Inducing Labor: the Impact of Health Insurance on Post-Natal Labor Supply

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ABSTRACT

In this paper we analyze the role of access to health insurance plays in the widely documented, sharp fall in mother's labor supply following childbirth. Our analysis exploits variation created by the Affordable Care Act (ACA), which substantially expanded access to health insurance within the U.S., and richly detailed administrative tax data. We find that mother's relative post-childbirth employment increases by 12% for births that occur after the insurance expansion. This labor supply response is pervasive across mother's pre-birth characteristics, and across the varied impact of the ACA expansion. Our analysis suggests that this response is likely driven by a combination of improved access to maternal health care, increased participation by mothers who do not work before birth, reduced exits among mothers who do work before birth, and a compositional changes in who gives birth following the ACA health insurance expansion.

Keywords : child penalty, taxes, labor supply, health insurance

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The views in this paper are those of the authors and not necessarily those of the U.S. Department of the Treasury, the Federal Reserve Bank of Chicago, or the Federal Reserve System.

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1. Introduction

The Affordable Care Act (ACA) fundamentally changed the market for health insurance in the U.S. One of the Act's most salient features included the creation of subsidized individual insurance marketplaces, which both increased access to insurance and weakened the existing link between access and employment. Recent studies have looked at whether the ACA's provisions had an impact on labor supply and generally find little to no effect (for example, see Duggan, Goda and Li (2021)). However, few studies have focused on whether increased access to insurance impacts labor supply surrounding a *health event*. In particular, the benefit to having insurance is most pronounced when an individual faces large expected health expenditures. By reducing out-of-pocket expenses, individuals with insurance typically increase the amount of care they receive relative to those without insurance, which could in turn impact their ability to work. At the same time, the availability of subsidized marketplace plans alters the incentive to work.

In this paper, we focus on first pregnancy and childbirth–a specific health event experienced by mothers–to study the extent to which increased access to health insurance due to the ACA impacts maternal labor supply. We combine Social Security birth records with administrative tax data to identify the precise timing of a birth, match that child to his or her birth parents, and track both parents' labor supply outcomes before and after the birth. In line with recent literature that looks at the role of childbirth in the well-documented gender wage gap (Kleven, Landais and Søgaard (2019)), we study how the relative labor supply of mothers and fathers changes after the ACA is in effect. By examining labor supply for mothers compared to fathers we can hold fixed the fertility decision and the gender-neutral impact of birth on productivity. Overall, we find that the postnatal gap in labor supply between mothers and fathers decreased by 12% because of the ACA.

For our analysis, we draw a 10% random sample of first births that occur in 2013 and in 2015 to compare outcomes of parents whose first child is born before to those whose first child is born after the implementation of the ACA. We further restrict the sample to mothers who were between the ages of 26 and 44 in the year of childbirth due. We impose this restriction to avoid confounding factors from the ACA provision that allowed young adults under age 26 to remain on their parents insurance and applied before the ACA was fully implemented. In total, our sample contains over 145,000 births and roughly 2.5 million person-year observations. From the tax data, we obtain information on proxies for health insurance coverage, individual wage and self-employment earnings, and filing characteristics, such as filing status (joint vs. non-joint) and zip code.

We identify the impact of the ACA on postnatal maternal labor supply using a differences-in-differences-in-differences (DDD) approach. In particular, we compare the pre- and postnatal labor-force participation for mothers relative to fathers. We then examine whether variation in this gap coincides with the implementation of the ACA. Our underlying assumption is that fathers control for shocks to postnatal productivity—such as the demands of childcare that likely impact both genders as well as changes to the labor market due to the ACA—that are orthogonal to the health related impacts of childbirth for the mother. Our estimates imply that the ACA increased mother's relative post-birth wage employment by 1.4 percentage points and relative post-birth wage earnings by around $800. By contrast, we find that the relative likelihood of self-employment for post-ACA births is neither economically meaningful nor statistically different from pre-ACA births.

When comparing behavior among different cohorts across time, we may be concerned that secular trends or other confounding factors that coincidentally arrive in 2014 could be driving the results. To support our hypothesis that the observed changes in wage-employment are in fact driven by the ACA, we conduct two placebo tests on pre-ACA births. First, we compare relative employment for first births that occur between 2009 and 2010 to first births that occur between 2011 and 2012. Second, we compare relative employment for first births that occur in 2010 to first births that occur in 2012. There is no change in access to health insurance across for mothers age 26-44 giving birth between 2009 and 2012. For this reason, our placebo tests will pick up underlying secular trends in relative employment among mothers and fathers by measuring changes in these gaps over time. Reassuringly, we find no difference in the relative labor force participation of mothers and fathers across these two groups.

We next investigate several sources of potential heterogeneity in the results. First, we estimate differences by income relative to the Federal Poverty Line (FPL) to align with populations that are most impacted by the ACA. We find a negative relationship between the change in relative employment and mother's income, as would be expected if those most impacted by the policy (i.e people with incomes below 138% FPL) have a larger labor supply response. We find that the relative wage employment for mothers earning less than 138% of the Federal Poverty Level (FPL) two years before birth increased by 2.6 percentage points, and the relative wage employment for mothers earning more than 400% FPL increase by 0.7 percentage points; however, these estimates are not statistically different from one another.

Second, we estimate differences based on whether mothers file a joint or a non-joint tax return two years before birth. The ACA is likely to be less impactful on joint-filing mothers because they may have outside options for insurance coverage through their spouse. Consistent with this, we find that the ACA impacts relative employment more strongly for non-joint filing mothers. Specifically, the relative employment for non-joint filing mothers increased by 2.1 percentage points, compared to a 1.1 percentage point increase for joint-filing mothers. As with the FPL sub-sample analysis, these estimates are not statistically different from each other.

Third, we exploit geographic variation in pre-ACA employer-sponsored insurance (ESI) coverage. Prior literature has found that health insurance mandates, similar to the ACA, lead to a "crowd in" of ESI coverage (see for example Kolstad and Kowalski (2016)). Said differently, health insurance mandates increase the take-up of ESI policies. These past studies suggest that areas with low ex-ante rates of ESI will experience a larger response to the ACA due to a larger "crowd in" to ESI. Consistent with this, we find stronger postnatal labor force participation impacts in areas with the lowest pre-ACA ESI coverage; however, we can't reject the null hypothesis that these coefficients are different from one another.

Finally, we look separately at states who chose to expand versus states who chose not to expand Medicaid as states who chose to expand may have greater levels of access. Our point estimates align with that intuition where the labor supply effects in expansion states are larger than in non-expansion states, but once again, the coefficients are not statistically different from one another.

Our paper contributes to several strands of literature. First, our work complements recent studies that examine the extent to which mothers lean out of the labor force compared to fathers in postnatal years, i.e. the "child penalty." In Sweden, Angelov, Johansson and Lindahl (2016) finds evidence of long-run, persistent child penalties in spite of substantial state-sponsored, family-friendly policies. Similarly, Kleven, Landais and Søgaard (2019) finds that in Denmark as much as 80% of the gender-wage gap in recent years can be explained by the child penalty. Additionally, that child penalty is related to a stronger preference of mothers for family-friendly work arrangements that tend to pay lower wages. Kleven et al. (2019) estimates that a substantial child penalty exists among a broad set of developed countries, including the U.S. Finally, Kleven, Landais and Søgaard (2021) examines the role that biology plays in driving the child penalty by comparing the child penalty for adoptive and biological parents. In this analysis, he finds that the child penalty is larger for biological parents than adoptive parents during the first four years after birth. Our analysis complements these studies by measuring postnatal labor supply responses using high-quality administrative tax data in relation to compelling variation in access to health insurance.

Second, our work contributes to a large and extensive literature about the effect of health insurance expansions (or contractions) on labor supply. Past work on Medicaid expansions (or contractions) in the US show that increased eligibility is associated with a reduction in likelihood of employment, mostly on the extensive margin (e.g., Garthwaite et al., 2017; Taubman et al., 2014; Dave et al., 2015; Dague, DeLeire and Leininger, 2017). Several studies look at the early effects of the ACA Medicaid expansion, comparing states that expanded the program to low-income individuals under 138 percent of the Federal Poverty Line with states that did not. In contrast to early Medicaid expansions, the ACA expansion does not show any significant change in labor supply (e.g. Gooptu et al., 2016; Leung and Mas, 2018; Kaestner et al., 2017). Finally, the ACA young adult expansion seems to suggest a very small decline in labor force participation post reform (Heim, Lurie and Simon, 2015). Our results extend this literature by focusing on the intersection of both a health shock (i.e. pregnancy) and changes in access to insurance to estimate the resulting impact on labor supply.

Overall, we find that the ACA led to a relative increase of mothers' labor supply which narrowed the postnatal gender gap in employment by 12%. Surprisingly, this effect is robust across a wide range of sub-populations. This suggests that increased insurance access due to the ACA not only positively impacts mothers, but that impact was potentially extended beyond those who lacked health care access. The ACA imposed a number of additional provisions that specifically impacted mothers such as designating maternal care an essential benefit and eliminating co-pays for prenatal visits. As such, it is plausible that the policy's reach was broad, where even those who had insurance prior to the ACA benefited from its changes.

This remainder of this paper is organized as follows: Section 2 provides background on the U.S. institutions related to the provision of health care; Section 3 describes the data; Section 4 discusses our empirical methodology and Section 5 presents our estimates; finally Section 6 concludes.

2. Background

2.1. U.S. Health Insurance Landscape: Before the Affordable Care Act

Prior to 2014, health insurance in the U.S. was most commonly offered by private health insurers through employers. Generally, jobs that offered health insurance were more likely to be high-skilled, salaried jobs; in 2010, 65% of employees were offered insurance through their employers. Among the working age population, public health insurance (Medicaid) was available on a very limited basis to childless adults, very low-income adults, and, more commonly, to low-income mothers and children. As a result, many adults went without health insurance. In 2010, for example, 27% of adults aged 18-64 were uninsured for at least part of the year, 64% were covered by private health insurance, and 15% were covered by public insurance.[1]

The gap in health insurance coverage for men and women prior to ACA in the U.S. was stark. In 2010, women between ages 18 and 45 were 8 percentage points more likely to be covered despite being 7 percentage points less likely to be offered coverage by their employer. Some of this increase in coverage came from a higher prevalence of public insurance because women were more likely to fall into one of the four categories for Medicaid eligibility: pregnant, parent of a dependent child, senior, or disabled. Indeed, women between 18 and 45 were just one percentage point more likely to be covered by private insurance but were 7 percent-

[1] 2010 NHIS

age points more likely to be covered by public insurance. At the same time, childless women between 18 and 45 were 11 percentage points more likely to be covered than childless men. Finally, women between 18 and 45 with young children were 5 percentage points more likely to be covered.[2]

2.2. The Affordable Care Act

The ACA legislated several major changes to the U.S. healthcare landscape beginning in 2014. First, the ACA mandated that individuals purchase health insurance or face a penalty. Individuals without insurance could be exempted from the penalty for several reasons including, though not limited to, earning income below the filing threshold, facing a hardship, or residing in a state that did not expand Medicaid while having income below 138% of the federal poverty line (FPL).[3]

In addition to the individual mandate, the ACA created health insurance marketplaces, run either by states or by the federal government; eligible individuals could purchase age-rated policies that met a certain minimum standard of coverage. Prior to the ACA, non-group insurance, or insurance purchased outside the employer-employee relationship, was comparatively expensive, had a low actuarial value, and was subject to underwriting in many states. Regulation of the non-group market varied by state, resulting in a market that was mostly tailored to healthy individuals. In contrast, the new marketplaces incorporated both rating restrictions and prevented insurers from denying coverage based on pre-existing conditions by eliminating underwriting. Moreover, certain low and medium-income individuals experienced a reduction in the cost of marketplace insurance thanks to advanced premium tax credits (APTC), which limited premiums based on income in addition to reducing cost-sharing requirements.

