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Essays on Public Policy and Labor Economics

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Dedicated to my parents and my husband Ruoyu Shao.

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Essays on Public Policy and Labor Economics

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The majority of insured Americans obtain health insurance coverage through employment as a non-portable fringe benefit. The link between health insurance coverage and employment could have potential important implications on workers' labor market decisions. My dissertation consists of three chapters that contribute to the understanding of the interaction between health insurance and workers' job mobility.

My first chapter studies the effect of the state dependent coverage mandates on the job mobility of young adults. Prior to the Affordable Care Act, many states had already implemented insurance mandates that extended the age that young adults could gain access to parental health insurance, an alternative insurance source which is not contingent on employment. If young workers with employer-sponsored insurance (ESI) are locked into less preferred jobs for fear of losing health benefits, expanded dependent coverage is expected to reduce the job lock and increase mobility. Expanded eligibility could also decrease mobility among those who are pushed out of a better matched but uninsured job in search of access to ESI (job push). Using Survey of Income

and Program Participation (SIPP) 2000-2010 data, the impact of the state mandates on job mobility is identified by a triple-difference framework that exploits the state level dependent coverage variations in eligibility criteria, mandate implementation states, and mandate implementation time. Results show that expanded dependent coverage led to a 5% decrease in the mobility of workers with no ESI (job push). I find no evidence of reduced job lock.

The second chapter of my dissertation extends the analysis of my first chapter to the Affordable Care Act (ACA) Dependent Coverage Mandate. The ACA Dependent Coverage Mandate was passed on March 23rd, 2010, and became effective on September 23, 2010. The mandate requires that health insurance plans that provide dependent coverage must cover dependents until the age of 26. Using SIPP 2008-2013 data, and both difference-in-difference framework and regression discontinuity design, I find consistent evidence of reduced job push and no evidence of reduced job lock. The estimated reduced job push is larger than the state analysis.

The third chapter studies the impact of the ACA Medicaid expansion on childless adults' job mobility. The ACA Medicaid expansion raised the Medicaid income eligibility threshold to 138% of the Federal Poverty Line (FPL) for everyone including childless adults who were not the traditional beneficiaries of the Medicaid. 32 states adopted the expansion while 19 states opted out. The reform could potentially increase childless adults' job mobility if they are "locked" in their jobs for fear of losing employer-sponsored health insurance. Using the 2011-2016 basic monthly Current Population Survey (CPS), this

paper tests this hypothesis by comparing the job mobility of childless adults in expansion states to those residing in non-expansion states, before and after the expansion. Results show the existence of "job lock" effect: the ACA Medicaid expansion increased the childless adults' job mobility by 7% - 9%, and the increase comes entirely from job-to-job transitions. I find no evidence of the "employment lock": the availability of Medicaid did not cause childless adults to be more likely to become unemployed or leave the labor force.

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Chapter 1

State Expanded Dependent Insurance Coverage and the Job Mobility of Young Adults

1.1 Introduction

The majority of insured Americans obtain health insurance coverage through employment as a non-portable fringe benefit. Employer-sponsored health insurance (ESI) is the predominant source of private health insurance because it is less costly than coverage purchased from the individual market. The lower cost of ESI is the result of the economies of scale with group purchasing, reduced adverse selection, and the benefit of income tax exemption. While most private insurance plans are linked to employment, employers differ significantly in both the availability of insurance offering and the generosity of plan offered, because the cost of providing health benefits varies considerably among employers. Approximately 57% of firms, most of which are large firms, offer health insurance to their employees (Source: Employer Health Benefits Survey).

In theory, the link between employment and insurance coverage could lead to inefficient job matches; because insurance is valued differently across workers, its cost of provision differs across employers, and employers cannot

offer individualized health benefits to each employee. Workers may choose less-matched jobs with preferred ESI over better-matched jobs with less-preferred or no ESI. "Job lock" refers to the situation in which workers decide to stay in less-matched jobs that they would otherwise leave out of fear of losing employee benefits. On the other hand, rather than being locked into a job, a worker with no ESI and in need of coverage may be pushed out of a well-matched job in which they would otherwise remain. This phenomenon is referred to as "job push". Job lock has received much attention in the past two decades. Many anecdotes and media reports support the existence of job lock.[1] However, empirical studies provide little consensus on the existence and the significance of job lock. Depending on the data set and identification strategy employed, job lock is estimated to be large (e.g., Madiran,1994; Gruber and Madrian, 1994; Anderson, 1998), moderate (e.g., Hamersma and Kim, 2009; Bansak and Raphael, 2005), small, or non existent (e.g., Holtz-Eakin, 1994; Kapur, 1997; Sanz-De-Galdeano, 2006). Job push has received much less attention compared to job lock.

There have been legislative efforts that attempted to address the job lock problem. Both the Consolidated Omnibus Budget Reconciliation Act (COBRA 1985) and HIPAA of 1996 were attempts to make ESI relatively consistent and portable for workers between job changes. The concerns over job lock also contributed to the passage of the Affordable Care Act (ACA

[1] A survey conducted by the Employee Benefit Research Institute revealed that 27% of workers still reported experiences of job lock even after the passage of the Health Insurance Portability and Accountability Act (HIPAA 1996).

2010). One important goal of the ACA is to increase the availability of health insurance plans not linked to one's job. It is widely reported that ACA cures job lock, although there is no empirical evidence to support this claim. The ACA dependent coverage mandate, which became effective on Sep 23, 2010, is one of the earliest provisions of the ACA. It largely increases access to health insurance for young adults by allowing them to stay on their parents' health insurance plans until the age of 26. Similar mandates were implemented in more than half of states before the ACA dependent coverage mandate became effective.

The federal mandate and state mandates provide a novel opportunity to assess the job lock and job push of young adults. The law changes may increase the job mobility of workers with ESI if they are "locked" into their current job for fear of losing ESI and decrease the job mobility of workers without ESI if they are "pushed" out of their current job when seeking jobs with ESI. Using data from the 2001, 2004, and 2008 panels of Survey of Income and Program Participation (SIPP), the impact of the state mandates on job mobility is identified by a difference-in-difference-in-difference (DDD) framework that exploits the state-level dependent coverage variations in eligibility criteria, mandate implementation states, and mandate implementation times. Results show a moderate decrease in overall job mobility among young adults led by the mandates. I find a small, insignificant change in job mobility of young workers with ESI (job lock) while I find that the mandates led to a significant decrease in the mobility of young workers with no ESI (job push).

I supplement the state mandates analysis with the ACA mandate analysis in the second chapter which yields consistent estimates that indicate the mandate led to reduction in job push and no change on job lock.

This study contributes to the existing literature in several ways. First, this paper is the first to provide evidence of the impact of both state and federal dependent coverage mandates on young adults' job mobility. Bailey (2015) is the only research that investigated the similar issue prior to this study. Using Current Population Survey (CPS) and DD strategy, Bailey concluded that the ACA mandate had no effect on job mobility. However, Slusky (2013) questioned the validity of the identification strategy that compares 19 to 25-year-olds to 16 to 18 and 27 to 30-years-olds because different broad age groups are often subject to different economic shocks and thus reflect different trends. In this paper, I focus on prior state-level mandates, which provide a much richer source of policy variations. By exploiting the state-level variations, I am able to invoke much weaker identification assumptions. In the second chapter, I use DD with narrower age bandwidths as suggested by Slusky (2013) and a RD design to study the impact of the ACA Dependent Coverage Mandate.

Second, this study separately analyzes job lock and job push and provides evidence of the existence of job push. Almost all related literature either does not distinguish between the two or focuses on job lock. To my knowledge, only Anderson (1997) and Hamersma and Kim (2009) studied job push separately from job lock. The distinction between job lock and job push is meaningful, as noted by Anderson (1997), since they have different policy

implications. Studying the job push effect of young adults is especially important, because compared to older workers, young adults are more likely to have jobs that do not provide ESI. In my sample, about 57% of the young workers are not covered by ESI. This proves significantly higher than the 25.6%[2] (Employee Benefit Research Institution (EBRI), 2010) of workers age 18-64 who were not covered by ESI in 2010.

Third, this study focuses on the relatively younger working cohort, a less studied and yet very important group. Prior literatures focused on elderly or all working-age workers. Job lock and job push may not affect individuals with different ages uniformly. Job lock and job push could be less for young adults since they have lower health care costs. However, young adults generally have less income than older workers, and job lock and job push may be more severe for low-income individuals who are less likely to obtain ESI across a job change. Also, as mentioned, young adults have a significantly higher rate of workers without health care coverage, which implies that their job mobility effects could be very different from older workers. Studying the interaction between young adults' health insurance coverage and labor market decisions is particularly important because job matches at early periods of one's career may have a significant effect on later career trajectories.

This chapter unfolds as follows. The next section discusses the background of the state-level mandates. Section 3 discusses previous work on health

[2]This number excludes those who receive public health insurance.

insurance and job mobility. Section 4 outlines a regression framework for how extending dependent coverage affect job mobility of young adults. Section 5 describes the data. Section 6 presents and discusses the estimates of the state mandate analysis. Section 7 concludes.

1.2 State Mandates to Expand Dependent Coverage

Young adults between the age of 19 and 30 have the highest uninsured rate among all age cohorts in the United States. Loss of insurance occurs at two transition ages: 19th birthday or high school graduation, and college graduation. Eligibility for public provided plans such as Medicaid and the State Children's Health Insurance Program (SCHIP) phase out at age 19. Employer sponsored insurance plans usually cover dependents until age 19 or age 23 if young adults are enrolled full-time in school[3]. Before states and federal efforts to extend dependent coverage, young adults faced particular challenges in obtaining coverage. For most of them the only source of health insurance was through their jobs. The ACA Dependent Coverage Mandate, which was implemented in September 2010, expand the dependent coverage to young adults under the age of 26.

The extension of dependent coverage for young adults originated in state legislatures. Prior to the implementation of the ACA's Dependent Coverage Provision, 34 states have passed similar laws that increase the age of

[3]Firms have strong incentive to follow such rules since employer-sponsored health plan is tax free up to those ages according to the IRS.

dependency since 1995. These state laws vary considerably by implementation date, age limit, and other eligibility criteria. Table 1 shows the details of the state law variations. While most states raise the age limit for both students and non-students[4], some states (CT, GA, LA, NV, RI, SD) only raise the age limit for students and some (DE, IN, IA, NM) only raise the age limit for non-students. It is common for states to have an age limit lower than 26, typically 24 or 25. However, several states (NE, NJ, NY, OH, PA, WI) set the maximum age higher than 26 years old for non-students. The state laws also vary by how they define "dependent." Most state mandates are restricted to unmarried young adults. Four states (FL, ME, NJ, PA) also require that young adults must not have children of their own to qualify for the benefit.

State mandates are weaker than the federal mandate, not only because most state mandates have lower age limits and extra eligibility criteria, but most importantly because state mandates do not apply to all private health insurance plans. None of the state laws apply to self-insured plans. Under the federal Employee Retirement Income Security Act (ERISA 1974), self-insured plans are exempt from state insurance regulations. Per the Medical Expenditure Panel Survey (MEPS) 2014 Insurance Component, 37.2% private sector firms offer self-insured plans. Among all workers who hold private health insurance, 59.7% are enrolled in self-insured plans.

[4]Full time students, and non full time students

1.3 Literature

1.3.1 Job Mobility and Health Insurance

This chapter is related to two strands of literature. The first strand studies the interaction between job mobility and health insurance. During the past decade, a substantial and growing body of work has investigated the extent to which ESI discourages workers from changing jobs, also known as the "job lock effect." In general, the literature comes to conflicting conclusions. The main challenge for the literature is to find an identification strategy that overcomes the endogeneity problem of ESI. A simple comparison between the job mobilities of workers with and without ESI does not prove the existence of job lock because ESI may be associated with other job characteristics and individual unobserved characteristics that are likely to affect job mobility.

The most popular identification strategy is to use spousal health insurance. Madrian(1994) utilized the National Medical Expenditure Survey (NMES) and a difference-in-difference strategy that compared the job turnover between workers who have access to spousal health insurance and those who do not. Madrian identified job lock by showing that workers who do not have access to spousal insurance are 15-25% less likely to leave their jobs. Research that used similar strategies with different data sets confirmed Madrian's findings (Anderson 1997, Monheit and Cooper 1994, Buchmeuller and Valletta 1996, etc.) except for Holtz-Eakin (1994) who used Panel Study of Income Dynamics (PSID) and failed to find any evidence of job lock. Although Gruber and Madrian (2002) questioned the choices of PSID and CPS as data

sources to study job lock because of the possibility of serious measurement errors in job turnover exist in these two data sets.

Madrian's identification strategy was criticized not only because the endogeneity of spousal health insurance, but also because her identification replies on comparing workers with and without ESI. However, workers with and without ESI can be very different (i.e. workers who value ESI may also value stability). Several studies (Kapur 1998, 2004; Stoupe et al. 2001) adjusted the strategy by adding health status or expected medical expenditures as another source of variation. However, these papers found small and statistically insignificant effect of health insurance on job mobility.

Instead of directly identifying job lock, more recent studies took advantage of arguably exogenous health insurance policy changes to overcome the endogeneity problem. These studies generally found moderate effects that only influenced certain population groups. Gruber and Madrian (1994) found that COBRA in 1985 increased job turnover by 10%. However, Sanz-de-Galdeano (2006) found insignificant effect of HIPAA of 1996 related job lock. Hamersma and Kim (2009) used post-1996 changes in state Medicaid eligibility cutoffs and found that access to Medicaid reduced job turnover only among unmarried women. Bansak and Raphael (2005) found that the State Children's Health Insurance Program (SCHIP) in the late 1990s led to a 5-6% increase in job turnover of men without independently insured wives. Bailey (2016) found that the ACA dependent coverage mandate has no effect on job mobility and job lock.

Compared to job lock, job push was much less studied. This phenomenon was first introduced in Anderson (1998). Anderson found that a larger portion of job lock effect in previous studies such as in Madrian (1994) can be better categorized as job push. Only two studies (Hamersma and Kim 2009; Barkowski 2014) separately analyzed job lock and job push since then, and they both failed to find evidence of job push.

1.3.2 Extended Dependent Coverage and Labor Market

This paper also relates to a more recent strand of literature that studies the impact of extended dependent coverage on young adults' labor market outcomes. The consensus is that extended dependent coverage only affects young adults' labor supply on intensive margin, not on extensive margin. Antwi, Moriya, and Simon (2013) found that ACA Dependent Coverage Mandate reduced hours worked and probability of full-time worker of young adults aged 19-25 compared to those who are older and younger. Several studies (Depew 2014, Hulbert 2012) confirmed their findings using prior state laws variation and DDD strategy. Heim, Luri, and Simon (2014) used tax records to identify eligible young adults whose parents have ESI, and found that the law had no effect on young adults' extensive labor supply and wage. Dillender (2014) used variation in state laws and estimated the long-run effect of the law that those who experienced dependent coverage extension before turning 18 had higher educational attainment and higher wages. Both Bailey (2013) and Dolan (2016) found limited or no impact of the law changes on

self-employment.

1.4 Methodology

1.4.1 Theoretical Effects of Expanded Dependent Coverage on Job Mobility

The link between health insurance coverage and employment could have potential important implications on workers' labor market decisions, especially job entries and exits. Gruber (2000) shows that, in theory, ESI could lead to inefficient job matches. Unlike wage, which is also part of a worker's compensation package, insurance is valued differently across workers, and its cost of provision differs across employers. Also, employers cannot offer individualized health benefits to each employee. These features suggest that workers may value ESI more than the wage differential between comparable jobs with and without ESI. Consequentially, workers could choose less well-matched jobs with ESI over higher-paying jobs (or higher-paying self-employment) without ESI. The inefficient job matches could occur even within insurance-providing sectors. This is because: (a) firms vary in generosity of health benefits provided, (b) the new employer can discriminate against pre-existing conditions for up to a year as allowed under the Health Insurance Portability and Accountability Act (HIPAA)[5], and (c) costs may arise with switching plans, such as losing previous expenses as credit toward deductibles and out-of-pocket maximums.

[5]The Health Insurance Portability and Accountability Act of 1996 (HIPAA) limits the ability of a group health plan to discriminate against preexisting conditions. However, "group health plans may refuse to provide benefits relating to preexisting conditions for a period of 12 months after enrollment in the plan or 18 months in the case of late enrollment."

In addition to job switching decisions, ESI could also affect the decision of entering and leaving the labor force because private health insurance purchased from the individual market proves more expensive than ESI.

