the other evidence, these tend to find no or small effects on employment.[29]

Hours of Work

The next component of labor input to be examined is annual hours of work.[30] The channels through which caregiving leave programs affect annual hours are basically the same channels through which they would affect labor force participation and employment, described in the previous section.[31] Of course, such policies simply make it easier or less expensive for workers to take off the hours they already were. Conditional on being in the labor force, there is evidence that those caring for spouses and aging parents work fewer hours a week, all else equal, although Barbara Butrica and Nadia Karamcheva find that the reduction in hours relative to non-caregivers disappears once individual characteristics are taken into account.[32] Table A4 summarizes these studies.

The literature does find a depressing effect of parental leave and earned sick leave policies on hours. As mentioned in the previous section, the literature

Table 1. Summary of Impact on Labor Input

Channel	Effect	Explanation
Pop	+	The provision of parental leave, especially maternity leave, seems to promote fertility, although in some cases the estimated effects are small.
LFPR + Emprate	+/~	Many studies find that caregiving leave, particularly job protection, promotes labor force and employment attachment. However, a few notable studies find that it has no effect or a negative effect in the long term.
Annual Hours	+/–	The provision of caregiving leave does seem to depress time at work. However, in the case of parental leave, negative impact appears to be short term, and there is evidence that over the longer term, increased labor force and job attachment promote work.

Note: The + signifies a positive effect, – signifies a negative effect, and ~ signifies no effect.
Source: Author.

on parental leave generally shows that caregivers are less likely to report themselves at work in the months after birth, which in our accounting would constitute fewer annual hours worked.[33] Although they are fewer, studies of sick leave policies also find that they reduce time spent at work.[34]

However, there is also evidence, coming from the parental leave literature, that job protections encourage greater hours of work once the caregiving spell is passed. For instance, Rossin-Slater, Ruhm, and Waldfogel and Baum and Ruhm find a higher probability of being at work following leave-taking after the introduction of CAPFL (by one estimate 15 to 20 percentage points higher one year after birth).[35] Moreover, Michael Baker and Kevin Milligan found that while job protection delayed a woman's return to work following birth, more than half the decline in work was accounted for by women who otherwise would have returned earlier but to part-time employment with a different employer.[36]

In fact, compared to the pre-reform period, when the affected women did return to work, it was more likely to be full-time work with the same employer. If the result holds more generally, so that women with access to caregiving leave are more likely to be employed full-time when their caregiving spell ends, then aggregate hours would be higher, all else equal.[37]

Impact on Labor Input

A considerable amount remains unknown about the likely impact of providing more extensive caregiving leave, particularly without a specific policy. However, if we go back to the components of Equation 5, we can obtain the summary in Table 1.

Overall, the results point to a positive impact on labor input, although with great uncertainty about the magnitude.

Productivity

Turning to the remaining components of potential output, if I rearrange Equation 4 by subtracting labor input, which I have already covered, we find

$$\%\Delta(Y) - \%\Delta L = \%\Delta A + \alpha\%\Delta(K/L) \qquad (7),$$

which simply says that the growth in output per hour (labor productivity) is equal to the rate of technical change (A) and capital deepening, weighted by capital's share of income. Technical change can be further broken into multifactor productivity and labor composition or labor quality, which captures the labor force's characteristics.[38]

Turning first to the capital deepening channel: In theory, if the provision of caregiving leave makes workers more expensive for firms, then they could shift to a more capital-intensive production process.

Increased capital deepening would boost productivity. Workers could become more expensive due to either the direct cost of providing leave or the indirect cost of having to ensure the continuity of operations when employees take leave.

The literature on caregiving policies provides only a little evidence on the impact of such policies on this channel. Surveys of employers following the introduction of CAPFL and the similar New Jersey Family Leave Insurance (NJFLI) found most employers reported that the programs had no impact or a positive impact on costs and productivity. There is some evidence on the subject from the literature on employment protection (for instance, limits on employers' ability to fire workers at will). David Autor, William Kerr, and Adriana Kugler found that firms did increase their capital deepening in the years following the adoption of wrongful discharge termination, although the impact on overall productivity was negligible.[39] Of course, these latter policies cover a much broader array of a firm's staffing choices and thus likely have a much larger impact on a firm's ability to optimize its staff than caregiving policies do.

With respect to the next channel, multifactor productivity (MFP), caregiving leave could have either a positive or negative impact. On the upside, such policies could boost morale and lower absenteeism, which could translate directly into higher productivity growth. In addition, if the higher morale or job protections associated with caregiving leave were to reduce inefficient job transitions, that could also raise MFP.

Indeed, there is some evidence from surveys of firms suggesting that family-friendly policies including caregiving leave and workplace flexibility do positively affect morale and some more modest evidence that productivity is boosted.[40] Caregivers who lack leave could be less productive on the job. If they are distracted by their caregiving responsibilities, then providing such leave could boost productivity during times when the caregiver is at work.

On the downside, caregiving policies could prevent firms from an optimal use of resources. For instance, paid leave policies could require firms to rely on less efficient means for producing output (for instance, overburdening existing workers or hiring temporary staff) while workers are taking caregiving leave. Similarly, in some fields, full-time employees work more productively, so productivity could be reduced if firms are required to allow caregivers to work part-time.

As noted previously, firms surveyed following the introduction of CAPFL and NJFLI did not find these policies expensive or disruptive along these margins, suggesting that the policies did not reduce productivity. Multifactor productivity could also be reduced if caregiving leave, more specifically job protections, reduce worker flows across firms and hence allocative efficiency. Evidence from the literature on employment protections suggests this loss of allocative efficiency can reduce productivity, but again, it is unclear whether the job protections associated with caregiving leave policies would generate allocative inefficiencies to such an extent.[41]

Andrea Bassanini and Danielle Venn run cross-country regressions to try to determine the impact of paid and unpaid parental leave on productivity and MFP.[42] The results are somewhat sensitive to the countries and controls included in the regressions. There is no evidence that the policies reduce productivity, and some limited evidence shows that the policies may boost MFP and labor productivity overall.[43]

The final channel through which caregiving leave could affect productivity is the labor composition or labor quality channel. In the US Bureau of Labor Statistics, accounting labor composition is accounted for by the sex of the labor force, the age of the labor force (as a proxy for work experience), and the education level of the labor force. To the extent that caregiving policies promote greater labor force attachment, work experience would be higher, ceteris paribus, boosting labor composition.