[2] 2010 NHIS

[3] For more information about exemptions, see Lurie and McCubbin (2016)

Finally, the ACA paired the individual mandate with a large-employer mandate that required large employers to offer affordable insurance. Specifically, employers with more than 50 full time equivalent employees that did not offer employees an affordable employer-sponsored insurance plan faced a penalty. Taken together, these changes expanded access to the U.S. health insurance market. Between 2013 and 2015 the non-elderly uninsurance rate fell by 64% from 16.8% in 2013 to 10.9% in 2015, after what had been a six-year period of stability. [4] Moreover, the 2018 coverage gap between adult men and women ages 18-64 decreased by 3.4%, and women are now less than one percent less likely than men to have coverage from private sources. [5]

2.3. Prenatal and Maternity Coverage in the U.S.

Prior to the ACA health insurance expansion, access to prenatal and maternity coverage was heterogeneous and heavily dependent on the source of coverage. In 2010, Medicaid covered nearly half of all live births.[6] This is due to expanded Medicaid eligibility for pregnant women—since 1989 federal law has guaranteed coverage for pregnant women earning up to 133% FPL.[7] These mothers were also covered by Medicaid for up-to sixty days postpartum. By comparison, the pre-ACA, state-based regulatory environment permitted non-group insurance plans in some states to deny maternity benefits and pregnancy or post-pregnancy coverage because maternity benefits were not mandated and could be considered a pre-existing condition. Moreover, pre-ACA non-group market plans in many states were permitted to offer gender-rated plans wherein women could pay as much as 30% higher premiums than

[4] https://www.census.gov/library/publications/2015/demo/p60-253.html

[5] https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201905.pdf

[6] https://www.kff.org/womens-health-policy/report/medicaid-coverage-of-pregnancy-and-perinatal-benefits

[7] Some states had expanded Medicaid coverage to FPL levels higher than the mandated 133% prior to the 1989 law changes. These states were required to maintain these higher eligibility thresholds. As a result, just 7 states set eligibility thresholds at 133% FPL in 2013 (AL, ID, NV, ND, SD, UT, and WY).

men. Finally, pre-ACA employer-sponsored plans were much more likely to provide maternity benefits, however there was substantial variation in out-of-pocket costs associated with these services.

Following the ACA expansion, coverage for maternal care and pregnancy increased in a number of ways. First, the Medicaid expansions provided a path to expanded postnatal coverage for women living in expansion states while holding in place the federal Medicaid eligibility thresholds specific to pregnant women that was in place prior to the ACA. Second, the ACA mandated that a set of essential health benefits be covered by all third-party insurance plans.[8] These benefits, covered, for example hospitalization and maternity and newborn care. Although there is variation in the specific state implementation of this requirement, this requirement most commonly mandated coverage for prenatal care and eliminated co-pays for these services. Finally, the ACA mandated insurance coverage for contraceptives, again reducing out-of-pocket expenses to zero.

Because the ACA expansion reduced the cost of pregnancy—both by reducing expected out-of-pocket medical expenditures and by reducing the cost of family planning— there is the potential for the ACA to impact fertility. The sign of this impact, however, is ambiguous. On the one hand, expanded ACA coverage decreases the cost of ex-ante risky pregnancies that might otherwise not occurred, increasing fertility. On the other hand, the expanded access to contraception under the ACA should decrease fertility.

Prior research on the effect of health insurance on fertility provides mixed empirical results. Some studies focus on the effect of Medicaid expansions on fertility for low-income women. This evidence is inconclusive, with earlier research finding increase in fertility (for example see Joyce et al.(1998)) while later expansion estimates show a no effect or a decline infertility Zavodny and Bitler (2010); DeLeire, Lopoo and Simon (2011); Kearney and Levine

[8]Plans offered by self-insured employers were not required to provide this set of essential health benefits.

(2009). At the same time, studies of the early implementation of the ACA, which expanded access to young adults, find small and significant reductions in fertility (Heim, Lurie and Simon, 2018; Abramowitz, 2018). Evidence on the effect of the full ACA implementation on fertility, however, is scarce. Descriptive evidence shows a reduction in U.S. fertility rates that began in 2014. Consistent with this, Goldin, Homonoff and Lurie (N.D.) leverage an experimental taxpayer outreach program to increase insurance take-up ACA, finding a decrease in first births.

In what follows, we analyze how the ACA impacted mothers' postnatal labor supply relative to fathers. We hypothesize that labor supply could be impacted across several dimensions. First, expanded access to health insurance should increase prenatal and maternity coverage. If increased coverage improves prenatal and postnatal maternal health, this could indirectly lead to an increase in postnatal labor supply. Second, the employer and individual mandates impact the incentive for employers to offer "quality" insurance and individual demand for health insurance, which could lead to increased labor supply. In the context of the Massachusetts, Kolstad and Kowalski (2016) show in expansion that when employers have a comparative advantage in the provision of health insurance with benefits that are highly demanded by employees, this can result in an increase in the take-up of ESI. These results suggest that individuals might be more likely to take on wage-employment after the implementation of the ACA in order to gain access to ESI. At the same time, the availability of marketplace plans may reduce labor force attachment by providing outside options for coverage that are not tied to the labor market. Finally, if the ACA impacts fertility, this could affect the composition of mothers in a way that impacts postnatal labor supply. Ultimately, our analysis estimates the net-impact of these effects.

3. Data

This analysis relies on panel data for a sample of mothers and fathers that we assemble from several data sources: the Social Security Administration's (SSA) Kidlink file, the SSA Death Master file, and the Internal Revenue Service's (IRS) population of federal information and tax returns spanning 2010–2019. The Kidlink data are derived from applications for a child's Social Security Number (SSN) that are filed at birth; these data identify the child's birth mother, and, when available, the child's birth father. Using the Kidlink file, we draw a 10% random sample of all children who are their mothers' first born child and whose birth takes place in 2013, before the ACA becomes current law, and in 2015, after the ACA becomes current law. The Death Master file contains a list of all individuals who have an SSN, or an Individual Tax Identifier (ITIN), their date of birth, and when applicable, their date of death. We use the Death Master file to supplement the Kidlink sample with information about the mother's age in order to focus our sample on mothers between ages 26 and 44 at the time of their first birth. This restriction allows us to avoid the complication of the 2011 dependent coverage expansion for children under 26. Moreover, this restriction ensures that we can observe sufficient and meaningful pre-birth employment and earnings in the tax data that aren't confounded by, for example, post-high school full time educational programs. All told, 147,314 mothers and 130,147 fathers form the primary units of observation in our empirical analysis. We then draw data from information and tax returns spanning the three years before birth through the four years after birth, $t = -3, ..., 4$ for all mothers and fathers in our sample.

To our sample of parents, we merge measures of labor supply derived from the IRS Form W2. Form W2 is issued by employers and reports total wages earned by an employee in a given year.[9] We define employment as having received wages as reported on Form W2. In addition to wages, we identify jobs that offer benefits based on Box 13 of the Form W2, which is a checkbox for whether an employee is an active participant in that firm's employer-sponsored retirement plan. While this indicator is specific to retirement benefits, there is a strong correlation among within job benefits such that jobs offering retirement benefits are also likely to offer health insurance (Heim et al., 2021). We refer to these jobs more generically as "jobs with benefits."

We gather self-reported information on household income and self-employment income from the portion of the population who file an annual tax return known as the Form 1040 and its corresponding schedules, i.e. filers.[10] Filing requirements are based on annual income, and very low-income tax payers are not generally required to file Form 1040. In practice, many low-income households still file an annual return as it is a necessary step for receiving most refundable credits for which they may be eligible. We limit our analysis to the subsample of parents who file a tax return two years prior to birth. [11] We measure self-employment income from Schedule SE. Schedule SE is filed by individuals who earned more than $400 in net income from a pass-through business (sole proprietors, partnerships, and S-corporations). [12] Finally, we assign state of residence based on the address field reported on Form 1040.

Insert Table 1 about here

Table 1 provides summary statistics on pre-birth earnings and employment for parents of children born in 2013 and 2015. Columns (1) and (2) reports summary statistics for mothers

[9]We use box 3 of the W-2 which reports Medicare wages. Medicare wages includes all wages that are not excluded from income. The most noticeable excluded costs from the Medicare wages are the cost for the ESI premium (in most cases these include the employer and the employees shares).

[10]The portion of the population who do not file are known as "non-filers."

[11]Low-income households who earn below the threshold set forth by the IRS are not required to file a tax return. In 2020, that amount was $12,400 in gross income for single filers and $24,800 for joint filers.

[12]Note that this measure will exclude negative pass-through business income.

and fathers, respectively, and column (3) reports differences in means between mothers and fathers. Columns (4)–(9) report statistics for mothers and fathers separately based on when they gave birth. First-time mothers in our sample are, on average, 31.3 years old, compared with 33.4 for fathers. Among our sample, 89% of mothers and 88% of fathers were employed two years before birth. Furthermore, 7.5% of mothers and 10.2% of fathers report self-employment income. The share of parents offered a retirement plan through their employer (i.e. employed with benefits) is 51.2 and 52.6% for mothers and fathers, respectively, or more than half of wage earners. While mothers and fathers are employed at similar rates, there is significant gendered heterogeneity in earnings. For example, mothers earn 25% less than fathers, or $11,564 in wage income, and mothers earn 64% less in self-employment income, or $529. Importantly, cols. 6 and 9 of Table 1 reveal that these differences are stable for pre- and post-ACA births.

4. Empirical Methodology

We measure the impact of expanded access to health insurance on the relative postnatal labor supply of mothers and fathers through a Differences-in-Differences-in-Differences (DDD) empirical design that exploits two dimensions of variation. First, our estimates capture gendered differences in outcomes among parents in the years surrounding childbirth, following Kleven, Landais and Søgaard (2019) and Angelov, Johansson and Lindahl (2016). Second, our estimates capture differences in relative outcomes for births that occur after the implementation of the ACA (2015) compared to births that took place prior to implementation (2013). We build up to the triple differences model by first outlining each of the differences-in-differences (DD) specifications.

4.1. Relative Labor Supply Surrounding Childbirth Among Mothers and Fathers

The first difference of our DDD estimation strategy measures the gendered dynamics of labor supply in the years surrounding childbirth by comparing mothers to fathers. In this analysis, we hold fixed the decision to have a child by comparing within-person changes. This first dynamic difference controls for pre-birth, gendered differences in our outcome of interest. In a world where the impact of childbirth on productivity and labor/leisure trade-offs are the same across genders, we should expect no change in the relative gap between mothers and fathers after childbirth. If there is a difference, it suggests that childbirth disproportionately impacts one gender over the other. Previous empirical work has found that mothers are more likely to decrease their labor supply after child birth than fathers, controlling for pre-birth gendered employment differences (Angelov, Johansson and Lindahl (2016); Kleven, Landais and Søgaard (2019); Kleven et al. (2019)). These post-birth differences, when scaled appropriately, are referred to as the "child penalty."