For workers with ESI, the potential distortion of ESI on job mobility is referred to as "job lock," a term that refers to the situation in which employees decide to stay in less-matched jobs that they would otherwise leave out of fear of losing employee benefits. Job lock reduces job mobility by discouraging workers from changing jobs, working part time, starting businesses, and leaving the labor force. Job lock has received much attention in the past two decades. Many anecdotes and media reports support the existence of job lock.[6] However, empirical studies provide little consensus on the existence and the significance of job lock. Depending on the data set and identification strategy employed, job lock is estimated to be large (e.g., Madiran,1994; Gruber and Madrian, 1994; Anderson, 1998), moderate (e.g., Hamersma and Kim, 2009; Bansak and Raphael, 2005), or small or non existent (e.g., Holtz-Eakin, 1994; Kapur, 1997; Sanz-De-Galdeano, 2006). On the other hand, rather than being locked into a job, a worker with no ESI and in need of coverage maybe pushed out of a well-matched job in which they would otherwise remain. This phenomenon is referred to as "job push" (Anderson, 1997; Hamersma and Kim, 2009). Job push increases mobility by encouraging changes toward jobs that provide ESI. Job push is the mirror image of job lock, but comparatively has

[6] A survey conducted by the Employee Benefit Research Institute revealed that 27% of workers still reported experiences of job lock even after the passage of the Health Insurance Portability and Accountability Act (HIPAA 1996).

received much less attention. The expanded dependent coverage may increase the job mobility of workers with ESI if they are "locked" into their current job for fear of losing ESI and decrease the job mobility of workers without ESI if they are "pushed" out of their current job in search of jobs with ESI.

1.4.2 Empirical Approaches

To estimate the impact of dependent coverage mandates on job mobility of young adults, I analyze the state mandates in this chapter and the federal mandate in the next chapter. Compared to the federal mandate, the state-dependent coverage policy changes provide a much richer source of variation that help elucidate the causal relationship. Unlike the ACA mandate implemented on the same day for all states, states law changes occured in different states at different times. This helped to alleviate the concern that job mobility changes were driven by contemporary labor market changes. Moreover, for states that implemented the mandate, the age limit and eligibility criteria vary considerably. The variation from age limit and eligibility criteria helps lessen the concern that contemporary labor market changes for certain groups of young adults were driving the results.

The state dependent coverage mandates vary over time, across states, and by eligibility criteria. These variations allow for a difference-in-difference-in-difference (DDD) identification strategy. I compare eligible young adults in states that passed mandates to similarly aged but ineligible young adults in the same states, and control for the same difference for states that did not

pass such mandates.

I estimate the impact of extended dependent coverage using the following probit regression for individual i with eligibility e in state s at time t.

$$Y_{iest} = \Phi(\alpha + \beta_1(Eligible_{ist} \times Mandate_{st}) + \beta_2 X_{ist} + \theta_{st} + \gamma_{es} + \lambda_{et} + \varepsilon_{ist}) \quad (1.1)$$

In this specification, $\Phi(.)$ is a standard cumulative normal distribution function. Following earlier literatures on job mobility and also because job separation is a relatively rare event, I use a probit regression instead of a linear regression. Y_{iest} is the outcome variable (e.g. job separation, insurance coverage) for individual i with eligibility e in state s at time t. For job separation, Y_{ist} is a dummy variable that equals one if individual i separate from main job in state s and time t. $Eligible_{ist}$ is a dummy variable that takes value one if individual i in state s that has the state mandate and he or she meets the mandate requirement. $Mandate_{st}$ takes value of one for a state s that has a mandate in place at time t. X_{ist} includes a set of demographic controls: sex, race, age, education, marital status, and indicator of having children. I also control for spouse characteristics of whether the spouse has ESI or not. Since jobs that provide health insurance may have other preferred aspects that affect job mobility, I add controls for job characteristics including log hourly wage, union status, firm size, occupation, and industry. To adjust for the fact that some individuals may have higher propensities of job separation, I add job tenure as one of the controls. I control for the economic condtions by

adding the unemployment rate. Lastly, since it is a DDD framework, I add a full set of interaction effects: state-by-time, state-by-age, state-by-married, state-by-children, time-by-age, time-by-married, time-by-children.

The coefficient of interest is β_1, which measures the impact of becoming eligible for extended dependent coverage on the job mobility of young adults. Since job lock and job push have opposite implications on how job mobility changes in response to the mandates, I separately analyze job lock and job push by restricting the sample to workers with and without ESI own-name and using the same regression as in (1.1).

The estimation of β_1 suffers from attenuation bias because state mandates only apply to fully-insured plans while self-insured plans are exempt from state laws. To account for this bias, I introduce the state-year level percentage of workers in fully-insured plans into the regression which is indicated by the following:

$$Y_{iest} = \Phi(\alpha + \beta_1(Eligible_{ist} \times Mandate_{st} \times FULLins_{st}) + \beta_2 Fullins_{st} + \beta_3 X_{ist} + \theta_{st} + \gamma_{es} + \lambda_{et} + \varepsilon_{ist}) \tag{1.2}$$

Where $Fullins_{st}$ is the percentage of workers (of all ages) enrolled in fully insured plans in state s at time t. I construct $Fullins_{st}$ from the difference of the percentage of workers who have private health insurance and the percentage of workers who are self-insured. These data are collected from the Medical Expenditure Panel Survey (MEPS) Insurance Component. $Fullins_{st}$ varies considerably both across states and over time. The added variation

measures the intensity of the mandate in each state over time. β_1 now can be interpreted as the overall impact of gaining access to parents' health insurance plans on job mobility of young adults whose parents have fully insured plans.

1.5 Data

The data of this chapter come from the 2001, 2004, 2008 panels of the Survey of Income and Program Participation from years 2000 to 2010. The SIPP is a national representative panel survey that collects information on the economic and demographic characteristics of individuals and is designed to study program eligibility and participation. Each panel covers 3-4 years and surveys completely separate samples of individuals. At the beginning of each panel, the SIPP selects interviewees by randomly choosing homes and people who lived there. The SIPP follows them over time until the end of the panel, even if they move out of the house. Each panel is divided into "waves" of four-month long periods. Interviewees are divided into four rotation groups and each group is interviewed one by one on a rotating basis over each wave. During interviews, interviewers collect information on the previous four months of the interviewees. More information on the SIPP data structure is in the Appendix.

SIPP is arguably the best data source available on job mobility. In each wave, respondents provide information for up to two jobs held during the previous four months. Each job's characteristics are collected, such as job starting date and end date, hourly wage, tenure, hours worked, union status, firm size, industry, and occupation. Compared to CPS or PSID in which job

separation is derived from past employment records, SIPP offers an explicit measure of job separation. SIPP also contains information on individual health insurance coverage status and sources of the coverage on a monthly level, so I am able to determine if an individual and his or her spouse were covered by ESI or not. This kind of information is unavailable in CPS. Another benefit of SIPP compared to CPS is that SIPP follows interviewees over time so it is possible to link young adults to their parents while the young adults that can be linked to their parents in CPS are those who lives with their parents.

SIPP provides information on whether an individual separated from their job in a given wave. If an individual starts a wave with one job, that job is defined as the main job for that wave; if an individual starts a wave with no jobs, the main job is defined as the first job that starts in that wave if any; for those who start a wave with two jobs, the main job is defined as the one with the higher monthly income.[7] A job separation is considered to occur in a certain wave only if the main job ends in that wave.[8] To minimize the data errors associated with respondents' recollections and to avoid "sim bias" (respondents provide very little unique information in each wave), I compress the monthly level data into wave level data and use one observation per person per wave. I use demographics in the beginning month of each wave and job characteristics of the main job.

[7]When calculating the monthly income using hourly wage, I exclude those whose hourly wage is above $100

[8]The job separation measure contains not only job-to-job transition, but also job-to-self-employment, job-to-retirement, and job-to-unemployment transitions.

I enforce several restrictions on the compressed data. North Dakota, South Dakota, Vermont, and Maine were grouped together in 2001 and 2002, so these observations are dropped. Hawaii is excluded from my sample since Hawaii's law requires employers to offer coverage to employees working at least 20 hours per week. I exclude public health insurance recipients, as they are unlikely to be affected by the mandates. I also exclude recipients of Employer Disability Payments and Social Security Income because they are likely to be disabled and have different job attachment. Young adults who moved to another state are dropped (less than 5% of the sample).

I restrict the sample to employed young adults aged 19-30 from years 2000 to 2010. The age cutoffs are chosen because 19 and 30 are the minimum age and the maximum age that young adults can benefit from the state dependent coverage mandates. The final sample consists of 324,028 observations, with 236,507 individuals in the sample. Job lock and job push are analyzed separately. For the analysis of job lock, I restrict the sample to 19 to 30-year-olds who are employed and covered by own-name ESI. For the analysis of job push, the sample is limited to 19 to 30-year-olds who are employed but not covered by own-name ESI. The job lock sample has 130,682 observations, and the job push sample has 172,368 observations.

The summary statistics are shown in Table 2. The overall job mobility for employed 19 to 30-year-olds is 12.5%. About 42.5% of the sample gain access to health insurance via their employer. Those without ESI (job push sample) are approximately four times more likely to separate from their jobs

than those with ESI (job lock sample). There are differences in demographics and job characteristics between the job lock and job push samples. Those who have ESI generally have higher wage, longer tenure, higher educational attainment, and are more likely to be union members and have spouses with ESI.

1.6 The State Mandates Analysis

1.6.1 Health Insurance Coverage

Prior to testing the impact of state dependent coverage mandates on job mobility of young adults, I estimate how the law changes affect their health insurance coverage status. It is important to note that the changes in health insurance coverage is not necessarily the first stage results of the main analysis on job mobility. The access to parental health insurance provided by the mandates may just serve as a safety net to young adults; they do not need to enroll in parental health insurance to switch jobs. However, since the mandates are aimed at expanding dependent health insurance coverage, it is natural to consider how effective the state mandates were in covering young adults. Previous studies (Levine et al. 2011; Monheit et al. 2011; Depew 2015) found that the reforms were effective in increasing the dependent health insurance coverage rates with estimates ranging from 3% to 7%. They also found crowd-out of other forms of health insurance coverage (e.g. own-name ESI, public insurance). As a result, the impact on the insured rate is estimated to be small in magnitude (0-3% increase).

To study the impact of state dependent coverage mandates on young adults' health insurance coverage, I estimate five insurance coverage outcomes: whether a young adult reports having any insurance coverage, ESI in own name, dependent ESI[9], private-purchased insurance coverage, and government provided insurance coverage.[10] I use the triple-difference identification strategy and run regression equation (1.1) using the insurance coverage outcomes. The results are reported in Table 3.

Each row of Table 3 represents a different insurance coverage outcome variable. Results from column (1) are estimated using all young adults from age 19 to 30 as the sample. I add demographic controls including sex, race, age, education, marital status, indicator of having children, and indicator of whether a spouse has ESI or not. No job characteristics controls are added. The estimates from column (1) suggest that state reforms led to a 6% increase in dependent coverage which is an 33% increase from the mean. The coverage rate of young adults increased by 3%. There is a marginally significant 2% drop in own-name ESI, while the private-purchased insurance coverage rate and government provided insurance coverage rate did not drop significantly. These estimates are consistent with prior studies. For column (2), I restrict the sample to my job mobility analysis sample which is working young adults from age 19 to 30.[11] The results from column (2) are smaller in magnitude than

[9]In SIPP, spousal dependent ESI and parental dependent ESI are not separately identified and they are grouped together as ESI in other's name.

[10]Although the mandates also applied to parental private purchased insurance coverage, I do not separately analyze own-name and other's name private-purchased insurance coverage.

[11]Since my job mobility sample excludes recipients of public health insurance and benefits,

those from column (1). I add additional job characteristic controls including log hourly wage, tenure, union status, firm size, occupation, and industry in column (3) which further reduced the estimates. It shows that job characteristics are very important determinants of young adults' health insurance coverage status.

To address the attenuation bias caused by the exemption of self-insured insurance plans, I add the percentage of people enrolled in full-insured insurance plans and run regression equation (2) using insurance coverage outcome variables. The results are reported in table 3 column (4). As expected, estimates from column (4) are substantially larger than those from the previous three columns. If all insurance plans are fully-insured, column (4) suggests that access to parental health insurance raised the young adults' probability of dependent ESI coverage by 13.3% (more than 80% increase from the mean), and the probability of any insurance coverage by 6.4%.

1.6.2 Overall Job Mobility, Job Lock, and Job Push

Next I explore how the job mobility of young adults is affected by the state mandates. The triple-difference results from regression equation (1) are shown in Table 4. Column (1) reports results on overall job mobility for all young workers from age 19 to 30. It shows that state mandates led to a insignificant and moderate decrease (0.4%) in the overall job mobility of the

I do not have estimates for government-provided health insurance coverage for column 2 to column 4.

targeted young workers. Job characteristics are very important determinants of job separation. Individuals who hold jobs with higher wages, longer tenure, and union status are less likely to separate from their jobs as expected. For column (2) and column (3), I separate the sample according to whether young workers have ESI in their own name or not. For those with own-name ESI, they enter the job lock sample and their results are reported in column (2). The results of the job push sample which consists of workers without own-name ESI are shown in column (3). For the job lock sample, it is estimated that the mandates led to a small increase (0.3%) in mobility, although it is not statistically significant. For the job push sample, their probability of job separation decreased significantly by 1% after the mandates became effective. It can be translated into a 5.6% decrease from the mean. To address the attenuation bias again, I add the percentage of people enrolled in full-insured insurance plan and run regression equation (2) for the overall job mobility sample, job lock sample, and job push sample. The results are reported in table4 column (3). There is still a small and insignificant increase in the mobility of the job lock sample. The estimates for the overall sample and the job push sample tripled compare to the baseline results. If all insurance plans are fully-insured, the mandates would lead to a 2.9% decrease in mobility of workers without own-name ESI, which is roughly a 16% decrease compared to the mean.

The main results suggest that the state mandates did not help with the "job lock" problem of young adults that much. It is consistent with many

previous studies that also found small and statistically insignificant job lock effects (Kapur 1998, 2004; Stoupe et al. 2001; Sanz-de-Galdeano, 2006). It could be that the state mandates were ineffective in reducing job lock, or young adults have no severe job lock problem to begin with. Since I find evidence of reduced job push among young adults and previous studies found that the mandates did affect young adults' labor market decisions, the second case seems more likely. The previous legislative efforts including COBRA[12] and HIPPA[13] may have already eliminate a major part of job lock among young adults, so that job lock among young adults is insubstantial before the dependent coverage mandates is effective.

To ensure the robustness of my results, I estimate several additional models.

First, I use voluntary and involuntary job separation as dependent variables instead of the overall job separation. SIPP asks respondents the reason for leaving their jobs. I group job separations into voluntary separations and involuntary separations according to the reasons provided.[14] Because the key argument of job lock and job push is that workers voluntarily stay in or seek less well-matched jobs for the job-related benefits, the mandates are expected

[12]The Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA) gives workers and their family who lose ESI the right to continue the coverage for a limited period of time. However, they may be required to pay for the entire premium for coverage.

[13]Health Insurance Portability and Accountability Act of 1996(HIPAA) restricts the ability of group health plans to discriminate against preexisting conditions.

[14]I do not use voluntary job separation as my main dependent variable in the paper because it is hard to separate voluntary and involuntary job separations. Also, the data suffers from problems of measurement error and missing data.

to only affect the voluntary job separation if the mandates affect job mobility by reducing job lock and job push. However, if the state mandates were correlated with firms' layoff decisions, I may find that the mandates affected involuntary job separation. The results are presented in Table 5 panel b and c. The estimates on voluntary job separation are similar compare to the baseline results except that the estimate on job lock sample becomes larger and significant. Compared to the results of voluntary job separation, the involuntary job separation estimates are a lot smaller in magnitude and less precisely estimated. The point estimate on job lock sample has the wrong sign. These results rule out the possibility that the baseline findings are driven by firm-side responses instead of worker-side responses.

One concern of my findings is that the 2008 recession is driving the results. Many states implemented law change around 2008 when the Great Recession started. My results may be biased if the economic downturn hits the eligible and ineligible young adults differently. To address this concern, I run the same baseline regression again but exclude recession years. To be specific, I re-estimate using data from the years 2000 to 2007. The results presented in Table 5 panel d are generally similar to the baseline results except that the sign of the job lock sample estimate changes to negative. The results suggest that my main finding that the state dependent coverage mandates reduced job push of young adults is not driven by the economic downturn.

Another potential problem that may bias my results relates to the way I separate my sample into job lock sample and job push sample. I separate my

sample according to whether young adults have own-name ESI or not, but the ESI status is affected by the state dependent coverage mandates. According to the health insurance coverage results from table 3, the mandates led to a relatively small change (5% drop compare to the mean) in the own-name ESI coverage, and it is marginally significant. I expect the problem to be not severe enough to drive the results. Nevertheless, I run a test to further address the concern. Instead of using contemporary ESI coverage status, I separate individuals by their pre-mandate ESI status which should be unaffected by the mandates. However, by doing this I have to drop individuals who do not have pre-mandate information, which cut down my sample size significantly. The results presented in table 5 panel e are similar in magnitude compared to the baseline results. The standard errors are bigger because my sample size is cut smaller. Generally, it does not appear that the endogeneity of ESI coverage is a serious problem I need to worry about.