Labor composition could also be affected if these leave policies change the composition of the labor force. These composition shifts could either boost or lower productivity.[44] More subtly, if caregiving leave promotes improved caregiving and if those being cared for participate in the labor force, these improvements could show through to labor composition. Since many adults being cared for are elderly, this channel seems especially likely to operate through

Table 2. Summary of Impact of Labor Productivity

Channel	Effect	Explanation
Capital Deepening	+	From the theoretical standpoint, this factor seems most likely to be positive, and although there is no evidence on the topic related to caregiving leave, studies of other policies suggest the possibility of a small positive impact.
Multifactor Productivity (MFP)	+/–	There are positive and negative channels through which caregiving leave could affect MFP, primarily through its impact on allocative efficiency. The few studies available do not find a negative relationship between caregiving policies and MFP growth and could be consistent with a small positive effect.
Labor Composition	+/–	The channels seem most likely to be positive (by increasing work experience), although the impact could be negative (for instance, if it changes the composition of the labor force toward lower productivity workers). There is little direct evidence, and it is not dispositive.

Note: The + signifies a positive effect, – signifies a negative effect, and ~ signifies no effect.
Source: Author.

improved child outcomes—for instance, if children have better educational outcomes, which translates into better labor market outcomes.

The literature on this is mixed. A short review can be found in Baum and Ruhm.[45] Among studies they cite, two examined the longer-term effects of parental leave on child outcomes, with Christian Dustmann and Uta Schönberg finding no benefits and Pedro Carneiro, Katrine Løken, and Kjell Salvanes finding "increases in education levels, and wages of the children affected by them."[46] Bailey and colleagues also find that over the longer term, women who participated in CAPFL did increase time spent with their children, which is consistent with improved child outcomes.[47]

Although the number of studies that examine the productivity impacts of caregiving policies is limited, another possible way to identify the productivity effects of these policies is to examine their effect on wages—an exercise that more analysts have undertaken. As has been the case more generally, the evidence is mixed. Reagan Baughman, Daniela DiNardi, and Douglas Hotlz-Eakin find that firms pass on some, but not all, the costs of family-friendly policies to their employees, suggesting that the policies are not entirely paying for themselves.[48]

In contrast, Stefan Pichler and Nicolas Ziebarth find no evidence that the introduction of sick leave policies reduces wages.[49] And Rossin-Slater, Ruhm, and Waldfogel and Baum and Ruhm find that CAPFL boosted the wages of mothers with young children in the medium term, although the authors note the estimates should be interpreted with caution.[50] Careful analysis must be done to ensure that wage effects are causal and not due to compositional changes. General equilibrium dynamics must also be considered. The evidence presented above suggests that the introduction of caregiving policies increases employment among women, shifting out their labor supply, which would, ceteris paribus, push down wages.[51] The studies discussed in this section are summarized in Table A5.

Impact on Labor Productivity

Table 2 describes the results from repeating the summary exercise for productivity.

Considerations

In thinking about these results, a couple of considerations are in order. The role of the general equilibrium is first. The papers discussed in this chapter attempt to identify correlations or causal effects between caregiving leave and various outcomes. In many cases, these outcomes reflect the general equilibrium—for example, the substitution of male for

female labor or capital for labor. So, the results on female labor force participation or wages are actually a net result, given that paid leave policies could cause firms to hire fewer women, pay them less to offset the cost of the program, or switch from labor to capital.

However, only a few studies make this explicit or control for demand side factors. Another consideration, particularly in the US context, is that much of the literature focuses on FMLA, which is an unpaid benefit, or relatively small-scale paid policies (CAPFL being, perhaps, an exception). If the US were to move to a more widely available national program of paid leave—be it for family leave or sick leave—the funding model itself could largely affect how workers and firms respond that are not well captured by the existing literature on the US. European studies may provide more of a guide here, but again, it depends on how the programs are paid for.

A second consideration is equity. The first question is whether the policies are designed so that all workers can take advantage of them, regardless of employment situation, income, or whether they will exacerbate inequality. In the US, employers typically provide paid leave to only the most highly paid workers. Family and medical leave is available to a broader set of workers, but it is not universal.

Moreover, the fact that the leave is unpaid likely limits who can take it. As noted above, Cannonier found that FMLA boosted fertility more for women who could more likely afford to take unpaid leave (white women, who are more likely to be married, and those with a college education).[52] In contrast, Byker found that CAPFL, which provides paid leave, reduced labor market separations for low-wage women.[53] So, policymakers designing paid leave policies should consider whether the policies are designed so that all workers can benefit. At the same time, if the policies are expensive to firms, we could see reduced demand for low-skilled workers and a shift from labor to capital, which might not have aggregate implications but could have distributional implications.

Another equity consideration is the extent to which these policies depress female labor force participation relative to that of men. On balance, these policies seem to boost labor force participation, even among women, but this finding is not universal. Moreover, there is some evidence that firms reduce their hiring of women, all else equal.

If only women take leave, it could reinforce traditional gender roles, with women more likely to leave employment for caregiving. This outcome is especially likely if there are few alternative supports for caregiving when women return to work (e.g., childcare or eldercare). Indeed, a study of family-friendly policies in Europe found that the childcare policies improved female labor force participation.[54]

Conclusion

The studies reviewed in this chapter suggest that caregiving policies as implemented in the US (including in individual states) and in Europe would likely boost potential GDP over time, or at least not be a drag. The research reviewed here suggests that these policies increase fertility and boost labor supply, at least in the near term, without disrupting productivity, although the results are not uniform. Given the macroeconomic headwinds the US economy faces—with an aging population, declining labor force participation, and sluggish productivity growth—these benefits could materially improve the outlook.

Of course, the aggregate perspective ignores potential distributional changes that could accompany the implementation of such a policy. While the studies find that female labor supply increases because of these policies, especially in the short term, the broader adoption of paid caregiving leave could negatively affect firms' demand for female employees if the policies are not taken up by both men and women. In addition, if the policies are expensive to firms, we could see reduced demand for low-skilled workers and a shift from labor to capital, which might not have aggregate implications but could have implications for inequality.

On the other hand, the move to a national policy or the more widespread adoption of local policies could move the economy to an equilibrium in which the provision of paid leave is less costly for firms. Companies might have trouble adopting the policies

themselves but would benefit from their broad adoption.[55] While such considerations are outside the scope of this chapter, they warrant consideration.