The relative differences in outcomes between mothers and fathers are formally estimated based on the following DD empirical specification:

$$y_i = \alpha_0 + \alpha_1 \mathbb{I}[\text{Mom}] + \alpha_2 \mathbb{I}[t >= 0] + \alpha_3 \mathbb{I}[\text{Mom}] \times \mathbb{I}[t >= 0] + \varepsilon_i, \quad (1)$$

where $t = -3, ..., 4$ measures time relative to child birth.[13] With y_i representing our outcome of interest, α_3 captures the relative change for a given outcome (e.g. employment, earnings, etc...) between mothers and fathers after childbirth compared to before childbirth. In addition, we extend this model to include two-way fixed effects. Specifically, we include calendar-year

[13] We limit our pre-period analysis to three years prior to birth to ensure that younger parents can be observed with sufficient earnings period in our sample to provide meaningful comparisons.

and individual fixed effects to control for macroeconomic shocks and underlying trends in the data.

For our empirical strategy to be valid, we must assume that the components of the error term evolve smoothly in the years surrounding childbirth. This form of exogeneity relates to the *timing* of childbirth rather than the childbirth itself. A violation of this assumption could occur, for example, if childbirth is the result of an expected future promotion for fathers, but not for mothers. Importantly, this expectation must change sharply and simultaneously with childbirth itself – any adjustments in the pre-period are observable and controlled for. Finally, identification under this model requires the assumption that mothers' and fathers' earnings and employment would have followed a similar trajectory if not for childbirth.

Include Figure 1 about here.

We start by looking at postnatal changes in labor supply among parents for 2013 and 2015 births combined. Figure 1 depicts mean employment and earnings outcomes for mothers and fathers in the years surrounding the birth of their child in panels a and b, respectively. While the parallel trends assumption described above cannot formally be tested, we find strong graphical and statistical support that this was indeed the case. In particular, Figure 1 reveals (1) that mothers and fathers are on similar growth trajectories in the years before childbirth, and (2) a sharp and persistent divergence in outcomes emerges by gender at childbirth. We find that fathers and mothers have a similar propensity to be employed before the birth of their first child (85-92%, panel A). At the same time, fathers out-earn mothers during the pre-birth period by about 30%. Pregnancy and childbirth, however, coincide with a sharp deviation in the relative employment and earnings trajectories of mothers relative to fathers.

Panels C and D of Figure 1 depict the child-penalty as defined by (Kleven, Landais and Søgaard, 2019), scaling employment and earnings trajectories by gender-specific predicted trajectories that exclude the impact of the birth. These figures reveal a large U.S. child-penalty: first-time mothers in the U.S. face a 17% employment penalty and a 37% earnings penalty.

4.2. The Impact of Access to Health Insurance on Relative Labor Supply

Next, we compare the evolution of employment for births that occur before (2013) and after (2015) the implementation of the ACA to isolate the impact of access to health insurance on the child penalty. In this analysis, we focus specifically on employment in order to isolate extensive margin changes.[14] This analysis relies on the following DDD empirical specification:

$$\begin{aligned} y_i &= \beta_0 + \beta_1 \mathbb{I}[\text{Mom}] + \beta_2 \mathbb{I}[t >= 0] + \beta_3 \mathbb{I}[\text{Post ACA}] + \\ &\quad \beta_4 \mathbb{I}[\text{Mom}] \times \mathbb{I}[t >= 0] + \beta_5 \mathbb{I}[\text{Mom}] \times \mathbb{I}[\text{Post ACA}] + \beta_6 \mathbb{I}[t >= 0] \times \mathbb{I}[\text{Post ACA}] + \\ &\quad \beta_7 \mathbb{I}[\text{Mom}] \times \mathbb{I}[t >= 0] \times \mathbb{I}[\text{Post ACA}] + \varepsilon_i. \end{aligned} \tag{2}$$

The DDD estimates the difference in the child penalty for births in the post-ACA period compared to births in the pre-ACA period, where the impact of the ACA on employment is captured by β_7. Similar to the DD analysis, we control for two-way fixed effects.

The triple difference estimation strategy given by Equation 2 can be visualized by comparing pre- and post-ACA mean employment for mothers and fathers, shown in Figure 2.

Insert Figure 2 about here.

[14]Because the tax data only measure annual earnings, changes in earnings can reflect changes in both the intensive and extensive margin. For example, it is not possible to discern whether a increase in earnings reflects a increase in hours worked or an increase in pay for the same hours worked.

Panels (a) and (b) of Figure 2 depict mean wage-employment gaps for pre-ACA and post-ACA births, respectively. The DDD specification requires that the difference in mother's and father's post-birth labor force participation would have evolved similarly for pre- and post-ACA births. Under this assumption, differences in the relative labor force participation of 2015 mothers can be attributed to the ACA. We lend support for our identifying assumption by testing the null hypothesis that there is no difference in mother's and father's pre-birth labor force participation for pre- and post-ACA births. Because the ACA affects access to health insurance including during the pre-natal period, we exclude period t=-1 from the pre-trends analysis, which is impacted by pregnancy for many births. In this case, our pre-trends test compares the difference in pre-birth employment three years before birth compared to the left-out period, two years before birth. In other words, the pre-trends null hypothesis is embedded in the coefficient on t=-3. In our main sample of analysis, we fail to reject this null hypothesis for wage employment with a p-value of 0.087.[15]

Figure 2 also highlights that both fathers and mothers are both very likely to be employed in the years before a mother's first birth and, regardless of when the birth occurs, a divergence in trends appears sharply at birth for mothers. Panels (c) plots the difference between mother's and father's labor supply for pre- and post-ACA births while panel (d) shows the difference between these trends. Moreover, the graph previews the estimates from Equation 2, that the ACA is associated with an increase in employment for mothers compared to fathers.

[15] Additional p-values are reported in all results tables.

5. Empirical Evidence

5.1. The Impact of Health Insurance on Post-Childbirth Employment: Baseline Results

In this section we report the impact of the ACA health insurance expansion on the relative post-natal labor supply of mothers compared to fathers based on a DDD empirical specification. The results from estimating Equation 1 and 2 are shown in Table 2 for various employment outcomes. The first column of each outcome reports the mean difference while the second column reports estimates from the two-way fixed effect specification that includes both individual and year fixed effects. Panel A reports the DD estimate of the post-childbirth employment gap between mothers and fathers compared to the pre-childbirth employment gap for 2013 (pre-ACA) births (α_3 in equation 1). Panel B reports the same DD estimate for 2015 (post-ACA) births. Finally, panel C reports the DDD estimate of the impact of the ACA on the employment gaps (β_7 in equation 2), which is a comparison of the pre and post-ACA impact of childbirth on labor force participation for mothers compared to fathers.

Include Table 2 about here.

5.1.1. Baseline Employment Effects

During the pre-ACA period, we estimate that mother's relative post-childbirth wage employment fell by 11.7 percentage (col. 1, panel A). During the post-ACA period, mother's relative post-childbirth wage employment falls by 10.3 percentage points (col. 1, panel B). Said differently, mothers giving birth in 2013 are 11.7 percentage points less likely to be working post childbirth than fathers, compared to pre-childbirth, and this gap shrinks to 10.3 percentage points for 2015, post-ACA births. We combine these two differences to estimate how the provisions of the ACA health insurance expansion impacted mother's wage employment. Specifically we find that the provisions of the ACA increased mother's post-birth wage employment by 1.4 percentage points compared to fathers, or a 12% reduction in the pre-ACA employment gap (0.0140/-0.117, col. 1 panel A). These estimates are robust to the inclusion of two-way fixed effects and are statistically significant at the 1 percent level (col. 2, panel A).

Next, we investigate the impact of the ACA health insurance expansion on a subset of wage employment in which employees are offered and take-up tax-preferred retirement savings. Recall, these jobs are also very likely also to offer ESI insurance coverage making them a reasonable proxy for employment with access to ESI coverage. If mother's post-ACA increase in wage employment is attributed to an increase in jobs that offer health benefits, then this could lead to a crowd-in towards ESI as suggested by Kolstad and Kowalski (2016).

We formally estimate the impact of the ACA health insurance expansion on the likelihood of having access to ESI based on the wage employment with benefits proxy based on the same DDD empirical strategy. These results are reported in columns 3 and 4 of Table 2. 2013 mothers are 8.13 percentage points less likely to have access to ESI in the post-childbirth period than fathers, controlling for pre-birth gender differences in this access (col. 3, panel A). By comparison, 2015 mothers are 7.08 percentage points less likely to have access to ESI in the post-childbrith period than fathers (col. 3, panel B). Combining these two estimates, we find that mother's are 13% more likely to be employed at jobs with access to ESI after the implementation of the ACA ((0.0106/0.813, col. 4, panel C). These estimates are robust to the inclusion of two-way fixed effect and are statistically significant at the 1% level (col. 4, panel C).

We examine the impact of the ACA health insurance expansion on mother's post-birth self-employment. Self-employment is a riskier form of employment than wage employment due to an often more volatile individual income stream. Self-employment is also a form of employment that explicitly precludes employer-provided amenities, including access to ESI. While the ACA likely did not alter the risk profile of self-employment, the ACA health insurance expansion lowered the opportunity cost of acquiring health insurance for the self-employed through the introduction of marketplace plans that were subject to the mandates of the ACA.

The relative self-employment behavior of mothers and fathers is reported in columns 5 and 6 of Table 2. We estimate that mother's giving birth before the ACA were 0.192 percentage points *more likely* to be self-employed than fathers, controlling for pre-birth gendered differences in self-employment (col. 5, panel A). This positive difference, where mothers are more likely to be pulled into self-employment compared to fathers after childbirth, likely reflect increased demand for more flexible employment on the part of mothers, who often bear a disproportionate childcare burden compared to fathers. This difference, however, was not statistically significant at any conventional levels. Moreover, mother's giving birth after the ACA were just 0.00000426 percentage points more likely to be self-employed after child birth compared fathers (col. 5, panel B). In light of the similarity of the DD estimates, it is not surprising that the DDD estimate of the ACA health insurance expansion on mother's post-birth self-employment is neither statistically significant nor economically meaningful (cols. 5 and 6, panel C). If the driving motivation for mother's increase in self-employment post-childbirth comes from an increased demand for flexible employment arrangements, the ACA health insurance expansion would not have impacted this.

Finally, in columns (7) and (8) we estimate the impact of the ACA on wage earnings. In panel A we see that 2013 mothers earned \$14,404-\$15,219 less than fathers after birth, and in panel B we see that these differences shrink for 2015 mothers, who earn \$13,610–\$14,395 less than fathers after birth. This amounts to a \$794 - \$842 increase in the relative wage earnings of mothers compared to fathers (panel C). These results are statistically significant at the 1% level, and parallel trends assumptions are supported (p-values of 0.157 and 0.0555, panel C cols. 7 and 8). Importantly, changes in wage earnings can be difficult to interpret because they include 0s and therefore reflect changes in both the intensive and extensive margin of labor supply. For this reason, we focus on the extensive margin of labor supply, wage employment, throughout the rest of the analysis.

