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The Economic Impacts of Insufficient Child Care on Working Families

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A companion report, *Want to Grow the Economy? Fix the Child Care Crisis,* is also available at www.strongnation.org/ReadyNation.

Executive Summary

Many working families do not have access to the child care they need when their children are very young. This is especially true for the 11 million working parents of child aged under 3.

Using new survey data and economic analysis, we calculate substantial economic losses when families of children aged under 3 do not have adequate child care. These families report lower time at work, less productive work, and diminished career opportunities.

Each year:

- **Working parents** lose on average $3,350 in lost earnings, in reduced productivity at work, and in more time looking for work. Across the 11 million parents, this annual burden is $37bn.
- **Businesses** lose on average $1,150 per working parent in reduced revenue and in extra recruitment costs. In aggregate, the burden on business is $13bn.
- **Taxpayers** lose on average $630 per working parent in lower income tax and sales tax. In aggregate, this amounts to reduced tax revenues of $7bn.

Over the long-term:

- Working parents lose on average $8,940 in lost earnings, reduced participation in the labor market, and in lower returns to experience. Across the 11 million parents, this annual burden is $98bn.
- Businesses lose on average $1,490 per working parent in reduced revenue and in extra recruitment costs. In aggregate, the burden on business is $16bn.
- Taxpayers lose on average $2,270 per working parent in lower income tax and sales tax. In aggregate, this amounts to reduced tax revenues of $25bn.

The economic consequences of inadequate child care are large and long-lasting for young families.

1. Introduction

The American family is changing—fewer babies are born to each family, with parents making greater investments in each child; more children are living with single mothers; and more married females are working (Greenwood et al., 2017). As well, the U.S. labor market is changing—wage growth is lower; there are fewer jobs for low-skilled workers; and "precarious" work is on the rise (Abraham & Kearney, 2018; Kalleberg & Vallas, 2018). These twin changes affect the child care that parents need.

Parents need child care so they can go to work, be productive at work, and build successful careers. Asked why they want early childhood education, 60% of households give as the primary reason "to provide care when a parent is at work"; asked what features this child care should have, almost 90% of households emphasize that reliability—allowing them to meet work commitments—is "very important". But, more than one-quarter report "some or a lot of difficulty" in finding the type of early childhood program they want (Corcoran & Steinley, 2017).

When families do not have access to the child care they need, their work productivity falls. Based on new survey data on working parents—to our knowledge, one of very few national surveys covering this group—we report evidence of the various ways in which the work commitments, work performance, and work opportunities of parents are diminished because of problems with child care.

When working parents face more challenges at work, there are widespread economic consequences: the parents' incomes are lower, workplace productivity falls, and economic activity is reduced. Using the survey evidence merged with labor market data, we model how the economy is affected because of problems with child care.

Across the US there are 14.1 million parents with children aged under 3. Of these parents, 11 million are participating in the labor market (ASEC Census, 2018). In this report, we present evidence of the work-related impacts when child care options are inadequate for these 11 million parents.

2. Working Parent Survey

Our findings are based on a new survey of working parents of children under age 3. The sampling frame includes all working parents—mothers and fathers—across the U.S. See Appendix 1 for details on the survey design.

The sample of 812 working parents reflects the national population of working parents with children under age 3. Importantly, the sample is evenly split male/female and so represents all full-time workers (not just mothers). This group is distinct from the entire population in terms of age and labor market participation (and broader than the group of

primary care-givers). Specifically, parents of young children are much younger than the U.S. population and working parents are more highly educated (and report higher incomes) than non-working parents. See Appendix Table A1 for comparative data on our sample and the matching population.

In our survey sample, family characteristics correspond to national census numbers. One-fifth of the sample are taking care of more than one child aged under 3; slightly more than half are the designated primary caregiver, with another one-third sharing caregiver responsibilities equally. One-quarter are non-married households (the respective national estimate is 27%). One-third (34%) of the parents do not rely on any child care outside the home. The other two-thirds rely on a variety and mix of child care: 25% rely on non-relatives, 25% rely on relatives, and 50% rely on center-based care (with some families relying on multiple types of care). These rates are very close to national estimates for full-time working parents with children up to age 5 derived from the National Household Education Survey of 2016. Of these working parents, 31% do not rely on outside child care; of the remainder, 25% rely on non-relatives, 47% rely on relatives, and 58% rely on center-based care (Corcoran & Steinley, 2017, Table 1).