According to a study by Metlife, in 2006, firms lost $33 billion per year due to employee caregiving provided to individuals over age 18.[56] These costs arose from turnover, absenteeism, workday interruptions, and unpaid leave, among other sources. On top of that are the costs to employees, who face lost wages and work experience, and their families, who may go without important care. Given the magnitude of these costs, the caregiving challenge affects the entire economy, not just the individuals and firms trying to manage it. The evidence presented here suggests that in attempting to provide solutions through paid caregiving policies, we could also boost the economy as a whole—an outcome that would, in turn, make the costs more manageable. Policymakers should also consider these macroeconomic outcomes when fashioning solutions.

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Appendix

Table A1. Effects of Policies on Fertility

Paper	Policy Change	Direction of Effect	Effect
Averett and Whittington	Employer-provided maternity leave in the US	+	A 50 percent increase in probability that a black or white working woman with maternity leave benefits will have an additional birth
Bailey et al.	CAPFL 2004: six weeks of paid leave (55 percent of wages up to a maximum) following birth or adoption or for other reasons	–	A significant decrease in the number of children born for all mothers and for first-time mothers among mothers with access to six more weeks of paid leave and among mothers who took up the policy
Cannonier	FMLA 1993: up to 12 weeks of job-protected unpaid leave after the birth of a child	+	A 5.2 percentage point increase in the probability of a first birth and a 2.9 percentage point increase in the probability that an eligible woman will give a second birth
Farré and González	In 2007, a Spanish reform reserved two weeks exclusively for fathers out of 10 weeks of parental leave previously reserved for either parent. In 2016, it was extended to four weeks.	–	A decrease of about 2 percentage points of an additional birth and a decrease of 2.7 percentage points of an additional birth a month for women older than age 35
Lalive and Zweimüller	Increase in duration of parental leave in Austria from one year to two years for any child born after July 1, 1990	+	Led to 5.4 additional children per 100 women (short term) and three additional children per 100 women (long term)
Rossin	FMLA 1993: up to 12 weeks of job-protected unpaid leave after birth of a child	+/–	A 2.6 percent increase in the likelihood of a first-parity birth and a 1.7 percent decrease in the likelihood of a second-parity and third-parity birth
Yamaguchi	Introduction of a one-year job-protection policy; extended job-protection period from one to three years	+	The simulated number of children in year 10 increases from 2.1 to 2.15 under one-year mandated job protection and increases from 2.1 to 2.20 under three-year mandated job protection

Note: The + signifies a positive effect, – signifies a negative effect, and ~ signifies no effect. FMLA stands for Family and Medical Leave Act. CAPFL stands for California Paid Family Leave program.
Source: Susan L. Averett and Leslie A. Whittington, "Does Maternity Leave Induce Births?," *Southern Economic Journal* 68, no. 2 (October 2001): 403–17, https://www.jstor.org/stable/1061601?seq=1; Martha J. Bailey et al., "The Long-Term Effects of California's 2004 Paid Family Leave Act on Women's Careers: Evidence from U.S. Tax Data" (working paper, National Bureau of Economic Research, Cambridge, MA, October 2019); Colin Cannonier, "Does the Family and Medical Leave Act (FMLA) Increase Fertility Behavior?," *Journal of Labor Research* 35, no. 1 (2014): 105–32, https://link.springer.com/article/10.1007/s12122-014-9181-9; Lídia Farré and Libertad González, "The Effects of Paternity Leave on Fertility and Labor Market Outcomes" (working paper, IZA Institute of Labor Economics, Bonn, Germany, June 2017), https://www.iza.org/publications/dp/10865/the-effects-of-paternity-leave-on-fertility-and-labor-market-outcomes; Rafael Lalive and Josef Zweimüller, "How Does Parental Leave Affect Fertility and Return to Work? Evidence from Two Natural Experiments," *Quarterly Journal of Economics* 124, no. 3 (August 2009): 1363–402, https://www.jstor.org/stable/40506259?seq=1; Maya Rossin, "The Effects of Maternity Leave on Children's Birth and Infant Health Outcomes in the United States," *Journal of Health Economics* 30, no. 2 (March 2011): 221–39, https://pubmed.ncbi.nlm.nih.gov/21300415/; and Shintaro Yamaguchi, "Effects of Parental Leave Policies on Female Career and Fertility Choices," *Quantitative Economics* 10, no. 3 (July 2019): 1195–232, https://onlinelibrary.wiley.com/doi/full/10.3982/QE965.

Table A2. Effect of Policies on Employment and Parental Leave Policies

Paper	Policy Change	Direction of Effect	Effect
Bailey et al.	CAPFL 2004: six weeks of paid leave (55 percent of wages up to a maximum) following birth or adoption or for other reasons	~/–	Estimates by year show no significant effect on employment for all mothers or first-time mothers with access to six more weeks of paid leave. Pooled years show significant negative effects on employment for first-time mothers with access to six more weeks of paid leave in the long term (five to 11 years after giving birth).
Baker and Milligan	Introduction of 17–18 weeks in some Canadian provinces, followed by expansion of 29–70 weeks	+	An 18-week entitlement raises the proportion of females employed by 5.5 percentage points.
Baum and Ruhm	CAPFL 2004: six weeks of paid leave (55 percent of wages up to a maximum) following birth or adoption or for other reasons	+	This increased mother's employment by 7.8 percentage points eight weeks before birth, 9.7 percentage points four weeks before birth, 10.9 percentage points two weeks before birth, 10.8 percentage points one week before birth, and 11.5 percentage points one day before birth. It increased mother's employment by 13 percentage points two days after birth, increased 13.8 percentage points seven days after birth, increased 11.6 percentage points two weeks after birth, increased 9.1 percentage points four weeks after birth, increased 15 percentage points eight weeks after birth, increased 6.1 percentage points increased 13 weeks after birth, had no effect 26 weeks after birth, and increased 18.8 percentage points 52 weeks after birth.
Baum	FMLA 1993: up to 12 weeks of job-protected unpaid leave after birth of a child; 12 states and Washington, DC, have their own legislation guaranteeing maternity leave (unpaid) from work	+	It increased the probability that a mother is employed by 4.2 percent.
Byker	CAPFL 2004: six weeks of paid leave (55 percent of wages up to a maximum) following birth or adoption or for other reasons NJFLI 2009: provides 66 percent wage replacement rate up to a maximum of six weeks	+	This increases labor force participation by 0.1 to 0.15 percentage points in the three months before and after birth.
Farré and González	In 2007, Spanish reform reserved two weeks exclusively for fathers out of 10 weeks of parental leave previously reserved for either parent. In 2016, it was extended to four weeks.	+/~	Post-reform mothers were about 6 percentage points more likely to be employed a few months after giving birth, which represents an 11 percent increase from the pre-reform baseline. None of the estimated coefficients are significant two years after birth.