5.1.2. Placebo Tests for Confounding Secular Trends

When difference-in-difference identification strategies exploit secular variation in access among treatment and control groups, it is important to rule out coincidental secular trends as a confounding factor. To this end, we undertake a placebo test that looks at changes in the relative employment of mothers and fathers over time for births that occurred before the ACA health insurance expansion. We conduct this exercise using two placebo samples with the results reported in Table 3. The first test compares a 10% sample of births that occurred from 2009–2010 and to those that occurred from 2011–2012, imposing the same DDD empirical identification strategy (cols. 1, 3, and 5 of Table 3). The second test compares a 10% sample of births that occurred in 2010 to those that occurred in 2012. In both cases, the analysis is limited to mothers aged 26-44, and all births occurred before the full implementation of the ACA (cols. 2, 4, and 6 of Table 3). Panel A shows that among mothers in placebo control group were 12.0-12.1 percentage points less likely to work after fathers after childbirth, controlling for pre-birth gendered employment dynamics (panel A, cols. 1 and 2). Panel B repeats this analysis for placebo treatment births, again finding that mothers are 12.0 percentage points less likely to work after childbirth (panel B, cols. 1 and 2). Panel C finds no difference in the wage employment gap, either statistically or economically, for across the two groups, even when including two-way fixed effects. Similarly, we find no difference in access to ESI, as proxied by wage employment with benefits, and no difference in self employment (cols. 2–6, respectively). These results mitigate concerns that the difference in the employment gap for pre- and post-ACA births is driven by otherwise unrelated secular trends.

Include Table 3 about here.

5.1.3. Wage Employment Decomposition

We next decompose our baseline estimate based on mother's pre-birth employment in period t=-2. These results are reported in Table 4 and depicted in panel C of Figure 3. Specifically we compare the change in post-birth relative wage employment for mothers who are unemployed (column 1), self-employed (column 2), wage employed, (column 3), and wage and self employed (column 4). This decomposition provides additional information about the source of the 1.4 percentage point increase in mother's wage employment.

Insert Table 4 about here.

We find that mothers who were unemployed two years before birth are 4.1 percentage points more likely to be working, and this result is statistically significant at the 1% level (panel C, col 2).[16] By comparison, post-ACA mothers who were wage employed before birth are 1.23 percentage points more likely to be working than fathers, and this result is statistically significant at the 1% level (panel c, col. 4). These two results suggest that the ACA caused

[16]These results should be viewed with caution given the parallel trends p-value of 0.0191 (col. 2, panel C). The dynamic DDD estimate for t=-3 is -0.0239 with a standard error of (0.0102).

an increase in labor supply for previously unemployed mothers in addition to a reduction in wage employment exits for mothers who were wage employed before birth. We do not find a change in relative post-birth wage employment for mothers who were self-employed before birth or for mothers who were both wage and self-employed.

5.1.4. Discussion of Employment Impacts

Taken together, our results highlight two important findings. First, there exists a sizeable wage-employment child penalty in the United States for mothers that coincides with the birth of their first child. Said differently, mothers are 11–12 percentage points less likely to work than fathers after child-birth despite similar pre-birth employment propensities and trajectories, resulting in a 17% child penalty that persists even four years after birth. Our finding adds to a growing literature on the child penalty on the gendered employment experience in the U.S. Thus far, this literature has been dominated by the Scandanavian experience—largely due to data availability—which generally finds that the employment gap between mothers and fathers becomes discontinuously worse after the birth of a child. Our work adds important evidence based on administrative tax data using rich employment outcomes that beyond wage employment including employment with benefits and self-employment.

The second fact that we establish is that mother's wage employment *increases* compared to fathers for births that occur after the ACA health insurance expansion. This analysis exploits variation in access to health insurance to isolate its importance as a contributing factor to the child penalty. In particular, if we think that gendered differences in access to and demand for health insurance are a friction that contributes to the child penalty, any increase in access to health insurance should serve to decrease the child penalty. Moreover, we see an increase in mother's employment-with-benefits. This suggests that the jobs that are pulling mothers into the labor force post-birth at a faster rate than fathers are most likely jobs that offer health insurance. Our result is consistent with earlier empirical evidence which finds that an expansion of health insurance in Massachusetts was associated with a crowd-in to ESI (Kolstad and Kowalski, 2012).

5.2. The Impact of Health Insurance on Relative Post-Childbirth Employment: Variation by Mother's Characteristics

In this section we look at whether the impact of the ACA health insurance expansion varied based on mothers' pre-birth characteristics. We focus on wage-employment as our outcome of interest, and test whether any underlying heterogeneity in the impact of the ACA could provide insight into what mechanisms are at play. In particular, we examine variation in pre-birth income, which is correlated with an individual's likely source of coverage, variation in filing structure (joint and non-joint filers), which is correlated with outside options to access health insurance, and variation in age, which is correlated with labor supply through experience and tenure. These results are presented in Table 5 and estimated depicted in panel A of Figure 3.

Insert Table 5 about here.

We might expect a varied impact because the ACA's expansion of *pre-natal* care differed across sources of health insurance coverage in a way that is correlated with income. Importantly, while the ACA did not impact Medicaid's pre-natal coverage, the ACA did expand access for a lengthier period immediately following childbirth. In addition, the ACA mandated that private insurance cover a set of essential health benefits that included pre-natal and maternal care. This suggests that the impact of the ACA might be heterogeneous by income.

The Federal Poverty Line as it relates to a households income provides a guideline for both Medicaid eligibility as well as the ACA subsidy schedule. We approximate each parent's income relative to the FPL using their income and number of dependents as reported on Form 1040 two years prior to birth (adding one additional child to account for the birth). By using pre-birth measures, we avoid the mechanical endogeneity between our sample cuts and the outcome measure itself; however, this means that our sample cuts are only proxies for likely Medicaid and subsidy eligibility at birth.

Columns (2) through (4) report the impact of the ACA on relative employment for mothers with pre-birth household income below 138% of the FPL, between 138-400% FPL, and greater than 400% FPL, respectively. We define these cutoffs to roughly coincide with the cutoffs for Medicaid expansion and subsidy schedule imposed by the ACA. As previously described, *mothers* with income below 138% of the FPL are eligible for Medicaid coverage, regardless of whether or not a state chose to expand Medicaid, individuals with income between 138% and 400% of the FPL are eligible for subsidized exchange coverage through the Premium Tax Credit, and individuals with income over 400% of the FPL are ineligible for subsidized Exchange coverage. In this way, the reach of the ACA is decreasing moving up these income cuts. If the change in relative labor supply across these groups also decreases, this is consistent with the hypothesis that increased access to health insurance drives the relative increase in mother's wage employment seen for 2015 births. We find that mothers' wage employment increased by 2.62 percentage points for Medicaid-eligible mothers after the implementation of the ACA, by 1.75 percentage points for PTC-eligible mothers, and by 0.734 percentage points for PTC-ineligible mothers. Each of these results is individually statistically significant at the 1% level. At the same time, the size of the confidence intervals does not allow us to reject a null hypothesis that these results are not statistically different from each other.

Columns (5) and (6) examine variation in the relative employment behavior based on the filing structure of mothers as reported on Form 1040. Here, we compare mothers who are joint-filers two years before birth to mothers who are not joint-filers. Variation in the impact of the ACA across these two subgroups would exist if joint filers are more likely to have access to insurance through their spouse's employer, which could reduce the intensity of the ACA treatment. A smaller coefficient for joint-filing mothers would support the hypothesis that access to health insurance drives the relative increase in mother's wage employment seen for 2015 births. Consistent with this, we find that joint-filing mothers are 1.09 percentage points more likely to work after the ACA, and non-joint filing mothers are 2.11 percentage points more likely to work after the ACA. As with FPL cuts, these results are individually precisely estimated at the 1 percent level, but we cannot reject a null hypothesis that they are statistically distinguishable from each other.

Finally, columns (7) and (8) split the sample based on median age: mothers 26–31 and mothers 32–44. Older mothers may be more attached to the labor force given their greater experience and tenure. At the same time, older mothers may be in a better financial position to detach from the labor force. For this reason, the expected variation in the impact of the ACA based on age is ambiguous. We do not find meaningful differences in the post-ACA relative labor supply of mothers. Specifically, younger mothers are 1.37 percentage points more likely to be working after the ACA and older mothers are 1.39 percentage points more likely to be working (panel C, cols 7 and 8 respectively). Each of these effects is individually statistically significant at the 1 percent level.[17]

[17]Results for younger mothers should be interpreted with caution in light of the p-value associated with the parallel trends assumption for this group (0.00551, panel C col. 7). At the same time, the distribution of younger mothers is left-skewed, and pre-birth employment and wages for younger mothers tend to be less similar for non-random ways due to post-secondary education decisions. Moreover, the dynamic DDD estimate for t=-3 is small in magnitude and opposite signed from the DDD estimates for t=1,...,4 (0.00704, s.e. 0.00254).

All told, we find variation in the estimated magnitude of the increase in mother's post-ACA relative wage employment that is consistent with variation in the expected impact of the ACA health insurance expansion. These results are summarized in Panel (b) of Figure 3 and highlight that our main result is not driven by one particular subset of mothers. Instead, we find a robust, positive impact on mother's relative wage employment by income, filing structure, and age. This type of broad response is consistent with the sweeping nature of the ACA, which reduced the uninsurance rate in the United States by 5.9 percentage points, or 35%, between 2013 and 2015. Statistics taken from the 2013 and 2015 American Community Survey for non-elderly individuals aged 0 to 64.

5.3. The Impact of Health Insurance on Mother's Post-Childbirth Employment: Geographic Variation

We next explore whether there exists geographic variation in our results that coincides with (1) the presence of ex-ante ESI coverage, and (2) state variation in the Medicaid expansion. These results are reported in Table 6 and depicted in panel B of Figure 3.

Insert Table 6 about here.

To begin, we hypothesize that areas with high pre-ACA ESI coverage were less impacted by the ACA health insurance expansion than areas with low pre-ACA ESI coverage for two reasons. First, ESI plans are more likely to cover pre-natal and maternity care than private non-group insurance plans. Second, ESI plans were already tax-subsidized through the employer exclusion, so these plans did not experience the same cost-reduction as marketplace plans, which typically replaced unsubsidized non-group plans.

We characterize counties based on the share of residents with ESI coverage based on the number of women ages 26 to 44 that had ESI in their own name as reported on the W-2 information in 2012 (either the W-2 reported premiums or HSAs) divided by the reported population of women ages 18 to 44 in 2010 Area Resource File. This variation is depicted in Panel A of Figure 4. Parents' geographic location is determined two years prior to birth based on their filing address as reported of IRS Form 1040.

Insert Figure 4 about here.