The validity of the results depends on the identification assumption of the triple-difference that the state mandates are exogenous, and there are no contemporaneous shocks at the eligible-state-year level that affect the job mobility of eligible young adults. I provide two falsification tests to check the validity of the identification strategy. First, I present the results restricting the sample to older young adults who are not eligible for the mandates because of age. Since they cannot benefit from the law changes, I expect no impact of the state reforms on their overall job mobility, job lock, and job push. Second, I re-estimate the main regression with placebo mandates. Specifically, I randomly

assign the dates that states implemented the dependent coverage mandates. If the triple-difference identification strategy is valid, the placebo estimates should be centered on zero because there should be no effect in periods that do not indicate a treatment change.

Table 6 shows the results for the two falsification tests. The results for the older cohort sample are reported in panel b. Panel c reports the estimates of the placebo mandates. None of the estimates of the two falsification tests are statistically different from zero. The point estimates are all substantially smaller compared to the baseline results. The signs of the estimates using placebo mandates are all in the opposite direction. Based on the results for the two falsification tests, there seems to be no obvious biases that could be driving the main findings.

1.7 Conclusion

Understanding the interaction between health insurance coverage and labor market decisions is very important especially for young adults, because they are often uninsured and the job matches at early periods of career may have a significant impact on later career trajectories. However, little is known about the extent to which ESI has affected young adults' labor market decisions. This paper fills this gap by studying the impact of arguably exogenous insurance policy reforms on the job mobility of young adults. The expanded dependent coverage mandate, which provides parental health insurance access to young adults, may increase the job mobility of workers with ESI if they are

"locked" into their current job for fear of losing ESI. The mandate could also decrease the job mobility of workers without ESI if they are "pushed" out of their current job in search of jobs with ESI. I test these hypotheses using both state and federal policy variations. Results provide consistent and robust evidence that expanded dependent coverage mandate alleviated job push among workers without ESI. I find that the state mandates led to a 5% reduction in job turnover for workers without ESI. Despite the popular belief that the ACA cures job lock, I find no evidence of reduced job lock. Results show no evidence that the mandate caused young workers with ESI to be more likely to leave their jobs. It could be because young adults have relatively less acute job lock to begin with, and the previous legislative efforts including COBRA (1985) and HIPPA (1996) may have already eliminated a major part of job lock among young adults.

This chapter finds that the dependent coverage mandate caused young workers to be more willing to stay at an uninsured job, which is consistent with prior literatures that found the dependent coverage mandate reduced the young adults' working hours and their probability of being full-time workers, because part-time jobs are usually uninsured. These findings suggest that some young adults are better matched for part-time jobs or self-employment, so that they have time to pursue other interests such as school training. Future research on the long run impact of the reforms on young adults' labor market outcomes and educational attainment would provide further insight into the value of reduced job push. Future study could also extend the analysis to the

secondary effect on parents' job mobility.

Chapter 2

The Affordable Care Act Dependent Coverage Mandate and the Job Mobility of Young Adults

2.1 Introduction

The ACA Dependent Coverage Mandate was passed on March 23rd, 2010, and became effective on September 23, 2010. The mandate requires that health insurance plans that provide dependent coverage must cover dependents until the age of 26. Insurers can not charge higher premiums for eligible young adults or offer fewer benefits than they do for younger dependents. By extending the age limit that dependents can stay on parents' plan, the law makes health insurance coverage more affordable and accessible for young adults. Prior to the federal mandate, employer sponsored health insurance plans (ESI) in states without similar state-level mandates generally stop dependent coverage at age age 19 or age 23 if the dependents are enrolled full-time in school. Under the federal mandate, young adults can join or remain on parents' plan until 26's birthday even if they are married, have a child, do not attending school, do not living with their parents, are financially independent on their parents, or eligible for their employer's plan.

The ACA Dependent Coverage Mandate, similar to the prior state-

level dependent coverage mandates, could affect young adults' job mobility. It could reduce "job lock" and increase the job mobility of those with ESI and are "locked" in their job for fear of losing ESI. On the other hand, it could reduce "job push" and decrease the job mobility of those with no ESI and are "pushed" out of their jobs into jobs that provide ESI. Compare to the state mandates that were implemented in different states at different time, the federal mandate was implemented on September 23, 2010 for all states. Although the federal mandate provides less policy variation, it is still important to study how the job turnover responded toward the ACA dependent coverage mandate, because federal and state laws are different in many aspects. First, state laws are weaker than the federal mandate. State mandates usually have lower eligible age limits than the federal mandate. Also, State laws have other restrictions besides age, while age is the only requirement under ACA. Most importantly, state mandates does not apply to self-insured workers who count for more than half of all private sector workers. Second, because of the simple rule and wide publicity of ACA provisions, the federal mandate seems to be better enforced and understood by eligible families than state mandates[1]. These differences suggest that the impact of the federal mandate should be bigger than the state mandates.

In this chapter, I focus on the ACA Dependent Coverage Mandate, and supplement my first chapter by studying the impact of federal mandate on both the "job lock" and "job push" of young adults. Using Survey of Income

[1]Cantor, Belloff, Monheit, Delia, and Koller (2012)

and Program Participation (SIPP) data from 2008 to 2013, the impact of the ACA Dependent Coverage Mandate on young adults' job mobility is identified by both difference-in-difference (DD) framework and regression discontinuity (RD) design. The DD approach compares the job mobility among the treated group who gained access to parental health insurance to the control group that is ineligible for the benefit, before and after the effective date of the mandate. The RD approach exploits the law's arbitrary cutoff age (age 26) and compares the job mobility of young adults who are just above and just below age 26. The results are generally consistent with those from the first chapter: both DD and RD find that the federal mandate alleviated "job push" among workers without ESI and no evidence of reduced "job lock" among workers with ESI. The estimated effect of the ACA mandate is larger in magnitude than the estimated effect of the state mandates from the first chapter, which suggest that the federal mandate is more effective than the state mandates. This is largely due to the fact that approximately half of the insurance plans (self-insured insurance plans) are exempt from state mandates but subject to the federal mandate.

This chapter unfolds as follows. The next section outlines the DD and RD regression frameworks. Section 3 describes the data. Section 4 presents and discusses the estimates of the ACA mandate analysis, and compares them with those from the state mandates analysis in the first chapter. Section 5 concludes.

2.2 Empirical Approaches

The ACA Dependent Coverage Mandate was implemented in September 2010 which applies to all young adults below the age of 26, as long as their parents have insurance plans that cover dependents. I use two empirical strategies to identify the effect of the ACA dependent coverage mandate on young adults' job mobility. First, it is natural to think of a difference-in-difference strategy that compares the job mobility of 19 to 25-year-olds before and after the ACA mandate and uses a slightly older age cohort (27 to 30-years-olds) as the control group. This is the dominant strategy used in the previous literature on the ACA dependent coverage mandate. However, Slusky (2013)criticized the overly broad control (27 to 30-year-olds) and treated groups (19 to 25-year-olds). They may be affected by different labor market shocks and thus do not share the same trend which violates the validity of a DD strategy. As suggested in Slusky(2013), I use narrower age groups where parallel trends assumption becomes less of a concern. Specifically, I compare the overall job mobility, job lock, and job push of the treated group (24 to 25-year-olds) to the control group (26 to 28-year-olds) before and after September 2010. I estimate the following regression:

$$Y_{it} = \Phi(\alpha + \beta_1 Treat_{it} \times Post_{it} + \beta_2 Treat_{it} + \beta_3 Post_{it} + \beta_4 X_{ist} + \theta_s + \gamma_t + \varepsilon_{it}) \quad (2.1)$$

Where $Treat_{it}$ takes value one if individual i is younger than 26 years old (24 or 25 years old) at time t and takes value zero if older (26-28 years old). $Post_{it}$ is a dummy variable that equals to one if wave t is after the

implementation date of the ACA mandate which is September 2010. The coefficient of interest is β_1, which is the estimated effect of the federal reform on the job mobility of eligible young adults. Similar to the first chapter equation (1.1), I add demographic controls including sex, race, age, education, marital status, and indicator of having children, as well as Job characteristics including log hourly wage, job tenure, union status, firm size, occupation, and industry. I also control for whether the spouse has ESI or not, as well as state and month fixed effect. I separately analyze job lock and job push by restricting the sample to job lock sample and job push sample described in the first chapter data section.

Second, I consider a regression discontinuity (RD) framework. The ACA dependent coverage mandate requires insurance plans to cover young adults' until their 26th birthday. Eligibility for the benefit is delineated by age. The cutoff age of 26 is arbitrary. Young adults just below and just above age 26 are very similar except that those who are above age 26 no longer have access to their parents' insurance plans. SIPP contains information on individual birth month which can be used to accurately determine whether the young adults are above or below the age of 26. The effect of ACA mandate on job mobility is identified by comparing the job mobility of young adults just below and just above age 26.

I exploit a parametric RD design. I restrict my sample to 24 to 28-year-olds in the post ACA period (2011-2013) and estimate the following equation:

$$Y_{it} = \alpha + \beta_1 Post26_{it} + \beta_2 f(m_{it}) + \beta_3 X_{it} + \varepsilon_{it} \tag{2.2}$$

Where $POST26_{it}$ equals to one if the individual i's age is above 26 years old. $f(m_{it})$ is a smooth function with respect to age in months. For the functional form of $f(m_i)$, I start with six candidates (linear, linear interaction, quadratic, quadratic interaction, cubic, cubic interaction) and use the F-test approach suggested in Lee and Lemieux (2010) to find specification that fits the data best. Regression (4) are estimated both with and without controls X_{ist} are controls defined similarly as in equation (2.1). Standard errors are clustered by age. The coefficient of interest is β_1, which measures the discontinuity in job mobility at age 26.

2.3 Data

This chapter's data comes from the 2008 panel of the Survey of Income and Program Participation from years 2008 to 2013. I handle the data in a way similar to the one described in the data section of the first chapter (More information can be found in Appendix). I compress the monthly level data into wave level (a 4-month period) data and use one observation per person per wave. For respondents in each wave, I observe their demographics, their main jobs' characteristics at the beginning of the wave, and whether their main jobs end during that wave. I enforce similar restrictions to the sample: I exclude Hawaii, North DAkora, South Dakota, Vermont, and Maine; I exclude public health insurance recipients, and recipients of Employer Disability Payments and Social Security Income; I also exclude those who moved to another state

[2].

The sample is restricted to employed young adults aged 24-28 from years 2008 to 2013. Job lock and job push sub-samples are again analyzed separately. For the analysis of job lock, I restrict the sample to young adults who are employed and covered by own-name ESI. For the analysis of job push, the sample is limited to those who are employed but not covered by own-name ESI.

Table 7 shows the summary statistics for both job lock and job push sub-samples, as well as the whole sample. The overall job mobility for employed young adults aged 24 to 28 from 2008 to 2013 is 8.6%. About 34.8% of the overall sample have ESI. The job turnover of the job push sample is much larger than the job turnover of those with ESI (job lock sample). When compare the demographics and job characteristics of the two sub samples, those without ESI generally have lower wage, longer tenure, higher educational attainment, and are less likely to be union members and have spouses with ESI.

2.4 The ACA Dependent Coverage Mandate Analysis

2.4.1 Difference-in-Difference Strategy

2.4.1.1 Health Insurance Coverage

First, I estimate how the federal young adults' health insurance coverage status and examine how effective the federal mandate was in covering

[2]Less than 5% of the sample is dropped.

young adults. I run regression equation (2.1) using insurance coverage outcomes as dependent variables. The DD results for five insurance coverage outcomes are reported in Table 8. The column (1) are estimates for all young adults age 24 to 28. Similarly to the state mandates analysis, the ACA mandate led to a 4.8% increase in coverage rate for 24 to 25-year-olds, compared to the 26 to 28-year-olds, after conditioning on individual characteristics. Estimates from column (1) also show a 9.6% increase in parental insurance coverage (which represents a 80% increase compared to the mean), and a 4.8% reduction in own-name ESI. These estimates are similar in magnitude to estimates from prior papers that studies the impact of the ACA dependent coverage mandate on health insurance coverage of young adults (Antwi et al., 2013; Cantor et al. 2012b). I restrict the sample to working young adults from age 24-28 in column (2), and I add additional job controls in column (3). The estimates do not change much compared to column (1) except for the estimate on private-purchased insurance coverage which becomes smaller and insignificant. Column (4) is the state baseline results from Table 3 column (3). Generally, the ACA mandate estimates are twice as big as the state mandates estimates, which makes sense because about half of the insurance plans (self-insured insurance plans) are exempt from state mandates but are subject to the ACA mandate.

To present the difference-in-difference research design graphically, I plot the coefficients from the regression that interact the year dummies with the treatment variable which is the indicator of below 26 years old. The coefficient

for year 2009 is normalized to zero, so the estimates can be interpreted as health insurance coverage changes relative to year 2009. This allows me to inspect pre-trends, and also observe how the treatment effect varies overtime. Figure 1 shows that the coefficients of lead year are close to zero for all the four insurance coverage outcomes. The treatment effects increase over time on three insurance coverage variables: insurance coverage from any source, parental ESI, and own-name ESI.

2.4.1.2 Overall Job Mobility, Job Lock, and Job Push

Table 9 column (1) and (2) presents the DD estimates on the job mobility of the overall sample, the job lock sample, and the job push sample. I only control for individual demographics in column (1). Estimates show a decrease in the overall job mobility of young adults. This estimate is similar in magnitude to the treatment effect estimated by Baily (2015) who uses CPS and a similar research design and controls. Column (1) also shows an insignificant decrease in job mobility of the job lock sample and the job push sample. When controlling for additional job characteristics including log hourly wage, tenure, union status, firm size, occupation, and industry, the estimates become larger and are estimated more precisely. The coefficient on the job push sample increases to 1.5%, which represents a 10% reduction from the mean. These results show that job characteristics are very important determinants of young adults' mobility. Controlling for job characteristics allows me to isolate the effect of parental insurance on job mobility. Column (5) is the same as

Table 4 column (2) which reports the state results. If I compare the percentage changes instead of absolute changes, the federal estimates are again roughly twice as big as the state mandates estimates. For example, the state analysis estimates a 5% decrease in the job push sample while the federal estimate is 10%. To inspect the pre-trends and post-trends, I plot the leads and lags of the treatment effect in Figure 2. It shows that the treatment effects seem to fade away over time for all three graphs.

2.4.2 Regression Discontinuity Framework

2.4.2.1 Health Insurance Coverage

I plot the age profiles for four health insurance coverage outcomes in Figure 3. The dots are the mean values of health insurance coverage outcomes by age in months. The horizontal line measures the difference between cutoff age (age 26) and actual age in months. The figure shows a break in trend at the cutoff age for the parental ESI. The age profile of the parental ESI decreases continuously before age 26, at which point it experiences a drop, then stays flat after age 26. The age profiles for other health insurance coverage outcomes do not show obvious trend breaks.

I quantify the discontinuities using parametric RD. The optimal specification for the smooth age function is the quadratic polynomial function with interaction which is chosen by the F-test approach suggested in Lee and Lemieux (2010). The results are presented in Table 10 panel a. Estimates from column (1) do not control for demographics and job characteristics while col-

umn (2) adds those controls. When aging out of the parental health insurance at the age of 26, young adults experience a 4% decrease in the probability of having parental ESI. The insured rate decrease while the probability of having own-name ESI and private-purchased health insurance increases at age 26, but the coefficients are not statistically distinguishable from zero. I run a falsification test which I re-estimate the discontinuity at age 26 using the pre-mandate period from September 2008 to September 2010. The results are presented in Table 10 panel a column (3). All the estimates from column(3) are relatively smaller and statistically insignificant. The signs on health insurance from any source and own-name ESI are in the opposite direction. The results from the falsification test show that there are no breaks in health insurance coverage trends at age 26 during the pre-mandate period.

2.4.2.2 Overall Job Mobility, Job Lock, and Job Push

Figure 4 shows the age profiles for the job mobility of the overall sample, the job lock sample, and the job push sample. The dots are the average job separation rate for each age in months. The age profiles for the overall job mobility and the job mobility of the job push sample show breaks in trends at cutoff age, while the job mobility of the job lock sample appears to trend smoothly at age 26.

The parametric estimates are reported in Table 10 panel b. The overall job mobility increases by 2% at age 26, but the estimate becomes smaller and insignificant when adding demographic and job controls. Similar to figure 4,

the job separation rate for workers with ESI (job lock) shows no break at the cutoff age. The probability of leaving jobs for workers without ESI increases by 3.3% at age 26 when they lose access to parental ESI. The estimate reduces to 2.7% with controls. When using the pre-mandate period data, the estimates are all statistically insignificant, indicating that there are no breaks in the job mobility trend at age 26 during the pre-mandate period.

