The Impact of Expanding Medicaid on Health Insurance Coverage and Labor Market Outcomes [*]

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April 15, 2016

Abstract

Expansions of public health insurance have the potential to reduce the uninsured rate, but also to reduce coverage through employer-sponsored insurance (ESI), reduce labor supply, and increase job mobility. In January 2014, twenty-five states expanded Medicaid as part of the Affordable Care Act (ACA) to low-income parents and childless adults. Using data from both the 2011-2015 March Current Population Survey (CPS) Supplements and the Basic Monthly CPS, we compare the changes in insurance coverage and labor market outcomes over time of adults in states that expanded Medicaid and in states that did not. Our estimates suggest that the recent expansion significantly increased Medicaid coverage by 8.3 percentage points for poor, childless adults and 1.9 percentage points for poor parents with little decrease in ESI. Further, the expansion of Medicaid through the ACA did not impact labor market outcomes, including labor force participation, employment, hours worked, total earnings, or job mobility.

JEL Codes: I13, J22, I18
Keywords: Medicaid, labor supply, health insurance

[*] The authors thank Tom DeLeire for helpful comments.
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1. Introduction

Health insurance in the United States is primarily obtained through employer-sponsored insurance (ESI). In 2013, 55.7 percent of the population and 64.2 percent of insured individuals had ESI (U.S. Census Bureau, 2015). As a result, expansions of public health insurance have the potential to significantly influence labor market outcomes (Currie and Madrian, 1999). Individuals who are newly eligible for public insurance could be less likely to remain in the labor force or could reduce their hours worked in response to the potential in-kind transfer. Additionally, public insurance could increase job mobility as individuals are no longer tied to an employer for health insurance (Gruber and Madrian, 2004).

In this paper, we examine whether the expansions of Medicaid eligibility in January 2014 as part of the Affordable Care Act (ACA) influenced labor market outcomes. To do so, we first examine whether these expansions increased health insurance coverage and whether the increase in Medicaid coverage was partially offset by a decrease in ESI. Then, we examine whether the increased eligibility affected labor supply and job mobility.

The ACA, which was enacted in March 2010, is one of the most significant changes to health insurance markets since the introduction of the Medicaid and Medicare programs (Roosevelt et al., 2014). To decrease the number of uninsured individuals, the ACA called for the expansion of Medicaid eligibility for adults with dependent children and childless adults. Previously, only low-income children, parents with dependent children, the elderly, or individual with disabilities were eligible for Medicaid. Thus, the expansion of Medicaid eligibility increased the income-eligibility thresholds for adults with dependent children, and childless adults became newly eligible for Medicaid insurance. Due to the June 2012 U.S. Supreme Court decision, states became able to choose whether to expand Medicaid coverage under the terms of the ACA. Twenty-five states elected to expand Medicaid in January 2014. Among these states, the median eligibility threshold for childless adults and adults with dependent children was 138% of federal poverty guidelines. For states not expanding Medicaid, the median eligibility threshold was 46.5% for adults with dependent children and was 0% for childless adults in 2014 (Centers for Medicare and Medicaid Services, 2014).

Previous research from earlier expansions of the Medicaid program finds that increases in Medicaid coverage decrease ESI coverage, which suggests that public health insurance expansions crowd out private insurance (Gruber and Simon, 2008). Previous results of the

impact of earlier Medicaid expansions on labor market outcomes are mixed, with the results varying for different expansions and different subgroups of the population. However, due to the near uniqueness of the ACA's expansion of Medicaid eligibility to childless adults, there has been relatively little research on this demographic group and the existing studies focus on changes within one state (Garthwaite, Gross, and Notowidigdo, 2014; Dague, DeLeire, Leininger, 2014). This paper presents evidence of the influence of the largest expansion of Medicaid eligibility for childless adults across half of all states.

To understand the impact of the recent expansion of Medicaid on the labor market, we first examine the impact on health insurance coverage and the type of insurance. Using data from the 2011-2015 Current Population Survey (CPS) Annual Social and Economic (March) Supplements and a difference-in-differences specification, we compare the changes in insurance coverage over time of adults in states that expand Medicaid and in states that did not for both childless adults and parents with dependent children. We focus our analysis primarily on individuals with income below 100% of the poverty guidelines, since these individuals are not eligible for the federal subsidies on the insurance exchanges in states that did not expand Medicaid. Our estimates suggest that the recent expansion significantly increased Medicaid coverage by 8.3 percentage points for childless adults. The decrease in ESI is small in magnitude and not statistically significant. Overall, we find that the expansion of Medicaid led to a decrease in the uninsured rate of 7.0 percentage points. For adults with dependent children, our estimates suggest that the impact is smaller, in part because the extent of expansion is more limited. We find that, for the average change in eligibility thresholds, the expansion increased Medicaid coverage by 1.9 percentage points with no change in ESI coverage and a decrease in the uninsured rate of 1.0 percentage points.

Using data from both the 2011-2015 March CPS Supplements and the Basic Monthly CPS, we find that the expansion of Medicaid through the ACA generally did not impact labor market outcomes for childless adults or adults with dependent children, including labor force participation, employment, hours worked, total earnings, or job mobility. Importantly, we show that the trends in labor market outcomes are parallel prior to 2014 in states that expand Medicaid and in states that do not. Thus, our results suggest that the recent expansion of Medicaid reduced the uninsured rate among poor adults without crowding-out ESI and decreasing labor supply.

2. Background on the Expansion of Medicaid

a. Description of Medicaid and the Expansion in 2014

Medicaid is the largest public health insurance program in the United States. Medicaid was enacted in 1965 under Title XIX of the Social Security Act to provide health care services to disabled individuals and families with dependent children. In 1986, Medicaid expanded so that pregnant women and infants (up to 1 year) with income up to 100% of federal poverty guidelines were eligible. The Balanced Budget Act of 1997 created the Children's Health Insurance Program (CHIP) that further expanded Medicaid by increasing the income-eligibility thresholds to provide health coverage for millions of children. In 2013, prior to the latest expansion of Medicaid, the program provided coverage to 55 million individuals, which is 17.5 percent of the population (U.S. Census Bureau, 2015).

As part of the ACA, which was enacted in March 2010, all adults whose family income was below 138 percent of the federal poverty guidelines became eligible for Medicaid. Previously, only low-income children, parents with dependent children, the elderly, and individuals with disabilities were eligible, and the income thresholds for parents with dependent children were below 138 percent. Thus, the expansion of Medicaid through the ACA targeted nonelderly adults by providing eligibility to childless adults and increasing the income threshold for parents with dependent children.

In June 2012, the United States Supreme Court held that states cannot be required to expand Medicaid eligibility. This decision made the expansion optional for states. As defined by the Centers for Medicare and Medicaid Services (CMS), twenty-four states plus the District of Columbia chose to expand Medicaid on January 1, 2014 and five additional states subsequently expanded Medicaid.[1] Regardless of whether a state expands Medicaid, all states must implement the new eligibility and enrollment processes, including the transition to modified adjusted gross income (MAGI). As a result, while the text of the ACA expands Medicaid to 133 percent of federal poverty guidelines, the new method of calculating income increases the eligibility threshold to 138 percent.[2]

[1] The expansion of Medicaid in Montana is pending, as of July 2015.

[2] Because eligibility for premium credits through the exchanges is based on income tax rules for counting income and family size, the tax-filing unit became the basis for family structure calculations. Thus, the ACA establishes a new definition of income, MAGI, which is the sum of adjusted gross income, non-taxable Social Security benefits, tax-exempt interest, and foreign earned income and housing expenses for Americans living abroad (Center for Labor

Tables 1 and 2 display whether each state expanded Medicaid, the poverty thresholds used to establish eligibility for each year from 2011 through 2015, and the date of expansion for childless adults (Table 1) and adults with dependent children (Table 2). For childless adults, as shown in Table 1, nearly all states that expanded Medicaid adopted the income eligibility threshold of 138 percent. Only the District of Columbia and Minnesota adopted a higher threshold (215 percent and 205 percent, respectively). Of the 25 states that expanded Medicaid in January 2014, childless adults were previously not eligible for Medicaid in 16 of these states. Eight states previously provided benefits to childless adults and increased the eligibility threshold to at least 138 percent. Although Vermont expanded Medicaid according to CMS, its threshold decreased from 150 percent to 138 percent in 2014 due to the expiration of a federal waiver permitting a higher income eligibility threshold. Childless adults were not eligible for Medicaid at any income level in states that did not expand Medicaid either before or after the expansion, except for Wisconsin, which did not fully expand Medicaid up to the 138 percent threshold of the ACA, but did receive a waiver from CMS to increase eligibility to 100 percent of poverty guidelines in 2015.

For adults with dependent children (Table 2), although 25 states expanded Medicaid in January 2014 according to CMS, the income eligibility thresholds increased in only 20 of these states. The thresholds increased by more than 50 percentage points from 2013 to 2014 in only 9 of these states. In five states, the threshold decreased with New Jersey, New York, Rhode Island, and Vermont lowering the threshold to 138 percent and Minnesota decreasing the threshold to 205 percent. In all states, some adults with dependent children were eligible for Medicaid prior to the ACA, and, among states that did not expand Medicaid, the eligibility threshold increased for all but two states (Maine and Wisconsin). However, these increases were smaller changes compared to states that did expand Medicaid, and the thresholds for these states were all below 138 percent in 2014. Thus, eligibility for adults with dependent children changed in all states in 2014, but the increase in eligibility was less substantial than the increase for childless adults.

