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ABSTRACT

Beyond Job Lock: Impacts of Public Health Insurance on Occupational and Industrial Mobility[1]

We examine whether greater Medicaid generosity encourages mobility towards riskier but better jobs in higher paid occupations and industries. We use Current Population Survey Data and exploit variation in Medicaid thresholds across states and over time through the 1990s and 2000s. We find that moving from a state in the 10th to the 90th percentile in terms of Medicaid income thresholds increases occupational and industrial mobility by 7.6% and 7.8%. We also find that higher income Medicaid thresholds increase mobility towards occupations and industries with greater wage spreads and higher separation probabilities, but with higher wages and higher educational requirements.

JEL Classification: I13, J6

Keywords: Medicaid, job lock, public health insurance occupational mobility, industrial mobility, occupational mismatch

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1. Introduction

Most countries provide some form of government health insurance, with many countries providing nationalized health insurance that covers the entire population. There are moral as well as economic arguments for the provision of public health insurance. On the economic side, adverse selection in insurance markets is an important reason why the provision of health insurance is thought to improve efficiency. Moreover, in the past few decades, new evidence has shown that employer-provided health insurance, which has been the predominant form of accessing health care in the U.S., may reduce labor mobility and generate both 'job lock' and 'employment lock', i.e., the phenomena of not changing jobs and staying employed simply to be able to retain health benefits. The introduction of the Affordable Care Act (ACA) in the U.S. has expanded health insurance to about 18 million individuals, who were not previously covered. Relying on previous work, one may expect increased job separations and decreased labor force participation following the ACA.

In this paper, we examine another effect of public health insurance on labor mobility beyond the 'job lock' and 'employment lock' phenomena. We focus on the insurance role of public health benefits in allowing individuals to undertake risky decisions they would otherwise not make. In particular, we focus on individuals' decisions to move to riskier but higher paid occupations and industries. Changing occupations and industries are investment decisions that are inherently

risky, since a worker moving to a new occupation/industry will generally have to invest in new skills and the returns to these skills will be uncertain. Indeed, a recent study by Hoynes and Luttmer (2011) found that individuals derive both redistributive and insurance value from public insurance programs, including Medicaid and SCHIP, and that the insurance value has increased over time. In this paper, we focus on the insurance value of Medicaid/SCHIP and test whether greater generosity in Medicaid/SCHIP encourages individuals to change occupations and industries. Moreover, we examine if individuals move to riskier occupations and industries and if these occupations and industries are higher paying and have higher educational requirements.

For our analysis, we use the Current Populations Survey's (CPS) Merged Outgoing Rotation Group (MORG) files and exploit variation in Medicaid/SCHIP across states and over time through the 1990s and 2000s to study the impact of Medicaid/SCHIP on occupational and industrial mobility. We measure the generosity of public health insurance provided through Medicaid/SCHIP[2] using income and age thresholds prescribed by state legislation to determine whether children qualify for the program in each state at each point in time. Occupational and industrial mobility are measured as year-to-year changes in 3-level digit occupations and industries. Mobility towards riskier occupations and industries are

[2] We will not differentiate between the two programs but rather refer to both programs as simply Medicaid.

measured as yearly transitions to a 3-level digit occupation/industry that has higher variance of wages or higher separation rates over the entire period of analysis. In addition, we measure whether workers transition towards occupations with higher median earnings and requiring the same or higher educational credentials compared to their previous jobs.

The identification strategy we use is essentially a difference-in-difference strategy comparing occupational and industrial mobility in states with minimal Medicaid benefits and states with more generous Medicaid benefits before and after the changes. The key identifying assumption is, thus, that before the policy change labor mobility levels or trends for those in less and more generous states were similar. We control for state- and time-effects, as well as region-specific trends to address this. A potential concern with our identification strategy is that there may be other policies introduced at the same time as the increased Medicaid generosity, which may be driving the increase in labor mobility. Therefore, we control for other policies that may have changed across states over this time period. In particular, we include the progressivity of the tax system as the differential in tax liabilities faced by individuals in the 75^{th} and 25^{th} percentiles; the median tax liabilities, and the generosity of TANF as controls. Another possible concern is that changes in Medicaid generosity may have themselves been the result of poor economic conditions or changes in the composition of populations that require health benefits. To address this concern, we regress the Medicaid income and age thresholds on the

state unemployment rate, gross state product and characteristics of the state population in the state. We do not find any evidence that these factors explain income or age thresholds, thus allaying concerns of the potential endogeneity of such policies.

Our results show that increased access to health insurance for the poor increases occupational and industrial mobility. The results show that moving from a state in the 10th percentile to a state in the 90th percentile in terms of the generosity of the Medicaid income threshold increases the probability of moving to another occupation by 0.036 or by 7.6%. The results also show that moving from a state in the 10th to the 90th percentile in its Medicaid income threshold generosity increases the probability of moving to another industry by 0.037 or by 7.8%. Moreover, we find that the effects on occupational and industrial mobility are greater for women. For example, moving from a state in the 10th to the 90th percentile in terms of Medicaid income threshold generosity increases the probability that women change industries by 10.2%. In addition, we do a falsification test by examining the impacts of Medicaid for those close and far away from the thresholds, since those far away from the thresholds should not be affected. We find that the impacts of increased Medicaid income threshold generosity on occupational and industrial mobility are positive, large and significant for those in the lowest quintile of the income distribution and, as one would expect, they are all insignificant (and mostly negative) for those in the higher quintiles of the income distribution.