(*continued on next page*)

Table A2. Effect of Policies on Employment and Parental Leave Policies (continued)

Paper	Policy Change	Direction of Effect	Effect
Lalive and Zweimüller	Increase in duration of parental leave from one year to two years for any child born after July 1, 1990	–/~	In this case, 10.9 additional mothers of 100 had not returned to work within three years after a birth. There were no long-term employment differences.
Olivetti and Petrongolo	Not a specific policy—examines correlation of leave policies with employment outcomes in a cross section of countries	+	A one-week increase in the maximum weeks of job-protected leave is associated with a 6.3 percentage point increase in the female employment rate.
Sarin	CAPFL 2004: six weeks of paid leave (55 percent of wages up to a maximum) following birth or adoption or for other reasons	+	This led to a 0.65 percentage point increase (1.4 percent) in female employment.
Yamaguchi	Introduction of an initial one-year job-protection policy; extending job-protection period from one to three years	+/~	One-year job protection increases the probability of work 10 years after childbirth from 0.58 to 0.66 percentage points. Increasing protection from one year to three years has no effect on maternal work.

Note: The + signifies a positive effect, – signifies a negative effect, and ~ signifies no effect. FMLA stands for Family and Medical Leave Act. CAPFL stands for California Paid Family Leave program. NJFLI stands for New Jersey Family Leave Insurance.
Source: Martha J. Bailey et al., "The Long-Term Effects of California's 2004 Paid Family Leave Act on Women's Careers: Evidence from U.S. Tax Data" (working paper, National Bureau of Economic Research, Cambridge, MA, October 2019); Michael Baker and Kevin Milligan, "How Does Job-Protected Maternity Leave Affect Mothers' Employment?," *Journal of Labor Economics* 26, no. 4 (October 2008): 655–91; Charles L. Baum II, "The Effect of State Maternity Leave Legislation and the 1993 Family and Medical Leave Act on Employment and Wages," *Labour Economics* 10, no. 5 (October 2003): 573–96, https://www.sciencedirect.com/science/article/abs/pii/S092753710300037X; Charles L. Baum II and Christopher J. Ruhm, "The Effects of Paid Family Leave in California on Labor Market Outcomes," *Journal of Policy Analysis and Management* 35, no. 2 (February 2016): 333–56, https://onlinelibrary.wiley.com/doi/abs/10.1002/pam.21894; Lídia Farré and Libertad González, "The Effects of Paternity Leave on Fertility and Labor Market Outcomes" (working paper, IZA Institute of Labor Economics, Bonn, Germany, June 2017), https://www.iza.org/publications/dp/10865/the-effects-of-paternity-leave-on-fertility-and-labor-market-outcomes; Rafael Lalive and Josef Zweimüller, "How Does Parental Leave Affect Fertility and Return to Work? Evidence from Two Natural Experiments," *Quarterly Journal of Economics* 124, no. 3 (August 2009): 1363–402, https://www.jstor.org/stable/40506259?seq=1; and Claudia Olivetti and Barbara Petrongolo, "The Economic Consequences of Family Policies: Lessons from a Century of Legislation in High-Income Countries," *Journal of Economic Perspectives* 31, no. 1 (Winter 2017): 205–30, https://www.aeaweb.org/articles?id=10.1257/jep.31.1.205. Historically, α has been about one-third. See Natasha R. Sarin, "The Impact of Paid Leave on Female Employment Outcomes" (working paper, Harvard University, Cambridge, MA, August 2017), https://scholar.harvard.edu/nsarin/publications/impact-paid-leave-female-employment-outcomes; and Shintaro Yamaguchi, "Effects of Parental Leave Policies on Female Career and Fertility Choices," *Quantitative Economics* 10, no. 3 (July 2019): 1195–232, https://onlinelibrary.wiley.com/doi/full/10.3982/QE965.

Table A3. Effect of Policies on Employment and Caregiving

Paper	Policy Change	Direction of Effect	Effect
Ahn and Yelowitz	Connecticut paid sick leave 2012: Large firms (50 or more employees) must offer paid sick leave. Worker accrues one hour of sick leave for every 40 hours worked.	–/~	Unemployment rate increases by 0.88–0.89 percentage points, depending on specification. However, once state-year trends are added, the effect is no longer significant. It has no effect on labor force participation rate.
Pichler and Zierbarth	Implementation of nine city-level and four state-level US sick pay mandates	~	This has no significant effect on employment. Tests allow for the exclusion of employment decreases of 2 percent or more.

Note: The + signifies a positive effect, – signifies a negative effect, and ~ signifies no effect.
Source: Thomas Ahn and Aaron Yelowtiz, "The Short-Run Impacts of Connecticut's Paid Sick Leave Legislation," *Applied Economics Letters* 22, no. 15 (April 2015): 1267–72, https://www.tandfonline.com/doi/abs/10.1080/13504851.2015.1023934?journalCode=rael20; and Stefan Pichler and Nicolas R. Ziebarth, "Labor Market Effects of U.S. Sick Pay Mandates," *Journal of Human Resources*, October 16, 2018, http://jhr.uwpress.org/content/early/2018/10/11/jhr.55.3.0117-8514R2.abstract.