The ACA influenced many aspects of health insurance and health care, and the most relevant other change for this analysis is the creation of health insurance marketplaces, which are

Research and Education, 2014). This new method of calculating income changes the Medicaid eligibility threshold from 133 percent to 138 percent because of income disregards that are not considered in determining eligibility.

also known as health insurance exchanges. The marketplaces provide a set of government-regulated and standardized health care plans for each state. Individuals with family income between 100 and 400 percent of federal poverty guidelines are generally eligible for federal subsidies to purchase health insurance policies through the marketplaces. However, adults with income below 100 percent of poverty guidelines but above the Medicaid eligibility threshold established in the ACA are not eligible for federal subsidies. Thus, childless adults and adults with dependent children in states that did expand Medicaid are eligible for federal subsidies to purchase insurance through their state's marketplace if their income exceeds the eligibility threshold and is below 400 percent. In contrast, adults in states that did not expand Medicaid with income levels below 100 percent of federal poverty guidelines are not eligible for federal subsidies to purchase health insurance through their state's marketplace for income levels. This coverage gap occurs because the law was written with the presumption that all states would expand Medicaid (Kaiser Family Foundation, 2012), and the law was not changed after the U.S. Supreme Court decision granting states the ability to choose whether to expand Medicaid.

b. Why Medicaid Expansions Might Affect Labor Market Outcomes

ESI is a form of non-wage compensation that is often available to employees and is the primary mechanism through which individuals obtain health insurance in the United States. In 2014, 55.4 percent of adults aged 19 to 64 were covered through ESI (U.S. Census Bureau, 2015). Over 90 percent of privately-insured individuals obtain health insurance through ESI (U.S. Census Bureau, 2015). The Medicaid expansion increased the income-eligibility thresholds for childless adults and adults with dependent children. For these individuals with ESI who are newly eligible for Medicaid, the opportunity to enroll in Medicaid reduces the value of the non-wage compensation through ESI. As a result, the expansion of Medicaid reduces the incentive for these individuals to remain employed and in the labor force. Additionally, the expansion of Medicaid reduces the incentive for individuals who are unemployed or out of the labor force to return to the labor force and seek employment. Thus, the Medicaid expansion could reduce labor force participation and employment.

The expansion of Medicaid could also decrease hours worked. Since Medicaid eligibility decreases the overall compensation from working at a firm offering ESI, hours worked may decrease. Additionally, employees may decrease their hours or not increase their hours in order

to keep their income below the threshold and remain eligible for Medicaid. On the other hand, if the expansion of Medicaid eligibility leads to greater Medicaid participation, which improves health, then there could be an increase in hours worked due to a reduction in illness-related absences (Baicker et al., 2014).

The expansion of Medicaid may also influence job mobility and reduce job lock. The theory of health insurance-related job lock is described by Gruber (2000) and is based on the compensating differentials equilibrium described by Rosen (1986). Job lock occurs when a worker is unwilling to move to a new firm with a job where the worker would be more productive and paid a hire wage because the new firm does not offer health insurance or offers less generous insurance than the current firm. This can occur if the cost of offering health insurance to the new firm is greater than the cost to the current firm and the worker values health insurance by at least as much as the wage differential. In this case, the expansion of Medicaid could lead to welfare-enhancing job switches as workers move to more productive jobs because Medicaid is now available to the worker at both the current and the new job.

Finally, the expansion of Medicaid could influence earnings. Earnings could decrease if the expansion of Medicaid reduces employment or hours worked. On the other hand, earnings could increase because individuals may accept a job with a higher wage without ESI or the higher eligibility threshold allows individuals to earn a higher income while still remaining eligible for Medicaid.

c. Previous Literature and the Contribution of this Paper

Given the potential relationship between Medicaid expansions and labor market outcomes, a small but growing literature has developed in recent decades examining the impact of health insurance and Medicaid expansions, in particular. The results of the previous literature are mixed. Gruber and Madrian (2004) review the earlier literature and conclude that health insurance does not significantly influence the labor supply of low-income, single, female-headed families but that is does for secondary earners. Additionally, the authors document that the results for job mobility are mixed, but that the best evidence suggests that health insurance does influence job mobility. More recently, Strumpf (2011) finds that the introduction of Medicaid did not significantly influence the labor supply of single women.

One concern of estimating the relationship between Medicaid and labor market outcomes during the early decades of the program is that Medicaid eligibility was linked to eligibility for cash welfare until the 1980s. Thus, it is difficult to distinguish the effect of Medicaid eligibility from the effect of welfare eligibility. Throughout the 1980s and 1990s, Medicaid eligibility expanded for pregnant women and children and was no longer tied to cash welfare. Ham and Shore-Sheppard (2005) find that these expansions did not significantly influence the labor force participation rates of women. In contrast, Dave et al. (2015) find that these expansions led to a sizeable decrease in the probability of employment and hours worked for pregnant women.

Hamersma and Kim (2009) find that Medicaid expansions between 1996 and 2003 reduced job lock among unmarried women, but not men or married women. In particular, they find that a $100 change in the income-eligibility threshold for Medicaid led to a 0.11 percentage point increase in voluntary job turnover for unmarried women. Tomohara and Lee (2007) find that the State Children's Health Insurance Program expansions in the late 1990s did not influence the labor force participation rates or hours worked of married women, on average, but did reduce labor supply for some groups of women.

Most of the prior research focuses on low-income women, who are the traditional beneficiaries of Medicaid. Baicker et al. (2014) examine the expansion of Medicaid in Oregon in 2008 to individuals below 100 percent of the federal poverty guidelines who were not categorically eligible for the state's traditional Medicaid program. The authors find that the expansion and Medicaid participation did not affect employment or earnings, and the authors are able to rule out declines in employment of more than 4.4 percentage points from Medicaid enrollment. Although these estimates would include childless adults, since this group would not be categorically eligible for traditional Medicaid in 2008, the results are not estimated separately for this demographic group and very few studies specifically examine childless adults.

Garthwaite, Gross, and Notowidigdo (2013) estimate the effect of losing Medicaid eligibility on the labor supply of childless adult in Tennessee in 2005 by comparing the changes for childless adults and other adults in Tennessee before and after the TennCare disenrollment, which is the name for Medicaid in Tennessee, to the corresponding changes in other states. Using CPS data, the authors find that TennCare disenrollment decreased the probability of having public insurance by 7.3 percentage points and increased the probability of employment by

4.6 percentage points, the probability of working at least 20 hours per week by 4.4 percentage points, and the probability of having ESI by 4.2 percentage points for childless adults.

Dague, DeLeire, and Leininger (2014) examine the impact of Medicaid eligibility and participation on the labor market outcomes of childless adults in Wisconsin. In 2009, the state expanded Medicaid eligibility to include childless adults, but reversed this decision later in the year. Using administrative data from the state, the authors compare the labor market outcomes of individuals who enrolled in Medicaid in early 2009 to those who applied later in 2009 and were not able to enroll in Medicaid. The authors find that Medicaid enrollment decreases the probability of being employed by at least 2.4 percentage points.

The papers that specifically focus on childless adults in Tennessee and Wisconsin report estimates from changes in Medicaid eligibility and participation that are larger than most estimates for low-income women. Baicker et al. (2014) and Dave et al. (2015) suggest that the differences in results for labor market outcomes in the literature could be explained by differences in the magnitude of the crowd-out of ESI in different periods, states, and demographic groups. In particular, in Oregon, Finkelstein et al. (2012) find that Medicaid eligibility did not decrease ESI coverage, while Dave et al. (2011) find that the Medicaid expansions in the 1980s and 1990s led to a significant reduction in ESI for pregnant women. Further, the TennCare disenrollment included a significant increase in ESI coverage in addition to the substantial labor supply response (Garthwaite, Gross, and Notowidigdo, 2013). Thus, to provide context and better understand the influence of the Medicaid expansions in 2014, we examine the impact on health insurance coverage and whether there is a decrease in ESI coverage in addition to the impact on labor market outcomes.

This paper contributes to the literature by providing further evidence of the impact of Medicaid eligibility on labor market outcomes for childless adults. In contrast to the prior research that consists of state-specific studies, we examine the largest expansion for childless adults that occurred in 25 states in January 2014. Further, we focus on the impact for low-income adults, which are often of interest to policymakers. Since eligibility for TennCare for childless adults prior to the disenrollment did not depend on income, the results from losing eligibility in Tennessee are based on a higher-income sample and may not generalize to the lower-income population that gained eligibility in the expansions in 2014. Further, in our study, we are able to compare the impact for childless adults to adults with dependent children who also

gained eligibility due to the expansion of Medicaid in 2014 to better understand how the labor supply response varies across demographic groups.

3. Data

To examine the impact of the expansion of Medicaid, we primarily utilize the Annual Social and Economic Supplement of the Current Population Survey (CPS), which is collected every March by the U.S. Census Bureau. The CPS is a monthly, nationally-representative survey of approximately 50,000 households containing information on labor market and demographic characteristics. The March CPS supplements include more detailed information on income, work experience, noncash benefits, and health insurance status.

Although the basic monthly CPS data include labor market outcomes, there are two primary advantages of using the March CPS data for our analysis. First, the March CPS data includes detailed information about family income, which we use to determine eligibility for Medicaid, while the basic monthly data includes bracketed income categories.[3] Second, health insurance information is only available in the March CPS.

In 2014, the CPS redesigned the questions on health insurance coverage. Prior to 2014, respondents were asked about their health insurance coverage status during the previous year. However, respondents answer as if they are asked about their coverage on the day of the survey (Swartz, 1986). Thus, in 2014, in addition to the traditional questionnaire about coverage during the prior year that was administered to 68,000 individuals, the Census Bureau introduced a redesigned questionnaire asking respondents about their health insurance coverage at the time of the interview that was administered to 30,000 randomly selected individuals. In 2015, all respondents were asked about their health insurance coverage at the time of the interview.

For the type of health insurance coverage, we create variables denoting whether the individual reports receiving Medicaid, ESI, or other private insurance and whether the individual is uninsured. For individuals prior to 2014 and who completed the traditional questionnaire in 2014, we code their responses as if they apply to the prior year. For individuals in 2015 and who

[3] The March CPS data include the family income to poverty ratio in bracketed groups: [0-50%], (50-100%], (100-150%], etc. As a result, we calculate a continuous measure using family income, family size, and the appropriate poverty guideline for that family size.

completed the redesigned questionnaire in 2014, we code their responses as if they apply to the current year.[4]

The labor market outcomes that we examine using the March CPS data are labor force participation, whether the individual is employed, whether the individual is unemployed, hours per week that the individual usually works, hours per week that the individual worked during the prior week, hours per week that the individual worked during the prior week conditional on being employed, and earnings. Labor force participation, employment, and unemployment are reported based on the week prior to the survey, which is typically the week of the month that includes the 12th calendar day. Earnings are reported for the preceding calendar year.