The estimated job push effect using RD is larger in magnitude than the reduced job push estimated using DD in the previous section. It may be inappropriate to compare the RD results with the DD results and the state DDD results directly because RD estimates the effect of losing access to insurance while DD and DDD estimates the effect of gaining access to insurance. However, the RD results provide supporting evidence to my main findings that the ACA dependent coverage mandate does influence the job mobility of young adults especially those without ESI.

2.5 Conclusion

This chapter supplements the state mandates analysis from the first chapter with the ACA Dependent Coverage Mandate analysis. The ACA Dependent Coverage Mandate extend the dependent coverage to young adults under the age of 26. Using SIPP 2008-2013 data, the impact of the ACA mandate on young adults' job mobility is identified by DD regression framework and RD design. This chapter again shows the importance of health insurance in the labor market decisions of young adults. I find consistent evidence of

reduced job push and no evidence of reduced job lock. The estimated reduced job push is larger than the estimates from the state mandates analysis in the first chapter. The results from the DD regression framework show that the ACA mandate led to a 1.46% decrease (10% reduction from the mean) in the job mobility of young adults without ESI. The results from the RD design show that the job mobility of workers without ESI increased by 2.7% at age 26 when they lost access to dependent health insurance.

Chapter 3

The ACA Medicaid Expansion and the Job Mobility of Childless Adults

3.1 Introduction

The United States has a unique health insurance system that relies heavily on employer-sponsored health insurance. Public health insurance programs such as Medicaid and Medicare, cover the most vulnerable population including children, pregnant women, the disabled, low-income parents, and elderly individuals. Other groups of the population including low-income childless adults, however, are historically excluded from the public insurance programs, and they can only gain access to affordable insurance coverage through their work.

The close link between health insurance coverage and employment could have important implications on workers' job mobility. Workers may value the employer-sponsored health insurance more than the wage (or utility) differential between comparable jobs, so they may bypass alternative better-matched jobs and find themselves "locked" into less-preferred jobs by the need to maintain their current health insurance, a phenomenon referred to as "job lock". In addition to job switching decisions, the restriction on insurance access could

also affect workers' decision to retire, and leave the labor force. This is referred to as "employment lock", which occurs when workers stay employed primarily to secure employer-sponsored health insurance.

The Affordable Care Act (ACA), one of the most sweeping health care reforms in the United States, was designed, among other things, to increase the availability of affordable health insurance and thus loosened the tie between health insurance and employment. The ACA was enacted in March 2010, and most of its provisions took effect on January 1, 2014. The Medicaid expansion is one of the key components of the ACA that expands Medicaid eligibility to include individuals and families with incomes up to 138% of the Federal Poverty Line (FPL)[1]. The ACA Medicaid expansion has the greatest impact on non-disabled, non-elderly, civilian adults who do not have children under the age of 19, because they were previous excluded from the public health insurance programs. The implementation of the Medicaid expansion was challenged by the United States Supreme Court ruling in 2012 that enabled states to opt out of the expansion. As of March 2017, 32 states (including the District of Columbia) adopted the expansion while 19 states opted out[2].

The ACA Medicaid expansion provides a unique policy change that can be used to analyze the impact of public health insurance on job mobil-

[1]The text of the ACA states the new threshold is 133% of the federal poverty level. However, a new method of income calculation (MAGI, Modified Adjusted Gross Income) was adopted under the ACA, which allows for a 5% "income disregard", changing the effective income threshold to 138% of the federal poverty level.

[2]Source: Current Status of State Medicaid Expansion Decisions 2017, the Henry J. Kaiser Family Foundation.

ity of childless adults. Previous literature on the relationship between health insurance and job mobility is inconclusive. Some studies find large job lock effects (e.g., Madrian (1994) find workers without spousal insurance access are 15-25% less likely to leave their jobs), some find moderate effects in certain population groups (e.g., Hamersma and Kim (2009) find that Medicaid eligibility increased job turnover among unmarried women), and others find no evidence of job lock effect (e.g., Holtz-Eakin, 1994; Kapur, 1997; Sanz-De-Galdeano, 2006). Another strand of the literature studies the impact of public health insurance on labor market outcomes which is an indirect way of studying "employment lock". The results are mixed too. Some studies find that the Medicaid eligibility reduced the labor supply of single mothers, pregnant women, and childless adults (e.g., Dave et al., 2015; Dague, DeLeire, and Leininger, 2014; Garthwaite, Gross, and Notowidigdo, 2014; Kim, 2016). However, many papers that study the recent Medicaid expansion find no effect on labor supply (e.g., Leung and Mas, 2016; Kaestner et al., 2016; Duggan, Goda, and Jackson, 2016; Frisvold and Jung, 2016).

This chapter contributes to this debate by analyzing the impact of the ACA Medicaid expansion on the job mobility of childless adults. The reform may increase the job mobility of workers if they are "locked" into their job ("job lock" or "employment lock") to secure their employer-sponsored health insurance. To test this hypothesis, this paper utilizes the basic monthly Current Population Survey (CPS) data from January 2011 to December 2016 and performs a longitudinal matching to construct two panels and get respondents'

job change profiles over 4 months and 8 months[3]. The impact of the expansion on the childless adults' job turnover is identified by a difference-in-difference (DD) strategy that exploits the state-time level of variations in Medicaid eligibility. To be specific, I compare the job separation rate of childless adults in expansion states to those residing in non-expansion states, before and after the expansions. To further understand job transitions and to differentiate between "job lock" and "employment lock", I separate the event of job transition into 4 scenarios according to the employment status after job separation: transition to full-time job, transition to part-time job, transition to unemployment, and transition to leaving the labor force. I estimated the probability changes of each scenario compared to the probability of staying at one's job using a multinomial logit regression.

The results show that gaining access to Medicaid coverage increased childless adults' job mobility. I provide evidence that the ACA Medicaid expansion led to a 0.32% increase (or 7.2% increase from the mean of 4.47%) in the job mobility over 4-month period and a 0.73% increase (or 9.7% increase from the mean of 7.52%) in the job mobility over 8 interview months. Subgroup analysis shows that the health reform had a larger impact on childless adults who are white, above 50 years old, or less educated (high school or less). In addition, I show that the increased job mobility is a result of an increase in job-to-job transition which suggest the existence of the "job lock" effect. I

[3]This is not 8 consecutive months, but 4 months data + 8 months break + 4 months data. See data section.

find no evidence of the "employment lock" effect. Results show no evidence that childless adults are more likely to become unemployed or leave the labor force when eligible for the Medicaid.

This chapter contributes to the existing literature in a number of ways. First, this is the first study to directly analyze the impact of the recent Medicaid expansion on childless adults' job mobility. Previous papers focus on women and parents who were beneficiaries of Medicaid before the recent Medicaid expansions. They have looked at parental Medicaid expansion and parents' job mobility (e.g., Hamersma and Kim, 2009), Medicaid expansion (in the 1980s and 1990s) and women's job mobility - especially that of pregnant women (e.g., Dave et al., 2015), State Children's Health Insurance Program (SCHIP) expansion and working parents' job mobility (e.g., Bansak and Raphael, 2008). Prior research on the ACA Medicaid expansion focuses on childless adults' labor supply. They examine whether the expansion reduced "employment lock" among childless adults by studying the employment effects from the expansion. Their method is an indirect way of detecting "employment lock". Also, it cannot be used to study the "job lock", because job-to-job transitions do not affect employment status. This paper studies both the "employment lock" and "job lock" by looking directly at the event of job separation and different types of job transitions.

Second, this chapter focuses on childless adults which are less studied but of great interest to policymakers who are still debating the future of the Medicaid program because childless adults are the major beneficiaries of the

recent Medicaid expansion. This paper contributes to the understanding of the interaction between public health insurance and childless adults' labor market decisions.

Last but not least, in this study I am able to utilize the basic monthly CPS that covers the period between January 2011 to December 2016. The data set contains more recent data after the ACA Medicaid expansion in 2014 compared to previous literature that studies the expansion. The data set also covers the most recent adopting states including the Louisiana Medicaid expansion in June 2016. Late adopting states are often ignored in previous literature due to data availability. The varying adopting dates of different expansion states provide variation that helps identify the effect of the policy change.

This chapter is organized as follows. The next section provides the background of the ACA Medicaid expansion. Section 3 describes the data. Section 4 outlines regression frameworks. Section 5 presents and discusses the results. Section 6 concludes.

3.2 Background

3.2.1 Medicaid

Medicaid has been the largest public health insurance program for low-income individuals and families in the United States since its enactment in 1965. It is a joint federal-state program to assist states in providing health insurance to low-income individuals and families. The federal government

establishes broad guidelines, and the states Medicaid programs vary as long as they meet the guidelines. This program is mean-tested and the premium and cost-sharing is set to be zero or very low to protect the most vulnerable residents whose resources are insufficient to meet the necessary medical services costs. Prior to the ACA Medicaid expansion, Medicaid covered 55 million Americans, most of which are children, pregnant women, parents of eligible children, disabled individuals, and elderly people (the Centers for Medicare and Medicaid Services, 2013).

3.2.2 The ACA Medicaid Expansion

The ACA significantly expanded Medicaid eligibility. The ACA was passed on March 23rd, 2010 with the goal of increasing health insurance coverage. One of the key provisions of the ACA is Medicaid expansion. Under the ACA, starting in January 2014 Medicaid is set to expand the eligibility to include individuals and families with incomes up to 138% of the federal poverty level. Prior to the ACA Medicaid expansion, states granted Medicaid eligibility to certain categories of low-income individuals, including children, pregnant women, parents of eligible children, the disabled, and elderly. States varied in both the definition of low-income categories and the income thresholds for each category. Usually the cutoffs were lower than the new eligible threshold (138% FPL)[4]. Non-elderly non-disabled adults without dependent

[4]Before the ACA, the federal government mandated that the minimum eligibility thresholds for children and pregnant women be be 100-133% FPL. The eligibility thresholds for parents were generally less than 100% FPL.

children did not fall into the Medicaid eligibility categories in most of the states[5]. The health care reform eliminates the eligible categories by expanding the minimum income eligibility threshold to 138% FPL for everyone which means that childless adults are no longer excluded from the program.

In 2012, the Supreme Court ruled that states have the option to continue at their pre-ACA levels of Medicaid eligibility. Figure 5 represents the states' decisions as of December 2016. A total 32 states adopted the expansion while 19 states opted out. Table 11 displays each state's expansion decision, expansion timing, and eligibility thresholds for childless adults before and after the expansion. 25 states decided to move forward with the expansion starting from January 2014[6]. As of December 2016, 7 states adopted the Medicaid expansion in accordance with the ACA after Januaray 2014[7]. A total number of 19 states have opted out of the expansion[8]. 31 out of the 32 expansion states raised the income eligibility threshold for childless adults to 138%. Only the District of Columbia has a higher threshold (215%). For all the 19 non-expansion states except Wisconsin, childless adults remain ineligible for Medicaid. Wisconsin did not adopt the expansion but amended the Section 1115 waiver to cover adults up to 100% FPL in Januray 2014. It is worth noting that 9 early adopting states provided coverage to childless adults before

[5]In 2009, five states (AZ, DE, HI, NY, VT) provided coverage to childless adults with state-only dollars or under special Medicaid waivers (Kaiser Family Foundation 2009)

[6]These states are AZ, AR, CA, CO, CT, DE, DC, HI, IL, IA, KY, MD, MA, MN, NE, NJ, NM, NY, ND, OH, OR, RI, VT, WA, WV.

[7]These states are AK, IN, LA, MI, MT, NH, PA.

[8]These states are AL, FL, GA, ID, KS, ME, MS, MO, NE, NC, OK, SC, SD, TN, TX, UT, VA, WI, WY.

January 2014 through Section 1115 waivers, but the programs were generally less comprehensive than the full Medicaid[9]. Because the increases in income eligibility thresholds were smaller or zero in these early adopting states in January 2014 compared to other expansion states, I exclude them from the treated state group.

The total Medicaid enrollment grew rapidly in recent years after the implementation of Medicaid expansion. The Medicaid enrollment raised 13.2% in 2015 and 3.9% in 2016 (Kaiser Family Foundation, 2016). The total Medicaid spending raised 10.5% in 2015 and 5.9% in 2016 (Kaiser Family Foundation, 2016). As of December 2016, nealy 70.5 million Americans were enrolled in Medicaid (Kaiser Family Foundation, 2016). Figure 6 presents the Medicaid coverage trends among childless adults in expansion states and non-expansion states. The Medicaid coverage data are from the CPS March Supplement. The childless adults' Medicaid coverage in expansion states raised significantly after 2014, while the growth in non-expansion states is relatively constant.

3.3 Data

The data used in this paper comes from the basic monthly files of the Current Population Survey (CPS) from January 2011 to December 2016. The CPS is a national representative survey of about 60,000 U.S. households conducted monthly by the Census Bureau. It is the primary source of monthly

[9]These states are AZ, CO, CT, DE, DC, HI, MN, NY, VT.

labor force statistics in the United States, and it also collects information on individual demographics, education, and earnings. The basic monthly CPS is chosen for this study because it is the most up-to-date data source that contains information on job mobility. My sample period which is from January 2011 to December 2016 covers the most recent Medicaid expansions by late adopting states in 2016[10], and has 3 years of observation after the main Medicaid expansion happened in January 2014.

Although the CPS is designed to be a cross-sectional survey, it has a longitudinal structure. Selected households are divided into rotation groups and they are interviewed on a rotation basis. Each group is interviewed for 4 consecutive months, put on hold for 8 months, and then followed by another 4 consecutive months of interviews before dropped out of the sample. Thus, each household has in total 8 months of observations. Each month, one rotation group that finished all the interviews is dropped out of the sample, and a new rotation group is added. In any given month, 8 rotation groups are interviewed. This panel aspect of the CPS is rarely exploited in the previous literature because it is a relatively short panel, and matching individuals from different interview months is complicated by migration, mortality, and coding errors. However, it is important to utilize the panel structure of the CPS to study job mobility and job transitions. Following Madrian and Lefgren (1999), I perform a longitudinal matching using household and person identifiers, and

[10]Montana adopted the Medicaid expansion on January 1, 2016, and Louisiana adopted the Medicaid expansion on June 1, 2016.

validate the match using individual sex, age, and race. Individuals with missing interviews are dropped out of the sample. When I consider only the first 4 interviews, about 85% of the individuals are matched. When looking over the 8-months interviews, the match rate dropped to 70%. Thus, I have two matched samples, one is a 4-month sample, and the other is a 8-month sample.

The basic monthly CPS contains information on job mobility. In each of the interview months 2-4 and 6-8, the individual is asked the following question: "Last month, it was reported that you worked for (employer name). Do you still work for (employer name)?" The respondent can answer "Yes" or "No" to this question. Since the job mobility question is not asked in interview month 5, I don't observe if job separation occurs during the 8 months break (between interview month 4 and 5). For the 4-month panel, job separation is considered to occur if the respondent answered "No" at least once during the 4-months period. Instead of using all 4-months observations, I only keep respondents' demographics together with whether job separation occurs during the 4-months period, and employment statuses and job characteristics at the beginning (interview month 1) and at the end (interview month 4) of the panel. Similarly, for the 8-month panel, job separation is considered to occur if the respondent answered "No" at least once during the 8-month period[11]. I keep respondents' demographics, the job separation indicator for the 8 months, and their employment statuses and job characteristics in interview months 1 and 8.

[11]The job mobility question is asked in interview months 2-4 and 6-8.

This paper focuses on childless adults who are most affected by the ACA Medicaid expansion. The sample consists of non-disabled adults who are employed and do not have children under age 19. As mentioned in the background section, 9 early adopting states (AZ, CO, CT, DE, DC, HI, MN, NY, VT) provided limited benefits to childless adults before the ACA Medicaid expansion in January 2014. I exclude those 9 states from the sample. Since one of the non-expansion state, Wisconsin, started covering childless adults up to 100% FPL in January 2014, it is also treated as an expansion states. Thus, I have 23 treated states and 18 control states left in the sample. I further restrict my sample to non-institutionalized, civilian adults between ages 26 and 64, because young adults under the age of 26 could receive dependent coverage, and elderly adults aged 65 and above qualify for Medicare.