As well, worker characteristics of our survey sample are close to the national averages. With 92% of parents in the sample working full-time, their reported average weekly earnings are $1,020; this is very close to the national Current Population Survey age-adjusted estimate of $1,110. They report working 39.5 hours per week; the national average for full-time workers (unadjusted for family composition) is 42.1 hours per week (BLS, 2018a). Average hourly earnings per week are $25.83; the (unadjusted) national average hourly earnings per week are $26.91 (BLS, 2018b). Of the survey respondents, 79% were white (compared to 77% of the national working population); 14% were Hispanic (compared to 23% of the national population).

3. How Inadequate Child Care Affects Workers

Survey respondents were asked about how any child care problems for their child(ren) aged under 3 had affected their work. For direct work time, respondents reported on impacts over the last three months. For work productivity and job prospects, the respondents reported on any impacts since their young child was born.

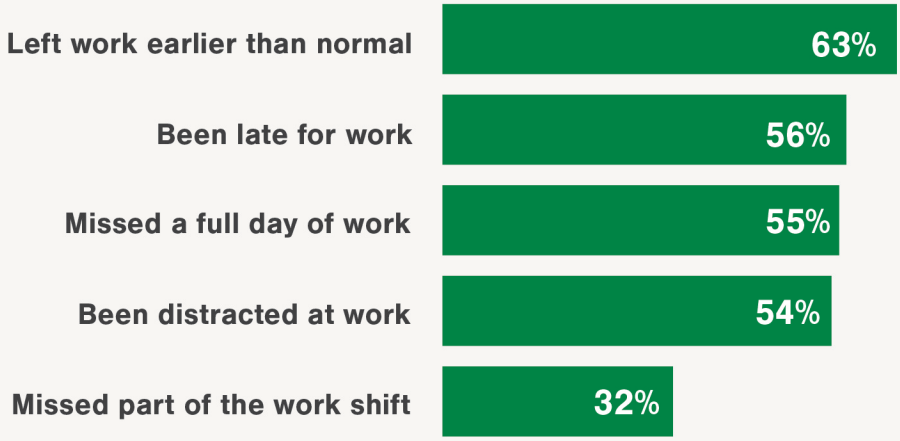
Work Time

Child care problems significantly reduce how much time working parents can spend at work. On average, parents lost 2 hours per week of work time (5 percent of their work week). Figure 1 shows how effort at work is disrupted because of child care problems:

- Almost two-thirds of working parents report leaving work early
- More than half of working parents report being late for work, missing a full day of work, or being distracted at work
- One-third of working parents report missing part of their daily work shift