We also create variables measuring demographic characteristics from the March CPS. These include age, sex, the number of children under age 18 in the household, race (white, black, and other race), disability status, marital status (married, single, divorced, or widowed), and educational attainment (did not graduate high school, high school graduate, some college, college graduate, or graduate school).

We include time-varying state characteristics from the University of Kentucky Center for Poverty Research National Welfare Data (2015). These data series include annual, state measures of population, employment, welfare, poverty, and politics from 1980 through 2014. We utilize variables that vary across states and over time that are potentially correlated with labor market outcomes. These include the state minimum wage and the AFDC/TANF benefit for a three person family in the state. For 2015, we collect these measures from Floyd and Schott (2015).

State Medicaid policies include the eligibility thresholds for jobless individuals in each year for childless adults and adults with dependent children and the date the state expanded Medicaid, if applicable, based on data provided in the Kaiser Commission on Medicaid and the Uninsured (2015), which is summarized in Tables 1 and 2. Additionally, using information from Kaiser Commission on Medicaid and the Uninsured (2010, 2011, 2012, 2013, and 2014), we construct measures of whether the state had a comparable program to Medicaid, a limited

[4] Since the expansion of Medicaid occurred in January 2014 for most states, constructing health insurance variables in this manner may lead to an underestimate of the impact of Medicaid expansion on Medicaid participation and crowd-out. To examine the robustness of our main results, we exclude respondents from March 2014 who completed the traditional questionnaire. These individuals may have been reporting their health insurance coverage status for March 2014 instead of 2013. These results, which are available upon request, are similar to the main results.

Medicaid program, or offers premium assistance. A limited Medicaid program is defined as a program with fewer benefits, higher cost sharing, or enrollment caps. For premium assistance, we generate a measure of whether the state offers to pay premiums to purchase health insurance through private group health plans for low-income childless adults or adults with dependent children through the Health Insurance Premium Payment (HIPP) program, based on information from each states' Department of Human Services.

For our analysis, we use March CPS data from 2011 to 2015. Thus, we examine health insurance coverage from 2010 to 2015, earnings from 2010 to 2014, and all other labor market outcomes from 2011 to 2015. We combine the individual-level data in the March CPS with state Medicaid policies and other state characteristics from 2010 through 2015.

We restrict the sample to individuals between ages 26 and 64 who are not in the armed forces and primarily focus on individuals with income below 100 percent of the federal poverty guidelines. Since the ACA allows young adults to receive health insurance coverage through their parent's insurance until age 26, we exclude adults who are younger than 26. We also exclude adults aged 65 and over because they are eligible for Medicare and individuals who served in the armed forces because they qualify for veterans insurance programs.

We focus the analysis on individuals with income below 100 percent of the federal poverty guidelines for three reasons. First, this restriction creates a sample of individuals who were not substantially effected by the ACA in states that did not expand Medicaid. Although individuals in states that did expand Medicaid are eligible to enroll up to 138 percent, individuals in states that did not expand are eligible to receive federal subsidies through the health insurance marketplaces if their income is equal to or greater than 100 percent. Thus, by focusing on individuals below 100 percent, there is a sharp difference in the change in benefits due to the expansion of Medicaid through the ACA based on whether states adopted the expansion. Second, this reduces misclassification error of Medicaid eligibility. Due to possible income volatility, individuals who qualify for Medicaid at some point during the year could accurately report their annual income as above the Medicaid thresholds. By restricting the sample to individuals with reported income below 100 percent of the federal poverty guidelines, we reduce the potential misclassification of Medicaid eligibility and examine a sample that is likely eligible for Medicaid if the state adopted the expansion. Third, this reduces measurement error in Medicaid participation. Davern et al. (2009) find that CPS estimates of Medicaid participation

are as high as 42 percent below actual enrollment and that this reporting error is most common among the elderly and individuals with higher income. By focusing on low-income individuals and individuals who are younger than 65 years old, we are able to minimize the influence of measurement error of health insurance coverage.

We also exclude individuals residing in Hawaii, because Hawaii requires employers to provide health insurance coverage to employees. As described in the section below, we initially focus on states that expanded Medicaid when initially eligible in January 2014, but then include residents from all states except Hawaii in our sample.[5]

Table 3 presents the descriptive statistics of our sample for states that expanded Medicaid on January 1, 2014, expanded Medicaid after January 2014, and did not expand Medicaid. For states that expanded Medicaid on January 1, 2014 and states that did not expand Medicaid, we show the sample means prior to and after January 1, 2014. For states that expanded Medicaid after January 2014, we show the sample means prior to and after the date of expansion. The demographic characteristics and labor force outcomes are generally similar among the states that expanded Medicaid and those that did not. States that expanded Medicaid after January 2014 have lower labor force participation, employment, and earnings than the other groups of states. States that did not expand Medicaid also provide lower TANF benefits and a lower minimum wage and have residents that are less likely to be white and single. The sample means for each group of states are also generally similar across the pre- and post-expansion periods.

The percentage of individuals covered by Medicaid prior to January 2014 is approximately 8 percent higher in the states that expanded Medicaid than states that did not. Although there is an increase in Medicaid coverage of 4.3 percentage points in states that did not expand Medicaid, Medicaid coverage increases by 8.2 percentage points in states that expanded Medicaid on January 1, 2014 and by 10.0 percentage points in states that later expanded Medicaid. Similarly, for this sample, the percent of uninsured adults is 10 percentage points higher prior to January 2014 in states that did not expanded Medicaid compared to states that

[5] Thus, we initially exclude residents of Michigan (which expanded on 4/1/2014), New Hampshire (8/15/2014), Pennsylvania (1/1/2015), and Indiana (2/1/2015). We also exclude residents of Wisconsin, which decided not to expand Medicaid, but has an income eligibility threshold for childless adults of 100 percent. As a result, for childless adults, we compare the changes in states that expanded Medicaid to a threshold of 138 percent of the poverty guidelines on January 1, 2014 to the changes in states that continue to not provide Medicaid to childless adults. Alaska expanded Medicaid in September 2015, which we treat as not expanding Medicaid for our analysis because our sample ends in March 2015.

expanded Medicaid when initially eligible. Over this time period when many aspects of the ACA were implemented, the percent uninsured fell, but this percent fell by a greater amount in states that expanded Medicaid. The rates of private coverage and ESI are similar prior to January 2014 and private coverage increased substantially for all states over this time period.

We also utilize information from the CPS basic monthly data from January 2011 through March 2015. The advantages of the basic monthly data are the higher frequency of measurement and the ability to determine whether a respondent has changed jobs that month. With the CPS basic monthly data, we focus on the labor market outcomes described above. In addition, we are able to examine job mobility, which we construct using the question asking individuals if they are still working for same job as the previous month. Since this question was only applicable to people who were working last month, job mobility is conditional on being employed during the previous month. Since the CPS basic does not provide an income to poverty ratio, we compute this value based on the poverty guidelines, family income, and family size. Because household size, and not family size, is reported in the CPS basic monthly data, family size is constructed as the total number of individuals in the household that are a parent, child, or spouse. Since family income is recorded in bins, we compare the lowest value of the bin to the poverty guideline for the corresponding family size to determine the income-to-poverty ratio. Sample means, analogous to those reported in Table 3 for the March CPS data, are reported in Appendix Table 1.

4. Methodology

To understand the impact of the expansion of Medicaid through the ACA, we first examine the impact on health insurance coverage and the type of insurance. Then, we examine the impact on labor market outcomes. Using a difference-in-differences specification, we compare the changes in these outcomes over time in states that expanded Medicaid and in states that did not for both childless adults and adults with dependent children.

For childless adults, since the Medicaid expansion changed the eligibility threshold similarly in most states, we begin by treating all expansions of Medicaid similarly. Then, we add additional variables reflecting the differences in eligibility thresholds and the presence of other programs. Specifically, we initially estimate:

$$Y_{ist} = \beta_0 + \beta_1 expansion_s \times post_t + X_{ist}\Gamma + \varphi_s + \gamma_t + \epsilon_{ist}, \quad (1)$$

where Y_{ist} represents the health insurance status or labor market outcome of individual *i* in state *s* at time *t*. For health insurance coverage, we examine binary variables indicating Medicaid coverage, ESI coverage, direct-purchase private health insurance coverage, and uninsured. For labor market outcomes, we examine binary variables indicating labor force participation, being employed, and being unemployed and continuous variables measuring usual weekly hours worked, actual hours worked during the previous week, actual hours worked during the previous week conditional on being employed, and total earnings. We estimate equation (1) for childless adults and adults with dependent children separately.

The variable $expansion_s$ is a binary variable indicating that the state expanded Medicaid on January 1, 2014 and $post_t$ is a binary variable equal to one for the period after January 1, 2014. The coefficient for the interaction of $expansion_s$ and $post_t$, β_1, is the impact of expanding Medicaid; it measures the average change before and after January 1, 2014 in the outcome for individuals in states that expanded Medicaid compared to the change over the same time period for individuals in states that did not expand Medicaid.[6] Since we are initially interested in comparing states that initially expanded Medicaid to those that did not, we exclude residents of Michigan, New Hampshire, Pennsylvania, Indiana, and Wisconsin when estimating equation (1).

We also include year (γ_t) and state (φ_s) fixed effects to control for common time trends in the outcomes across states and for time-invariant state characteristics. The vector, X_{ist}, represents individual characteristics, including age, number of children, and binary variables for male, race (white, black, and Hispanic; other race/ethnicity is the omitted category), marital status (married, divorced or widowed; single is the omitted category), educational attainment (high school graduate, some college, college graduate, and some graduate school or a graduate degree, with high school dropout the omitted category), and being disabled. Additionally, we

[6] An alternative research design would be to compare the changes before and after January 1, 2014 in states that did expand Medicaid and states that did not for income-eligible and income-ineligible adults using a difference-in-difference-in-differences framework. However, as mentioned above, measurement error could result from income volatility leading many individuals above the eligibility thresholds based on March data to report receiving Medicaid at some point during the prior year. Additionally, measurement error is more common among individuals with higher income (Davern et al., 2009). To minimize concerns related to measurement error and income volatility, we focus on individuals with income below 100 percent and estimate a difference-in-differences specification.

control for time-varying state characteristics related to other social programs, including the state minimum wage and the AFDC/TANF benefit for three person family. We cluster standard errors at the state level.