The premise is that Medicaid generosity increases occupational and industrial mobility because public health insurance allows workers to make risky decisions that have a higher payoff. Thus, we estimate the likelihood that workers will move to occupations and industries with a higher variance of wages and with higher average separation rates. We find that moving from a state in the 10^{th} to the 90^{th} percentile in terms of generosity of Medicaid income thresholds increases the likelihood of moving to occupations and industries with a greater wage spread by 14.3% and 10.6%, respectively. We also find that increasing the generosity of Medicaid increases the likelihood that workers move towards sectors with higher average separation rates. Moreover, we find that these workers are not transitioning towards worse jobs, but rather towards occupations and industries with higher median wages. Furthermore, increased Medicaid generosity in terms of both income and age thresholds increases the likelihood that workers move towards jobs with the same or higher educational requirements than those in their previous jobs. Thus, increased Medicaid generosity encourages workers to move up the job ladder.

Finally, we exploit a reverse natural experiment that occurred in Tennessee, where Medicaid generosity declined substantially, to examine if occupational and industrial mobility fell in this state. We find that after the fall in Medicaid generosity in Tennessee in 2000, occupational and industrial transitions fell and that workers moved towards occupations and industries with smaller wage spreads and lower likelihood of separations. Moreover, the fall in Medicaid generosity

increased worker transitions towards lower paid occupations and industries and towards jobs with lower educational requirements. Thus, this reverse experiment shows that lower generosity not only decreased occupational and industrial mobility, but also increased mobility towards less risky and less desirable jobs.

The rest of the paper is organized as follows. In Section 2, we provide a review of the literature and highlight the contribution of our paper. In Section 3, we describe the MORG data and the construction of the various variables used in our analysis. In Section 4, we describe our identification strategy. In Section 5, we present the results of Medicaid generosity on occupational and industrial mobility. Section 6 concludes.

2. Literature Review and Medicaid Changes after the 1990s

a. Literature on Relation between Public Health Insurance and Mobility

The effect of health insurance on labor mobility has been an active area of research for the last two decades. Health insurance can affect labor market outcomes directly through its effect on health of the individual or it can affect labor market outcomes indirectly by altering the payoff structures, modifying labor supply patterns and affecting labor market churn. The indirect effects of health insurance provision on labor market outcomes are mostly relevant in the case of the United States labor market, where health insurance has been provided mostly by

employers until the passage of the Affordable Care Act. Currie and Madrian (1999) provide an excellent review of the institutional details of the U.S. health insurance system and how it interacts with the labor market decisions of individuals.

The literature that has focused on the effects of health insurance on labor mobility, and that is most relevant to our paper, falls under two strands. One strand of the literature has focused on the effects of public health insurance on labor supply. Lack of health insurance from sources other than the employer may force individuals to stay employed just to receive employer-provided health insurance. Moreover, Medicaid may discourage labor force participation since receipt depends on income thresholds. The earlier empirical literature, using variation in qualifying conditions for Medicaid and Medicare, has generally found that the availability of alternative sources of health insurance depresses labor supply (see Yelowitz (1995), Currie and Madrian (1999) and Gruber (2000) for reviews of this literature). Two recent papers relying on policy changes in Tennessee and Oregon examine whether there is 'employment lock', the phenomenon of staying employed instead of non-employed just to be able to keep health insurance. Garthwaite et al. (2014) find evidence that labor supply and consequently employment of workers increased following a large public health disenrollment that occurred in Tennessee in 2005 compared to other Southern states. By contrast, Baicker et al. (2013) find that access to Medicaid has no impact on employment or earnings analyzing data from

the Oregon health insurance randomized experiment, perhaps because the experiment took place in 2008 in the midst of the Great Recession.

The second branch of the literature focusing on the relation between health insurance on labor mobility has focused on the aforementioned 'job lock' hypothesis. There has been a divide in the literature about the existence and the magnitude of the 'job lock' hypothesis, i.e., the phenomenon of not separating from a job, even if the job is a bad match, simply to keep health benefits. The literature on 'job lock' has relied on three identification strategies. First, a number of papers exploit variation on whether the worker has health insurance through a source other than his/her employer. Second, a number of other papers use worker's valuation of health benefits as a source of variation. Finally, only three papers use policy variation to examine the existence of 'job lock'.