Columns (2)–(4) of Table 6 reports the impact of the ACA on wage employment for parents in counties that were in the bottom 25th percentile, the inter-quartile, and the top 25th percentile of ESI coverage. We find that mothers in low-coverage areas are 1.54 percentage points more likely to be wage-employed after childbirth if they give birth after the ACA, controlling for both pre-ACA employment dynamics and father's post-childbirth employment dynamics (col. 1, panel C).[18] By comparison mother's in the 25th-75th percentile are 1.40 percentage points more likely to be wage-employed after the ACA, and mother's in counties with the most ex-ante ESI coverage are 1.36 percentage points more likely to be wage-employed (cols 3 and 4, panel C). Each of these estimates are individually statistically significant at the 1% level. As with variation in mother's pre-birth characteristics, we are unable to reject a null hypothesis of heterogeneity across each estimate. However, the negative correlation between the estimated magnitude of the impact of the ACA on relative wage employment and ex-ante ESI coverage is consistent with the hypothesis that the ACA health insurance expansion drives the overall estimated increase in mother's relative wage employment.

[18]Results for younger mothers should be interpreted with caution in light of the p-value associated with the parallel trends assumption for this group (0.0204, panel C col. 2). The dynamic DDD estimate for t=-3 is -0.0118 with a standard error of 0.00510.

Columns (5) and (6) present results for the estimated the impact of the ACA health insurance expansion separately in states that had and had not expanded Medicaid as of 2015. States that expanded Medicaid provided an extra dimension of expanded access to low-income mothers through expanded post-natal coverage. Consistent with this, we find that mothers in expansion states are 1.48 percentage points more likely to be wage employed after the ACA compared with a 1.28 percentage point increase for mother's in non-expansion states (cols. 5 and 6, panel C). Each of these results is statistically significant at the 1% level. Again, we are unable to reject a null hypothesis of heterogeneity across each estimate.

We summarize the results of these ACA expansion mechanisms in panel c of Figure 3. The figure once again highlights that the labor supply response post-ACA is robust across a broad set of people and fall within the same confidence interval from one another. In particular, we consistently find an increase in mother's post-child birth wage-employment for post-ACA births, and we find suggestive evidence of variation in the estimated impact of the ACA consistent with variation in the expected impact of the ACA itself.

5.4. The Impact of Health Insurance on Mother's Post-Childbirth Employment: Health and Fertility

Our results thus far have highlighted that mothers giving birth after the ACA health insurance expansion are *more likely* to work after childbirth. These results are robust across mothers' pre-birth characteristics, and across geographies. As previously discussed, access to health insurance has the potential to influence postnatal labor supply through a number of channels including through improved health outcomes as a result of increased utilization of care. Additionally, the ACA may have impacted fertility itself leading to a change in the composition of mothers. While the tax data do not permit us to look at health outcomes directly, we can turn to alternative data sources to provide suggestive evidence that these channels may have played a role in the labor supply response.

Figure 5 graphs pre-natal coverage and utilization relative to the ACA health insurance expansion. These results are collected in Figure 5.

Include Figure 5 about here.

In panel A, we compare prenatal and postnatal insurance coverage for 2009–2017 mothers aged 26-44 during the twelve months before through six months after birth based on the Medical Expenditure Panel Survey. This graph reveals that the ACA health insurance expansion (1) expanded Medicaid coverage primarily during the post-natal years and (2) the post-ACA private insurance rate increased by 2–3 percentage points throughout the prenatal and postnatal period. In panel B, we compare the share of births for which a mother received a prenatal doctor visit within the first trimester of pregnancy for first-birth mothers age 26-44 that gave birth 2009 and 2017.[19] These data reveal a sharp increase in the share of births for which a mother received early-pregnancy health care monitoring that coincides with the implementation of the ACA.

In panel C, we exploit new tax reporting under the ACA, which requires that health insurers report monthly coverage for all taxpayers. These data are specifically reported on Forms 1095A, 1095B and 1095C for tax years 2015 and beyond. See Lurie and Pearce (2019) for details on coverage information contained in the tax data. These data are only available for post-ACA births; for this reason we examine 2016 births in order to ensure that we have

[19]These data are drawn from 2003 U.S. Standard Certificate of Live Birth. Between 2009 and 2016 some states continued to use the 1989 U.S. Standard Certificate of Live Birth, which did not capture this information. We report share of births with a first-trimester visit among those states that use the 2003 U.S. Standard Certificate of Live Birth. Those births are excluded from this analysis. Figure A.1 provides additional descriptive analysis of the impact of this heterogeneous reporting for births from 2007–2016.

sufficient pre and post-natal monthly coverage reporting. These data reveal an increase in coverage that coincides with pregnancy–largely driven by Medicaid's prenatal coverage rules– in addition to an overall increase in insurance coverage for enrollees in Medicaid expansion states as compared to non-expansion states.

Finally, we consider whether fertility was endogenously impacted by the ACA health insurance expansion. To begin, we examine whether there are any sharp changes in fertility or maternal demographic characteristics that arrive sharply for 2014 births based on the same public-use CDC data drawn to investigate prenatal care. These data are plotted in Figure 6. Panel A plots monthly births and does not reveal a sharp change in aggregate fertility that occurs simultaneously with the implementation of the ACA. In light of this, we look for evidence of compositional changes in who gives birth. In panel B, we repeat this descriptive analysis for the share of monthly births among mothers aged 26–31, the bottom half of the age distribution as revealed by the tax data. Here, we see that these mothers comprised roughly 64% of all births for mothers age 26-44 from 2009–2012. After 2012 these mothers begin to account for a growing share of births age 26–44. This change in 2012 coincides with the implementation of the dependent coverage provision of the ACA, which allowed children up to age 25 to remain on their parent's health insurance plan. Outside of this shift, there does not appear to be any additional effect of the full implementation of the ACA on the age composition of mothers among this age cohort. In panel C, we examine the share of mothers age 26-44 who are of Hispanic origin. During the earlier half of this decade, the share of births accounted for by hispanic mothers in this age cohort was falling. This trend appears to reverse between 2013 and 2014. Although these trends are only descriptive, they provide some evidence that the composition of mothers giving birth in the months surrounding the implementation of the ACA may have shifted. Goldin, Homonoff and Lurie (N.D.) exploits a randomized control trial to directly test the impact of the ACA health insurance expansion among a population of taxpayers who paid the penalty for uninsurance in 2014, finding that the ACA reduced fertility among this group.

Insert Figure 6 About Here.

All told, our descriptive analysis implies increased access to health insurance and health care utilization as well as an impact on fertility that together may have had a positive impact on mothers' labor supply.

6. Conclusion

Following childbirth, women, on average, experience a substantial and persistent decline in labor supply relative to men. This paper analyzes the role that access to health insurance plays in that decision. We exploit the expansion in health insurance access driven by the enactment of the Affordable Care Act (ACA) in the U.S. to estimate the subsequent impact on mothers' labor supply. Overall, we find that mothers' post-childbirth labor force participation increases by 12% due to the ACA health insurance expansion, controlling for pre-ACA gendered differences in labor force participation surrounding childbirth. This result is robust across the income distribution, by mother's age, and for joint and non-joint filers. Moreover this result varies predictably with underlying variation in the expected impact of the ACA expansion. Finally, we find descriptive evidence that fertility was directly impacted through compositional shifts in who gave birth. These tests provide supporting evidence that our empirical strategy is, indeed, identifying the impact of the ACA health insurance expansion, rather than some other confounding factor.

Our estimates are directly comparable to results from literature on the child penalty, which measures the relative difference in labor supply measures between mothers and fathers pre- and post-birth (Angelov, Johansson and Lindahl, 2016; Kleven, Landais and Søgaard, 2019; Kleven et al., 2019; Kleven, Landais and Søgaard, 2021). We find a substantial child penalty in the United States, wherein mothers face a 17% earnings child penalty and a 37% employment child penalty to fathers and controlling for pre-birth gendered differences in labor force participation. These estimates for the U.S. child penalty are larger than what is found on average in European countries. Importantly, the child penalty literature finds that as much as 80% of the aggregate gender-wage gap is driven by the child penalty in recent years (Kleven, Landais and Søgaard, 2019). Because considerable institutional differences exist between the U.S. and European social safety net, including programs like paid family leave and publicly-sponsored health care, our evidence on the U.S. child penalty provides an important piece of comparative evidence. In this context, we identify an additional source for the child penalty: access to care. Child birth imposes a physical cost on mothers that has potential to impact productivity. We find that by increasing access to health care, mothers are relatively more likely to work after child-birth compared to fathers. In this way, a further expansion of access to health insurance may provide a path towards further reducing the U.S. child penalty.

References

Abramowitz, Joelle. 2018. "Planning Parenthood: the Affordable Care Act Young Adult Provision and Pathways to Fertility." *Journal of Population Economics*, 31(4): 1097–1123.

Angelov, Nikolay, Per Johansson, and Erica Lindahl. 2016. "Parenthood and the Gender Gap in Pay." *Journal of Labor Economics*, 34(3): 545–579.

Dague, Laura, Thomas DeLeire, and Lindsey Leininger. 2017. "The Effect of Public Insurance Coverage for Childless Adults on Labor Supply." *American Economic Journal: Economic Policy*, 9(2): 124–54.

Dave, Dhaval, Sandra L Decker, Robert Kaestner, and Kosali I Simon. 2015. "The Effect of Medicaid expansions in the Late 1980s and Early 1990s on the Labor Supply of Pregnant Women." *American Journal of Health Economics*, 1(2): 165–193.

DeLeire, Thomas, Leonard M Lopoo, and Kosali I Simon. 2011. "Medicaid Expansions and Fertility in the United States." *Demography*, 48(2): 725–747.

Duggan, Mark, Gopi Shah Goda, and Gina Li. 2021. "The Effects of the Affordable Care Act on the Near Elderly: Evidence for Health Insurance Coverage and Labor Market Outcomes." *Tax Policy and the Economy*, 35(1): 179–223.

Garthwaite, Craig, Tal Gross, Matthew Notowidigdo, and John A Graves. 2017. "Insurance Expansion and Hospital Emergency Department Access: Evidence from the Affordable Care Act." *Annals of internal medicine*, 166(3): 172–179.

Goldin, Jacob, Tatiana Homonoff, and Ithai Lurie. N.D.. "Health Insurance and Fertility: Evidence from Taxpayer Outreach." unpublished.

Gooptu, Angshuman, Asako S Moriya, Kosali I Simon, and Benjamin D Sommers. 2016. "Medicaid Expansion Did Not Result in Significant Employment Changes or Job Reductions in 2014." *Health affairs*, 35(1): 111–118.

Heim, Bradley, Ithai Lurie, and Kosali Simon. 2015. "The Impact of the Affordable Care Act Young Adult Provision on Labor Market Outcomes: Evidence from Tax Data." *Tax Policy and Economy*, 29(1): 133–157.

Heim, Bradley, Ithai Lurie, and Kosali Simon. 2018. "The Impact of the Affordable Care Act Young Adult Provision on Childbearing: Evidence from Tax Data." *Demography*, 55(4): 1233–1243.

Heim, Bradley, Ithai Lurie, Kathleen J Mullen, and Kosali Simon. 2021. "How Much Do Outside Options Matter? The Effect of Subsidized Health Insurance on Social Security Disability Insurance Benefit Receipt." *Journal of Health Economics*, 76: 102437.

Kaestner, Robert, Bowen Garrett, Jiajia Chen, Anuj Gangopadhyaya, and Caitlyn Fleming. 2017. “Effects of ACA Medicaid Expansions on Health Insurance Coverage and Labor Supply.” *Journal of Policy Analysis and Management*, 36(3): 608–642.