Equation (1) will estimate the impact of Medicaid expansions for states that expanded Medicaid when initially eligible and it treats all expansions as similar. For childless adults, the majority of states that expanded Medicaid changed their eligibility guidelines from not permitting childless adults to receive Medicaid benefits to allowing childless adults up to 138 percent of poverty guidelines to be eligible. But, the extent of the expansions for adults with dependent children varied across states. Thus, we adapt equation (1) to include the income-eligibility thresholds for each state in each year. Specifically, we estimate:

$$Y_{ist} = \alpha_0 + \alpha_1 T_{st} + X_{ist}\delta + \varphi_s + \gamma_t + \varepsilon_{ist}, \quad (2)$$

where T_{st} represents the eligibility threshold for jobless childless adults or jobless adults with dependent children for state *s* in year *t*.[7] The coefficient α_1 represents the impact of a one percentage point change in the threshold for Medicaid eligibility. Additionally, we modify equation (2) to include measures of other programs or benefits provided by the state to childless adults or adults with dependent children. Specifically, we include whether the state offered a program with comparable coverage to Medicaid, Medicaid coverage with limited benefits, or a premium assistance program.

5. Results

5.1. Health Insurance coverage

We begin our analysis with the impact of Medicaid expansion on health insurance coverage. Table 4 displays the estimates for childless adults and adults with dependent children of the impact of Medicaid expansion on Medicaid coverage, ESI coverage, non-ESI private coverage, and being uninsured. The three columns for each demographic group display estimates from equation (1), equation (2), and equation (2) with additional variables measuring

[7] Prior to expanding Medicaid, states utilized different eligibility thresholds for jobless and working adults, with the eligibility thresholds generally higher for working adults. We focus on the threshold for jobless adults since we are interested in the influence of changes in these thresholds on labor force participation and other labor market outcomes.

related state programs. The estimates from the first column show the impact of expanding Medicaid when the state is initially eligible. The estimates for the second two columns in each group show the impact of a one percentage point increase in the threshold for Medicaid eligibility. To interpret these estimates, the figures shown in brackets represent the marginal effects multiplied by 138 for childless adults and the marginal effects multiplied by 46.5 for adults with dependent children, which is the average change in the eligibility thresholds from 2013 to 2014 for states that expanded Medicaid.

As shown in Table 4, expanding Medicaid led to a statistically significant and sizeable increase in Medicaid coverage for childless adults. The estimates from equation (1) that compare changes in Medicaid participation before and after January 2014 in states that expanded Medicaid and those that did not show that Medicaid expansion increased Medicaid coverage by 8.3 percentage points. The estimates in column (3) show that a one percentage point increase in the eligibility threshold increases Medicaid participation by 0.06 percentage points; as a result, increasing the eligibility threshold from 0 to 138 percent increased Medicaid coverage by 8.3 percentage points. For comparison, the magnitude of this increase is 30 percent of the mean for all adults in states that did not expand Medicaid prior to January 2014. The estimates in column (2) and (3) are similar, which suggests that the results are not due to changes in related state programs.

For adults with dependent children, the estimates for Medicaid participation are smaller in magnitude. As a result of the variation in the income thresholds for adults with dependent children prior to the expansion of Medicaid and variation in the size of the expansion, the estimates shown in the first column and the estimates for the average-sized expansion in the third columns generally differ throughout the table. As shown in column (3), a one percentage point change in the threshold for Medicaid eligibility increases Medicaid participation by 0.04 percentage points. Thus, the average change in the eligibility thresholds of 46.5 percentage points increased Medicaid participation by 1.9 percentage points.

The estimates for ESI are negative, consistent with the expansion of Medicaid crowding out ESI, but are not statistically significant and small in magnitude. The preferred estimates in column (3) show that a one percentage point increase in the eligibility threshold decreased ESI by 0.01 percentage points for childless adults so that an increase in the threshold from 0 to 138 percent would decrease ESI by 1.6 percentage points, but this estimate is not statistically

significant. The 95 percent confidence intervals suggest that we can rule out decreases in ESI of more than 0.03 percentage points from a one percentage point increase or 4.2 percentage points from an increase in the threshold from 0 to 138 percent. For adults with dependent children, the point estimate in column (3) suggests that a one percentage point increase in the eligibility threshold decreases ESI by 0.001 percentage points. The 95 percent confidence intervals suggest that we can rule out decreases in ESI of more than 0.02 percentage points from a one percentage point increase or 1.0 percentage points from the average expansion of Medicaid that occurred in 2014.

As a result of increasing the Medicaid eligibility threshold to 138 percent, the likelihood of being uninsured decreased for childless adults by 7 percentage points. For adults with dependent children, the preferred estimate is negative but not statistically significant and smaller in magnitude. Overall, the expansion of Medicaid primarily affected poor, childless adults by increasing Medicaid coverage and decreasing being uninsured.

Table 5 shows the estimates of the heterogeneous impacts on health insurance coverage by sex and income. For childless adults, the increase in the likelihood of having Medicaid coverage was greater for males and individuals with income below the poverty guidelines. The estimate for individuals with income between 100 and 138 percent of poverty is nearly half of the corresponding estimates for impoverished individuals. All of the estimates for ESI are not statistically significant. The decrease in the likelihood of being uninsured is largest for individuals with incomes below 50 percent of the poverty guidelines. Expanding eligibility up to 138 percent decreased the likelihood of being uninsured by 10 percentage points for the poorest childless adults.

For adults with dependent children, the estimates are generally smaller in magnitude than the estimates for childless adults. The estimates are similar for males and females. Again, all of the estimates for ESI are not statistically significant. Consistent with the fact that states that expanded Medicaid previously provided coverage to the poorest adults with dependent children, and in contrast to the results for childless adults, the largest changes in Medicaid coverage and being uninsured are for individuals with income just above the poverty guidelines. Thus, with the context that we find increases in Medicaid coverage with little crowd-out of ESI from the recent expansion of Medicaid, particularly among childless adults, we turn to estimates of the impacts on labor market outcomes.

5.2. Labor market outcomes

Table 6 displays the estimates of the impact of Medicaid expansion on labor market outcomes. The format is similar to Table 4, which focuses on health insurance coverage. The estimates are shown separately for childless adults and for adults with dependent children for the following outcomes: participating in the labor force, being employed, being unemployed, the usual amount of hours worked per week, the actual amount of hours worked in the previous week, the actual amount of hours worked in the previous week conditional on being employed, and annual earnings.

For all seven outcomes, for both demographic groups, the estimates for all three specifications are not statistically different from zero. Additionally, the estimates are all small in magnitude. The estimates from column (2) to (3), which add variables measuring related state programs, are similar for adults with dependent children but do vary for childless adults. However, the estimates are consistently small in magnitude and imprecisely estimated for both specifications.

The point estimates suggest that a one percentage point increase in the Medicaid eligibility threshold decreases the likelihood of being employed by 0.0009 percentage points for childless adults and that expanding Medicaid to cover childless adults up to 138 percent of the poverty guidelines would decrease the likelihood of being employed by 0.001 percentage points. The 95 percent confidence interval suggests that we can rule out decreases in employment larger than 2.2 percentage points for a typical state expansion of 138 percent. For comparison, in states that did not expand Medicaid, the percent of childless adults who were employed was 73.51 before January 2014. Thus, the 95 percent confidence interval allows us to reject a decline in employment of more than 2.99 percent, relative to the control states. For adults with dependent children, the point estimates suggests that a typical state expansion of 46.5 percent increases employment by 0.6 percentage points and the 95 percent confidence interval suggests that we can rule out decreases in employment greater than 0.46 percentage points. Similarly, the estimates for labor force participation and unemployment for both childless adults and adults with dependent children show that the typical state Medicaid expansion in 2014 changed these outcomes by less than one percentage point.

The point estimates are also small in magnitude for the outcomes examining changes on the intensive margin. For hours worked in the previous week, the estimates suggest that childless adults worked an additional 0.015 hours or 0.9 minutes and adults with dependent children worked an additional 0.066 hours or 4 minutes from an average state expansion. These estimates are 0.17 percent and 0.42 percent, respectively, of the means prior to January 2014 for states that did not expand Medicaid. Similarly, the point estimates of the impact of an average state expansion on usual hours worked and hours worked in the last week conditional on being employed are less than 0.5 hours for both childless adults and adults with dependent children and are not statistically significant. Overall, the estimates suggest that the expansion of Medicaid did not have a negative effect on the labor supply of childless adults or adults with dependent children.

Table 7 presents the estimates of the heterogeneous impacts on labor market outcomes. For childless adults, all estimates are small in magnitude and no estimates are statistically significant. The point estimates suggest that females and males respond differently to the expansion of Medicaid. The estimates for females are positive for labor force participation, employment, and hours worked, while the corresponding estimates for males are negative. The estimates for individuals with income below 50 percent of the poverty guidelines are negative for labor force participation, employment, and hours worked, but become positive for individuals with higher income. For adults with dependent children, again the estimates are small in magnitude. Hours worked conditional on being employed is positive and statistically significantly different from zero at the 5 percent significance level for individuals with income between 100 and 138 percent of the poverty guidelines, but this is one of 25 estimates for adults with dependent children. The point estimates for labor force participation, employment, and hours worked are all positive for both females and males and do not display a consistent pattern by income group.

5.3. Basic Monthly CPS Results

Table 8 presents the results of the impact of Medicaid expansion on labor market outcomes using the basic monthly CPS data.[8] Although the basic monthly CPS data does not provide health insurance coverage of individuals, we are able to use these data to examine job mobility, in addition to the other labor market outcomes. In the table, column (1) corresponds to the estimates of equation (1) and column (2) corresponds to the estimates of equation (2) with the additional state variables measuring related programs. The estimates in column (2) correspond to the estimates in column (3) of Table 6 for the March CPS data.