Table A4. Effect of Policies on the Work Week, Parental Leave, and Caregiving

Paper	Policy Change	Direction of Effect	Effect
Ahn and Yelowitz	Connecticut paid sick leave 2012: Large firms (50 or more employees) must offer paid sick leave. Worker accrues one hour of sick leave for every 40 hours worked.	–	This decreases the likelihood of working by 0.92–1.24 percentage points, depending on the specification.
Baker and Milligan	Introduction of 17–18 weeks of parental leave in some Canadian provinces, followed by expansion of 29–70 weeks	–	An 18-week entitlement reduces the proportion of females employed and at work by 2 percentage points in the first month after birth.
Baum and Ruhm	CAPFL 2004: six weeks of paid leave (55 percent of wages up to a maximum) following birth or adoption or for other reasons	+/–/+	This increased mother's work by 7.7 percentage points eight weeks before child's birth, had no significant effect four weeks before birth, decreased by 8.6 percentage points two weeks before birth, decreased by 8.6 percentage points one week before birth, and decreased by 8.7 percentage points one day before birth. This decreased mother's work by 7.5 percentage points two days after birth, decreased by 6.1 percentage points seven days after birth, decreased by 11.5 percentage points two weeks after birth, decreased by 14.2 percentage points four weeks after birth, decreased by 13.5 percentage points eight weeks after birth, decreased by 12.7 percentage points 13 weeks after birth, had no effect 26 weeks after birth, and increased by 18 percentage points 52 weeks after birth This increased predicted weeks worked by 7.1 and predicted hours worked by 2.8 hours per week in the second year of the child's life.
Berger and Waldfogel	Not a specific policy—examines US women's post-birth leave-taking and employment decisions from 1988 to 1996 (FMLA happens during this time)	–/+	Mothers with coverage are about 20.5 percent less likely to return to work during the first six weeks after birth and 56.1 percent less likely to return during weeks seven through 12. In weeks 13 through 52, however, these mothers have a 68.8 percent greater risk of return.
Lalive and Zweimüller	Increase in duration of parental leave from one year to two years for any child born after July 1, 1990	–/~	This leads to one month less of work (short term), but no long-run work differences.

Note: The + signifies a positive effect, – signifies a negative effect, and ~ signifies no effect. CAPFL stands for California Paid Family Leave program.

Source: Thomas Ahn and Aaron Yelowtiz, "The Short-Run Impacts of Connecticut's Paid Sick Leave Legislation," *Applied Economics Letters* 22, no. 15 (April 2015): 1267–72, https://www.tandfonline.com/doi/abs/10.1080/13504851.2015.1023934?journalCode=rael20; Michael Baker and Kevin Milligan, "How Does Job-Protected Maternity Leave Affect Mothers' Employment?," *Journal of Labor Economics* 26, no. 4 (October 2008): 655–911; Charles L. Baum II and Christopher J. Ruhm, "The Effects of Paid Family Leave in California on Labor Market Outcomes," *Journal of Policy Analysis and Management* 35, no. 2 (February 2016): 333–56, https://onlinelibrary.wiley.com/doi/abs/10.1002/pam.21894; Lawrence M. Berger and Jane Waldfogel, "Maternity Leave and the Employment of New Mothers in the United States," *Journal of Population Economics* 17, no. 1 (2004): 331–49; and Rafael Lalive and Josef Zweimüller, "How Does Parental Leave Affect Fertility and Return to Work? Evidence from Two Natural Experiments," *Quarterly Journal of Economics* 124, no. 3 (August 2009): 1363–402, https://www.jstor.org/stable/40506259?seq=1.

Table A5. Effect of Benefit or Policy on Productivity

Paper	Benefit or Policy	Direction of Effect	Effect
Aslim, Panovska, and Tas	Maternity leave in emerging markets	–/~	This decreases productivity in the short run but has no impact at longer horizons for emerging markets. It has no effect of maternity leave on productivity in developed countries in the short run.
Bassanini and Venn	Parental leave (paid and unpaid)	+	Parental leave has a positive impact on productivity in female-dominated industries. Paid leave has a larger impact than unpaid leave does on productivity.
Baughman, DiNardi, and Holtz-Eakin	Family-supportive employment benefits	+/~	Providing flexible sick leave and childcare referral services are associated with significant decreases in turnover. It has no effect for paid or unpaid leave.
Carneiro, Løken, and Salvanes	Change in maternity leave coverage in Norway from 12 weeks unpaid to four months paid and 12 months unpaid	+	There is a 2 percentage point decline in high school dropout rate and 5 percent increase in wages at age 30.
Dustmann and Schönberg	Expansions in maternity leave coverage in Germany	~	There is no impact on children's schooling outcomes.
Konrad and Mangel	Work-life employment programs	+	Productivity impact of work-life programs depends on the type of worker. Firms with higher percentages of professionals and women have a stronger relationship between the provision of extensive work-life benefits and productivity.

Note: The + signifies a positive effect, – signifies a negative effect, and ~ signifies no effect.
Source: Erkmen Giray Aslim, Irina Panovska, and M. Anil Taş, "Does Maternity Leave Duration Affect Labor Force Participation and Productivity?," Social Science Research Network, June 23, 2020, https://papers.ssrn.com/sol3/Papers.cfm?abstract_id=3136631; Andrea Bassanini and Danielle Venn, "Assessing the Impact of Labour Market Policies on Productivity: A Difference-in-Differences Approach" (working paper, Organisation for Economic Co-operation and Development, Paris, France, June 15, 2007), https://www.oecd-ilibrary.org/social-issues-migration-health/assessing-the-impact-of-labour-market-policies-on-productivity_122873667103; Reagan Baughman, Daniela DiNardi, and Douglas Holtz-Eakin, "Productivity and Wage Effects of 'Family-Friendly' Fringe Benefits," *International Journal of Manpower* 24, no. 3 (May 2003): 247–59, https://www.emerald.com/insight/content/doi/10.1108/01437720310479723/full/html; Pedro Carneiro, Katrine V. Løken, and Kjell G. Salvanes, "A Flying Start? Maternity Leave Benefits and Long-Run Outcomes of Children," *Journal of Political Economy* 123, no. 2 (April 2015): 365–412, https://www.journals.uchicago.edu/doi/abs/10.1086/679627?mobileUi=0&; Christian Dustmann and Uta Schönberg, "Expansions in Maternity Leave Coverage and Children's Long-Term Outcomes," *American Economic Journal: Applied Economics* 4, no. 3 (2012): 190–224, https://www.aeaweb.org/articles?id=10.1257/app.4.3.190; and Alison M. Konrad and Robert Mangel, "The Impact of Work-Life Programs on Firm Productivity," *Strategic Management Journal* 21, no. 12 (December 2000): 1225–37.

Notes

1. William H. Frey, "US Population Growth Hits 80-Year Low, Capping Off a Year of Demographic Stagnation," Brookings Institution, December 21, 2018, https://www.brookings.edu/blog/the-avenue/2018/12/21/us-population-growth-hits-80-year-low-capping-off-a-year-of-demographic-stagnation/.

2. Stephanie R. Aaronson et al., *Labor Force Participation: Recent Developments and Future Prospects*, Brookings Institution, Fall 2014, https://www.brookings.edu/bpea-articles/labor-force-participation-recent-developments-and-future-prospects/.