Kearney, Melissa S, and Phillip B Levine. 2009. “Subsidized Contraception, Fertility, and Sexual Behavior.” *The Review of Economics and Statistics*, 91(1): 137–151.

Kleven, Henrik, Camille Landais, and Jakob Egholt Søgaard. 2019. “Children and Gender Enequality: Evidence from Denmark.” *American Economic Journal: Applied Economics*, 11(4): 181–209.

Kleven, Henrik, Camille Landais, and Jakob Egholt Søgaard. 2021. “Does biology drive child penalties? Evidence from biological and adoptive families.” *American Economic Review: Insights*, 3(2): 183–98.

Kleven, Henrik, Camille Landais, Johanna Posch, Andreas Steinhauer, and Josef Zweimuller. 2019. “Child Penalties across Countries: Evidence and Explanations.” Vol. 109, 122–26.

Kolstad, Jonathan T, and Amanda E Kowalski. 2012. “The impact of health care reform on hospital and preventive care: evidence from Massachusetts.” *Journal of Public Economics*, 96(11-12): 909–929.

Kolstad, Jonathan T, and Amanda E Kowalski. 2016. “Mandate-based health reform and the labor market: Evidence from the Massachusetts reform.” *Journal of health economics*, 47: 81–106.

Leung, Pauline, and Alexandre Mas. 2018. “Employment Effects of the Affordable Care Act Medicaid Expansions.” *Industrial Relations: A Journal of Economy and Society*, 57(2): 206–234.

Lurie, Ihai, and James Pearce. 2019. “Health Insurance Coverage from Administrative Tax Data.”

Taubman, Sarah L, Heidi L Allen, Bill J Wright, Katherine Baicker, and Amy N Finkelstein. 2014. “Medicaid Increases Emergency-Department Use: Evidence from Oregon’s Health Insurance Experiment.” *Science*, 343(6168): 263–268.

Zavodny, Madeline, and Marianne P Bitler. 2010. “The Effect of Medicaid Eligibility Expansions on Fertility.” *Social Science & Medicine*, 71(5): 918–924.

Table 1
Summary Statistics: Pre and Post ACA Births

Notes: This table summarizes earnings and employment two years before birth for parents with a first birth in 2013 and 2015. Earnings are deflated based on the CPI-U. Parents that are not working are included in employment statistics. Columns 1–3 report statistics for all mothers and fathers and differences in means, respectively. Columns 4–9 report statistics for mothers and fathers separately based on those that gave birth before the ACA enacted (2013 births) and those that gave birth after the ACA was enacted (2015 births). Differences in means account for month-of-birth fixed effects.

	All Births			Pre-ACA Births			Post-ACA Births		
	Moms (1)	Dads (2)	Diff (3)	Moms (4)	Dads (5)	Diff (6)	Moms (7)	Dads (8)	Diff (9)
Panel A: Pre-Birth Earnings									
Wages	35,717	47,282	-11,564	35,780	47,013	-11,232	35,657	47,540	-11,882
			(137.6)			(196.3)			(192.8)
Self-Employment Income	302	832	-529.9	298	813	-514.5	307	851	-544.8
			(11.37)			(16.01)			(16.15)
Panel B: Pre-Birth Employment									
Employment	0.892	0.881	0.0111	0.892	0.879	0.0130	0.892	0.883	0.00927
			(0.00121)			(0.00173)			(0.00168)
Employment with Benefits	0.512	0.526	-0.0137	0.516	0.525	-0.00923	0.508	0.526	-0.0181
			(0.00190)			(0.00271)			(0.00266)
Self-Employment	0.075	0.102	-0.0274	0.073	0.101	-0.0280	0.076	0.103	-0.0268
			(0.00108)			(0.00154)			(0.00153)
Panel C: Miscellaneous									
Age At Birth	31.3	33.4	-2.09	31.2	33.3	-2.07	31.3	33.4	-2.11
			(0.018)			(0.026)			(0.026)
Births	147,314	130,147		72,214	63,742		75,100	66,405	

Table 2

Mother's Employment and Earnings: Pre and Post ACA Births

Notes: This table reports the results of a Differences-in-Differences estimate comparing mothers and father employment before and after birth. Panel A is restricted to pre-ACA 2013 births and Panel B is restricted to post-ACA 2015 births. Panel C reports the Differences-in-Differences-in-Differences estimate comparing pre- and post-ACA births. Impacts are reported for wages employment (cols. 1 and 2), wage employment with benefits (cols. 3 and 4), and self employment (cols. 5 and 6). Columns (1), (3), and (5) report mean differences, and Columns (2), (4), and (6) include individual and calendar year fixed effects. Standard errors, reported in parentheses, are clustered at the parent level.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Wage Employment		Employment w/ Benefits		Self Employment		Wage Earnings	
Mother's Pre-ACA Mean ($t = -2$)	0.892		0.512		0.075		35,717	
Panel A: Pre-ACA 2013 Births								
Mom × Post Birth	-0.117	-0.117	-0.0813	-0.0813	-0.00192	-0.00192	-14,404	-15,219
	(0.00151)	(0.00151)	(0.00194)	(0.00194)	(0.00119)	(0.00119)	(136.9)	(131.6)
Panel B: Post-ACA 2015 Births								
Mom × Post Birth	-0.103	-0.103	-0.0708	-0.0708	4.26e-06	4.26e-06	-13,610	-14,395
	(0.00150)	(0.00150)	(0.00191)	(0.00191)	(0.00120)	(0.00120)	(137.4)	(131.7)
Panel C: Pre-ACA Births vs Post-ACA Births								
Mom × Post Birth × Post ACA	0.0140	0.0140	0.0106	0.0106	0.00192	0.00192	793.9	824.2
	(0.00213)	(0.00213)	(0.00272)	(0.00272)	(0.00169)	(0.00169)	(193.9)	(186.2)
Parallel Trends *p-value*	0.0875	0.0875	0.923	0.923	0.995	0.995	0.157	0.0555
Individual FE		✓		✓		✓		✓
Year FE		✓		✓		✓		✓
Person-Year Observations	2,497,149	2,497,149	2,497,149	2,497,149	2,497,149	2,497,149	2,444,149	2,444,149

Table 3
Mother's Employment: Placebo Tests

Notes: This table reports the results of a Differences-in-Differences estimate comparing mothers and father employment before and after birth for births that took place before a placebo treatment year. Columns (1), (3), and (5) compare births from 2009-2010 to births from 2011-2012. Columns (2), (4), and (6) compare births from 2010 to births from 2012. Panel A reports the difference between mother's and father's employment after birth compared to before birth for the placebo pre-period, and panel B measures this differnece for the placebo post-period. Panel C reports the Differences-in-Differences-in-Differences estimate comparing placebo pre and post period births. Impacts are reported for wages employment (cols. 1 and 2), wage employment with benefits (cols. 3 and 4), self employment (cols. 5 and 6), and job change (cols. 7 and 8). All specifications control for individual and calendar-year fixed effects. Standard errors, reported in parentheses, are clustered at the parent level.

	(1)	(2)	(3)	(4)	(5)	(6)
	Wage Employment		Employment w/ Benefits		Self Employment	
Panel A: Placebo Pre-Period Births						
Mom × Post Birth	-0.121	-0.120	-0.0835	-0.0849	-0.00300	-0.00394
	(0.00115)	(0.00161)	(0.00145)	(0.00203)	(0.000885)	(0.00125)
Panel B: Placebo Post-Period Births						
Mom × Post Birth	-0.120	-0.120	-0.0865	-0.0857	-0.00149	-0.000801
	(0.00110)	(0.00155)	(0.00142)	(0.00199)	(0.000873)	(0.00123)
Panel C: Placebo Pre vs Post-Period Births						
Mom × Post Birth × Placebo	0.00129	0.000508	-0.00292	-0.000813	0.00150	0.00314
	(0.00159)	(0.00223)	(0.00203)	(0.00284)	(0.00124)	(0.00175)
Parallel Trends *p-value*	0.0321	0.404	0.793	0.972	0.549	0.0618
Placebo Pre-Period	2009-2010	2010	2009-2010	2010	2009-2010	2010
Placebo Post-Period	2011-2012	2012	2011-2012	2012	2011-2012	2012
Individual FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Person-Year Observations	4,493,196	2,269,944	4,493,196	2,269,944	4,493,196	2,269,944

Table 4
Mother's Wage Employment: Mother's Pre-Birth Employment

Notes: This table reports variation in the impact of the ACA on post-birth employment based on variation in mother's employment two years before birth. Panel A is restricted to pre-ACA 2013 births and Panel B is restricted to post-ACA 2015 births. Panel C reports the Differences-in-Differences-in-Differences estimate comparing pre- and post-ACA births. Column 1 reports the baseline estimate for the full sample of mothers. Cols. 2–5 split the sample of mothers into four groups based on their employment two years before birth. All specifications include individual and calendar-year fixed effects. Standard errors, reported in parentheses, are clustered at the parent level.

	Baseline	Pre-Birth Employment			
	(1)	(2) No Wage or Self Employment	(3) Self Employment	(4) Wage Employment	(5) Wage and Self Employment
Panel A: Pre-ACA Births					
Mom × *Post Birth*	-0.117	0.0672	0.0529	-0.138	-0.169
	(0.00151)	(0.00611)	(0.0113)	(0.00157)	(0.00756)
Panel B: Post-ACA Births					
Mom × *Post Birth*	-0.103	0.108	0.0577	-0.125	-0.164
	(0.00150)	(0.00640)	(0.0111)	(0.00153)	(0.00745)
Panel C: Pre-ACA Births vs Post-ACA Births					
Mom × *Post Birth* × *Post ACA*	0.0140	0.0410	0.00474	0.0123	0.00473
	(0.00213)	(0.00884)	(0.0159)	(0.00220)	(0.0106)
Parallel Trends *p-values*	0.0875	0.0191	0.629	0.274	0.586
Individual FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Person-Year Observations	2,497,149	200,907	64,116	2,112,606	119,520

Table 5

Mother's Wage Employment: Mother's Pre-Birth Characteristics

Notes: This table reports variation in the impact of the ACA on post-birth wage employment based on variation in characteristics of mothers two years before birth. Panel A is restricted to pre-ACA births (2009–2013) and Panel B is restricted to post-ACA births (2014–2017). Panel C reports the Differences-in-Differences-in-Differences estimate comparing pre- and post-ACA births. Column 1 repeats the baseline estimate from Col. 1 of Table 2 for comparison purposes. Cols. 2–4 split the sample of mothers who file a 1040 based on their income as a share of the Federal Poverty Level (FPL). . All specifications include individual and calendar-year fixed effects. Standard errors, reported in parentheses, are clustered at the parent level.