The majority of papers relying on access to alternative sources of health insurance compare male workers who have access to health insurance through their spouse. Several studies, including Madrian (1994), Cooper and Monheit (1993), Buchmueller and Valletta (1996), Gruber and Madrian (1994) and Anderson (1997) have found that employer-provided health insurance depresses job turnover. The results of the impact of health insurance from a spouse on reduced job separations range between 25%-50%. Holtz-Eakin (1994) is the only paper using this strategy,

which finds no evidence of 'job lock', perhaps because of the use of PSID data (known to generate measurement error in job changes).

The papers relying on the differential valuation of benefits by individuals also provide evidence on 'job lock'. Madrian (1994) shows evidence of 'job lock' for married men with employer provided-health insurance who had a pregnant wife. Stroupe et al. (2001) instead finds evidence of 'job lock' for those with chronic health conditions, or family members with chronic health conditions, who relied on employer-provided health insurance. By contrast, Kapur (1998) finds no evidence using a similar strategy. A problem with this and the previous approach is that those with pregnant spouses, chronic health conditions, and insured spouses are likely to be different from the comparison groups used in these studies.

There are only three papers in the 'job lock' literature that rely on policy changes as a source of exogenous variation in health insurance access during periods of non-employment. Gruber and Madrian (1994) analyzed an exogenous change in law across states that allowed unemployed workers to have health insurance coverage from their past employer until they found a new job through the Consolidated Omnibus Reconciliation Act of 1985 (COBRA). They find that job separations increased by 12-15%, non-employment spells increased by 15% and reemployment earnings doubled one year after the introduction of COBRA. Bansak and Raphael (2008) instead rely on the expansion of State Children's Health

Insurance Programs over the 1990s and find that separations increased by 5-6% after the introduction of these state programs for fathers whose children qualified for SCHIP and whose spouses did not have employer-provided health insurance. A paper by Hamersma and Kim (2009) finds evidence that parental Medicaid expansions led to increases in job mobility of unmarried women, but not for married women or men.

Our analysis is closest to the studies just described and to recent studies examining the impact of public health insurance on labor supply.

b. Medicaid/SCHIP Threshold Changes in the 1990s and 2000s

In our analysis, we rely on the increased generosity of Medicaid over the 1990s and 2000s. Medicaid was introduced in the U.S. following the Social Security Amendment of 1965 to provide health insurance to low-income individuals. From 1965 to 1985, only cash aid recipients of Aid to Families with Dependent Children (AFDC) were eligible for Medicaid. Starting in 1985, many states expanded eligibility of Medicaid to children and pregnant mothers with income thresholds above the AFDC income eligibility limits and with children below a certain age limit. We use the state income and age thresholds for children to capture the generosity of states in terms of public health insurance. The higher the state income and age limits, the more individuals and families are likely to benefit from Medicaid in a state.

During the late 1990s and the 2000s, many states chose to increase the income threshold, which determine the level of income as a percentage of the poverty line at which children within households qualify for Medicaid. Similarly, during this period several states chose to increase the age threshold, the maximum age that allows children in households under the income threshold to qualify for Medicaid. Figures 1 and 2 show the evolution of the Medicaid income and age thresholds over time for the lowest 10th percentile of states in terms of generosity as well as for the 50th and 90th percentiles.[3] Figure 1 shows that there is substantial variation in Medicaid income thresholds. Back in 1997, the income threshold relative to the poverty line was 133% for the lowest 10th percentile of states, but 185% for states in the median and 200% for states in the 90th percentile. Moreover, the generosity of Medicaid has increased substantially, particularly in the top 90th percentile of states. The generosity has increased from 200% in 1997 to 235% in 2005 and to 300% in 2011. By contrast, states in the lowest 10th percent have remained with an income threshold of 133% in the past decade and a half. States in the bottom in terms of their generosity have remained fairly constant – Alabama, Alaska, Colorado, Idaho, Montana, Nevada, North Dakota, Utah, Virginia and Wyoming were all in this group in 1997 and remain in this group in 2011. However,

[3] The data on income and age Medicaid thresholds through 2007 was kindly provided by Hilary Hoynes. We then updated the income and age Medicaid thresholds at the state level until 2012, by obtaining data from http://ccf.georgetown.edu/.

some states have moved out of this group including Illinois, Louisiana, Ohio and South Dakota. Moreover, the states in the top group have changed substantially, with only Hawaii and Vermont remaining in the top 90th percentile in terms of Medicaid income thresholds. Arkansas, California, Minnesota, Rhode Island, Tennessee and Washington all moved out of this group and the District of Columbia, Iowa, Maryland, New Hampshire and Wisconsin moved into the group of most generous states. At the bottom, age thresholds were zero for the least generous states and 18 for the most generous and there have been some increases from 5 to 6 years at the median (see Figure 2). Our identification strategy is, thus, essentially a difference-in-difference strategy, which compares the changes in outcomes before and after the changes in income and age thresholds among less and more generous states.