Similar to the estimates from the March CPS data, the estimates shown in the first two columns for childless adults and adults with dependent children are all small in magnitude and not statistically significant. For outcomes measuring impacts on the extensive margin, all point estimates for the average state expansion are less than one percentage point for both childless adults and adults with dependent children. For outcomes measuring impacts on the intensive margin, the estimated changes in the different measures of hours worked are all less than half an hour for an average state expansion. For job mobility, the point estimates in column (2) for both demographic groups are positive suggesting that there are increases in the likelihood of changing employers from an average state expansion of 0.3 percentage points and 0.2 percentage points for childless adults and adults with dependent children, respectively, but these estimates are not statistically significant.

As a result of the higher frequency of observations and the greater number of observations over time, we are able to estimate specifications that also include state-specific time trends, which are shown in column (3) for each demographic group. All point estimates remain small in magnitude, with estimates for an average state expansion below one percentage point for all outcomes examining the extensive margin for both demographic groups and below 10 minutes for all outcomes examining hours for both demographic groups. For job mobility, the point estimate for an average state expansion is 0.6 percentage points for childless adults and less than 0.1 percentage points for adults with dependent children. The estimates for being unemployed are now statistically significant, but all other estimates are not. A one percentage point increase in the eligibility threshold for Medicaid decreases the likelihood of being

[8] Summary statistics for the sample derived from the basic monthly CPS data are shown in Appendix Table 1. Compared to the March CPS sample, respondents in the basic monthly CPS sample are more likely to be employed, participate in the labor force, male, white, and married and less likely to have disability.

unemployed by 0.0064 percentage points for childless adults and increases the likelihood of being unemployed by 0.0034 percentage points for adults with dependent children. These estimates translate to a decrease of 0.9 percentage points for childless adults and an increase of 0.3 percentage points for adults with dependent children from an average state expansion. Overall, the results from the basic monthly CPS data confirm the estimates from the March CPS data showing that labor market outcomes were largely unaffected by the expansion of Medicaid.

A further advantage of the basic monthly CPS data is that we are able to use the higher frequency of observations to show the pre-expansion trends in labor market outcomes for states that expanded Medicaid relative to states that did not and show the monthly evolution of the estimated impacts after Medicaid expanded. Figures 1, 2, and 3 show the monthly marginal effects from January 2011 through March 2015 for labor force participation, hours worked, and job mobility for childless adults and adults with dependent children. For these estimates, we exclude states that expanded Medicaid after January 1, 2014 so that we can compare the trends for states that expanded Medicaid on January 1, 2014 to states that did not expand Medicaid. The identifying assumption used throughout the paper is that the pre-expansion trends are similar between expansion and non-expansion states. Thus, if the expansion of Medicaid had not taken place, the labor market outcomes for both sets of states would have evolved similarly. In the figures, if this assumption is true, the estimates prior to the expansion of Medicaid in January 2014 should be consistently near zero. As shown in Figures 1-3, the confidence intervals for the estimates prior to expansion almost always include zero, the point estimates are near zero, and the pre-expansion trends seem parallel consistent with our identifying assumption.

Figures 1-3 also show the evolution of labor market impacts after the expansion of Medicaid. For labor force participation, for both demographic groups, the confidence intervals for each month after expansion include zero and the point estimates are small in magnitude. In Figure 2, for childless adults, hours worked during prior week is negative for the first few months after the expansion of Medicaid but then returns to trend beginning in May 2014. Thus, although there seems to be a short-run impact of reducing hours worked, there is no persistent impact on hours worked for childless adults. The estimates for adults with dependent children suggest that there are no impacts on hours worked from expanding Medicaid. Figure 3 suggests that there is not a persistent impact on job mobility for childless adults or adults with dependent children following the expansion of Medicaid. Overall, these figures suggest that the identifying

assumption of parallel trends between states that expanded Medicaid and those that did not is plausible and that, expect for hours worked for childless adults, the immediate response to Medicaid expansions is not different than the estimated average response over the period of more than one year.

6. Discussion and Conclusion

Medicaid is the largest public insurance program in the United States and the expansion of Medicaid through the ACA is one of the largest changes to the program in the last two decades. In this paper, we examine whether the expansion of Medicaid to childless adults and adults with dependent children up to 138 percent of the poverty guidelines increased Medicaid coverage and crowded-out ESI. The results suggest that the likelihood of having Medicaid coverage increased by 8.3 percentage points for poor, childless adults and 1.9 percentage points for poor adults with dependent children. Further, the results suggest that the expansion of Medicaid coverage did not crowd-out ESI for either group of adults.

We also examine whether the expansion of Medicaid influenced labor market outcomes. The results suggest that the expansion of Medicaid coverage did not reduce labor supply or increase job mobility. These results hold in both the March CPS and the basic monthly CPS data. Further, the trends in labor market outcomes in states that initially expanded Medicaid and in states that did not expand Medicaid are similar prior to 2014, which suggests that unobservable characteristics did not influence both the expansion of Medicaid and later labor market outcomes. Thus, the similarity in pre-expansion trends suggests the results reflect the impact of the expansion of Medicaid.

These results differ from the estimates of previous changes in Medicaid eligibility for childless adults in Tennessee and Wisconsin (Garthwaite et al., 2014; Dague et al., 2014). However, these results are consistent with the estimates from the changes in Medicaid coverage in Oregon, which included childless adults (Baicker et al., 2014). Additionally, these estimates are consistent with the conclusion that expansions of Medicaid that do not crowd-out ESI also have limited effects on labor market outcomes (Baicker et al., 2014; Dave et al., 2015). In our analysis, we focus on adults with income below 100 percent of the federal poverty guidelines, which is similar to the expansion in Oregon but lower income that the changes in Tennessee and Wisconsin. Overall, this body of research suggests that expansions of Medicaid to the poorest

adults increases Medicaid coverages and health insurance coverage without crowding-out private insurance through employers and without decreasing labor supply.

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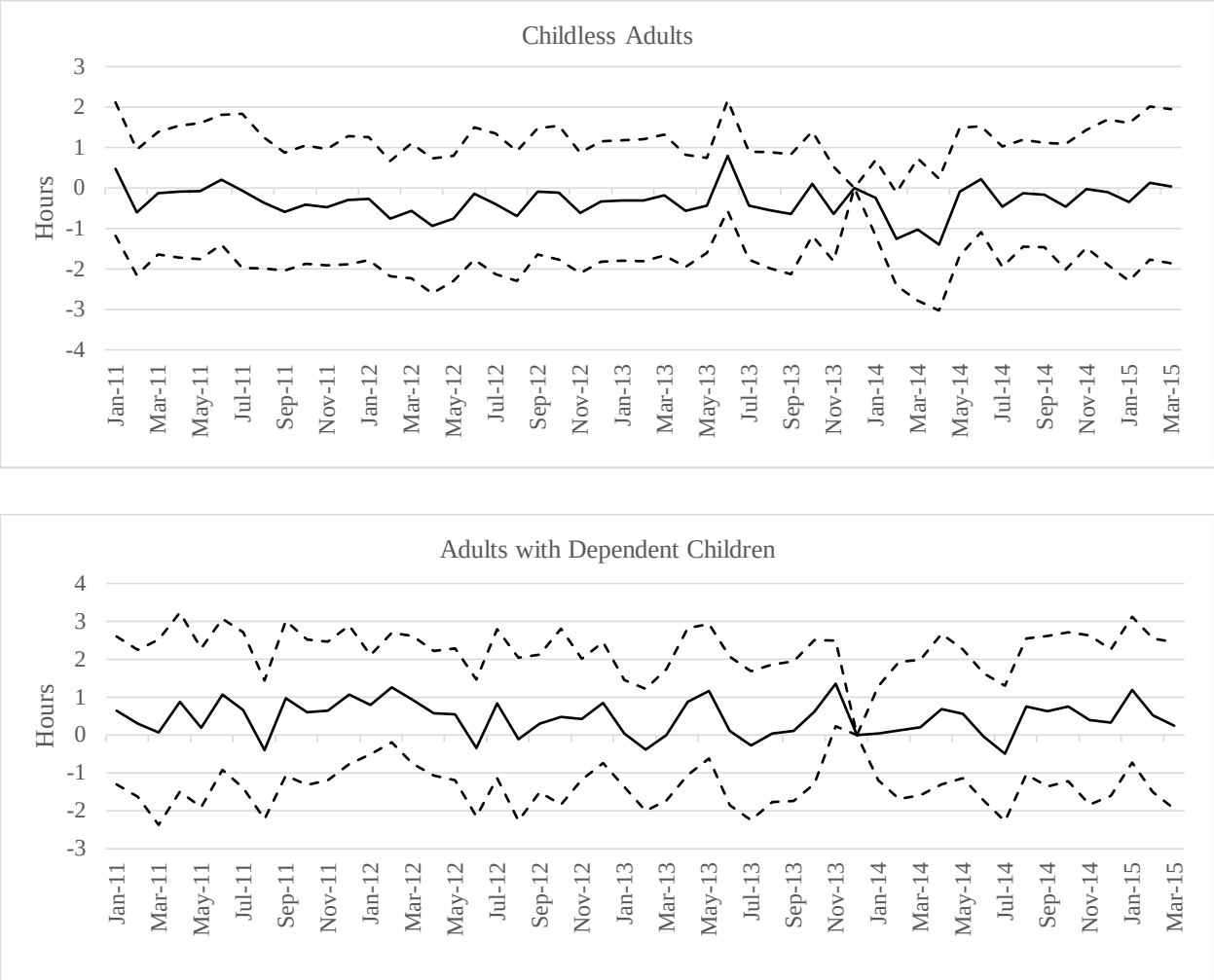
Figure 1
Estimates of the Impact of Medicaid Expansion on Labor Force Participation