Table 12 presents the descriptive statistics of the 4-month sample for both expansion states and non-expansion states, before and after the expansions. The similar descriptive statistics of the 8-month sample are presented in Table 13. For the 4-month sample, childless adults' average job separation rate over 4 months is about 4% - 5%. Non-expansion states had higher job separation than expansion states prior to the expansion, but the difference disappeared after the expansion. There are some demographic differences between expansion states and non-expansion states. For example, expansion states have more college educated residents and less high school dropouts. These differences are small and relatively consistent before and after the expansion. I add two state time-varying characteristics, state monthly seasonally-adjusted

unemployment rate obtained from the Bureau of Labor Statistics, and state quarterly per capita personal income growth obtained from the Bureau of Economic Analysis. The expansion states generally have high unemployment rate and high income per capita change. The downward trend of unemployment and upward trend of income per capita change are observed for both expansion and non-expansion states before and after the expansion. The 8-month sample statistics are similar to the 4-month ones except that the job separation rate is about 7%-8%, which is almost twice the size of the 4-month sample.

3.4 Empirical Strategy

The ACA Medicaid expansions provide state by time variation in Medicaid eligibility which allow for a difference-in-difference (DD) identification strategy. I compare the job mobility of childless adults in expansion states before and after the expansion, and control for the same difference in the job mobility of childless adults in non-expansion states.

I estimate the impact of the ACA Medicaid expansions on the job mobility of childless adults using the following probit regression for individual i in state s at time t (month).

$$Separated_{ist} = \Phi(\alpha + \beta_1(Post_{st} \times Expansion_s) + \beta_2 X_{ist} + \beta_3 \lambda_{st} + \theta_s + \gamma_t + \varepsilon_{ist}) \tag{3.1}$$

In the above regression specification, $\Phi(.)$ is a standard cumulative nor-

mal distribution function. Probit regression is chosen because the dependent variable is binary, and also because it is the dominant strategy used in the previous literature on job mobility. $Separated_{ist}$ is a dummy variable for job separation. For the 4-month sample, $Separated_{ist}$ equals one if individual i separated from his or her job during the first 4 consecutive months of interviews, and equals zero if individual i stayed at that job. $Separated_{ist}$ is defined similarly for the 8-month sample, except that the period is longer (including both the first 4 months and the last 4 months of interviews)[12]. $Expansion_s$ is an indicator of whether the state is an expansion state. Expansion states are states that adopted the ACA Medicaid expansion after January 2014 (9 early adopting states dropped) plus the state of Wisconsin. $Post_{st}$ takes value 1 after the expansion, and 0 before the expansion. Out of 23 treated states, 16 states expanded Medicaid in January 2014, and 7 expanded afterwards. X_{ist} includes a set of demographic controls: sex, race, age, education, and marital status. I also control for job characteristics including union status, occupation, and industry. λ_{st} is the time-varying state characteristics including state monthly unemployment rate, and state quarterly personal income percentage change. State fixed effects θ_s and month fixed effects γ_t are also added. Standard errors are clustered at the state level. The coefficient of interest is β_1, which measures the impact of the ACA Medicaid expansion on the job mobility of childless adults.

[12]The job separation during the 8 months break (between interview month 4 and 5) is unobservable.

The DD strategy described above is valid if job mobility in expansion states and non-expansion states would have trended similarly in the absence of the ACA Medicaid expansion after controlling for individual characteristics, state time-varying and time-invariant effects. To formally test the parallel trend assumption, I replace the $Post_{st}$ with a series of year dummies and interact them with the expansion dummy. To be specific, I estimate the following regression.

$$Separated_{ist} = \Phi(\alpha + \sum_{\tau \neq 2013} \beta_\tau (1\{year = \tau\} \times Expansion_s) + \beta_2 X_{ist} + \beta_3 \lambda_{st} + \theta_s + \gamma_t + \varepsilon_{ist}) \quad (3.2)$$

$1\{year = \tau\}$ are year dummies for each year before and after the Medicaid expansion[13]. β_{2013} is normalized to zero so β_τ can be interpreted as changes in job mobility relative to 2013.

The outcome variable for the previous DD strategy is job separation. To further understand the job transitions, I separate the event of job separation into 4 categories according to respondents' beginning employment status in interview month 1 and ending employment status in interview month 4 (4-month sample) or month 8 (8-month sample): transition to full-time job, transition to part-time job, transition to unemployment, and transition to

[13]For the 4-month sample, $\beta_{2011}, \beta_{2012}, \beta_{2014}, \beta_{2015}, \beta_{2016}$ are estimated. For the 8-month sample, $\beta_{2012}, \beta_{2014}, \beta_{2015}, \beta_{2016}$ are estimated.

leaving the labor force. Then I use a multinomial logit model to estimate how the probability of each job transitions are affected by the ACA Medicaid expansion.

3.5 Results

3.5.1 The DD Estimates of the ACA Medicaid Expansion on Childless Adults' Job Mobility

Figure 7 and figure 8 display the job separation trends in expansion states and non-expansion states for the 4-month sample and the 8-month sample. The graphs show that the overall childless adults' job mobility of expansion states and non-expansion states follow a similar trend prior to the expansion. Non-expansion states' average job mobility is relatively flat overtime. It was larger than the expansion states' average job mobility prior to the expansion. This difference shrank to zero after 2014. A larger jump is witnessed in the 8-month sample. Table 14 shows the basic DD effects of the ACA Medicaid expansion without any controls. The raw pre and post expansion differences show a small increase in job mobility for non-expansion states, and a larger increase for expansion states. The raw Difference-in-difference is calculated as 0.36% for the 4-month sample, and 0.74% for the 8-month sample.

The Baseline DD results for both 4-month sample and 8-month sample are presented in Table 15 with 4-month estimates presented in columns (1) to (3) and 8-month estimates presented in columns (4) to (6). The columns

(1) and (4) are specifications including only state and time fixed effects. The columns (2) and (5) add individual characteristics and job characteristics including sex, race, education, age, marital status, union status, occupation and industry. The columns (3) and (6) also control for time-varying state characteristics including state monthly unemployment rate and state monthly personal income percentage change. The estimates are generally consistent with the raw differences in Table 14. It is estimated that the ACA Medicaid expansion led to a 0.32% increase (or 7.2% increase from the mean of 4.47%) in the job mobility over 4-month period and a 0.73% increase (or 9.7% increase from the mean of 7.52%) in the job mobility over 8-month period. These estimates are consistent with previous papers that also find a moderate and significant effect of public health insurance on job mobility of certain populations groups (e.g., Bansak and Raphel (2005) find that the SCHIP led to a 5-6% increase in job turnover of men; Hamersma and Kim (2009) find that the parental Medicaid expansion led to a 4% increase in job turnover of unmarried mothers).

The time trend estimates are plotted in Figure 9 and Figure 10 (the estimates are presented in Table 19). In Figure 9, the coefficients for year 2011 and 2012 are insignificant and close to zero which supports the validity of the DD design. The coefficients for year 2014 to 2016 become positive and they are larger in magnitude than the lead coefficients, although they are not significant except for year 2016. In Figure 10, the coefficient for year 2012 is again close to zero. The coefficients for year 2014 to 2016 have positive signs. The magnitude of year 2014 estimate is not as big as year 2015 and

2016 estimates. This is partly due to the fact that in the 8-month sample, the individuals observed in 2014 had fewer months interviewed after January 2014 than those observed in 2015 and 2016.

The ACA Medicaid expansion may have heterogeneous effects on different population groups. I analyze the heterogeneous effects by looking at various subgroups. The sample is stratified by gender, age, education, and race. The subgroup analysis by gender and age is presented in Table 16. There is a larger increase in men's job mobility compared to women over the 8-month interviews while there is no significant difference in their job mobility changes over the 4 months period. The increase in job mobility of childless adults 50 or older is much larger and more accurately estimated which suggest that the ACA Medicaid expansion has a bigger impact on relatively older childless adults. Table 17 shows the effects by education attainment. The estimates are bigger for childless adults with high school education or less compared to those that received higher education. They are consistent with previous research that also find bigger impact on less educated individuals, since less educated individuals are less likely to obtain employer-sponsored health insurance across a job change. Table 18 shows the effects by race. The expansion led to a significantly increase in the job mobility of whites. The job mobility of the blacks seems to be unaffected. The estimates for asian are larger in magnitude but are not accurately estimated.

The validity of the results depends on the identification assumption that there are no contemporaneous labor market shocks at state-time level

that affect expansion and non-expansion states differently. I estimate two additional models as falsification/robustness tests. First, I present the DD estimates using parents as my sample instead of childless adults. Since parents were the traditional beneficiaries of Medicaid, I expect smaller or zero impact of the ACA Medicaid expasion on their job mobility. Second, I re-estimate the main regression with a sample that excludes 7 late adopting states. The concern is that the timing of the policy change of these late adopting states may be correlated with these states' labor market outcomes. The results of the falsification/robustness tests are presented in Table 20. The results for parents are reported in panel b. The estimates are small and statistically insignificant as expected. Panel c reports the results after dropping 7 late adopting states. The estimates are generally similar in magnitude compare to the baseline results.

3.5.2 Job Transitions

One question is that whether the increased job mobility represents alleviated "job lock" effect (i.e., workers are more likely to switch jobs when health insurance is not a concern), or alleviated "employment lock" effect (i.e., workers are more likely to quit jobs and become unemployment or leave the labor force). Results in Table 21 show that the increase in job mobility comes entirely from increase in job-to-job transitions. In the short run (4-month sample), the effect is concentrated on transitions into full time jobs. When considering a longer period (8-month sample), there is a large and significant

increase in the probability of transitions into part time jobs (0.32% increase, or 20% increase from the mean). I find no evidence of "employment lock", the estimates on Transition-to-Unemployment and Transition-to-Leave LF transitions are small and in most cases in the opposite direction. The results on "employment lock" are consistent with many previous research on Medicaid expansion and labor supply which find that the ACA Medicaid expansion have no impact on labor market outcomes including labor force participation, employment, and hours worked. However, these results contradict with studies on single early adopting state that find significant "employment lock" effect (e.g., Kim, 2016; Garthwaite, Gross, and Notowidigdo, 2014).

3.6 Conclusion

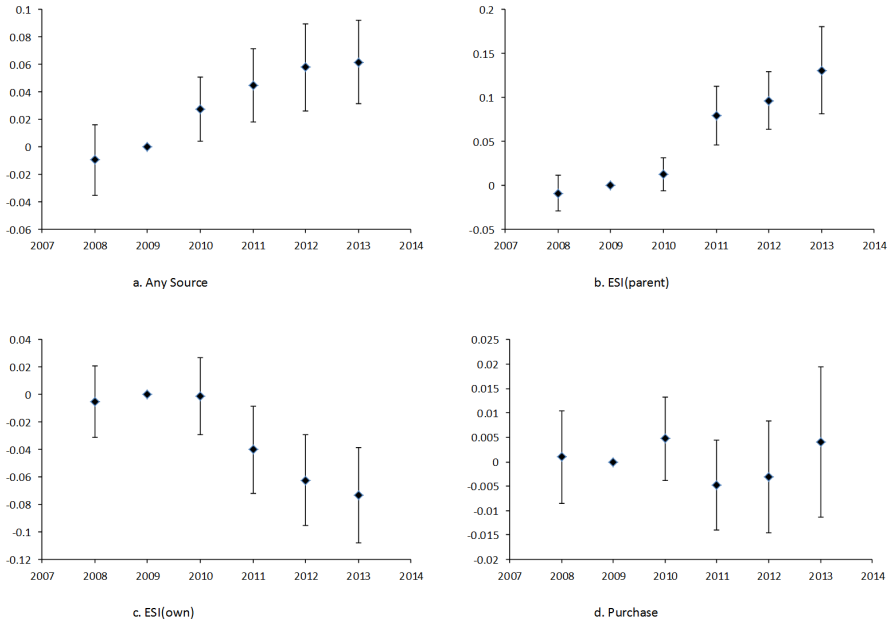
The interaction between public health insurance coverage and labor market decisions for childless adults is less studied because they were not the traditional beneficiaries of public health insurance. The ACA Medicaid expansion in 2014 increased the Medicaid income eligibility threshold to 138% of the FPL for everyone including childless adults. The availability of Medicaid may produce incentives for workers to alter their labor market decisions. This paper studies how the expansion affect childless adults' job mobility. The expansion may increase workers' job mobility if they are "locked" into their current job for fear of losing employer-sponsored health insurance. This hypothesis is tested using a DD identification strategy. Results show that the ACA Medicaid expansion increased the childless adults' job mobility by 7% -

9%, and the increase comes entirely from job-to-job transitions.

This paper is not without limitations. One concern is that the Medicaid expansion or the ACA in general may have induced firm-side responses that affect firms' layoff decisions. Unfortunately the CPS do not provide information on voluntary vs involuntary job separation which can be used to disentangle the firm-side responses. Another limitation of the data is that the job switches data in CPS may have substantial amount of noises due to coding errors as pointed out by Kambourov and Manovskii (2004). Thus, future studies could be done using alternative data set such as Survey of Income and Program Participation (SIPP) if available. This paper finds no evidence of "employment lock" which is consistent with previous research on the ACA Medicaid expansion and childless adults' labor supply. However, there maybe lags in labor market responses. Future research could look at long-run impact when data is available.

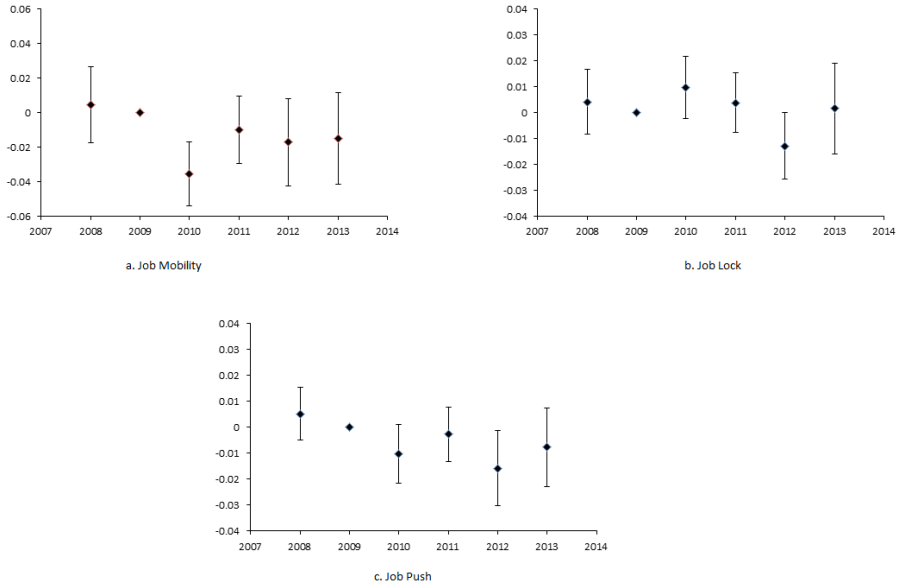
Figures

Figure 1: ACA Mandate on Health Insurance Coverage, DD Pre and Post Trends



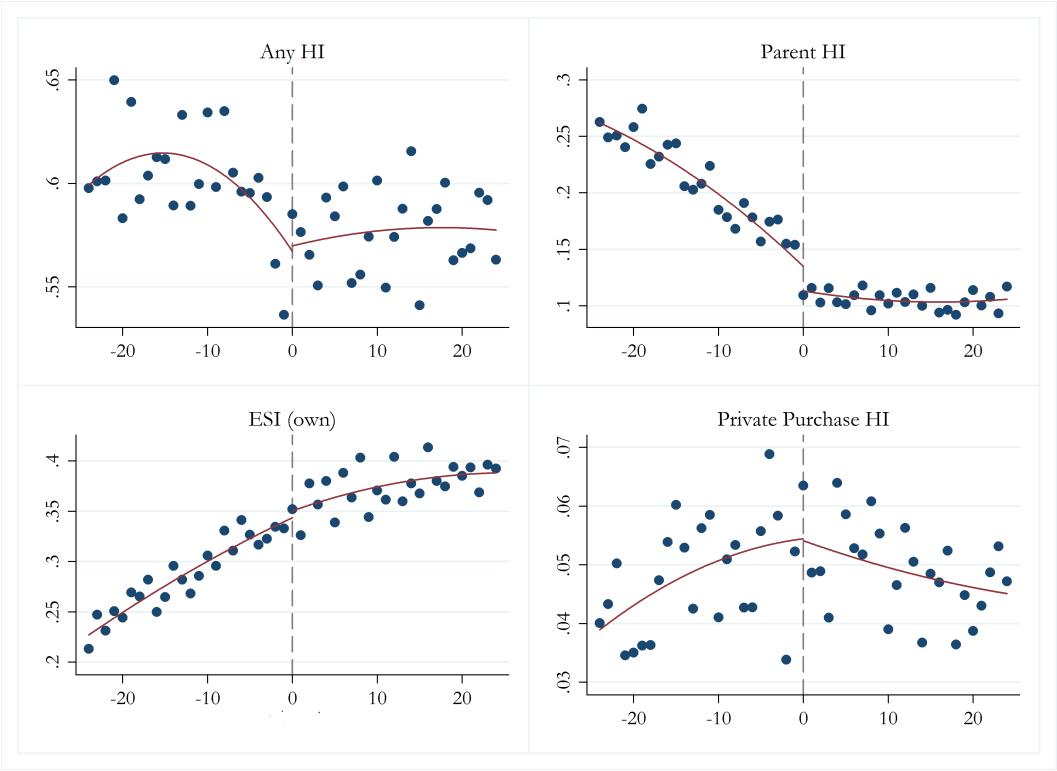
Notes: This figure presents the difference in health insurance coverage among treated and control groups, relative to 2009. DD estimates come from regression similar to equation (2.1) but uses the interaction between the year dummies and $Treat_{it}$ instead of $Treat_{it} \times Post_{it}$. Panel a: health insurance coverage from any source; panel bparental ESI coverage; panel c: ESI own-name coverage; panel d: private purchased health insurance coverage.