The novelty of our paper is not only to exploit policy changes to examine the impact of public health benefits, but to go beyond the effects of public health insurance on job separations and to examine the incentives it generates in terms of increased risk taking.[4] In this paper, we analyze the impacts of public health

[4] In a working paper by Kugler (2013), one of the authors reports earlier results showing impacts of various transfer programs on labor mobility. The current paper focuses on Medicaid, conducts additional robustness checks and examines many other outcomes not examined in the earlier working paper.

insurance in encouraging mobility towards occupations and industries which are not only riskier but also higher paying and have higher educational requirements.

3. Data Description

We use the Merged Outgoing Rotation Group (MORG) files of the Current Population Survey and merge these with the March CPS files to conduct this analysis. Households in the CPS are interviewed for four months, then let go for eight months, and are then interviewed again for another four months. Every month about one eighth of the households enter the sample and about one eighth leave the sample. The fourth and eighth interviews include information on wage income and hours worked and are called the outgoing rotations. The MORG files allow one to match households and individuals from one year to the next by matching the information from the 4^{th} interview and the 8^{th} interview. We merged the 4^{th} to the 8^{th} interview in the months of March that had unique household and individual identifiers. Then, we checked that individuals had the same gender and race. If they did not, we discarded them. We also checked that the absolute difference in age from one year to the next was either one or two and deleted those who had differences in age that were greater or smaller than two.[5] Finally, we merged these panels with the March supplements.

[5] We lose around 3% to 4% in each pair of years from mismatches in age, gender, and race.

In the MORG sample, we have access to extensive demographic and labor market information, including information on the industry and the occupation of the worker. We are, thus, able to control for education, age, the number of children, gender, race, ethnicity and country of birth in all our regressions.

We use the March CPS supplement because it asks a series of questions on different income sources. This allows us to construct the tax liabilities and TANF benefits variables, which are important control variables since state taxes and TANF benefits changed during this time period. We construct state income tax liabilities using the TAXSIM software from the National Bureau of Economic Research (NBER) at the 75^{th} and 25^{th} percentiles of the national income distribution to construct a measure of tax progressivity, and at the 50^{th} percentile of the national income distribution to construct the median income. The benefits under TANF are constructed using information on maximum benefits, benefit-reduction rates and flat earnings disregards which vary over time and across states,[6] as well as using earned and unearned income for the 25^{th} percentile of the national income distribution by year from the March CPS.[7]

[6] We are grateful to Hilary Hoynes for providing the information on maximum benefits, reduction rates and earnings disregards through 2007. We obtained the information on maximum benefits, benefit reduction rate and earnings disregards for 2008-2012 from the Welfare Rules Database (http://anfdata.urban.org/wrd/WRDWelcome.cfm) to allow us to update the TANF variable until 2012.

[7] See Appendix for a detailed description of the construction of these variables.

Our dependent variables include indicators of whether a person changed 3-digit occupations and 3-digit industries from one year to the next. Since occupation and industry codes have changed over time, we use crosswalks to make sure that occupation and industry codes are consistent over time.[8] Then, we construct transition probabilities of whether the person moved to a riskier occupation/industry from one year to the next. We measure riskiness of occupations and industries in two ways. First, we measure the variance of wages in each 3-digit occupation and industry over the entire period of our analysis. Then, we define a variable measuring transitions towards riskier occupation/industry, which takes the value of one if the current occupation/industry has a greater variance of wages than the previous occupation/industry and zero otherwise. Hence, whenever there is no change in occupation/industry, this variable also takes the value of zero. We also measure riskiness in an occupation/industry by looking at separation rates within occupations/industries. The second variable measuring transition to a riskier occupation/industry takes the value of 1 if a person moved towards a 3-digit occupation/industry with a higher average separation rate than the one in which they were working at before. This variable can only take a value of 1 if there is an industry or occupation switch by the worker.

[8] We use the crosswalks developed by Autor and Dorn (2013) for occupations and we use the IPUMS crosswalk for industries.

Our final set of dependent variables measure whether workers make transitions towards better jobs. We measure the quality of jobs in two ways. First, we measure transitions towards 3-digit occupations/industries with higher median wages than the previous job. Median wages are calculated for each 3-digit occupation/industry over the entire period of analysis**.** Second, we measure whether workers move towards occupations in which the educational requirement is the same or higher than the educational requirement in their previous occupation. This is a measure of whether the workers moved towards a job that is better or higher up in the job ladder. We construct this measure by using data from the U.S. Labor Department's O*NET database, which identifies the educational requirements for jobs in different occupations. The O*NET program collects data on entry requirements, work styles and task content within occupations by surveying each occupation's working population. For educational requirements, we rely on the following question asked of current employees: "If someone was being hired to perform this job, indicate the level of education that would be required." The survey respondents are reminded that this does not refer to the level of education that an incumbent or current employee has achieved. Respondents are given the following options: less than high school, high school, some college, associate's degree, bachelor's degree, and graduate degree. To assign a required level of education to each occupation, we use the distribution of responses of the incumbents and use the mode of the responses as the required level of education for each occupation. This

way of measuring education requirements is consistent with the approaches taken in the over-education literature.[9]