Fig. 1 Time and Effort at Work

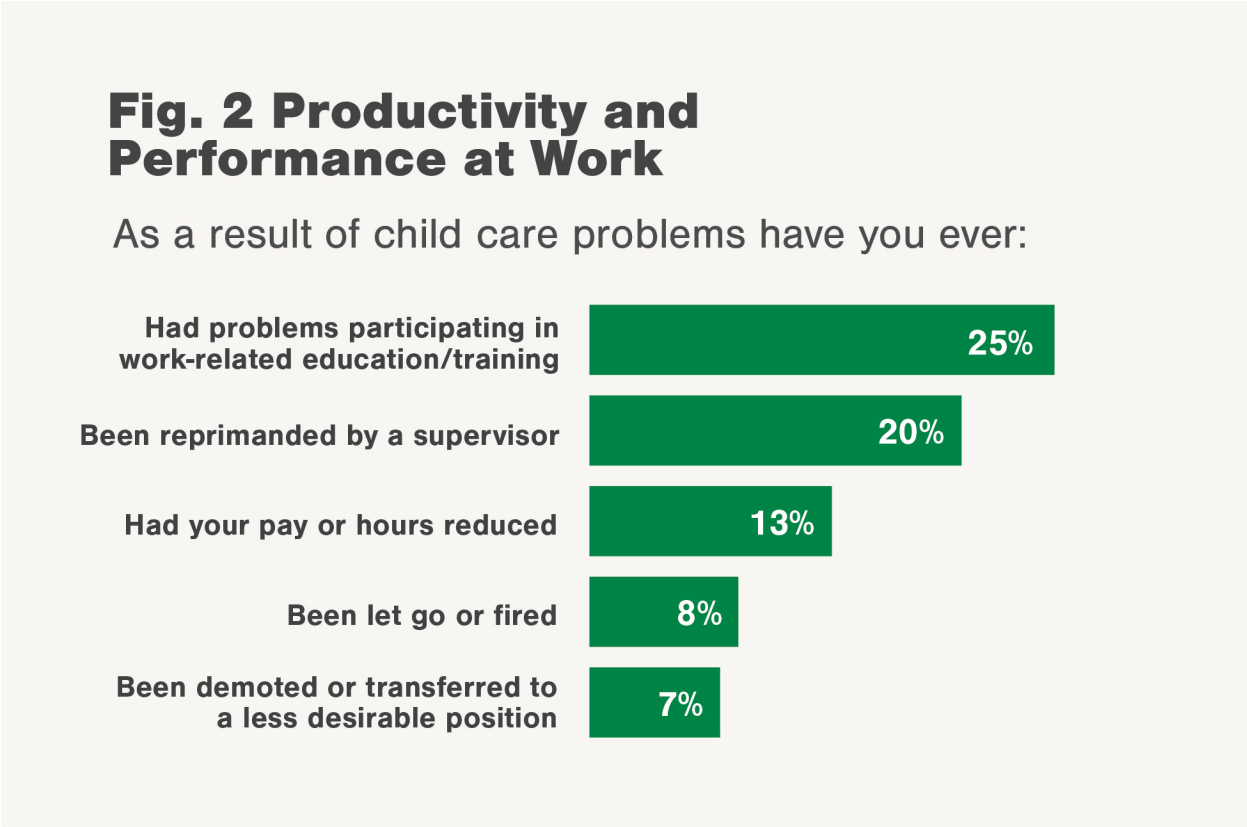
As a result of child care problems have you ever:



Work Productivity

Child care problems substantially impair workers' ability to be productive at work; this undermines their job stability. Figure 2 shows how job status is damaged because of child care problems:

- One-quarter of working parents report problems participating in education and training that would improve their productivity at work
- One-in-five working parents report being reprimanded by a supervisor
- One-in-seven working parents report having their pay or hours reduced
- Almost one-in-ten report working parents report either being demoted or transferred or being fired or let go; together, just over one-in-ten report a significant job disruption.



Career Prospects

Child care problems adversely affect workers' decisions about their careers; this results in diminished job prospects. Figure 3 shows how work opportunities are constrained because of child care problems:

- One-quarter of working parents report having to reduce their regular work hours, turn down further education or training, and turn down job offers
- One-in-six working parents report turning down a promotion or reassignment to a preferred job
- One-in-seven working parents report having their pay or hours reduced and quitting a prior job

A summary of these accumulated impacts is shown in Figure 4. The percentages show how many workers report ever being affected at all in terms of time, productivity, or career prospects. Primary care-givers report being severely affected: 47% had careers that were affected, 63% report adverse productivity impacts; and 86% report that their effort or time commitment at work was constrained. The rates are higher for female workers than males, but all groups report very high rates of accumulated impacts.