Figure 2: ACA Mandate on Job Mobility, DD Pre and Post Trends



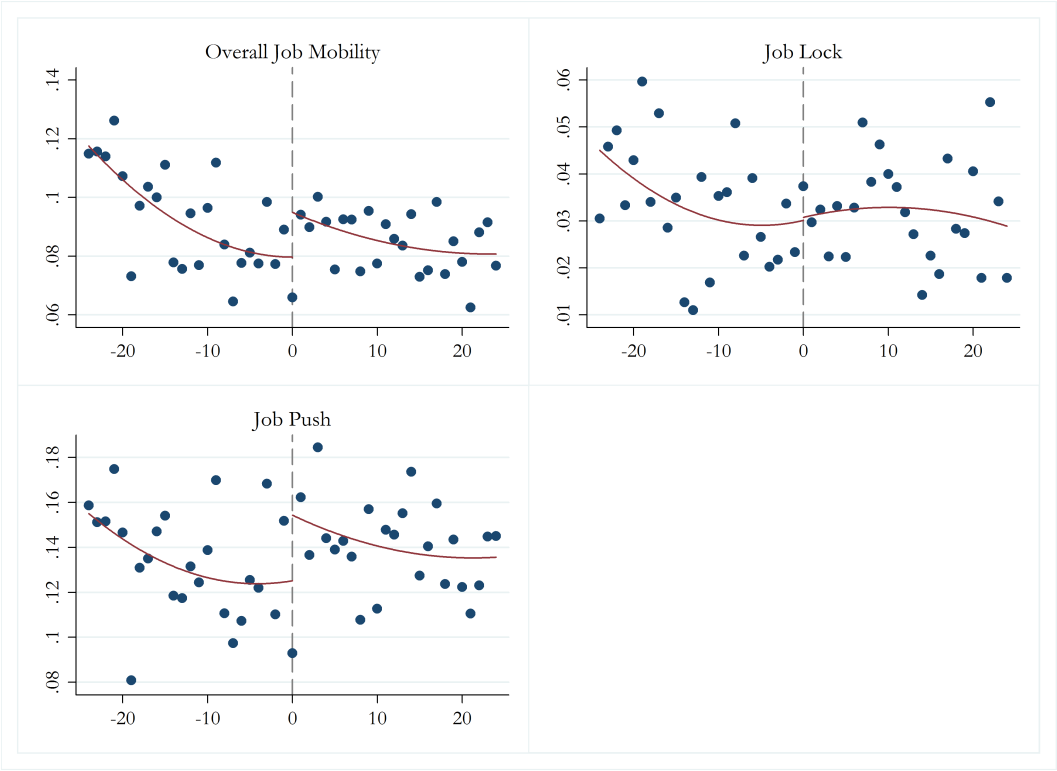
Notes: This figure presents the difference in job mobility among treated and control groups, relative to 2009. DD estimates come from regression similar to equation (2.1) but uses the interaction between the year dummies and $Treat_{it}$ instead of $Treat_{it} \times Post_{it}$. Panel a: the overall sample; panel bjob lock sample; panel c: job push sample.

Figure 3: Health Insurance Coverage Age Profiles, ACA RD



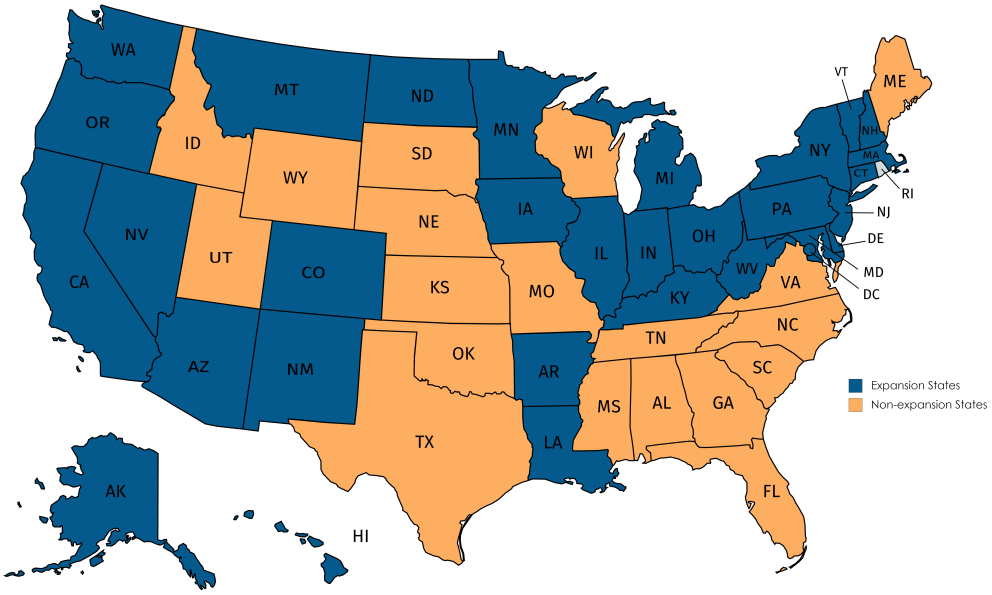
Notes: This figure presents the means of health insurance coverage rate by age in months. The dots are the means of health insurance coverage rate at each age in months relative to age of 26. Panel a: health insurance coverage from any source; panel bparental ESI coverage; panel c: ESI own-name coverage; panel d: private purchased health insurance coverage.

Figure 4: Job Mobility Age Profiles, ACA RD



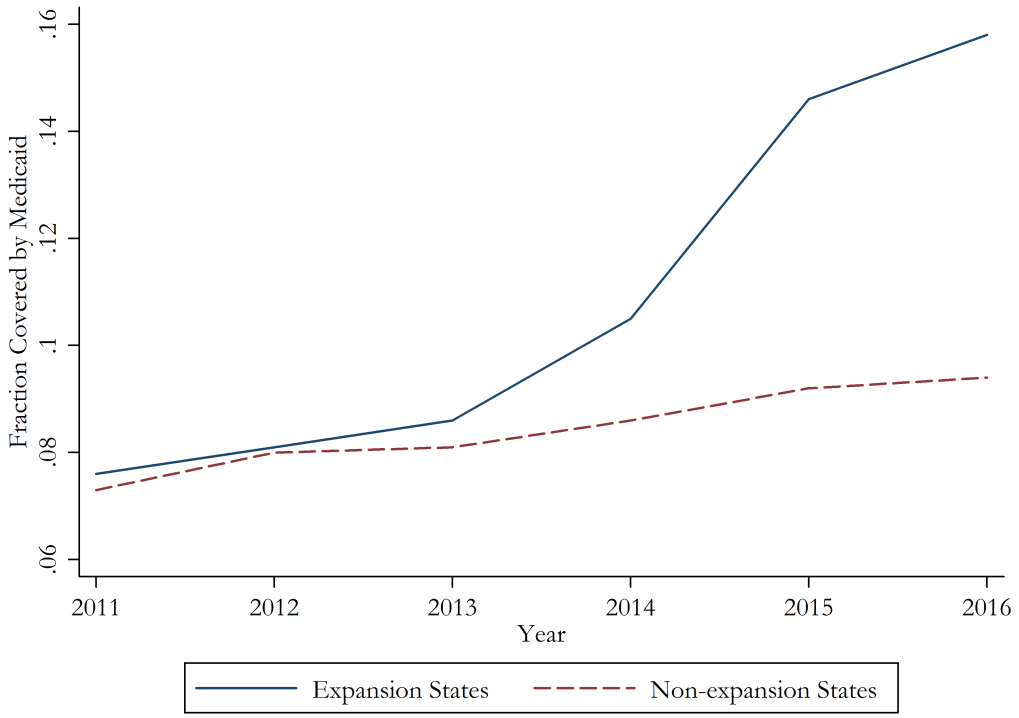
Notes: This figure presents the means of job turnover rate by age in months. The dots are the means of job turnover rate at each age in months relative to age of 26. Panel a: the overall sample; panel bjob lock sample; panel c: job push sample.

Figure 5: State Medicaid Expansion Decisions, December 2016



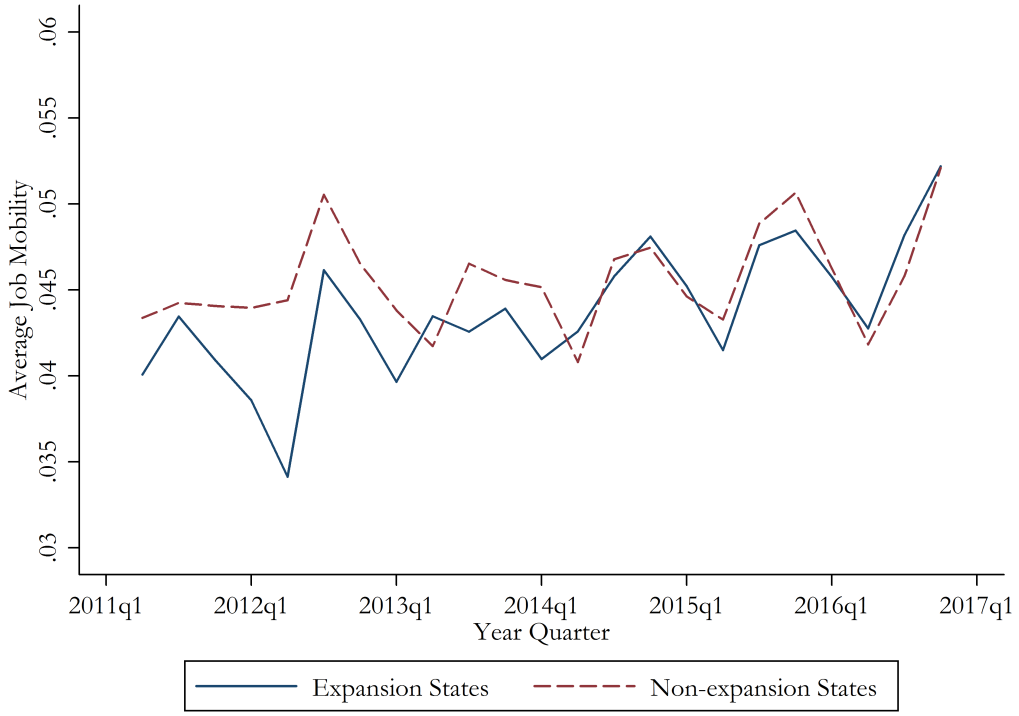
Source: the Henry J. Kaiser Family Foundation

Figure 6: Medicaid Coverage Trends Among Childless Adults 2011-2016



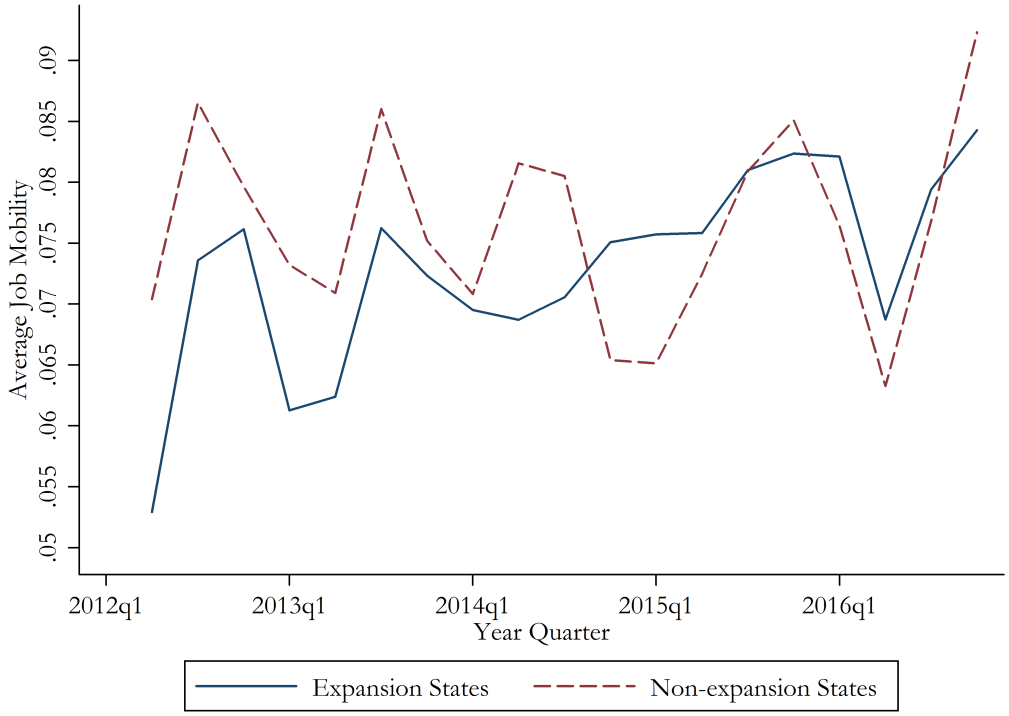
Notes: This figure presents the childless adults' Medicaid coverage rate from 2011 to 2016 in expansion and non-expansion states. Data are from the CPS March Supplement 2011-2016. Sample restricted to adults between ages 26 and 64, who do not have children under age 19.

Figure 7: Job Mobility among the Expansion States and Non-expansion States, 4-month Sample



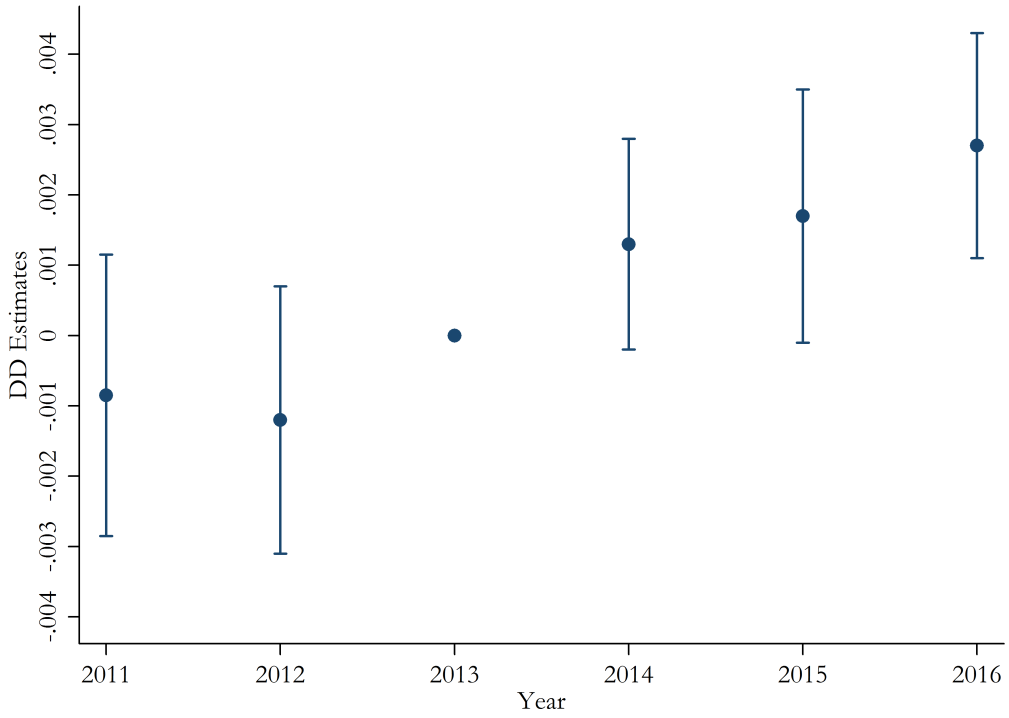
Notes: This figure presents the childless adults' job mobility from 2011 to 2016 in expansion and non-expansion states. Only those who have non-missing first 4 months records enter the sample. Sample restricted to non-institutionalized, civilian adults between ages 26 and 64, who are employed and do not have children under age 19. Data are from the basic monthly CPS from January 2011 to December 2016.