Table 1 provides descriptive statistics of the variables used in our analysis for the period from 1996 to 2012. In the sample, almost half of the individuals are women, 80% are married, have on average almost one child, are on average 43.5 years old and have on average 13.5 years of education, 84.4% of the individuals are white, 9.8% African American and 8.7% Hispanic. Only 13.1% are union members and 14.9% are foreign-born. A substantial fraction of those who change jobs experience occupational and industry changes from year to year – 47.6% experience occupational changes and 33.4% industry changes. These numbers are in line with previous numbers documented in the literature measuring occupational and industrial mobility using CPS data.[10] Moreover, the likelihood of moving towards an occupation with greater variance of wages and higher average separation rates are 21.7% and 23%, while the likelihood of moving towards a riskier industry as measured in terms of a greater variance of wages and higher separation rates are 16% and 16.3%. Finally, the likelihood of transitioning to a

[9] See Leuven and Oosterbeek (2011) for a review of this literature.

[10] See Kambourov and Manovskii (2011). Note that they caution against using March CPS to measure annual mobility without matching individuals present in two consecutive years. When they match individuals present in two consecutive years and measure occupational and industrial mobility, their number is close to ours.

higher paying occupation and industry are 21.5% and 16%. The likelihood of moving to a better-matched occupation is 33.1%.

The Medicaid income threshold, as described in the previous section, is the maximum income relative to the poverty line that allows children within a household to qualify for Medicaid. The average income threshold is 191% of the Federal Poverty Line (FPL) over the entire period. The Medicaid age threshold is the maximum age of the children who can qualify for Medicaid given that they live in households with income below the aforementioned Medicaid income threshold. The average age threshold is 4.7 years over the entire period of analysis. The thresholds are statutory and, thus, determined by law. They are the source of variation that we use to determine public health insurance generosity in our analysis. Thus, we might expect the occupation and industry change outcomes to differ between more and less generous states if Medicaid, indeed, changes the behavior of workers in terms of their willingness to move occupations or industry. Occupational and industry changes are higher in states with Medicaid income thresholds above the mean, although only industry changes are significantly different between those above and below the mean. Moreover, movement towards riskier industries in terms of the variance of wages and separations is significantly greater in states where the Medicaid income threshold is above the mean. Finally, the transitions toward higher paying industries are significantly greater in states that are above average in terms of Medicaid generosity. By contrast, average transitions

towards riskier occupations and better matches are about the same in states with above average and below average Medicaid thresholds when not controlling for anything else.

However, Table 1 also shows that worker characteristics in more and less generous states also vary. More generous Medicaid states have older workers, more dependent children, more foreign-born workers, higher unionization rates and more Hispanics and less whites and African-American workers. Thus, these differences highlight the importance of controlling for different worker characteristics in the analysis. Table 1 also shows that the difference in mean taxes at the 75^{th} and 25^{th} percentile of the distribution over the period of analysis is 49.6% and the average median tax is 11%. While the tax progressivity is higher in states that are more generous in their provision of Medicaid benefits, the median tax rate is actually lower in these states. TANF income threshold was 239.6% of the FPL in states that also offered more generous Medicaid and 106.2% of the FPL in states that offered less generous Medicaid. Differences in tax structure and transfer programs, thus, highlight the need to control for these policy variables in our analysis.

4. Identification Strategy

Our approach to establish a causal relation between labor mobility and public health insurance relies on statutory Medicaid program qualification rules, as opposed to the actual benefits received by an individual. As shown above, there

were a number of states that remained constant at the low threshold of 133% of the FPL and the minimum child age, thus keeping the 1987 rules. However, many other states did increase their generosity by raising the income threshold beyond the AFDC threshold at the time, and by allowing older children to also qualify for Medicaid. Thus, we compare those states that became more generous to those that did not in terms of qualification for Medicaid. This is essentially a difference-in-difference approach with several before and after periods and several treatments.

We estimate the following regression of occupation/industry mobility on the Medicaid income and age thresholds, other policy changes, individual characteristics, state and time fixed effects, and region-specific trends:

$$Y_{isrt} = + \varphi \times \text{Medicaid Income Threshold}_{st} + \psi \times \text{Medicaid Age Threshold}_{st} + \delta \times \text{Tax Progressivity}_{st} + + \pi \times \text{Median Tax}_{st} + \rho \times \text{TANF Benefits}_{st} + \beta X_{isrt} + \kappa_s + \tau_t + \Omega_{rt} + \varepsilon_{isrt}$$

where the Medicaid Income Threshold$_{st}$ is maximum income relative to the poverty line that allows children within a household to qualify for health insurance through Medicaid in state s at time t; Medicaid Age Threshold$_{st}$ is the maximum age of a child who can qualify for Medicaid in state s at time t; the Tax Progressivity$_{st}$ is the difference in the average overall tax rate between the top and bottom quartile of the income distribution; Median Tax$_{st}$ is the average tax at the 50th percentile of the

income distribution; and TANF $Benefits_{st}$ are as described in the previous section. In addition, the X's include controls for age, education, number of children, gender, and indicators for foreign-born, union member, marital status, Hispanics, and African Americans. We control for state and time effects, κ_s and τ_t , to contrast states with more and less generous thresholds before and after the statutory changes. To allow for potential differential trends in states with more and less generous Medicaid, we include, Ω_{rt}, region-specific time trends that allow the time trend to vary in each of the large nine regions of the country as defined by the Census Bureau (New England, Mid-Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, and Pacific).