Fig. 3 Career Pathways

As a result of child care problems have you ever:

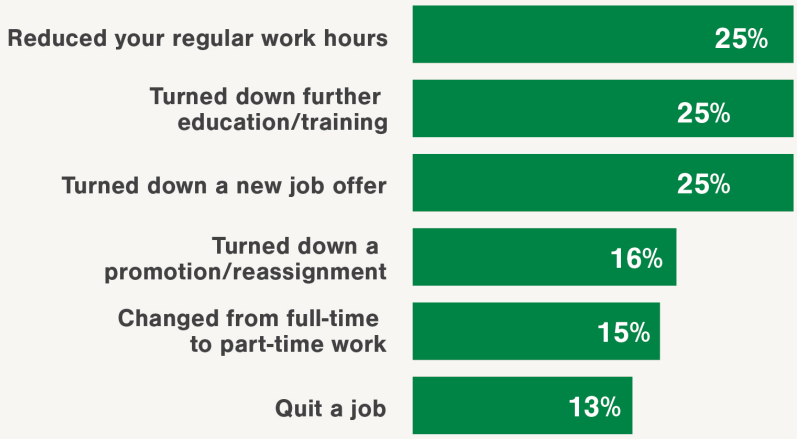
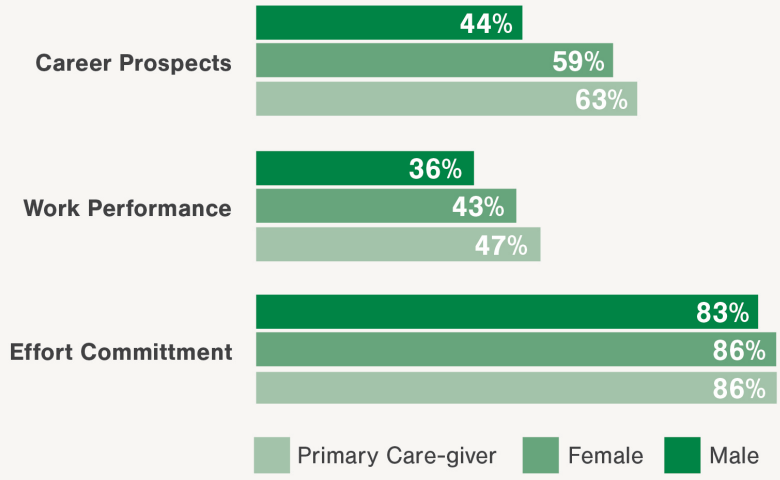


Fig. 4 Accumulated Effects of Child Care Problems

As a result of child care problems has there been any adverse impact on your:



These patterns are consistent with prior evidence. Surveys of families in Louisiana and Maryland, as well as national studies, also find significant negative impacts from inadequate child care. Notably, the high quit rate is identified in a 2016 National Survey of Children's Health (see Davis et al., 2017; Talbot et al., 2018; Montes & Halterman, 2011). However, these surveys of child care differ across several dimensions, including: the ages of the referent children; question wording; and sampling of family members. Thus, incidences and frequencies are not precisely comparable across studies.

4. How Inadequate Child Care Affects the US Economy

When workers' time, productivity, and careers are diminished, there are adverse consequences across the US economy. In Figure 5, we show the main effects for three groups.

Fig. 5 How Child Care Problems Adversely Affect the Economy

Individual Parents	Businesses	Taxpayers
Lost earnings now from lower productivity and less work experience	Lost revenues now from lower output	Lost tax revenue now from lower GDP
Extra costs of job search for alternative work and child care arrangements	Extra costs to rehire quits and cover absenteeism Extra costs to manage disruped workers	Lost sales and consumption tax revenue
Lost earnings in the future from lower productivity, less work experience, and lower skills upgrading	Lost revenues in the future from lower output	Lost tax revenue in the future

For individual workers and their families, there are obvious and immediate economic consequences from inadequate child care. The primary consequence is reduced income—their constrained opportunities to work will be reflected in their wages. But there are also losses because workers with young children have to look harder and

more frequently for new employment opportunities. As well, with less training and less experience, these workers face narrower career prospects—this reduces their future earnings potential.

For firms and businesses, having a workforce with lower productivity and shorter tenure has economic consequences. If a firm's workforce keeps changing, worker morale may be undermined, product quality may diminish, and clients may be lost. Some of these damages are offset by paying workers less, but the offset is not complete: wages do not instantaneously and perfectly adjust and there are general output losses incurred by the firm. In addition, there is an immediate direct cost in that the firm must pay for recruitment, hiring, and induction as its workforce turns over. Also, firms incur extra costs to manage the disruptions attributable to child care problem. These output losses and extra costs are immediate. There are also future losses and costs when workers are not optimally trained and have too little experience. (There may also be effects on other firms trading with affected firms; see Talbert et al., 2018).