3. Elisabeth Jacobs and Kate Bahn, "Women's History Month: U.S. Women's Labor Force Participation," Washington Center for Equitable Growth, March 22, 2019, https://equitablegrowth.org/womens-history-month-u-s-womens-labor-force-participation/; and Olivier Thévenon, *Drivers of Female Labour Participation in the OECD* (working paper, Organisation of Economic Co-operation and Development, Paris, France, May 23, 2013), https://www.oecd-ilibrary.org/social-issues-migration-health/drivers-of-female-labour-force-participation-in-the-oecd_5k46cvrgnms6-en.

4. Christopher F. Karpowitz et al., *The American Family Survey: 2018 Summary Report: Identities, Opportunities and Challenges*, Brigham Young University, Center for the Study of Elections and Democracy, July 2018, http://csed.byu.edu/wp-content/uploads/2018/11/american-family-survey-final-report_nov2018.pdf.

5. National Alliance for Caregiving and AARP Public Policy Institute, *Caregiving in the U.S.*, June 2015, https://www.aarp.org/content/dam/aarp/ppi/2015/caregiving-in-the-united-states-2015-report-revised.pdf.

6. Marginally attached to the labor force are those who want a job, have searched for work during the prior 12 months, and were available to take a job during the reference week but had not looked for work in the past four weeks.

7. Indeed, many European countries have used policies such as paid leave and childcare to boost both fertility and female labor force participation. See Claudia Olivetti and Barbara Petrongolo, "The Economic Consequences of Family Policies: Lessons from a Century of Legislation in High-Income Countries," *Journal of Economic Perspectives* 31, no. 1 (Winter 2017): 205–30, https://www.aeaweb.org/articles?id=10.1257/jep.31.1.205.

8. Historically, α has been about one-third.

9. Other potential channels include changes in infant and child morbidity and changes in the life expectancy of adults whose care is affected by the availability of paid caregiving leave. C. R. Winegarden and Paula Bracy find that greater access to maternity leave is associated with a reduction in infant mortality, but the effects are much smaller than those on fertility are. C. R. Winegarden and Paula M. Bracy, "Demographic Consequences of Maternal-Leave Programs in Industrial Countries: Evidence from Fixed-Effects Models," *Southern Economic Journal* 61, no. 4 (April 1995): 1020–35, https://www.jstor.org/stable/pdf/1060738.pdf?seq=1.

10. Lyman Stone, "The Global Fertility Gap," Institute for Family Studies, February 25, 2019, https://ifstudies.org/blog/the-global-fertility-gap.

11. In principle, the provisions of caregiving and sick leave at older ages could also boost fertility by lowering the cost of caring for a child or making it easier to combine work and caregiving, but these effects are likely to be small relative to the impact of a parental leave program.

12. Studies that find no effects include Jan M. Hoem, Alexia Prskawetz, and Gerda Neyer, "Autonomy or Conservative Adjustment? The Effect of Public Policies and Educational Attainment on Third Births in Austria, 1975–96," *Population Studies* 55, no. 3 (November 2001): 249–61, https://www.jstor.org/stable/3092864?seq=1; and Anne Helene Gauthier and Jan Hatzius, "Family Benefits and Fertility: An Econometric Analysis," *Population Studies* 51, no. 3 (November 1997): 295–306. Winegarden and Bracy find a positive direct effect of maternity leave on fertility, but once the impact of these policies on infant mortality and labor force participation are taken into account, the net effect on fertility is insignificant. See Winegarden and Bracy, "Demographic Consequences of Maternal-Leave Programs in Industrial Countries"; Susan L. Averett and Leslie A. Whittington, "Does Maternity Leave Induce Births?," *Southern Economic Journal* 68, no. 2 (October 2001): 403–17, https://www.jstor.org/stable/1061601?seq=1; Colin Cannonier, "Does the Family and Medical Leave Act (FMLA) Increase Fertility Behavior?," *Journal of Labor Research* 35, no. 1 (2014): 105–32, https://link.springer.com/

article/10.1007/s12122-014-9181-9; Rafael Lalive and Josef Zweimüller, "How Does Parental Leave Affect Fertility and Return to Work? Evidence from Two Natural Experiments," *Quarterly Journal of Economics* 124, no. 3 (August 2009): 1363–402, https://www.jstor.org/stable/40506259?seq=1; and Olivetti and Petrongolo, "The Economic Consequences of Family Policies."

13. Martha Bailey and colleagues also find that paid leave increased investment in children, which could result in lower infant mortality. See Martha J. Bailey et al., "The Long-Term Effects of California's 2004 Paid Family Leave Act on Women's Careers: Evidence from U.S. Tax Data" (working paper, National Bureau of Economic Research, Cambridge, MA, October 2019); and Maya Rossin, "The Effects of Maternity Leave on Children's Birth and Infant Health Outcomes in the United States," *Journal of Health Economics* 30, no. 2 (March 2011): 221–39, https://pubmed.ncbi.nlm.nih.gov/21300415/.

14. Marianne Sundström and Frank P. Stafford, "Female Labour Force Participation, Fertility and Public Policy in Sweden," *European Journal of Population* 8, no. 1 (1992): 199–215, https://link.springer.com/article/10.1007%2FBF01797210; and Shintaro Yamaguchi, "Effects of Parental Leave Policies on Female Career and Fertility Choices," *Quantitative Economics* 10, no. 3 (July 2019): 1195–232, https://onlinelibrary.wiley.com/doi/full/10.3982/QE965.

15. In contrast, Olivetti and Petrongolo find that paid leave, not job protection, seems to be the most important for promoting fertility. See Olivetti and Petrongolo, "The Economic Consequences of Family Policies"; and Lalive and Zweimüller, "How Does Parental Leave Affect Fertility and Return to Work?"

16. Cannonier, "Does the Family and Medical Leave Act (FMLA) Increase Fertility Behavior?"

17. Ann-Zofie Duvander, Trude Lappegård, and Gunnar Andersson, "Family Policy and Fertility: Fathers' and Mothers' Use of Parental Leave and Continued Childbearing in Norway and Sweden," *Journal of European Social Policy* 20, no. 1 (February 2010): 45–57, https://journals.sagepub.com/doi/abs/10.1177/0958928709352541; and Lídia Farré and Libertad González, "The Effects of Paternity Leave on Fertility and Labor Market Outcomes" (working paper, IZA Institute of Labor Economics, Bonn, Germany, June 2017), https://www.iza.org/publications/dp/10865/the-effects-of-paternity-leave-on-fertility-and-labor-market-outcomes.