While we control for other potential confounders that may have changed at the same time as the Medicaid statutory changes, a potential problem is that the statutory changes may had responded to underlying economic conditions or conditions in the labor market. We check for this possibility by estimating regressions of the Medicaid income and age thresholds on the unemployment rate, real gross state product, the percentage of the labor force in goods producing industries, and the percentage of the population that is white, male, and married as well as the average education level in the state. Table 2 shows results of these regressions for the income and age thresholds, respectively. Columns (1)-(5) show that none of these variables are significant in predicting Medicaid income threshold. Columns (6)-(10) show no effects of the variables on the Medicaid age thresholds

either. The only exception is the average education level, which is marginally significant in Columns (5) and (10) for both the Medicaid income and age thresholds in the specification with lagged GDP. Thus, there is little evidence that economic, labor market and demographic factors are behind the adoption of more generous Medicaid policies.

5. Impacts of Taxes and Transfers on Occupational and Industrial Mobility

a. Occupational and Industrial Mobility

A key element of a healthy labor market is the ability for workers to move across occupations and industries over their working lives. As people find out what their talents are and observe how their experiences evolve in the labor market, they may realize that their skills and characteristics do not fit well in a particular occupation or industry but that their skills may be better suited for another occupation or industry. Thus, people may consider moving to a new occupation or utilize their talents in a different industry, yet they may be reluctant to do so because there is uncertainty about the quality of their match with a new occupation or industry. Employer-provided health insurance, however, stops many from changing jobs and may restrain many from leaving a job to retrain or to even move to another job with health insurance coverage but which may be risky because it is in a new area of expertise. Public health insurance may encourage individuals to undertake the risky investments necessary to change occupations or industries.

Table 3 shows that increased Medicaid generosity, indeed, induces individuals to change occupations more often than they would otherwise. Columns (1)-(3) show the results with basic demographic controls and adding state, time and region-specific trends, respectively. Columns (4) and (5) add policy controls including tax progressivity, the median tax and TANF benefits. The results become slightly smaller as more controls are added, but they are robust to all these controls and show a consistent picture. An increase in the Medicaid income threshold increases the likelihood that an individual changes occupations. By contrast, increasing Medicaid generosity by increasing the age threshold does not impact occupational change. The effect with the full set of demographic and policy controls in Column (5) shows that moving from a state with the lowest income threshold, 133% of the FPL, to a state in the 90^{th} percentile in terms of the income threshold, or moving from Alabama to Vermont (if they were the same in every other respect), increases the propensity to change occupations by 7.6%. This is almost equivalent to increasing the income threshold by 2 standard deviations, which increases occupational mobility by 6.9%. In the last column of Table 3, we interact the thresholds with an indicator for women, to check if the effects vary by gender, but find no difference between women and men in terms of the effects of Medicaid generosity on their occupational mobility.

Table 4 shows the effect of Medicaid generosity on industrial mobility. The results show that an increase in the Medicaid income threshold also increases

industrial mobility. The results are robust to the inclusion of demographic and policy controls. The result in column (5) with the full set of controls shows that moving from a state with the most basic Medicaid protection, as was present in all states in 1965**,** to a state with the 90th percentile in terms of Medicaid income thresholds, increases industrial mobility by 7.8%. Moreover, column (6) shows that the effect of Medicaid on industrial mobility is greater for women. For women, living in a state in the 10th instead of the 90th percentile in Medicaid income thresholds would increase their mobility by 0.05 or 10.2%. As for occupational mobility, however, increased generosity in terms of age thresholds has no impact on mobility.

Since the thresholds should be most important for those who are close to the threshold and likely to benefit, we examine differential effects of the income threshold for those at different quintiles of the income distribution. We begin by interacting the Medicaid income threshold variable with the quintiles of the income distribution. Then, we compare the marginal effect of the Medicaid income threshold at different quintiles relative to the highest quintile. This serves as a falsification test since we should not expect to find effects in the higher quintiles.[11]

[11] Note that those in the lowest quintile earn $20,703 or less in 1999 dollars and the poverty line for a married couple with one child in 1999 was $13,410. Thus, to qualify for Medicaid such family would have to earn less than $17,835.30 in the least generous states and $25,210.80 in the median state. This means that those at the lowest quintile are, indeed, more likely to be exposed to Medicaid over this time period.