For taxpayers, the economic impacts on individuals and firms cause lower tax revenues. The main loss is to federal income tax revenues; state-specific losses depend on state income and consumption/sales tax rates. Similarly, there are immediate losses for each year when the children are aged under 3 and there are future losses caused by the reduction in earnings potential. These tax consequences are counted as part of the gross losses to individuals and firms; here they are separated out to indicate the fiscal consequences of inadequate child care.

5. The Economy-Wide Impacts of Inadequate Child Care

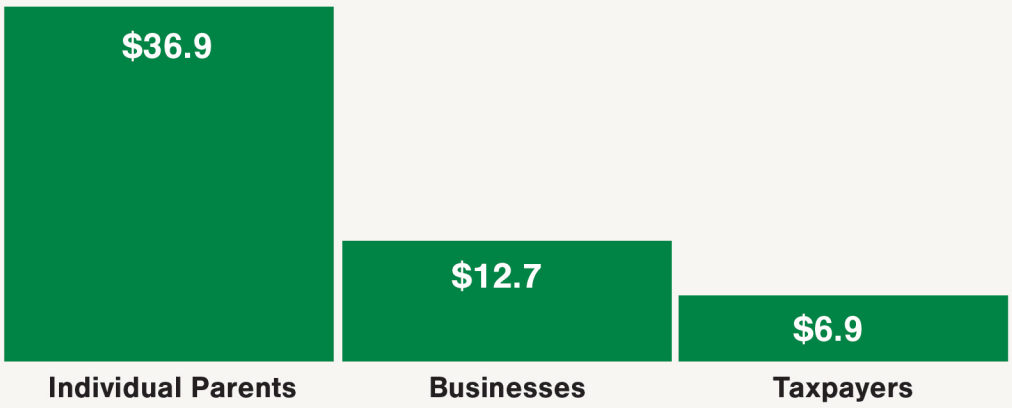
We calculate the economy-wide impacts of inadequate child care for the three main groups affected—workers, firms, and taxpayers. (The method for calculating these impacts is reported in detail in Appendix 2).

Our primary estimate is the **working parent annual burden** attributable to inadequate child care. We report totals per worker and in aggregate for the relevant population. So, each year there are 11 million parents whose labor market contributions are constrained. These annual estimates are reported per worker in Figure 6 and in the aggregate in Figure 7.

Fig. 6 Annual Economic Burden Per Worker

Individual Parents	Businesses	Taxpayers
$3,210 Lost earnings now	**$860** Lost revenues now	**$400** Lost tax revenue now
$140 Extra costs of job search	**$290** Extra costs to rehire quits	**$230** Lost sales tax revenue

Fig. 7 Annual Aggregate Economic Burden per Cohort ($ billions)



Worker/Family Annual Burdens

Each year when a child is aged under 3, we estimate on average an economic burden from inadequate child care of **$3,350 per working parent**. The largest component of that loss is due to constraints on the amount of time each parent can spend at work. Across the relevant working parent workforce of 11 million, the **aggregate working parent annual economic burden is $36.9 billion** each year.

Business Annual Burdens

Each year when a child is aged under 3, we estimate on average burden on businesses from inadequate child care of **$1,150 per working parent**. This burden comes from reductions in revenue and from extra hiring costs. Across the relevant working parent workforce of 11 million, the **aggregate burden on business is $12.7 billion** each year.

Taxpayer Annual Burdens

Each year when a child is aged under 3, we estimate on average an economic burden from inadequate child care of **$630 per working parent**. This tax burden is mostly lost federal income tax; on average, state sales taxes are levied, so there is also a non-trivial burden in lost sales taxes. Across the relevant working parent workforce of 11million, the **aggregate working parent annual lost tax burden is $6.9 billion** each year.