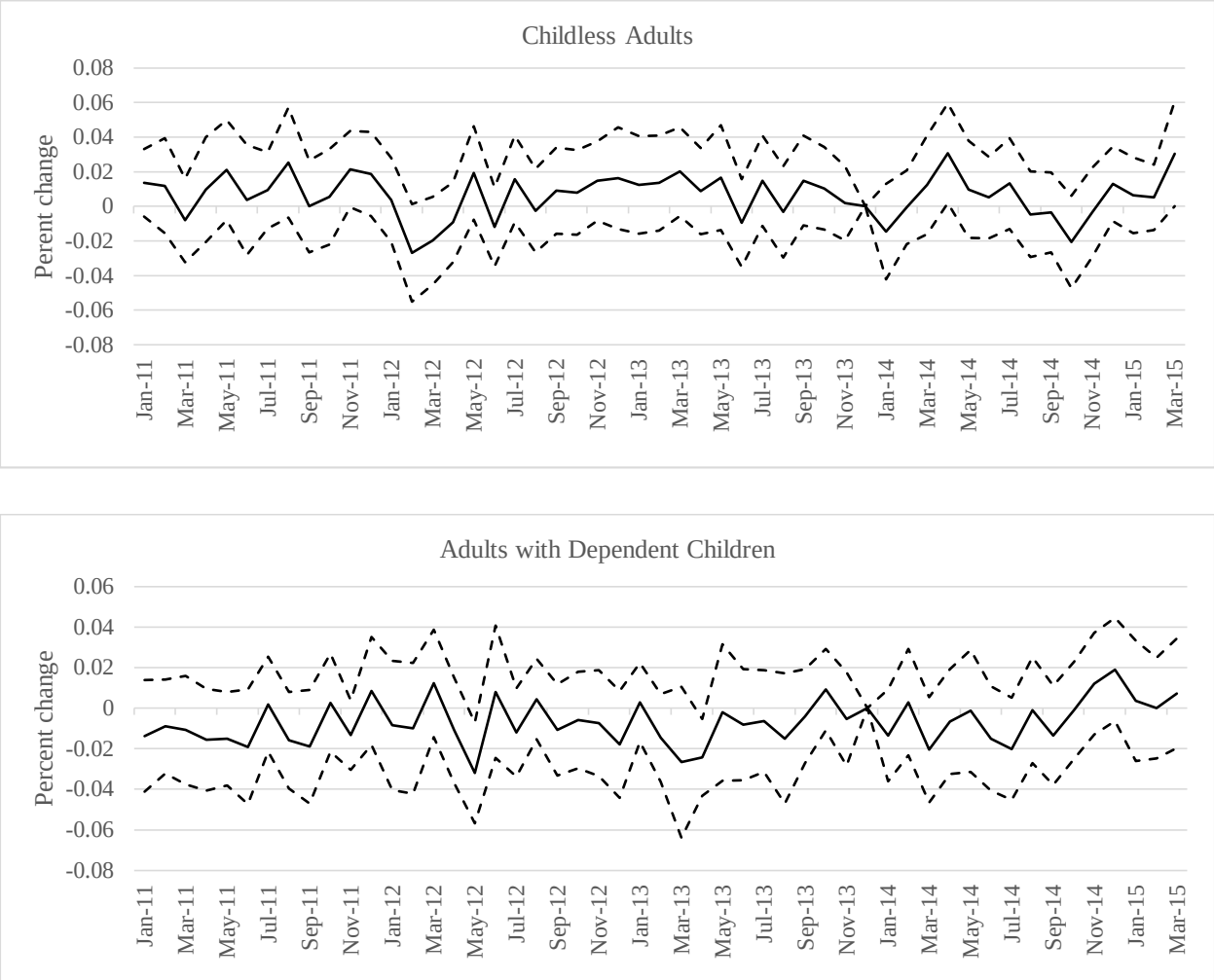
Notes: The graph shows the percentage point change in labor force participation relative to December 2013, which is the month prior to expansion, for childless adults and adults with dependent children. The sample excludes individuals in states that expanded Medicaid after January 2014 (Indiana, Michigan, New Hampshire, and Pennsylvania), Hawaii, and Wisconsin. Source: Basic Monthly CPS data, January 2011 – March 2015.

Figure 2
Estimates of the Impact of Medicaid Expansion on Hours Worked



Notes: The graph shows the change in hours worked during the previous week relative to December 2013, which is the month prior to expansion, for childless adults and adults with dependent children. The sample excludes individuals in states that expanded Medicaid after January 2014 (Indiana, Michigan, New Hampshire, and Pennsylvania), Hawaii, and Wisconsin. Source: Basic Monthly CPS data, January 2011 – March 2015.

Figure 3
Estimates of the Impact of Medicaid Expansion on Job Mobility



Notes: The graph shows the percentage point change in job mobility relative to December 2013, which is the month prior to expansion, for childless adults and adults with dependent children. Job mobility is defined as whether the respondent does not work for the same employer as the prior month. The sample excludes individuals in states that expanded Medicaid after January 2014 (Indiana, Michigan, New Hampshire, and Pennsylvania), Hawaii, and Wisconsin.
Source: Basic Monthly CPS data, January 2011 – March 2015.

Table 1
Medicaid Eligibility Thresholds for Childless Adults

State	Expand Medicaid	2011	2012	2013	2014	2015	Date of Expansion
Alabama	N	0	0	0	0	0	
Alaska	N	0	0	0	0	138	9/1/2015
Arizona	Y	0	100	100	138	138	1/1/2014
Arkansas	Y	0	0	0	138	138	1/1/2014
California	Y	0	0	0	138	138	1/1/2014
Colorado	Y	0	10	10	138	138	1/1/2014
Connecticut	Y	56	56	55	138	138	1/1/2014
Delaware	Y	0	100	100	138	138	1/1/2014
District of Columbia	Y	133	200	200	215	215	1/1/2014
Florida	N	0	0	0	0	0	
Georgia	N	0	0	0	0	0	
Hawaii	Y	0	100	133	138	138	1/1/2014
Idaho	N	0	0	0	0	0	
Illinois	Y	0	0	0	138	138	1/1/2014
Indiana	N	0	0	0	0	138	2/1/2015
Iowa	Y	0	0	0	138	138	1/1/2014
Kansas	N	0	0	0	0	0	
Kentucky	Y	0	0	0	138	138	1/1/2014
Louisiana	N	0	0	0	0	0	
Maine	N	0	0	0	0	0	
Maryland	Y	0	0	0	138	138	1/1/2014
Massachusetts	Y	0	0	0	138	138	1/1/2014
Michigan	Y	0	0	0	138	138	4/1/2014
Minnesota	Y	0	75	75	205	138	1/1/2014
Mississippi	N	0	0	0	0	0	
Missouri	N	0	0	0	0	0	
Montana	N	0	0	0	0	0	pending
Nebraska	N	0	0	0	0	0	
Nevada	Y	0	0	0	138	138	1/1/2014
New Hampshire	N	0	0	0	0	138	8/15/2014
New Jersey	Y	0	0	0	138	138	1/1/2014
New Mexico	Y	0	0	0	138	138	1/1/2014
New York	Y	0	100	100	138	138	1/1/2014
North Carolina	N	0	0	0	0	0	
North Dakota	Y	0	0	0	138	138	1/1/2014
Ohio	Y	0	0	0	138	138	1/1/2014
Oklahoma	N	0	0	0	0	0	
Oregon	Y	0	0	0	138	138	1/1/2014
Pennsylvania	N	0	0	0	0	138	1/1/2015
Rhode Island	Y	0	0	0	138	138	1/1/2014
South Carolina	N	0	0	0	0	0	

South Dakota	N	0	0	0	0	0	
Tennessee	N	0	0	0	0	0	
Texas	N	0	0	0	0	0	
Utah	N	0	0	0	0	0	
Vermont	Y	0	150	150	138	138	1/1/2014
Virginia	N	0	0	0	0	0	
Washington	Y	0	0	0	138	138	1/1/2014
West Virginia	Y	0	0	0	138	138	1/1/2014
Wisconsin	N	0	0	0	0	100	
Wyoming	N	0	0	0	0	0	

Notes: The income threshold shown applies to jobless adults. A value of zero denotes that childless adults are not eligible for Medicaid.
Sources: CMS and the Kaiser Family Foundation.

Table 2
Medicaid Eligibility Thresholds for Adults with Dependent Children

State	Expand Medicaid	2011	2012	2013	2014	2015	Date of Expansion
Alabama	N	11	11	10	16	18	
Alaska	Y	77	76	74	128	143	9/1/2015
Arizona	Y	100	100	100	138	138	1/1/2014
Arkansas	Y	13	13	13	138	138	1/1/2014
California	Y	100	100	100	138	138	1/1/2014
Colorado	Y	100	100	100	138	138	1/1/2014
Connecticut	Y	185	185	185	201	201	1/1/2014
Delaware	Y	75	100	100	138	138	1/1/2014
District of Columbia	Y	200	200	200	220	221	1/1/2014
Florida	N	20	20	19	35	34	
Georgia	N	28	27	27	39	37	
Hawaii	Y	100	100	133	138	138	1/1/2014
Idaho	N	21	21	20	27	26	
Illinois	Y	185	133	133	138	138	1/1/2014
Indiana	N	19	19	18	24	138	2/1/2015
Iowa	Y	28	28	27	138	138	1/1/2014
Kansas	N	26	26	25	28	38	
Kentucky	Y	36	34	33	138	138	1/1/2014
Louisiana	N	11	11	11	24	24	
Maine	N	200	200	133	105	105	
Maryland	Y	116	116	116	138	138	1/1/2014
Massachusetts	Y	133	133	133	138	138	1/1/2014
Michigan	Y	37	37	37	138	138	4/1/2014
Minnesota	Y	100	215	215	205	138	1/1/2014
Mississippi	N	24	24	23	29	27	
Missouri	N	19	19	18	24	22	
Montana	N	32	32	31	52	50	pending
Nebraska	N	47	46	47	55	54	
Nevada	Y	25	25	24	138	138	1/1/2014
New Hampshire	N	39	39	38	75	138	8/15/2014
New Jersey	Y	29	200	200	138	138	1/1/2014
New Mexico	Y	29	29	28	138	138	1/1/2014
New York	Y	69	150	150	138	138	1/1/2014
North Carolina	N	36	35	34	45	44	
North Dakota	Y	34	34	33	138	138	1/1/2014
Ohio	Y	90	90	90	138	138	1/1/2014
Oklahoma	N	37	37	36	48	44	
Oregon	Y	32	31	30	138	138	1/1/2014
Pennsylvania	N	26	26	25	38	138	1/1/2015
Rhode Island	Y	110	175	175	138	138	1/1/2014
South Carolina	N	50	50	50	67	67	

South Dakota	N	52	52	50	54	52	
Tennessee	N	70	69	67	111	101	
Texas	N	12	12	12	19	18	
Utah	N	38	38	37	47	45	
Vermont	Y	77	185	185	138	138	1/1/2014
Virginia	N	25	25	25	52	44	
Washington	Y	37	36	35	138	138	1/1/2014
West Virginia	Y	17	13	16	138	138	1/1/2014
Wisconsin	N	200	200	200	100	100	
Wyoming	N	39	38	37	59	57	

Notes: The income threshold shown applies to jobless adults.
Sources: CMS and the Kaiser Family Foundation.