18. There is evidence that since women are more likely to take caregiving leave, firms reduce their demand for female workers, but this shift in relative demand need not lower labor force participation or employment on aggregate. In fact, Natasha Sarin finds that despite the decline in relative demand for women, female employment still rises due to decreased separations. See Natasha R. Sarin, "The Impact of Paid Leave on Female Employment Outcomes" (working paper, Harvard University, Cambridge, MA, August 2017), https://scholar.harvard.edu/nsarin/publications/impact-paid-leave-female-employment-outcomes; and Mallika Thomas, "The Impact of Mandated Maternity Benefits on the Gender Differential in Promotions: Examining the Role of Adverse Selection" (working paper, Cornell University, Ithaca, NY, September 2016), https://digitalcommons.ilr.cornell.edu/ics/16/.

19. Although there is not much evidence on the impact of caregiving leave on the employment or unemployment rates, the effect is likely to be second order compared to the impact of these policies on the labor force participation rate. For instance, based on the 2018 population, a 2 percent decrease in the unemployment rate (assumed to be 5 percent) would add fewer than 200,000 people to employment, while an increase in the participation rate of 2 percent would add close to 3,000,000 people to employment, assuming no change in the unemployment rate.

20. Interestingly, Charles Baum II and Christopher Ruhm, studying California's Paid Family Leave program, find that the program boosted employment by 5 to 10 percent in the months *before* birth, presumably because before the introduction of the program women who anticipated leaving the labor force after delivery stopped working beforehand. See Charles L. Baum II and Christopher J. Ruhm, "The Effects of Paid Family Leave in California on Labor Market Outcomes," *Journal of Policy Analysis and Management* 35, no. 2 (February 2016): 333–56, https://onlinelibrary.wiley.com/doi/abs/10.1002/pam.21894. Bailey and colleagues find lower participation over the longer term. Bailey et al., "The Long-Term Effects of California's 2004 Paid Family Leave Act on Women's Careers"; and Charles L. Baum II, "The Effect of Maternity Leave Legislation on Mothers' Labor Supply After Childbirth," *Southern Economic Journal* 69, no. 4 (April 2003): 772–99. However, Baum does not find an effect. See Charles L. Baum II, "The Effect of State Maternity Leave Legislation and the 1993 Family and Medical Leave Act on Employment and Wages," *Labour Economics* 10, no. 5 (October 2003): 573–96, https://www.sciencedirect.com/science/article/abs/pii/S092753710300037X.

21. Sarah Bana, Kelly Bedard, and Maya Rossin-Slater, using data from California's paid leave program, find no evidence that the benefit level affects leave duration or employment outcomes and show an increase in leave-taking. See Sarah Bana, Kelly Bedard,

and Maya Rossin-Slater, "The Impacts of Paid Family Leave Benefits: Regression Kink Evidence from California Administrative Data" (working paper, National Bureau of Economic Research, Cambridge, MA, June 2019), https://www.nber.org/papers/w24438. Baum and Baker and Milligan show no increase in leave-taking. Michael Baker and Kevin Milligan, "How Does Job-Protected Maternity Leave Affect Mothers' Employment?," *Journal of Labor Economics* 26, no. 4 (October 2008): 655–91; Baum II, "The Effect of State Maternity Leave Legislation and the 1993 Family and Medical Leave Act on Employment and Wages"; and Baum II and Ruhm, "The Effects of Paid Family Leave in California on Labor Market Outcomes."

22. A word of caution is warranted here: Studies of Europe that use administrative data often count women on paid leave as being employed or in the labor force as a matter of course, regardless of whether the woman intends to return to work. In contrast, in survey data, such as the Current Population Survey, which is used by many studies of leave policies in the United States, women report themselves as being employed but on leave or out of the labor force. These differences in reporting can make it difficult to compare the magnitudes of employment impacts across studies. Baker and Milligan, "How Does Job-Protected Maternity Leave Affect Mothers' Employment?"; Baum II and Ruhm, "The Effects of Paid Family Leave in California on Labor Market Outcomes"; and Barbara Butrica and Nadia Karamcheva, *The Impact of Informal Caregiving on Older Adults' Labor Supply and Economic Resources*, Urban Institute, March 10, 2015, https://www.urban.org/research/publication/impact-informal-caregiving-older-adults-laborsupply-and-economic-resources.

23. Jacob Klerman and Arleen Leibowitz are exceptions in finding little scope for the Family and Medical Leave Act to increase job continuity. Jacob Alex Klerman and Arleen Leibowitz, "Job Continuity Among New Mothers," *Demography* 36, no. 2 (May 1999): 145–55. Baum and Baker and Milligan also find positive employment effects of leave programs, although magnitudes vary. Baker and Milligan, "How Does Job-Protected Maternity Leave Affect Mothers' Employment?"; Baum II, "The Effect of Maternity Leave Legislation on Mothers' Labor Supply After Childbirth"; Baum II and Ruhm, "The Effects of Paid Family Leave in California on Labor Market Outcomes"; and Butrica and Karamcheva, "The Impact of Informal Caregiving on Older Adults' Labor Supply and Economic Resources."

24. Bailey et al., "The Long-Term Effects of California's 2004 Paid Family Leave Act on Women's Careers."

25. Olivetti and Petrongolo note a discrepancy between their finding in the aggregate data that parental leave policies boost female employment (and fertility) and the micro literature they cite, which focuses primarily on the expansion of leave policies in Europe and find little to no effect. However, they offer a possible explanation, which also would explain the difference among the studies we cite here that generally find positive effects, that the papers they cite tend to examine the expansion of already generous policies as opposed to the introduction of a new policy in which no job protection was previously available, as was the case with the Family and Medical Leave Act (FMLA). Olivetti and Petrongolo, "The Economic Consequences of Family Policies."

26. Meredith B. Lilly, Audrey Laporte, and Peter C. Coyte, "Labor Market Work and Home Care's Unpaid Caregivers: A Systematic Review of Labor Force Participation Rates, Predictors of Labor Market Withdrawal, and Hours of Work," *Milbank Quarterly* 85, no. 4 (December 2007): 641–90, ncbi.nlm.nih.gov/pmc/articles/PMC2690351/.