Next, we estimate a **working parent long-term burden**: this is the annual burden plus the extrapolated future burdens arising from diminished careers for workers. So, for each parent of a child under age 3, there are annual burdens when the child is under age 3 and future burdens when the child is older but the parents' lost experience and skills are still influential. These long-term burdens are expressed as lump-sum present values: that is, they represent the total amount of money in the year when the working parent has a child under 3.

Worker/Family Long-term Career Burdens

Over the time period when each child is aged under 3 and the subsequent ten years, we estimate on average a career economic burden from inadequate child care equivalent to **$8,940 per working parent**. This career burden includes the annual burdens as well as a lower trajectory of earnings over a ten-year period. Across the relevant working parent workforce of 11 million, the aggregate **working parent career economic burden is $98.3 billion** as a lump sum for each cohort.

Business Long-term Burdens

Over the time period when each child is aged under 3 and the subsequent ten years, we estimate on average a business burden from inadequate child care equivalent to **$1,490 per working parent**. This lump sum captures the period when the child is under 3 plus

future losses in productivity (as well as additional hiring costs); only minimal pay distortions are assumed as firms adjust wages over time to match productivity. Across the working parent workforce, the aggregate **business burden is $16.4 billion** as a lump sum incurred by businesses.

Taxpayer Long-term Burdens

We estimate on average a long-term loss in federal and state sales tax from inadequate child care equivalent to **$2,270 per working parent**. This large present value amount captures the long-term disruption to each individual's work productivity over a ten-year period. Across the working parent workforce, the aggregate **taxpayer burden is $25 billion** as a lump sum for each cohort.

These calculations reveal significant economic burdens associated with inadequate child care. These findings are comparable to the results reported in similar studies for the states of Louisiana and Maryland, although those studies use somewhat different methods and are applied across different populations (Davis et al., 2017; Talbert et al., 2018).

Most likely, even these estimates are conservative. They do not account for the significant changes in labor force participation at or before child birth. Also, the survey is only directed at working families: those families that were unable to secure adequate child care may not be working at all. Their economic losses are not considered in this analysis.

6. Conclusions

This survey establishes how child care problems adversely impact workers across three important domains—work-time commitment, worker performance/productivity, and workers' long-term careers. Especially notable are the reports of workers being reprimanded, not promoted or quitting their jobs because of child care problems. As well, we identify extended consequences when workers forgo training opportunities.

The impacts translate into sizeable economic burdens. These burdens are incurred in the immediate years when the child is aged under 3. But, as initial impacts accumulate, the economic consequences are very large when they expressed over a child's early life.

In recent years, there have been substantial—and highly valuable—investments in early education for children (Corcoran & Steinley, 2017). There is strong evidence that these investments are likely to help children develop academically and socially (Garcia et al., 2017). However, there are still many parents who are unable to access child care that fits with the demands placed on them by the need to work. The constraints these workers face have broad effects across the economy and the tax system.

Appendix 1: Sampling

The survey was a sample representative of persons in the US who are employed and have a child under the age of 3. The survey was performed by Zogby Analytics.

Adults were randomly invited to participate in an interactive survey. Each invitation was password coded and secure so that one respondent could only access the survey one time.

Using information based on census data, voter registration figures, CIA fact books and exit polls, Zogby Analytics used complex weighting techniques to best represent the demographics of the population being surveyed. Weighted variables may include age, race, gender, region, party, education, and religion.

Based on a confidence interval of 95%, the margin of error for 812 is +/- 3.4 percentage points. This means that all other things being equal, the identical survey repeated will have results within the margin of error 95 times out of 100. Subsets of the data have a larger margin of error than the whole data set.

Appendix Table A1 shows the descriptive frequencies for the sample of 812 persons and descriptive frequencies for the US employed population with young children.