Figure 8: Job Mobility among the Expansion States and Non-expansion States, 8-month Sample



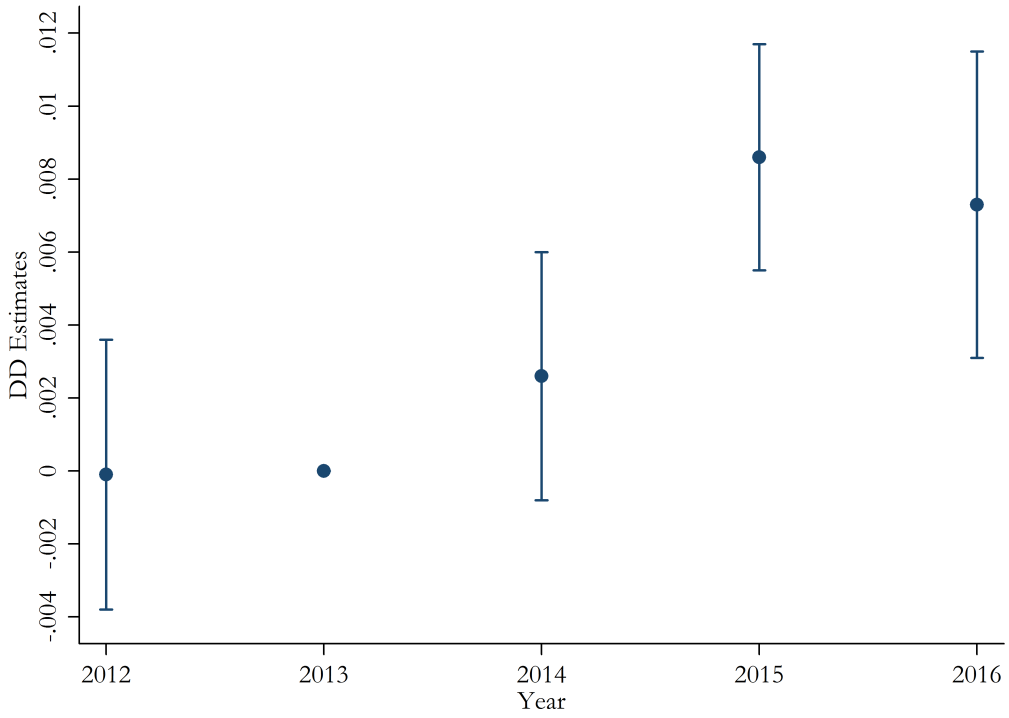
Notes: This figure presents the childless adults' job mobility from 2011 to 2016 in expansion and non-expansion states. Only those who have non-missing records for all the interview months enter the sample. Sample restricted to non-institutionalized, civilian adults between ages 26 and 64, who are employed and do not have children under age 19. Data are from the basic monthly CPS from January 2011 to December 2016.

Figure 9: Difference in Job Mobility between Expansion and Non-expansion States, relative to 2013, 4-month Sample



Notes: This figure presents the DD estimates of β_τ from equation (3.2) for the 4-month sample. β_{2013} is the benchmark and is set to zero. The ACA Medicaid Expansion took effective in January 2014. Robust standard errors are clustered at state level.

Figure 10: Difference in Job Mobility between Expansion and Non-expansion States, relative to 2013, 8-month Sample



Notes: This figure presents the DD estimates of β_τ from equation (3.2) for the 8-month sample. β_{2013} is the benchmark and is set to zero. The ACA Medicaid Expansion took effective in January 2014. Robust standard errors are clustered at state level.

Tables

Table 1: State Level Dependent Coverage Mandate Laws

State	Age Limit(Year Increase) Student/Non student	Implementation	Requirement (Unmarried)	Requirement (No Children)
Colorado	25(1)/25(6)	2006	Y	
Connecticut	26(3)/19(0)	2009	Y	
Delaware	24(0)/24(5)	2007	Y	
Florida	30(5)/25(6)	2007	Y	Y
Georgia	26(3)/19(0)	2006	Y	
Idaho	25(2)/21(2)	2007	Y	
Illinois	26(2)/26(7)	2008	Y	
Indiana	24(0)/24(4)	2007		
Iowa	24(0)/24(5)	2008	Y	
Kentucky	25(2)/25(6)	2008	Y	
Louisiana	24(1)/19(0)	2009	Y	
Maine	25(2)/25(6)	2007	Y	Y
Maryland	25(2)/25(6)	2008	Y	
Massachusetts	26(2)/21(2)	2007		
Minnesota	25(2)/25(6)	2008	Y	
Montana	25(2)/25(6)	2008	Y	
Nebraska	30(7)/30(11)	2010	Y	
Nevada	24(2)/19(0)	1995	Y	
New Hampshire	26(4)/26(7)	2007	Y	
New Jersey	30(7)/30(11)	2006	Y	Y
New Mexico	25(0)/25(6)	2003	Y	
New York	30(7)/30(11)	2009	Y	
North Dakota	26(3)/22(3)	1995	Y	
Ohio	28(5)/28(9)	2010	Y	
Pennsylvania	30(7)/30(11)	2010	Y	Y
Rhode Island	25(2)/19(0)	2007	Y	
South Dakota	30(7)/19(0)	2007		
Tennessee	24(1)/24(5)	2008	Y	
Texas	unlimited/25(6)	2004	Y	
Utah	26(3)/26(7)	1995	Y	
Virginia	25(2)/25(6)	2007	Y	
Washington	25(2)/25(6)	2007	Y	
West Virginia	25(1)/25(6)	2007	Y	
Wisconsin	27(4)/27(8)	2010	Y	

Source: Authors' review of public records available through offices of state insurance commissioners and National Conference of State Legislatures.

Table 2: The State Mandates Sample Summary Statistics

	Overall		ESI (own)			
			Yes (Job Lock)		No (Job Push)	
Variable	mean	sd	mean	sd	mean	sd
Job Separation	0.125	0.330	0.045	0.207	0.179	0.383
ESIown	0.425	0.494				
Hourly Wage	13.030	7.571	15.963	8.557	9.990	4.703
Tenure	26.529	29.889	34.512	31.665	18.830	25.989
Union	0.074	0.262	0.120	0.325	0.029	0.168
Spouse with ESI	0.119	0.324	0.121	0.327	0.026	0.160
Married	0.304	0.460	0.351	0.477	0.224	0.417
Have Children	0.211	0.408	0.220	0.414	0.215	0.411
High School less	0.076	0.265	0.034	0.180	0.173	0.378
High School	0.289	0.453	0.248	0.432	0.395	0.489
Some College	0.403	0.491	0.362	0.481	0.354	0.478
College or More	0.232	0.422	0.356	0.479	0.078	0.268
Male	0.519	0.500	0.536	0.499	0.543	0.498
Female	0.481	0.500	0.464	0.499	0.457	0.498
White	0.806	0.396	0.814	0.389	0.760	0.427
Black	0.117	0.321	0.108	0.310	0.158	0.365
Other Race	0.077	0.267	0.078	0.268	0.082	0.274

Notes: Data are from the 2001, 2004, and 2008 SIPP panels from year 2000 to year 2010. Sample restricted to employed individuals from 19 to 30 years old who are not from Hawaii, did not move to other states, and are not recipients of public health insurance or benefits.

Table 3: State Mandates on Health Insurance Coverage

	19-30 (1)	19-30 Workers (2)	Controls (3)	%Full ins. (4)
Any Source	0.0320***	0.0235**	0.0197**	0.0643***
	(0.012)	(0.010)	(0.009)	(0.021)
Means	0.62	0.70	0.70	0.70
ESI(parents)	0.0611***	0.0525***	0.0522***	0.1330***
	(0.011)	(0.010)	(0.010)	(0.019)
Means	0.18	0.16	0.16	0.16
ESI(own)	-0.0251*	-0.0237*	-0.0269*	-0.0464*
	(0.014)	(0.014)	(0.014)	(0.026)
Means	0.33	0.45	0.45	0.45
Purchase	-0.0028	-0.0017	-0.0025	-0.0145
	(0.006)	(0.005)	(0.005)	(0.011)
Means	0.05	0.04	0.04	0.04
Government	-0.0011			
	(0.005)			
Means	0.03			
Job Control			✓	✓
State× Year FE	✓	✓	✓	✓
Eligible × Year FE	✓	✓	✓	✓
Eligible × State FE	✓	✓	✓	✓
N	353,919	258,092	247,715	245,897

Notes: Only the DDD estimators are shown. Column (1) uses the 19-30 year olds as the sample. Column (2) restricts sample to 19-30 workers. Column (1) and (2) add unemployment rate and demographic controls including sex, race, age, education, marital status, indicator of having children, and indicator of whether spouse has ESI or not. Column (3) and (4) add additional job controls including log hourly wage, tenure, union status, firm size, occupation, and industry. Column (4) also interacts the percentage of people enrolled in full-insured plans with the DDD estimator. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Table 4: State Mandates on Overall Job Mobility, Job Lock, and Job Push

	19-30 Workers (1)	Controls (2)	%Full ins. (3)
Job Mobility	-0.0024	-0.0042	-0.0127**
	(0.004)	(0.003)	(0.006)
Means	0.12	0.12	0.12
N	258,092	247,715	247,715
Job Lock	0.0031	0.0030	0.0045
	(0.002)	(0.002)	(0.004)
Means	0.05	0.05	0.05
N	113,047	110,023	110,023
Job Push	-0.0105**	-0.0100**	-0.0288***
	(0.005)	(0.005)	(0.011)
Means	0.18	0.18	0.18
N	145,045	137,692	137,692
Job Control		✓	✓
State× Year FE	✓	✓	✓
Eligible × Year FE	✓	✓	✓
Eligible × State FE	✓	✓	✓

Notes: Only the DDD estimators are shown. Column (1) controls for unemployment rate and demographics including sex, race, age, education, marital status, indicator of having children, and indicator of whether spouse has ESI or not. Column (2) and (3) add additional job controls including log hourly wage, tenure, union status, firm size, occupation, and industry. Column (3) also interacts the percentage of people enrolled in full-insured plans with the DDD estimator. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Table 5: State Robustness Checks

	Overall Job Mobility	Job Lock	Job Push
a. Baseline Results			
DDD	-0.0042	0.0030	-0.0100**
	(0.003)	(0.002)	(0.005)
Means	0.12	0.05	0.18
b. Voluntary Job Separation			
DDD	-0.0020	0.0045**	-0.0080*
	(0.003)	(0.002)	(0.005)
Means	0.08	0.04	0.12
c. Involuntary Job Separation			
DDD	-0.0012	-0.0009	-0.0021
	(0.001)	(0.001)	(0.003)
Means	0.04	0.01	0.06
d. Drop 2008-2010			
DDD	-0.0110**	-0.0034	-0.0110**
	(0.005)	(0.004)	(0.006)
Means	0.13	0.05	0.20
e. Separate Sample by Pre-mandate ESI Status			
DDD	-0.0030	-0.0027	-0.0106
	(0.004)	(0.020)	(0.011)
Means	0.13	0.06	0.17

Notes: Only the DDD estimators are shown. Panel a shows baseline results from Table**??** column (2). Panel b uses voluntary job separation as dependent variable. Panel c uses involuntary job separation as dependent variable. Panel d drop sample observations from 2008 to 2010. Panel e separate individuals into job lock and job push sample using their pre-mandate ESI status. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Table 6: State Falsification Tests

	Overall Job Mobility	Job Lock	Job Push
a. Baseline Results			
DDD	-0.0042	0.0030	-0.0100**
	(0.003)	(0.002)	(0.005)
Means	0.12	0.05	0.18
b. Use Ineligible Older Cohorts			
DDD	0.0002	0.0010	-0.0032
	(0.006)	(0.004)	(0.009)
Means	0.09	0.04	0.16
c. Placebo Mandate Dates			
DDD	0.0014	-0.0020	0.0049
	(0.004)	(0.003)	(0.005)
Means	0.12	0.05	0.18

Notes: Only the DDD estimators are shown. Panel a shows baseline results from Table**??** column (2). Panel b restricts sample to young adults who are not eligible for the mandates because of age. Panel c randomly assigns the dates that states implemented the mandates. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Table 7: The ACA Mandate Sample Summary Statistics

	Overall		ESI (own)			
			Yes (Job Lock)		No (Job Push)	
Variable	mean	sd	mean	sd	mean	sd
Job Separation	0.086	0.281	0.031	0.173	0.135	0.342
ESIown	0.348	0.476				
Hourly Wage	15.545	8.935	18.664	9.952	12.763	6.804
Tenure	32.365	31.788	38.120	31.546	27.242	31.119
Union	0.076	0.265	0.116	0.320	0.040	0.198
Spouse with ESI	0.122	0.327	0.113	0.317	0.126	0.332
Married	0.320	0.466	0.327	0.469	0.316	0.465
Have Children	0.217	0.412	0.163	0.369	0.247	0.431
High School less	0.065	0.265	0.017	0.180	0.091	0.378
High School	0.264	0.441	0.187	0.390	0.306	0.460
Some College	0.370	0.482	0.332	0.471	0.390	0.487
College or More	0.301	0.458	0.464	0.498	0.213	0.409
Male	0.503	0.500	0.536	0.543	0.472	0.498
Female	0.497	0.500	0.464	0.457	0.528	0.499
White	0.779	0.396	0.814	0.389	0.772	0.427
Black	0.121	0.327	0.094	0.293	0.136	0.342
Other Race	0.098	0.298	0.092	0.289	0.102	0.303

Notes: Data are from the 2008 SIPP panel. Sample restricted to employed individuals from 24 to 28 years old who are not from Hawaii, did not move to other states, and are not recipients of public health insurance or benefits.

Table 8: The ACA Mandate on Health Insurance Coverage, DD Estimates

	24-28	24-28 Workers	Controls	States Results
	(1)	(2)	(3)	(4)
Any Source	0.0487***	0.0393***	0.0440***	0.0197**
	(0.010)	(0.012)	(0.012)	(0.009)
Means	0.58	0.67		0.70
ESI(parents)	0.0959***	0.0998***	0.0981***	0.0522***
	(0.008)	(0.009)	(0.009)	(0.010)
Means	0.12	0.11		0.16
ESI(own)	-0.0484***	-0.0605***	-0.0596***	-0.0269*
	(0.011)	(0.013)	(0.013)	(0.014)
Means	0.36	0.48		0.45
Purchase	-0.0090*	-0.0047	-0.0028	-0.0025
	(0.004)	(0.004)	(0.003)	(0.005)
Means	0.05	0.04		0.04
Government	0.0028			
	(0.003)			
Means	0.03			
Job Control			✓	✓
State FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
N	80,462	59,017	55,848	247,715

Notes: Only the DD estimators are shown. Column (1) uses the 24-28 year olds as the sample. Column (2) restricts sample to 24-28 workers. Column (1) and (2) add unemployment rate and demographic controls including sex, race, age, education, marital status, indicator of having children, and indicator of whether spouse has ESI or not. Column (3) adds additional job controls including log hourly wage, tenure, union status, firm size, occupation, and industry. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Table 9: The ACA Mandate on Overall Job Mobility, Job Lock, and Job Push, DD Estimates

	24-28 Workers (1)	Controls (2)	State Results (3))
Job Mobility	-0.0087*	-0.0101**	-0.0042
	(0.004)	(0.004)	(0.003)
Means	0.09	0.09	0.12
Job Lock	-0.0029	-0.0048	0.0030
	(0.006)	(0.005)	(0.002)
Means	0.03	0.03	0.05
Job Push	-0.0117	-0.0146**	-0.0100**
	(0.008)	(0.006)	(0.005)
Means	0.15	0.15	0.18
Job Control		✓	✓
State FE	✓	✓	✓
Year FE	✓	✓	✓

Notes: Only the DD estimators are shown. Column (1) controls for unemployment rate and demographics including sex, race, age, education, marital status, indicator of having children, and indicator of whether spouse has ESI or not. Column (2) adds additional job controls including log hourly wage, tenure, union status, firm size, occupation, and industry. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Table 10: The ACA Mandate on Health Insurance Coverage and Job Mobility, RD Parametric Estimates

	Quadratic (1)	Controls (2)	Pre 2011 (3)
a. Health Insurance			
Any Source	-0.0248*	-0.0141	0.0056
	(0.014)	(0.016)	(0.012)
ESI(parents)	-0.0415***	-0.0360***	-0.0073
	(0.009)	(0.012)	(0.008)
ESI(own)	0.0193	0.0246	-0.0042
	(0.014)	(0.017)	(0.012)
Purchase	0.0057	0.0120	0.0084
	(0.006)	(0.008)	(0.005)
Government	0.0037	-0.0033	0.0048
	(0.005)	(0.005)	(0.004)
b. Job Mobility			
Overall Job Mobility	0.0150*	0.0128	0.0082
	(0.008)	(0.043)	(0.009)
Job Lock	0.0004	0.0004	0.0064
	(0.010)	(0.015)	(0.007)
Job Push	0.0326**	0.0269**	0.0065
	(0.013)	(0.013)	(0.015)
Controls		✓	✓

Notes: Column (1) uses the quadratic polynomial function. Column (2) and (3) add controls including sex, race, age, education, marital status, indicator of having children, indicator of whether spouse has ESI or not, log hourly wage, tenure, union status, firm size, occupation, and industry. Column (2) uses data from 2011 to 2013. Column (3) uses data from September 2008 to September 2010. *** p<0.01, ** p<0.05, * p<0.1

Table 11: State Medicaid Expansion Status and Eligibility Thresholds for Childless Adults

State	Expand Medicaid	Expansion Date	Eligibility Thresholds	
			Before	After
Alabama				
Alaska	✓	9/1/2015		138%
Arizona	✓	1/1/2014	110%	138%
Arkansas	✓	1/1/2014		138%
California	✓	1/1/2014		138%
Colorado	✓	1/1/2014	10%	138%
Connecticut	✓	1/1/2014	56%	138%
Delaware	✓	1/1/2014	110%	138%
District of Columbia	✓	1/1/2014	215%	215%
Florida				
Georgia				
Hawaii	✓	1/1/2014	100%	138%
Idaho				
Illinois	✓	1/1/2014		138%
Indiana	✓	2/1/2015		138%
Iowa	✓	1/1/2014		138%
Kansas				
Kentucky	✓	1/1/2014		138%
Louisiana	✓	6/1/2016		138%
Maine				
Maryland	✓	1/1/2014		138%
Massachusetts	✓	1/1/2014		138%
Michigan	✓	4/1/2014		138%
Minnesota	✓	1/1/2014	75%	138%
Mississippi				
Missouri				
Montana	✓	1/1/2016		138%
Nebraska				
Nevada	✓	1/1/2014		138%
New Hampshire	✓	8/1/2014		138%
New Jersey	✓	1/1/2014		138%
New Mexico	✓	1/1/2014		138%

Table 11: continued.