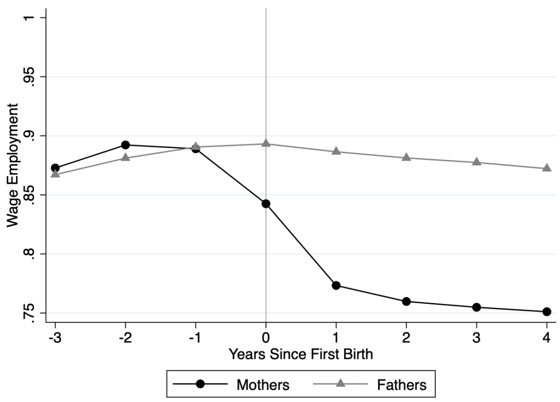
	Baseline	Pre-Birth Income (% FPL)			Filing Structure		Age	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		<138	138 – 400	>400	Non-Joint	Joint	26 - 31	32 - 44
Panel A: Pre-ACA Births								
Mom × *Post Birth*	-0.117	-0.160	-0.123	-0.0965	-0.103	-0.112	-0.126	-0.106
	(0.00151)	(0.00466)	(0.00239)	(0.00206)	(0.00240)	(0.00194)	(0.00199)	(0.00233)
Panel B: Post-ACA Births								
Mom × *Post Birth*	-0.103	-0.134	-0.105	-0.0891	-0.0815	-0.101	-0.112	-0.0918
	(0.00150)	(0.00441)	(0.00229)	(0.00211)	(0.00232)	(0.00195)	(0.00199)	(0.00226)
Panel C: Pre-ACA Births vs Post-ACA Births								
Mom × *Post Birth* × *Post ACA*	0.0140	0.0262	0.0175	0.00739	0.0211	0.0109	0.0137	0.0139
	(0.00213)	(0.00642)	(0.00331)	(0.00294)	(0.00334)	(0.00275)	(0.00282)	(0.00324)
Parallel Trends *p-value*	0.0875	0.105	0.412	0.964	0.117	0.502	0.00551	0.272
Individual FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Person-Year Observations	2,497,149	417,789	1,044,540	995,166	1,261,539	1,490,499	1,444,473	1,052,676

Table 6
Mother's Wage Employment: ACA Expansion Mechanisms

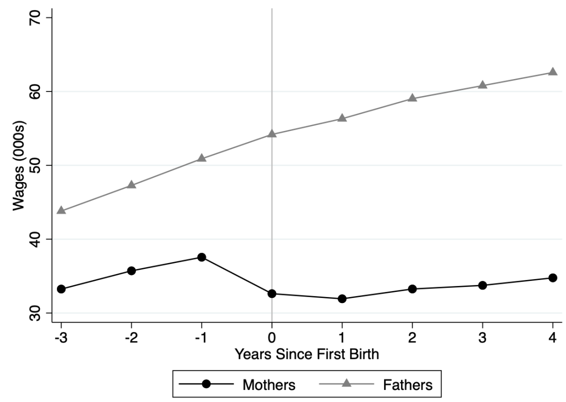
Notes: This table reports variation in the impact of the ACA on post-birth wage employment. Col. 1 repeats the baseline estimate from Col. 1 of Table 2 for comparison purposes. Cols. 2–4 exploit county-level variation in ESI coverage among females 26-44. Cols. 5 and 6 compare births in Medicaid non-expansion and expansion states as of 2015, respectively. Panel A is restricted to pre-ACA 2013 births, and Panel B is restricted to post-ACA 2015 births. Panel C reports the Differences-in-Differences-in-Differences estimate comparing pre- and post-ACA births. All specifications include individual and calendar-year fixed effects. Standard errors, reported in parentheses, are clustered at the parent level.

	Baseline	ESI Coverage			Medicaid Expansion	
	(1)	(2) Bottom 25th	(3) 25th - 75th	(4) Top 25th	(5) No	(6) Yes
Panel A: Pre-ACA 2013 Births						
Mom × Post Birth	-0.117	-0.123	-0.121	-0.110	-0.124	-0.113
	(0.00151)	(0.00366)	(0.00210)	(0.00271)	(0.00366)	(0.00210)
Panel B: Post-ACA 2015 Births						
Mom × Post Birth	-0.103	-0.108	-0.107	-0.0959	-0.111	-0.0986
	(0.00150)	(0.00362)	(0.00208)	(0.00267)	(0.00242)	(0.00190)
Panel C: Pre-ACA Births vs Post-ACA Births						
Mom × Post Birth × Post ACA	0.0140	0.0154	0.0140	0.0136	0.0128	0.0148
	(0.00213)	(0.00515)	(0.00295)	(0.00381)	(0.00347)	(0.00269)
Parallel Trends *p-value*	0.0875	0.0204	0.342	0.921	0.667	0.0632
Individual FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Person-Year Observations	2,497,149	470,799	1,279,224	735,957	959,967	1,537,182

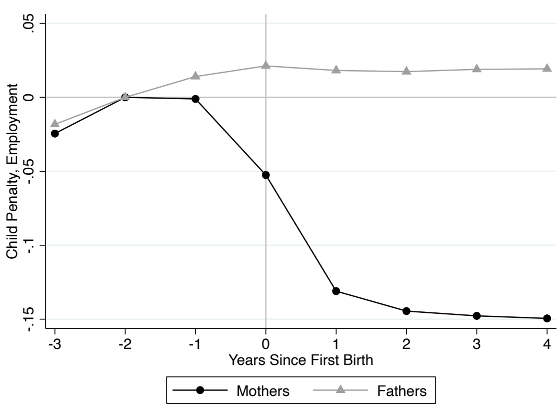
Figure 1. Relative Employment of Mothers and Fathers: 2013 and 2015 Births



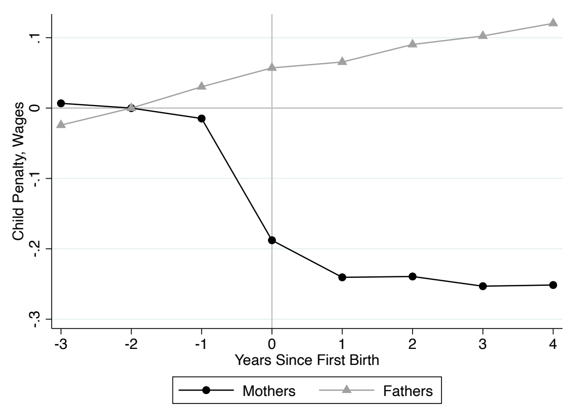
(a) Relative Wage Employment



(b) Relative Wage Earnings



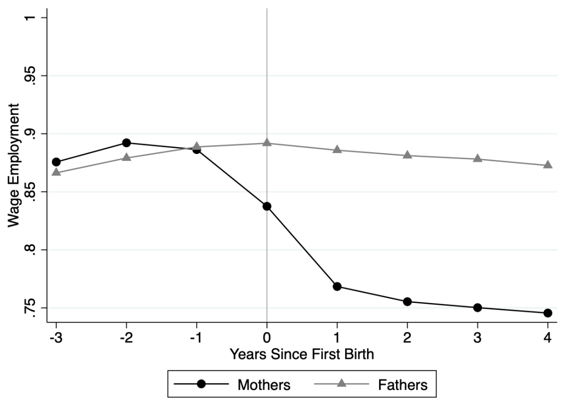
(c) Employment Child Penalty



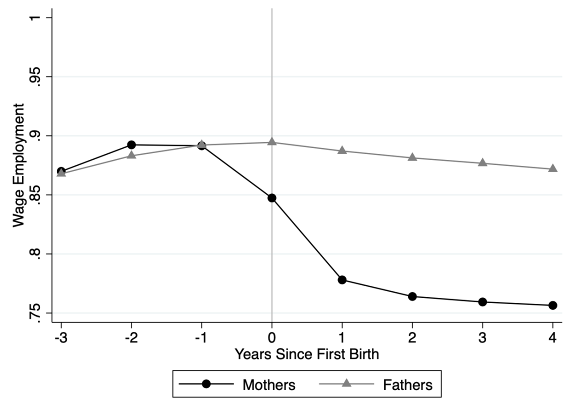
(d) Wage Child Penalty

Notes: These figures plot mean earnings and employment gaps for a 10% sample of births in 2013 and 2015. Earnings and self-employment are measured deflated based on the 2015 CPI-U. Employment outcomes include zeros. Event time is measured relative to mother's first birth.

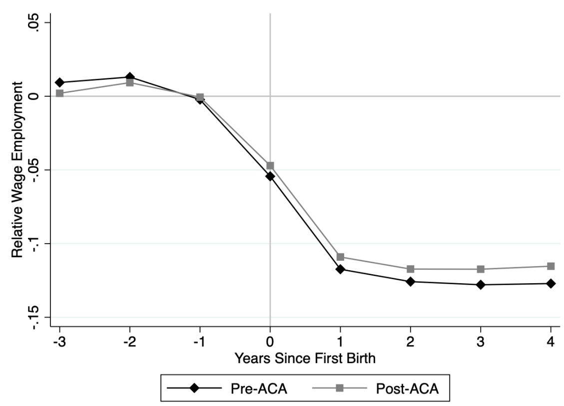
Figure 2. Relative Employment: Pre- and Post-ACA



(a) Wage Employment, Pre-ACA Births



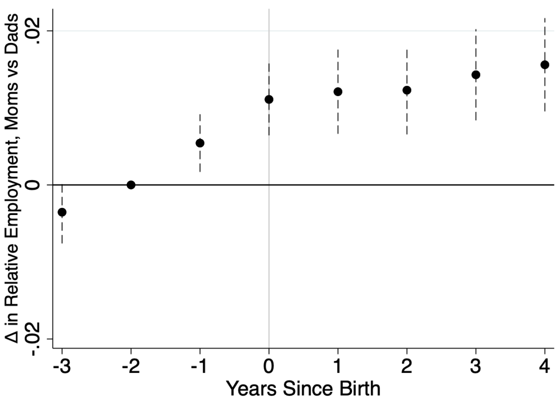
(b) Wage Employment, Post-ACA Births



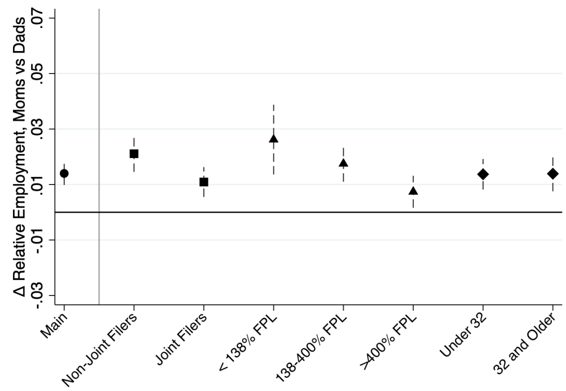
(c) Relative Wage Employment DDD

Notes: These figures plot mean employment for mothers and fathers for a 10% sample of births in 2013 (Pre-ACA) and 2015 (Post-ACA). Mean employment is reported for three years before through four years after birth. Panels (a) and (b) plot mean wage employment, and panel (c) plots the difference in employment for mothers and fathers in the pre- and post-aca period.