27. Thomas Ahn and Aaron Yelowtiz, "The Short-Run Impacts of Connecticut's Paid Sick Leave Legislation," *Applied Economics Letters* 22, no. 15 (April 2015): 1267–72, https://www.tandfonline.com/doi/abs/10.1080/13504851.2015.1023934?journalCode=rael20; Butrica and Karamcheva, "The Impact of Informal Caregiving on Older Adults' Labor Supply and Economic Resources"; Yulya Truskinovsky and Nicole Maestas, "Caregiving and Labor Force Participation: New Evidence from the American Time Use Survey" (conference paper, New Perspectives on Time Use, Allied Social Science Associations, Philadelphia, PA, December 29, 2017); and Courtney Harold Van Houtven, Norma B. Coe, and Meghan M. Skira, "The Effect of Informal Care on Work and Wages," *Journal of Health Economics* 32, no. 1 (January 2013): 240–52, https://www.sciencedirect.com/science/article/abs/pii/S0167629612001671.

28. The FMLA also provides for unpaid sick leave to care for certain family members (coverage varies by state), but this type of leave makes up about only 10 percent of all FMLA leave. Moreover, there does not seem to be an analysis of the impact of this use of FMLA on labor force participation. Presumably, since FMLA coverage is conferred by one's employment status, the program improves or has no impact on labor force participation and employment.

29. Ahn and Yelowitz's study is one of the few studies that distinguishes unemployment. In that study, they find evidence suggesting that the paid leave program in Connecticut increased unemployment for older workers. However, the results are not robust. Ahn and Yelowitz interpret the small negative effect as arising from a decrease in labor demand. Ahn and Yelowtiz, "The Short-Run Impacts of

Connecticut's Paid Sick Leave Legislation"; and Stefan Pichler and Nicolas R. Ziebarth, "Labor Market Effects of U.S. Sick Pay Mandates," *Journal of Human Resources*, October 16, 2018, http://jhr.uwpress.org/content/early/2018/10/11/jhr.55.3.0117-8514R2.abstract.

30. Employees do not always have control over their hours of work. The observed distribution of hours of work is the result of a constrained optimization problem, in which employers have substantial control over how many hours are required to perform a certain job. Employees match with an employer and then determine their hours or pick a job/hours pairing. In either case, the outcome may not equal the unconstrained outcome.

31. FMLA leave can be spread out over time, which could be suitable for long-term caregiving for which it is possible to plan. However, it is much less likely to be used in this way.

32. Butrica and Karamcheva, "The Impact of Informal Caregiving on Older Adults' Labor Supply and Economic Resources"; National Alliance for Caregiving, University of Pittsburgh Institute on Aging, MetLife, and Mature Market Institute, *The Metlife Caregiving Cost Study: Productivity Losses to U.S. Business*, February 2010, http://www.advancingstates.org/sites/nasuad/files/hcbs/files/179/8914/mmi-health-care-costs.pdf; and Van Houtven, Coe, and Skira, "The Effect of Informal Care on Work and Wages."

33. Baker and Milligan, "How Does Job-Protected Maternity Leave Affect Mothers' Employment?"; Baum II and Ruhm, "The Effects of Paid Family Leave in California on Labor Market Outcomes"; Lawrence M. Berger and Jane Waldfogel, "Maternity Leave and the Employment of New Mothers in the United States," *Journal of Population Economics* 17, no. 1 (2004): 331–49; and Butrica and Karamcheva, "The Impact of Informal Caregiving on Older Adults' Labor Supply and Economic Resources."

34. Two points about the literature on sick leave are worth pointing out. First, the point estimates on leave-taking generated by these studies are not particularly useful for our examination of caregiving, since much of the leave taken will be for own illnesses. See Per Johansson and Mårten Palme, "Moral Hazard and Sickness Insurance," *Journal of Public Economics* 88, no. 9–10 (September 2005): 1879–90, https://www.sciencedirect.com/science/article/abs/pii/S0047272705000290. Second, a strand of the literature on sick leave tries to estimate the impact of these policies on shirking. Distinguishing between time lost due to actual care needs and shirking is not necessary for determining the macroeconomic effects. That said, employers surveyed following the introduction of California Paid Family Leave program, and a similar program, New Jersey Family Leave Insurance, reported no episodes of the programs being abused. See Eileen Appelbaum and Ruth Milkman, *Leave That Pay: Employer and Worker Experiences with Paid Family Leave in California*, Center for Economic and Policy Research, 2011, http://cepr.net/documents/publications/paid-family-leave-1-2011.pdf; Sharon Lerner and Eileen Appelbaum, *Business as Usual: New Jersey Employers' Experiences with Family Leave Insurance*, Center for Economic and Policy Research, June 2014, http://cepr.net/documents/nj-fli-2014-06.pdf; and Ahn and Yelowtiz, "The Short-Run Impacts of Connecticut's Paid Sick Leave Legislation."

35. Baum II and Christopher Ruhm, "The Effects of Paid Family Leave in California on Labor Market Outcomes."

36. Baker and Milligan, "How Does Job-Protected Maternity Leave Affect Mothers' Employment?"

37. There is not a comparable finding related to whether the provision of earned sick leave or the use of FMLA for intermittent caregiving needs might encourage more full-time work when the spell of caregiving leave is over. Butrica and Karamcheva do find that caregiving is typically a temporary situation. Butrica and Karamcheva, "The Impact of Informal Caregiving on Older Adults' Labor Supply and Economic Resources."

38. US Department of Labor, Bureau of Labor Statistics, *Labor Composition and U.S. Productivity Growth, 1948–90*, December 1993, https://www.bls.gov/mfp/labor_composition.pdf; and Dale W. Jorgenson, Frank M. Gollop, and Barbara M. Fraumeni, *Productivity and U.S. Economic Growth* (Cambridge, MA: Harvard University Press, 1999).

39. David H. Autor, William R. Kerr, and Adriana D. Kugler, "Does Employment Protection Reduce Productivity? Evidence from US States," *Economic Journal* 117, no. 521 (2007): 189–217, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1230066; Carl Magnus Bjuggren, "Employment Protection and Labor Productivity," *Journal of Public Economics* 157, no. 1 (January 2018): 138–57, https://www.sciencedirect.com/science/article/pii/S0047272717302013; and Adriana Kugler and Giovanni Pica, "Effects of Employment Protection on Worker and Job Flows: Evidence from the 1990 Italian Reform," *Labour Economics* 15, no. 1 (February 2008): 78–95, https://www.sciencedirect.com/science/article/abs/pii/S092753710600090X.

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