New York	✓	1/1/2014	100%	138%
North Carolina				
North Dakota	✓	1/1/2014		138%
Ohio	✓	1/1/2014		138%
Oklahoma				
Oregon	✓	1/1/2014		138%
Pennsylvania	✓	1/1/2015		138%
Rhode Island	✓	1/1/2014		138%
South Carolina				
South Dakota				
Tennessee				
Texas				
Utah				
Vermont	✓	1/1/2014	150%	138%
Virginia				
Washington	✓	1/1/2014		138%
West Virginia	✓	1/1/2014		138%
Wisconsin				100%
Wyoming				

Source: The Henry J. Kaiser Family Foundation and Search Results Centers for Medicare & Medicaid Services. Notes: California has two programs: the Medicaid Coverage Expansion (133% FPL) and the Health Care Coverage Initiative (133%- 200% FPL), both offer limited benefits than Medicaid.Wisconsin did not expand Medicaid, but amended its Medicaid state plan and existing Section 1115 waiver raise the eligibility threshold to 100% for childless adults.

Table 12: 4-Month Sample Summary Statistics

	Pre-expansion		Post-expansion	
	Treated	Control	Treated	Control
Job Separation	0.041	0.045	0.046	0.046
Married	0.550	0.568	0.548	0.554
Age	50.4	50.6	50.7	50.8
High School dropout	0.073	0.089	0.073	0.091
High School	0.322	0.326	0.313	0.317
Some College or more	0.605	0.585	0.614	0.592
Male	0.496	0.492	0.496	0.490
Female	0.504	0.508	0.504	0.510
White	0.869	0.825	0.864	0.807
Black	0.071	0.137	0.070	0.156
Asian	0.035	0.014	0.038	0.015
Other Race	0.025	0.024	0.028	0.023
Monthly State Unemployment	0.081	0.072	0.056	0.052
Quarterly State Income Change (%)	0.777	0.738	0.923	0.832
Observations	90,212	64,481	93,900	70,006

Notes: Data are from the basic monthly CPS from January 2011 to December 2016. Only those who have non-missing first 4 months records enter the sample. Sample restricted to non-institutionalized, civilian adults between ages 26 and 64, who are employed and do not have children under age 19. 9 early adopting states are excluded from the sample. Job separation is defined as whether the respondent left his/her job during the first 4 months of interviews. The monthly unemployment rate data are seasonally-adjusted, and obtained from the Bureau of Labor Statistics. The state quarterly income per capita growth rate are seasonally-adjusted, in current dollars, and obtained from the Bureau of Economic Analysis.

Table 13: 8-Month Sample Summary Statistics

	Pre-expansion		Post-expansion	
	Treated	Control	Treated	Control
Job Separation	0.069	0.076	0.079	0.078
Married	0.585	0.603	0.580	0.584
Age	51.7	51.9	52.1	52.1
High School dropout	0.072	0.087	0.073	0.095
High School	0.325	0.328	0.312	0.314
Some College or more	0.603	0.585	0.615	0.591
Male	0.490	0.484	0.490	0.483
Female	0.510	0.516	0.510	0.517
White	0.881	0.834	0.872	0.818
Black	0.062	0.131	0.065	0.150
Asian	0.034	0.014	0.038	0.012
Other Race	0.023	0.021	0.025	0.020
Monthly State Unemployment	0.081	0.072	0.059	0.054
Quarterly State Income Change (%)	0.803	0.760	1.053	0.976
Observations	22,187	15,988	36,638	26,027

Notes: Data are from the basic monthly CPS from January 2011 to December 2016. Only those who have non-missing records for all the interview months enter the sample.Sample restricted to non-institutionalized, civilian adults between ages 26 and 64, who are employed and do not have children under age 19. 9 early adopting states are excluded from the sample. Job separation is defined as whether the respondent left his/her job during the 8 interview months. The monthly unemployment rate data are seasonally-adjusted, and obtained from the Bureau of Labor Statistics. The state quarterly income per capita growth rate are seasonally-adjusted, in current dollars, and obtained from the Bureau of Economic Analysis.

Table 14: Basic Difference-in-difference Effects

a. 4-month Sample			
	Non-expansion States	Expansion States	Difference
Pre-expansion	4.499%	4.142%	-0.357%
Post-expansion	4.620%	4.623%	0.003%
Difference	0.121%	0.481%	0.36%
b. 8-month Sample			
	Non-expansion States	Expansion States	Difference
Pre-expansion	7.580%	6.941%	-0.639%
Post-expansion	7.815%	7.916%	0.101%
Difference	0.235%	0.975%	0.740%

Notes: Data are from the basic monthly CPS from January 2011 to December 2016. Job separation in the 4-month sample is defined as whether the respondent left his/her job during the first 4 months of interviews, while job separation in the 8-month sample is defined as whether the respondent left his/her job during the 8 interview months.

Table 15: Difference-in-Difference Estimates of Medicaid Expansion on Childless Adults' Job Mobility

	4-month Sample			8-month Sample		
	(1)	(2)	(3)	(4)	(5)	(6)
Post×Expansion	0.0031**	0.0033**	0.0032**	0.0083***	0.0085***	0.0073***
	(0.001)	(0.001)	(0.001)	(0.003)	(0.003)	(0.003)
Married		-0.0053***	-0.0053***		-0.0071***	-0.0071***
		(0.001)	(0.001)		(0.002)	(0.002)
Men		-0.0004	-0.0004		0.0007	0.0007
		(0.001)	(0.001)		(0.002)	(0.002)
High School		-0.0051***	-0.0051***		-0.0032	-0.0032
		(0.002)	(0.002)		(0.003)	(0.003)
Some College or more		-0.0028	-0.0028		0.0034	0.0035
		(0.002)	(0.002)		(0.003)	(0.003)
Black		0.0003	0.0003		-0.0020	-0.0020
		(0.002)	(0.002)		(0.004)	(0.004)
Asian		-0.0025	-0.0025		-0.0056	-0.0056
		(0.002)	(0.002)		(0.004)	(0.004)
Other Race		0.0032	0.0032		0.0009	0.0007
		(0.002)	(0.002)		(0.005)	(0.005)
Means	0.0447	0.0447	0.0447	0.0752	0.0752	0.0752
N	318,599	318,599	318,599	100,840	100,840	100,840
State FE	✓	✓	✓	✓	✓	✓
Month FE	✓	✓	✓	✓	✓	✓
Controls		✓	✓		✓	✓
State Time-Varying Controls			✓			✓

Notes: Marginal effects are reported in the table. Columns (1), (2), and (3) control for state and month fixed effects. Columns (2) and (3) add controls for sex, race, education, age, marital status, union status, occupation and industry. Columns (3) also controls for time-varying state characteristics including state monthly unemployment rate and state monthly personal income percentage change. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Table 16: Effects of Medicaid Expansion on Childless Adults' Job Mobility by Sex and Age

	Men	Women	Less than 50	50 or older
	(1)	(2)	(3)	(4)
a. 4-month Sample				
Post×Expansion	0.0032	0.0031	0.0024	0.0037**
	(0.002)	(0.002)	(0.003)	(0.002)
Means	0.0451	0.0443	0.0516	0.0401
N	164,724	153,875	132,131	186,468
b. 8-month Sample				
Post×Expansion	0.0100**	0.0043	0.0036	0.0094**
	(0.004)	(0.005)	(0.005)	(0.004)
Means	0.0760	0.0743	0.0846	0.0696
N	51,428	49,412	36,949	63,891

Notes: Marginal effects are reported in the table. Only the DD estimators are shown. Columns (1) and (2) stratify the sample by sex; columns (3) and (4) stratify the sample by age. Regressions control for demographics, job characteristics, state time-varying characteristics, state fixed effects, and month fixed effects. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Table 17: Effects of Medicaid Expansion on Childless Adults' Job Mobility by Education

	High School Dropout (1)	High School (2)	Some College or More (3)
a. 4-month Sample			
Post×Expansion	0.0030	0.0045*	0.0025
	(0.008)	(0.003)	(0.002)
Means	0.0485	0.0417	0.0458
N	15,509	93,818	209,272
b. 8-month Sample			
Post×Expansion	0.0336*	0.0078	0.0054
	(0.017)	(0.006)	(0.004)
Means	0.0759	0.0690	0.0778
N	5,043	30,357	65,403

Notes: Marginal effects are reported in the table. Only the DD estimators are shown. Columns (1), (2), and (3) stratify the sample by education attainment. Regressions control for demographics, job characteristics, state time-varying characteristics, state fixed effects, and month fixed effects. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Table 18: Effects of Medicaid Expansion on Childless Adults' Job Mobility by Race

	White	Black	Asian	Other Race
	(1)	(2)	(3)	(4)
a. 4-month Sample				
Post×Expansion	0.0038**	-0.0058	0.0074	0.0037
	(0.002)	(0.005)	(0.014)	(0.009)
Means	0.0446	0.0457	0.0420	0.0484
N	275,086	27,321	8,775	7,139
b. 8-month Sample				
Post×Expansion	0.0083**	-0.0028	0.0603	-0.0069
	(0.004)	(0.011)	(0.038)	(0.026)
Means	0.0753	0.0751	0.0692	0.0780
N	87,868	8,108	2,603	1,951

Notes: Marginal effects are reported in the table. Only the DD estimators are shown. Columns (1), (2), (3), and (4) stratify the sample by race. Regressions control for demographics, job characteristics, state time-varying characteristics, state fixed effects, and month fixed effects. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Table 19: Time Trend estimates of Effects of the ACA Medicaid Expansion on Childless adults' job mobility

	4-month Sample	8-month Sample
	(1)	(2)
Expansion×Year 2016	0.0027*	0.0073**
	(0.002)	(0.003)
Expansion×Year 2015	0.0017	0.0086***
	(0.002)	(0.003)
Expansion×Year 2014	0.0013	0.0026
	(0.002)	(0.003)
Expansion×Year 2012	-0.0012	-0.0001
	(0.002)	(0.004)
Expansion×Year 2011	-0.0008	
	(0.002)	
N	318,599	100,840

Notes: Marginal effects are reported in the table. Estimates report the coefficients on the interaction term between year indicators and expansion indicators. Regressions control for demographics, job characteristics, state time-varying characteristics, state fixed effects, and month fixed effects. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Table 20: Robustness and Falsification Tests Restuls

	4-month Sample (1)	8-month Sample (2)
a. Baseline Results		
Post×Expansion	0.0032**	0.0073***
	(0.001)	(0.003)
Means	0.0447	0.0752
N	318,599	100,840
b. Parents' Job Mobility		
Post×Expansion	0.0006	-0.0049
	(0.002)	(0.006)
Means	0.0448	0.0788
N	206,932	63,510
c. Drop Late Adopting States		
Post×Expansion	0.0034**	0.0071**
	(0.002)	(0.003)
Means	0.0449	0.0757
N	266,424	83,991

Notes: Marginal effects are reported in the table. Only the DD estimators are shown. Panel a reports estimates from Table 15. Panel b reports estimates using parents as the sample. Parents are non-institutionalized, civilian adults between ages 26 and 64, who are employed and have children under age 19. Panel c reports estimates dropping 7 late adopting states. Regressions control for demographics, job characteristics, state time-varying characteristics, state fixed effects, and month fixed effects. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Table 21: Effects of the ACA Medicaid Expansion on Job Transitions

	4-month Sample	8-month Sample
	(1)	(2)
a. Transition-to-Full-Time-Job		
Post×Expansion	0.0031**	0.0049*
	(0.001)	(0.003)
Means	0.0387	0.0608
b. Transition-to-Part-Time-Job		
Post×Expansion	0.0000	0.0032**
	(0.000)	(0.001)
Means	0.0112	0.0160
c. Transition-to-Unemployment		
Post×Expansion	-0.0000	-0.0006
	(0.000)	(0.007)
Means	0.0011	0.0025
d. Transition-to-Leave LF		
Post×Expansion	0.0000	-0.0002
	(0.000)	(0.001)
Means	0.0012	0.0040
N	318,599	100,840

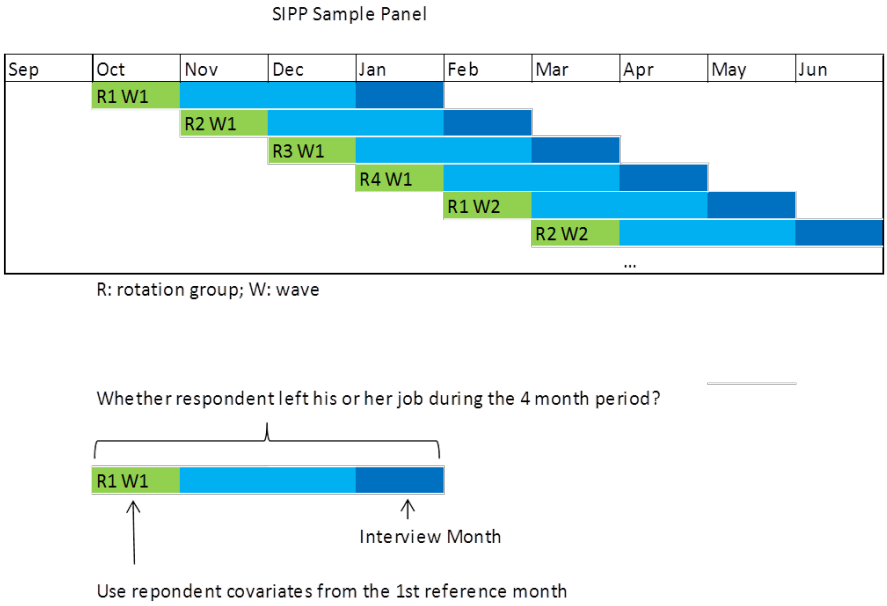
Notes: Marginal effects are reported in the table. Estimates are from a multinomial logit regression that controls for demographics, job characteristics, state time-varying characteristics, state fixed effects, and month fixed effects. Standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.1

Appendix

Appendix 1

Using Survey of Income and Program Participation (SIPP)

SIPP is conducted in waves and rotation groups. Each panel is divided into waves, a four month long periods. Respondents are divided into four rotation groups. Each group is interviewed one by one on a rotation basis over each wave. The survey data covers reference periods which is a four month period preceding the time of the interview for each rotation group in a given wave. A graphical depiction of the wave and rotation basis for a SIPP sample panel is presented below. R stands for rotation groups and W stands for wave. The dark blue month is the interview month. In the first wave, rotation group 1 is interviewed in January, rotation group 2 is interviewed in February, rotation group 3 is interviewed in March, and rotation group 4 is interviewed in April. The interviewers collect their information not only on the interview month, but also on the previous three months preceding the interview month, which is the light blue and green months in the graph below. The rotation begins in May for the Wave 2. To avoid measurement errors associated with respondents' recollection and "sim bias", I turn the monthly data into wave level data. I only keep the respondents' individual characteristics and job characteristics in the beginning month of each wave. My main job mobility



dependent variable is whether the respondents separate from their job during each wave.

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