Figure 3 shows the results of the impact of income thresholds on occupational mobility at various quintiles of the income distribution. It clearly shows a markedly higher impact for those at the lowest quintile than for those at higher quintiles. The marginal effect of the Medicaid income threshold on the probability to change occupations is about 1 percentage point higher for people in the lowest quintile compared to those in the highest quintile. By contrast, the effects for quintiles higher than the lowest quintile relative to the highest quintile are negative but close to zero and the relative effects at the second and fourth quintiles are not distinguishable from zero. Figure 4 shows similarly the impact of the Medicaid income threshold on industrial mobility by quintile. As before, the marginal effect of the Medicaid income threshold on the likelihood of moving industries is highest for the lowest quintile. Workers in the lowest quintile are 2.3 percentage points more likely to change industries due to more generous Medicaid income thresholds than those in the highest quintile. By contrast, the relative effects for those in the higher quintiles is close to zero. These results confirm that the effect of Medicaid generosity on industrial and occupational mobility is mostly driven by the changes in threshold levels and not by other things affecting all individuals with high and low income in generous states.

In the Appendix Tables, we also examine whether the effects were larger for women than men; for married or not married individuals, and for those with and without children. The results in Appendix Table 1 show that the effects on

occupational mobility are greater for women than men, when estimating a fully saturated model allowing other factors to affect women and men differently. Appendix Table 1 also shows bigger effects of the Medicaid income thresholds on occupational mobility of married than non-married workers, although the latter effects are not significant. Moreover, this table shows bigger effects of Medicaid on occupational mobility for those with children than for those without children. The results in Appendix Table 2 similarly show that the results on industrial mobility are bigger for women than men, but that the results are bigger for those who are not married and without children although these differences are not significant.

b. Moving to Riskier and Better Jobs?

If the insurance value of Medicaid is indeed driving individuals to undertake riskier decisions by moving them toward new occupations and industries, they should be moving towards riskier occupations and industries but also towards those that are more desirable.

Table 5 shows transition probabilities towards riskier occupations and industries. Columns (1) and (2) show results where the dependent variable takes the value of 1 if the person moved to an occupation with a higher variance of wages and if the person moved to an occupation with higher separation rates. The results show that both higher Medicaid and age thresholds increase the likelihood that a

person will move towards an occupation with a wider wage spread. The effects are such that moving from the lowest 10th to the highest 90th percentile in terms of income and age thresholds increases the likelihood of moving towards riskier occupations by 14.2% and 3.4% respectively.[12] By contrast, the thresholds have no impact on the likelihood of moving to occupations with higher separation rates. Columns (3) and (4) show the results for the likelihood of moving towards industries with higher variance of wages and higher separation rates. The results show that higher income thresholds increase transitions towards riskier industries defined both in terms of wages and separations. There is, however, a small negative impact of the age threshold on the likelihood of moving to industries with bigger wage spreads. These results are largely indicative of mobility towards riskier occupations and industries when Medicaid is more generous.

Since another possible interpretation is that people are just pushed towards low quality jobs, we also test if these are not just riskier jobs but actually better jobs. Columns (5)-(9) in Table 5 shows results of the impacts of Medicaid on the likelihood of transitioning towards more desirable jobs. Columns (5) and (6) in Table 5 show results for transitions towards occupations and industries that have higher median wages on average. The results show, indeed, that moving from the

[12] Some examples of such transitions in our data are janitors becoming truck drivers or carpenters or construction workers; cashiers becoming salespersons or housekeepers; and maids becoming health and nursing aides.

10^{th} to the 90^{th} percentile in terms of the Medicaid income threshold increases transitions towards higher median pay occupations and industries by 11.7% and 8.1%, respectively.[13] Another good measure of job quality is whether the job is a good fit in terms of someone's skills. Therefore, we look at transitions to occupations that have similar or higher educational requirements compared to the educational requirements in the previous job held by the worker. Columns (7)-(9) in Table 5 show the results for the likelihood of moving towards occupations in which the educational requirements of the job are above or equal to the education requirements at the previous job.[14] We find that increasing Medicaid generosity increases the likelihood that the worker moves to a job in which s/he is using the same or possibly higher level of skills compared to her/his previous job. Columns (8) and (9) show this effects separately for non-college and college graduates. The effects are slightly bigger for non-college graduates.

Overall, the evidence indicates that workers are moving towards riskier occupations, with higher wages and which are presumably better matches for them.

[13] Some examples of such transitions in our data are health and nursing aides becoming medical technicians or secretaries and receptionists; child care workers becoming teachers; waiters and waitresses becoming retail salespersons; or cashiers becoming salespersons.

[14] Note that workers can still be over- or under- qualified in their current and past jobs. We do not take a stand on whether over- or under- qualification is a bad/good outcome.

c. The Tennessee Experiment: A Sharp Reduction of Medicaid

While many states increased their Medicaid income thresholds during the late 1990s and 2000s, as discussed above some states actually reduced their Medicaid generosity. Tennessee was the state with the biggest changes in its Medicaid income threshold. The income threshold in Tennessee was at 400% of the FPL in the late 1990's but it fell to 200% of the FPL in 2000 and fell additionally to 185% of the FPL in 2002, staying at that level from then on.[15] Thus, contrary to many states in which the generosity of public health insurance increased during the past few decades, we should expect for occupational and industrial mobility to fall in Tennessee.