Appendix Table A1

	Survey Sample Frequencies* (%)	U.S. Population (%)
Region:[a]		
Northeast	20.1	16.8
Midwest	25.1	21.1
South	37.3	37.7
West	18.2	23.6
Urban area residence[a]	84.1	81.3
Race:[b]		
White	79.2	77.2
African American	9.5	11.9
Other	11.6	10.9
Hispanic[b]	13.7	22.8
Education:[b]		
No HS diploma	1.4	7.9
HS graduate	11.7	25.0
Some college	31.0	25.9
Bachelor's degree+	55.9	42.0
Age:[c]		
18-24	7.3	10.5
25-29	20.4	22.2
30-34	33.2	30.0
35-39	25.7	22.5
40-44	7.8	9.4
45+	5.6	5.4
Gender:		
Male	49.1	49.3
Female	50.9	50.7
	812	11 million

Source: Census, March Current Population Survey (CPS) 2017. *Notes*: * Sample is U.S. parents or guardians who are the caregiver (not paid) of at least one child currently under three years of age, who has either worked or been in school/training program during the past year at a minimum. [a] National number includes all persons over 25. [b] CPS sample: weighted frequencies for employed persons aged 16+ with children under age 6. [c] Parents with children under 18.

Appendix 2: Economic Valuation Method

We apply a static life-profile economic model to calculate losses caused by inadequate child care. We derive estimates across the elements of Figure 5. All figures are in 2018 dollars.

The calculations are per worker, based on the survey numbers as representative of the US population. These calculations are then aggregated across this population of 11 million working parents with children aged under 3. Immediate consequences are expressed as annual amounts; future consequences are modeled for the "typical" parent of a child aged 1.5 years old. (with full decay of impacts after ten years).

Incomes, Output, and Federal Income Tax Revenue:

- Income losses (Y) are expressed as a proportion (y) of total earnings, where this proportion depends on the extent of the disruption caused by child care problems. We use the survey estimates of hours of work and employment lost to calculate the time burden as hours lost times the wage rate. (These estimates are based on disaggregated survey responses regarding 1-3, or 4+ disruptions). We use the survey estimates of job performance and career pathways to derive a small immediate wage penalty of 1%. Individuals incur a proportion (x=90%) of these lost hours and lost earnings; the remaining proportion is incurred by firms.
- Output losses (Q) are composed of two parts. One is the proportion (1-x=10%) of lost hours and lost earnings. The other is direct employment on-costs payable by the firm per worker; conservatively, these on-costs are 19.2% of Y (7.1% in paid leave, 3.3% in supplemental pay, and 8.8% in health insurance; see BLS, 2018c).
- Losses in federal income tax (FT) are derived from values for Y applied through the NBER tax calculator TAXSIM version 27 (updated in January 2018 from Feenberg & Coutts, 1993). Taxes are per household with joint filing, single child and child care expenses of $3,000.

Firm Turnover and Management Costs:

- Firms pay for turnover in various ways, including reduced worker morale. For this model, the firm turnover cost *TVC* is estimated at *tvr*=21% of annual salary per affected worker (*Y*). This turnover rate estimate (*tvr*) is derived from summaries of evidence across two reviews and is the lower bound of reported estimates (Boushey & Glynn, 2012; Work Institute, 2017).
- Managerial costs are predicted as a fraction of total earnings losses *Y*. However, no reliable estimate of managerial costs attributable to low worker performance are available. To be conservative, these managerial costs are therefore excluded.

Consumption/Sales Tax:

- Consumption/sales tax losses are derived from the estimates of *Y* applied through *TAXSIM* version 27 (updated in January 2018 from Feenberg & Coutts, 1993) and https://taxfoundation.org/state-and-local-sales-tax-rates-2018/.

Future Incomes, Output, and Income Tax Revenue:

- Future economic consequences are composed of two parts. For both parts, these extrapolations are proportionate to the immediate losses *Y*, *Q*, and *FT*.
- First, each working parent experiences on average another 0.5 years of disrupted work patterns (until the average child becomes 3).
- Second, each working parent experiences reduced career prospects as a result of lower skills and less experience. We model these as proportionate annuities based on published estimates of the returns to experience and the returns to education/training (4% and 8%, respectively, Carneiro et al., 2011); these annuities are lost for workers who experience child care problems. We assume these effects decay to zero after ten years.
- These are likely to be conservative estimates, given greater disruptions to labor market participation at the time of childbirth (Goldin & Mitchell, 2017). Future estimates are discounted at a 3% rate (Moore et al., 2004).

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