Table 3
Sample Means Based on the Expansion Status of States

	Expanded Medicaid on January 1, 2014		Expanded Medicaid After January 2014		Did Not Expand Medicaid	
	Pre-expansion	Post-expansion	Pre-expansion	Post-expansion	Before Jan. 2014	After Jan. 2014
Medicaid coverage	39.25	47.46	40.07	46.28	27.34	31.66
Employer coverage	13.16	14.05	15.29	16.01	12.98	14.77
Private coverage (except EHI)	6.88	12.60	7.49	10.22	6.05	11.26
Uninsured	38.16	25.21	34.98	25.59	48.05	37.19
Labor Force Participation	47.71	44.94	44.04	41.13	48.04	43.58
Employed	35.04	35.47	32.60	33.93	37.05	35.35
Unemployed	12.67	9.47	11. 44	7.02	10.99	8.23
Hours worked (usual)	10.56	11.00	9.36	10.18	11.38	11.31
Hours worked (last week)	11.12	11.35	9.93	10.82	12.02	11.86
Hours (last week) | Employed	31.73	33.65	30.46	32.90	32.43	32.02
Earnings	5,481.33	5729.17	4,519.20	5,175.02	5,759.50	5627.75
Childless Adult	54.04	55.42	56.73	58.30	52.93	56.14
Age	42.81	43.36	43.12	43.86	42.83	43.69
Male	41.23	40.48	39.49	40.05	40.05	39.35
Number of child (<18)	1.04	1.02	0.977	0.98	1.10	1.03
White	71.29	70.23	64.23	62.96	67.63	66.16
Black	18.66	19.11	18.48	19.13	24.29	26.43
Other	10.05	10.66	17.30	17.91	8.08	7.41
Disability	18.62	19.18	23.15	23.39	19.61	20.97
Married	36.08	36.17	30.79	31.56	38.33	34.88
Single	36.55	37.85	39.39	35.81	30.18	32.82
Divorced	23.97	22.66	26.07	28.54	27.31	28.12
Widowed	3.40	3.32	3.75	4.09	4.18	4.17
High school dropout	30.69	28.53	21.12	22.57	29.36	27.51
High school graduate	33.91	34.72	42.99	39.49	36.50	35.93
Some college	16.24	16.71	17.65	18.07	16.66	17.39
College graduate	15.53	16.03	15.49	17.25	14.84	16.04
Higher than college	3.63	4.02	2.77	2.62	2.64	3.12
TANF Benefits	532.64	524.76	471.95	469.69	324.01	321.92
Minimum Wage	7.67	8.43	7.28	7.55	7.10	7.29
Comparable Medicaid	23.09	-	7.13	0	0	0
Premium Assistance	1.46	-	0	0	9.22	0
Limited Medicaid	38.68	-	59.04	0	7.39	24.29
N	23,066	7,644	3,978	1,223	16,925	6,209

Notes: This sample includes childless adults and adults with dependent children between the ages of 25 and 64 who are not in the armed forces with income below 100 percent of federal poverty guidelines between 2011 and 2015. The list of states that expanded Medicaid and the dates of expansion are shown in Tables 1 and 2.
Source: Current Population Survey, March supplements, 2011-2015.

Table 4
Estimates of the Impact of Medicaid Expansion on Health Insurance Coverage

	Childless Adults			Adults with Dependent Children		
	(1)	(2)	(3)	(1)	(2)	(3)
Medicaid	0.083	0.000586	0.000598	0.026	0.000397	0.000408
	(0.017)	(0.000098)	(0.000112)	(0.033)	(0.000198)	(0.000195)
		[0.081]	[0.083]		[0.018]	[0.019]
ESI	-0.02	-0.000141	-0.000114	-0.002	-0.000024	-0.000014
	(0.013)	(0.000082)	(0.000095)	(0.018)	(0.000102)	(0.000104)
		[-0.019]	[-0.016]		[-0.001]	[-0.001]
Private (non-ESI)	0.007	0.000072	0.000159	-0.004	0.000005	0.000003
	(0.105)	(0.000069)	(0.000066)	(0.010)	(0.000091)	(0.000092)
		[0.010]	[0.022]		[0.000]	[0.000]
Uninsured	-0.078	-0.000453	-0.000505	0.007	-0.000190	-0.000210
	(0.018)	(0.000117)	(0.000122)	(0.031)	(0.000173)	(0.000167)
		[-0.063]	[-0.070]		[-0.009]	[-0.010]
Observations	29,147	32,066	32,066	24,697	26,976	26,976

Notes: Each cell shows the estimates from separate regressions. Standard errors that allow for clustering within states are shown in parentheses. The figures in brackets represent the marginal effect for the average change in the eligibility threshold for Medicaid from 2013 to 2014 for states that expanded Medicaid. Thus, this estimate shows the impact of Medicaid expansion for the average state expansion. Specification (1) excludes states that expand the Medicaid after January, 2014. Specifications (2) and (3) include all states except for Hawaii. Specification (1) treats all expansions as equivalent and shows the estimates for the variable Post*Expansion. Specification (2) shows the estimates for the income eligibility thresholds as a percent of federal poverty guidelines. Specification (3) is similar to specification (2) but also includes variables measuring whether the state has a comparable program to Medicaid, a limited Medicaid program, or a premium assistance program. ESI refers to employer-sponsored insurance. Additional variables included, but not shown, are age, race (black and other, with white excluded), gender, marital status (widowed, divorced, and single, with married excluded), number of children, disability status, educational attainment (high school graduate, some college, college graduate, and some graduate school or a graduate degree, with high school dropout excluded), the state TANF benefit for a 3-person family, the state minimum wage, year fixed effects, and state fixed effects.
Source: Current Population Survey March Supplement 2011-2015.

Table 5
Heterogeneous Impacts on Health Insurance Coverage

	Females	Males	Below 50%	50-100%	100-138%
			Childless Adults		
Medicaid	0.000545	0.000688	0.000545	0.000597	0.000321
	(0.000136)	(0.000132)	(0.000150)	(0.000126)	(0.000167)
	[0.075]	[0.095]	[0.075]	[0.082]	[0.044]
ESI	-0.000081	-0.000160	-0.000033	-0.000172	0.000061
	(0.000097)	(0.000138)	(0.000099)	(0.000127)	(0.000152)
	[-0.011]	[-0.022]	[-0.005]	[-0.024]	[0.008]
Private (non-ESI)	0.000175	0.000143	0.000288	0.000042	-0.000073
	(0.000069)	(0.000091)	(0.000101)	(0.000086)	(0.000151)
	[0.024]	[0.020]	[0.040]	[0.006]	[-0.010]
Uninsured	-0.000580	-0.000425	-0.000724	-0.000264	-0.000397
	(0.000129)	(0.000154)	(0.000190)	(0.000119)	(0.000160)
	[-0.080]	[-0.059]	[-0.100]	[-0.036]	[-0.055]
N	17,005	15,061	14,848	17,218	14,349
			Adults with Dependent Children		
Medicaid	0.000388	0.000453	0.000480	0.000372	0.000704
	(0.000192)	(0.000264)	(0.000256)	(0.000223)	(0.000200)
	[0.018]	[0.021]	[0.022]	[0.017]	[0.033]
ESI	0.000014	-0.000086	-0.000050	-0.000004	0.000079
	(0.000099)	(0.000198)	(0.000132)	(0.000145)	(0.000178)
	[0.001]	[-0.004]	[-0.002]	[0.000]	[0.004]
Private (non-ESI)	-0.000001	0.000012	0.000068	-0.000025	-0.000012
	(0.000096)	(0.000137)	(0.000169)	(0.000102)	(0.000148)
	[0.000]	[0.001]	[0.003]	[-0.001]	[-0.001]
Uninsured	-0.000234	-0.000148	-0.000311	-0.000151	-0.000486
	(0.000153)	(0.000250)	(0.000196)	(0.000252)	(0.000202)
	[-0.011]	[-0.007]	[-0.014]	[-0.007]	[-0.023]
N	18,146	8,830	10,762	16,214	14,844

Notes: Each cell shows the estimates from separate regressions. Standard errors that allow for clustering within states are shown in parentheses. The figures in brackets represent the marginal effect for the average change in the eligibility threshold for Medicaid from 2013 to 2014 for states that expanded Medicaid. Thus, this estimate shows the impact of Medicaid expansion for the average state expansion. These estimates are comparable to those shown in specification (3) of Table 4. For additional notes, see Table 4.
Source: Current Population Survey March Supplement 2011-2015.