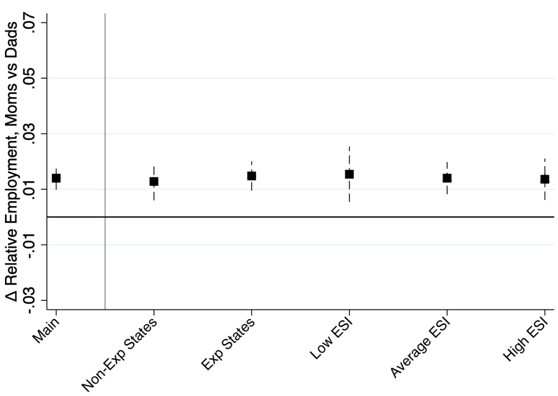
Figure 3. The Impact of the ACA on Relative Employment



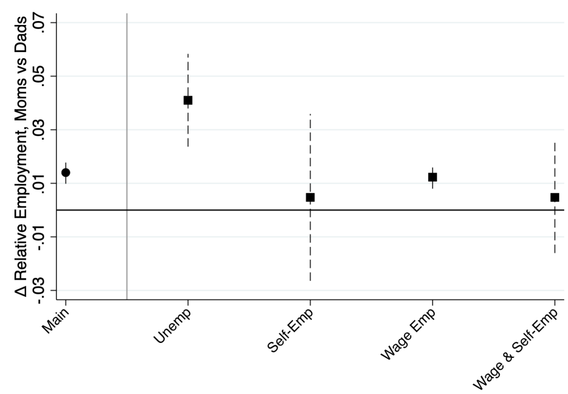
(a) Wage Employment Dynamic DDD



(b) Mother's Pre-Birth Characteristics



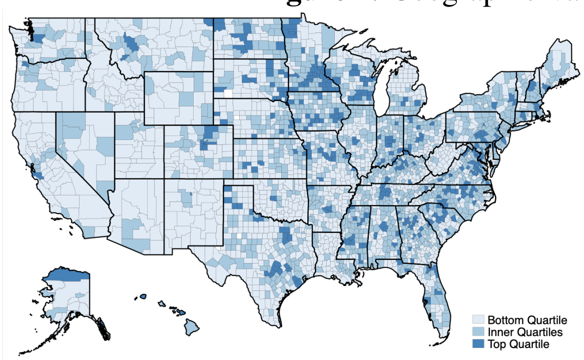
(c) ACA Expansion Mechanisms



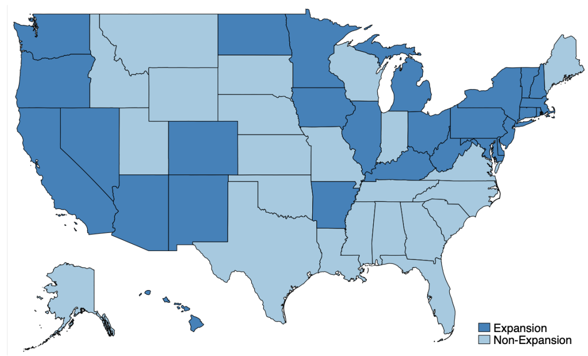
(d) Mother's Pre-Birth Employment

Notes: Plots depict DDD estimates of the impact of the ACA on mothers' relative employment among subsamples defined by mothers in t=-2. DDD coefficients and 95% confidence intervals are plotted across various estimates. Panel (a) corresponds to Table 2. Panel (b) corresponds to Table 5. Panel (c) corresponds to Table 6. Panel (d) corresponds to Table 4.

Figure 4. Geographic Variation in ACA Mechanisms



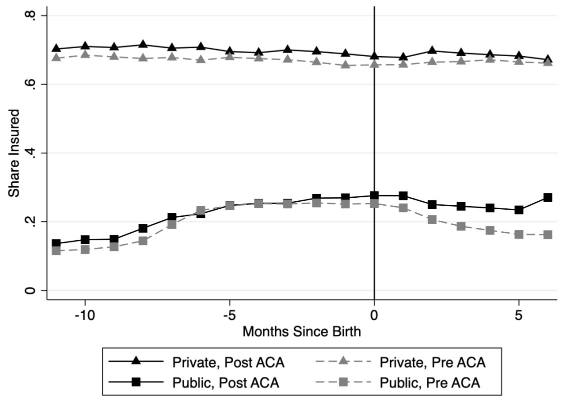
(a) Variation in ESI Coverage



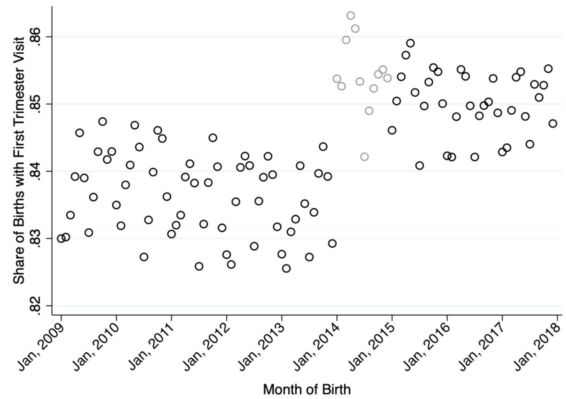
(b) Medicaid Expansion

Notes: Panel A ranks counties based on the share of the female population aged 18-44 with ESI coverage in 2012 as reported from Form W-2 and combined the 2010 population in Area Resource File (ARF). ESI coverage is identified in the tax data based on the number of W-2s with a reported premium or HSA. Panel B depicts which states expanded and did not expand Medicaid coverage as of 2015.

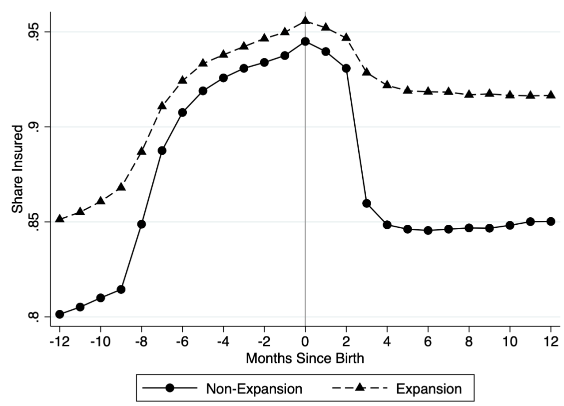
Figure 5. Descriptive Evidence: ACA Implementation and Pre-Natal Health



(a) Insurance Rates, by Source of Coverage



(b) Share of Births with 1st Trimester Prenatal Visit

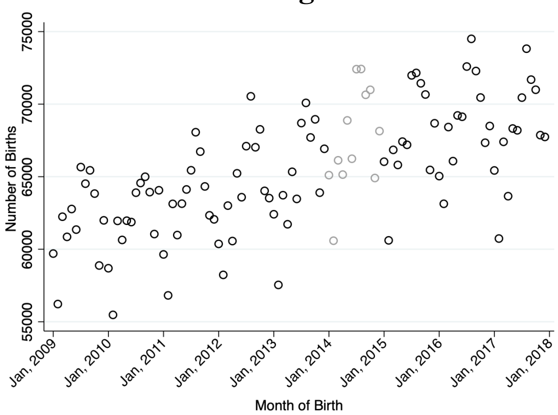


(c) Insured Taxpayers in Months Surrounding Birth

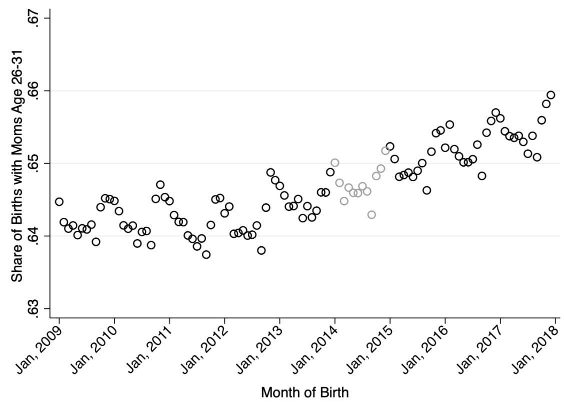
Notes: Panel A plots the share of the 26-44 population that are insured in the 18 months surrounding pregnancy by public and private insurance as identified in the 2009–2017 Medical Expenditure Panel Survey (MEPS). Panel B plots the monthly share of births for whom the mother had a first-trimester prenatal care visit based from monthly natality statistics reported by the the Centers for Disease Control. Panel C uses 2015-2016 monthly tax reporting data from Forms 1095 A, B, and C to plot the share of insured taxpayers in the months surrounding childbirth in states that had expanded Medicaid by 2015.

A. Appendix

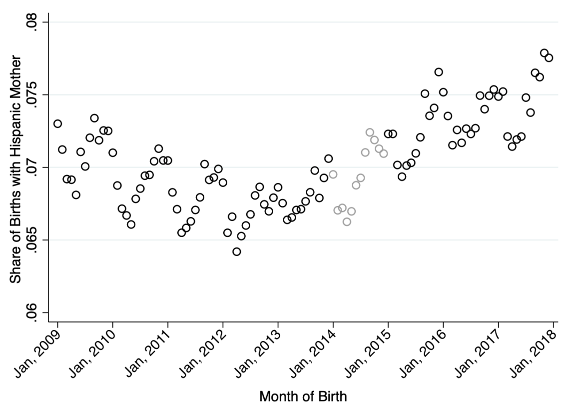
Figure 6. Trends in Fertility: Moms Aged 26-44



(a) Monthly Births



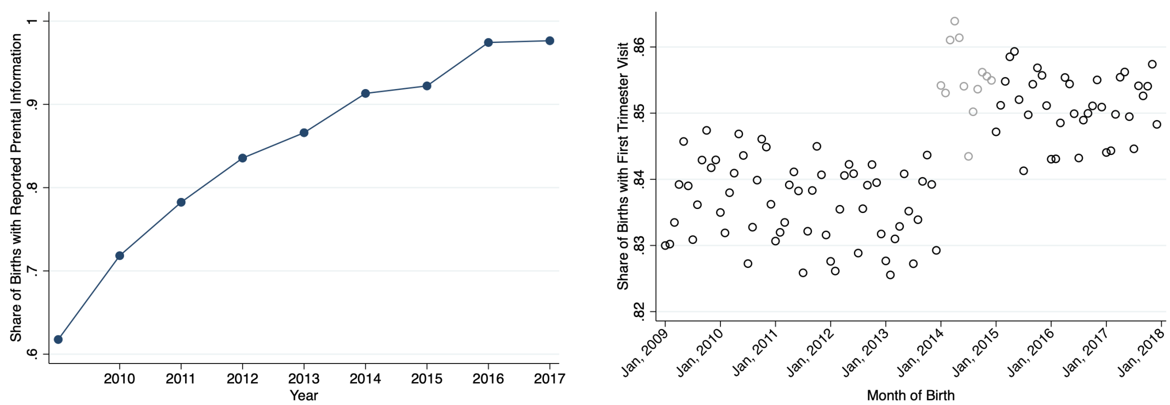
(b) Monthly Births, Moms Aged 26-31



(c) Monthly Births, Hispanic Moms

Notes: Monthly birth data for mothers aged 26 - 44 between 2009 and 2017 are drawn from the public-use Centers from Disease Control (CDC) Natality files. Birth shares are among births with reported demographic information.

Figure A.1. CDC: Additional Analysis of Prenatal Care



(a) Share of Births Reported on 2003 Live Birth Certificate

(b) Share of Births with 1st Trimester Visit Excluding Certain States

Notes: Panel A plots the monthly share of births with reported prenatal care information from 2009–2016. Panel B fixes the states included in the analysis to those that reported prenatal care information as of 2013. All data are based on public reporting from the Centers for Disease Control for moms aged 26–44.