Table 6
Estimates of the Impact of Medicaid Expansion on Labor Market Outcomes

	Childless Adults			Adults with Dependent Children		
	(1)	(2)	(3)	(1)	(2)	(3)
Labor Force Participation	-0.002	-0.000055	0.000025	0.013	0.000150	0.000157
	(0.012)	(0.000071)	(0.000083)	(0.012)	(0.000114)	(0.000112)
		[-0.008]	[0.003]		[0.007]	[0.007]
Employed	-0.004	-0.000039	-0.000009	0.018	0.000131	0.000139
	(0.011)	(0.000064)	(0.000077)	(0.012)	(0.000122)	(0.000119)
		[-0.005]	[-0.001]		[0.006]	[0.006]
Unemployed	0.003	-0.000016	0.000034	-0.005	0.000018	0.000017
	(0.007)	(0.000042)	(0.000047)	(0.008)	(0.000085)	(0.000085)
		[-0.002]	[0.005]		[0.001]	[0.001]
Usual Hours Worked	-0.345	-0.003510	-0.003150	0.555	0.003400	0.003370
	(0.374)	(0.002370)	(0.002920)	(0.433)	(0.003950)	(0.003880)
		[-0.484]	[-0.435]		[0.158]	[0.157]
Actual Hours Worked	-0.242	-0.002220	0.000110	0.302	0.001540	0.001410
	(0.422)	(0.002570)	(0.003090)	(0.393)	(0.003810)	(0.003750)
		[-0.306]	[0.015]		[0.072]	[0.066]
Hours | Employed	-0.249	-0.003840	0.001240	-0.568	-0.004940	-0.005861
	(0.777)	(0.005320)	(0.006840)	(0.667)	(0.004370)	(0.004357)
		[-0.530]	[0.171]		[-0.230]	[-0.273]
Earnings	18.434	-0.548	-0.625	538.546	3.163	2.984
	(208.890)	(0.908)	(0.907)	(365.874)	(3.048)	(3.034)
		[-75.624]	[-86.250]		[147.080]	[138.756]
Observations	29,147	32,066	32,066	24,697	26,976	26,976

Notes: The sample size for hours worked last week conditional on being employed for column (1) is 4,761 for childless adults and 6,765 for adults with dependent children. The sample size for hours worked last week conditional on being employed for column (2) and (3) is 7,851 for childless adults and 11,408 for adults with dependent children. For additional notes, see Table 4.
Source: Current Population Survey March Supplement 2011-2015.

Table 7
Heterogeneous Impacts on Labor Market Outcomes

	Females	Males	Below 50%	50-100%	100-138%
		Childless Adults			
Labor Force Part.	0.000140	-0.000091	-0.000036	0.000071	0.000058
	(0.000122)	(0.000123)	(0.000135)	(0.000123)	(0.000087)
	[0.019]	[-0.013]	[-0.005]	[0.010]	[0.008]
Employed	0.000082	-0.000093	-0.000060	0.000028	0.000038
	(0.000125)	(0.000112)	(0.000110)	(0.000119)	(0.000101)
	[0.011]	[-0.013]	[-0.008]	[0.004]	[0.005]
Actual Hours Worked	0.002430	-0.001930	-0.001340	0.001310	0.002560
	(0.004620)	(0.004420)	(0.004200)	(0.003990)	(0.003420)
	[0.335]	[-0.266]	[-0.185]	[0.181]	[0.353]
Hours | Employed	-0.001410	0.004340	0.000622	0.002180	0.003280
	(0.006810)	(0.010800)	(0.008540)	(0.007920)	(0.004580)
	[-0.195]	[0.599]	[0.086]	[0.301]	[0.453]
Earnings	-0.818000	-0.333000	-0.533000	-0.448000	4.604000
	(1.283000)	(1.061000)	(0.671000)	(1.634000)	(2.837000)
	[-112.884]	[-45.954]	[-73.554]	[-61.824]	[635.352]
N	17,005	15,061	14,848	17,218	14,349
		Adults with Dependent Children			
Labor Force Part.	0.000213	0.000088	0.000104	0.000201	-0.000235
	(0.000149)	(0.000218)	(0.000181)	(0.000121)	(0.000134)
	[0.010]	[0.004]	[0.005]	[0.009]	[-0.011]
Employed	0.000153	0.000147	0.000015	0.000224	-0.000178
	(0.000136)	(0.000277)	(0.000156)	(0.000142)	(0.000135)
	[0.007]	[0.007]	[0.001]	[0.010]	[-0.008]
Actual Hours Worked	0.000947	0.003270	-0.003080	0.004500	0.000994
	(0.004970)	(0.010600)	(0.005400)	(0.005250)	(0.005450)
	[0.044]	[0.152]	[-0.143]	[0.209]	[0.046]
Hours | Employed	-0.008930	-0.003150	-0.011000	-0.004340	0.010800
	(0.006740)	(0.009000)	(0.010300)	(0.005360)	(0.004980)
	[-0.415]	[-0.146]	[-0.512]	[-0.202]	[0.502]
Earnings	2.231000	4.616000	-0.105000	3.828000	3.262000
	(2.975000)	(3.982000)	(1.870000)	(3.149000)	(4.501000)
	[103.742]	[214.644]	[-4.833]	[178.002]	[151.683]
N	18,146	8,830	10,762	16,214	14,844

Notes: These estimates are comparable to those shown in specification (3) of Table 6. For additional notes, see Table 4.
Source: Current Population Survey March Supplement 2011-2015

Table 8
Estimates of the Impact of Medicaid Expansion on Labor Market Outcomes from the CPS Basic Monthly Data

	Childless Adults			Adults with Dependent Children		
	(1)	(2)	(3)	(1)	(2)	(3)
Labor Force Participation	-0.0014	0.000060	-0.000040	-0.0084	0.000070	0.000040
	(0.0073)	(0.000055)	(0.000064)	(0.0068)	(0.000057)	(0.000057)
		[0.008]	[-0.006]		[0.003]	[0.002]
Employed	0.0035	0.000061	0.000024	-0.0036	0.000016	-0.000034
	(0.0076)	(0.000048)	(0.000061)	(0.0082)	(0.000068)	(0.000073)
		[0.008]	[0.003]		[0.001]	[-0.002]
Unemployed	-0.0049	-0.000001	-0.000064	-0.0048	0.000054	0.000075
	(0.0054)	(0.000031)	(0.000034)	(0.0060)	(0.000046)	(0.000036)
		[0.000]	[-0.009]		[0.003]	[0.003]
Usual Hours Worked	0.0484	0.001380	0.000400	-0.3640	0.000853	0.001260
	(0.2990)	(0.001910)	(0.002420)	(0.3160)	(0.002720)	(0.003490)
		[0.190]	[0.055]		[0.040]	[0.059]
Actual Hours Worked	0.1170	0.001810	0.000532	-0.1850	0.000302	-0.000644
	(0.2870)	(0.001880)	(0.002350)	(0.3410)	(0.002870)	(0.003200)
		[0.250]	[0.073]		[0.014]	[-0.030]
Hours | Employed	-0.0817	0.000379	-0.000939	-0.1900	-0.001849	0.000770
	(0.2700)	(0.002314)	(0.003510)	(0.3540)	(0.002411)	(0.002682)
		[0.052]	[-0.130]		[-0.086]	[0.036]
Weekly Earnings	-21.3800	-0.066800	-0.157000	-16.0100	-0.111000	0.054700
	(13.9200)	(0.098700)	(0.121000)	(11.5500)	(0.086500)	(0.097900)
		[-9.218]	[-21.66]		[-5.162]	[2.544]
Job mobility	-0.0017	0.000020	0.000045	0.00756	0.000034	0.000002
	(0.0041)	(0.000027)	(0.000039)	(0.0028)	(0.000028)	(0.000031)
		[0.003]	[0.006]		[0.002]	[0.000]
State-specific time trends			X			X
Observations	253082	295,976	295,976	192386	222,536	222,536

Notes: Each cell shows the estimates from separate regressions. Standard errors that allow for clustering within states are shown in parentheses. The numbers in brackets represent the marginal effect for the average change in the eligibility thresholds in Medicaid from 2013 to 2014 for states that expand Medicaid. Thus, this estimates the impact of the Medicaid form 2013 to 2014 for states that expanded Medicaid. Specification (1) treats all expansions as same and show the DD estimates, Post*Expansion. Specification (2) is shows the estimates for the income eligibility thresholds as a percent of federal poverty guidelines. Specification (2) also include the dummy variable measuring whether the state provide pre-programs. For childless adults, we include whether the state had a comparable program to Medicaid, limited Medicaid program or a premium assistance program. For adults with dependent children, we include if the state offer a HIPP program. Specification (3) is similar to specification (2) but also includes time-state trends.
Source: Current Population Survey Basic January, 2011- March, 2015

Appendix Table 1
Sample Means for Basic Monthly CPS Sample

	Expanded Medicaid on January 1, 2014		Expanded Medicaid After January 2014		Did Not Expand Medicaid	
	Pre-expansion	Post-expansion	Pre-expansion	Post-expansion	Before Jan. 2014	After Jan. 2014
Labor Force Participation	55.13	52.72	49.97	50.10	56.00	53.97
Employed	43.18	43.86	40.63	42.83	45.55	46.16
Unemployed	11.95	8.86	31.41	7.27	10.45	7.82
Hours worked (usual)	14.64	14.98	13.73	14.89	15.76	16.18
Hours worked (last week)	14.66	15.11	13.47	14.84	15.77	16.24
Hours (last week) | Employed	33.90	34.15	36.17	37.09	34.60	35.06
Weekly Earnings	532.90	549.03	528.88	576.78	503.95	538.06
Childless Adult	56.52	57.70	57.45	58.69	56.41	57.55
Age	43.58	43.89	44.31	43.94	43.72	44.21
Male	44.46	44.48	44.04	45.17	43.58	42.90
Number of child (<18)	0.96	0.93	0.90	0.94	0.98	0.97
White	74.19	73.81	76.14	77.05	70.28	68.66
Black	16.52	16.32	17.93	17.22	22.44	24.39
Other	9.29	9.88	5.93	5.73	7.28	6.95
Disability	13.20	14.17	16.52	18.59	13.75	14.72
Married	44.15	44.17	39.52	40.35	45.59	44.39
Single	31.03	32.03	32.55	34.17	26.19	27.51
Divorced	21.56	20.52	24.28	22.86	24.37	24.35
Widowed	3.26	3.29	3.65	2.61	3.85	3.75
High school dropout	29.58	28.16	21.41	25.18	27.18	27.09
High school graduate	35.56	36.40	43.74	41.79	38.91	38.11
Some college	15.60	16.00	16.50	15.25	15.14	15.32
College graduate	16.20	16.10	15.79	15.25	16.56	17.03
Higher than college	3.05	3.44	2.56	2.54	2.21	2.45
TANF Benefits	525.24	529.07	472.12	472.55	328.84	325.98
Minimum Wage	7.68	8.24	7.33	7.49	7.13	7.22
Comparable Medicaid	24.34	0	0	0	0	0
Premium Assistance	1.91	0	0	0	7.36	0
Limited Medicaid	40.86	0	0	0	9.31	21.66
N	175,524	70,007	42,173	4,401	139,427	60,510

Notes: See Table 3.
Source: Current Population Survey Basic Monthly Data, January, 2011- March, 2015