Table 6 shows difference-in-difference results of the Tennessee experiment, using data from 1997 onwards, where the specification includes a Tennessee indicator, a post-2000 indicator and an interaction of these two, as well as all the demographic and policy controls included in the previous analysis. In this experiment, we compare Tennessee only against the control states that did not change their Medicaid income thresholds during the entire period of analysis, which

[15] Note that this change in Medicaid is different from the one examined by Garthwaite et al. (2014) who examine the disenrollment of all adults from Medicaid in 2005. We also tested the effects of the adult disenrollment on our outcome variables and found similar results to our experiment above.

includes the following 10 states: Arizona, California, Kansas, Mississippi, North Dakota, Rhode Island, Texas, West Virginia and Wyoming.

The results in Table 6 are consistent with the reduction in occupational and industrial mobility after the much less generous Medicaid system in Tennessee after 2000. Columns (1) and (2) show a reduction in occupational and industrial mobility by 6.9% and 10.3%, respectively, in Tennessee after 2000. We also find that workers moved away from riskier occupations and industries in Tennessee after 2000. In particular, columns (3) and (4) show that workers were 8.6% and 3.9% less likely to move towards occupations with greater wage spreads and higher separation rates in Tennessee after 2000, although the latter effect is not significant. Columns (5) and (6) show that workers in Tennessee were 7.9% and 5.6% less likely to move towards industries with high wage spreads and high separation rates after 2000. Finally, columns (7)-(9) show that workers are also less likely to move towards better jobs. Workers are 3.8% and 5.1% less likely to move towards occupations and industries with higher median wages in Tennessee after 2000 (see columns (7) and (8)). Column (9) also shows that workers in Tennessee are 9.3% less likely to move towards jobs that have the same or higher educational requirements after 2000, an indication that workers are moving down the job ladder as Medicaid becomes less generous. Overall, this experiment shows that a sharp reduction in the generosity of Medicaid decreases occupational and industrial mobility and increases mobility towards safer and less desirable jobs.

6. Conclusion

In this paper, we go beyond the positive impacts of Medicaid in terms of reducing 'job lock' and 'employment lock', and examine the role of Medicaid in increasing occupational and industrial mobility. While occupational and industrial mobility helps to reduce mismatches and is crucial for the healthy working of the labor market, changing occupations and industries is risky and requires workers to undertake investments that workers are not always willing to make.

Here, we examined whether increased generosity of public health insurance in the form of Medicaid incentivizes individuals to undertake risk and change occupations and industries. The paper uses statutory changes in Medicaid income and age thresholds during the 1990s and 2000s to examine how the generosity of health insurance affects occupational and industrial mobility. We are careful to control for other policy changes that were happening during this time period and we check whether Medicaid income and age threshold changes were driven by demographic factors, or by economic or labor market conditions. We find that these factors cannot explain these statutory changes.

We find substantial effects of an increase in income thresholds on occupational and industrial mobility of 7.6% and 7.8%, respectively, when income thresholds are increased from the level in states at the 10^{th} to level in states at the 90^{th} percentile of Medicaid income threshold generosity. We also do a falsification

test by checking that those farther away from the threshold are not affected by Medicaid changes. We find big effects for workers in the lowest income quintile and, thus, close to the threshold, but no effects for those with much higher incomes relative to the threshold. We also find bigger effects for women and for those with children.

Importantly, the increases in Medicaid eligibility also increase movement towards jobs in occupations and industries that are riskier but also better. We find that increased Medicaid income thresholds increase mobility towards occupations and industries that are riskier in terms of having a higher variance of wages and higher separation rates. Moreover, when Medicaid generosity rises, workers not only move to riskier occupations and industries but towards better jobs. We find that an increase in the Medicaid income threshold increases movement towards occupations and industries with higher median wages. Also, while it has been argued that public health insurance can improve the quality of matches, there is little evidence of this except for Gruber and Madrian (1994) who found that access to COBRA increases subsequent wages. In this paper, we actually measure match quality by comparing the educational requirements in the occupation the person moves to and the educational requirements in the previous occupation. We find that an increase in Medicaid income thresholds increases the likelihood that a worker will move to an occupation that has educational requirements that coincide or exceed the educational requirements in the previous occupation. Thus, we find

evidence that increased generosity of Medicaid helps workers move up the occupation ladder.

Moreover, we examine a natural experiment due to a large reduction in Medicaid generosity in Tennessee, as the Medicaid income threshold fell from 400% to 200% of the FPL. We find that the reversal in generosity in Medicaid in Tennessee after 2000, not only decreased occupational and industrial mobility but it also decreased transitions towards riskier and better jobs. Thus, denying public health insurance benefits to more households in Tennessee reduced labor mobility and moved people towards safer jobs down the job ladder.

This analysis indicates that decreased uncertainty in the form of public health insurance should help encourage occupational and industrial mobility and greater flexibility in the labor market, but also allow workers to move towards riskier, better paid jobs and better matches.

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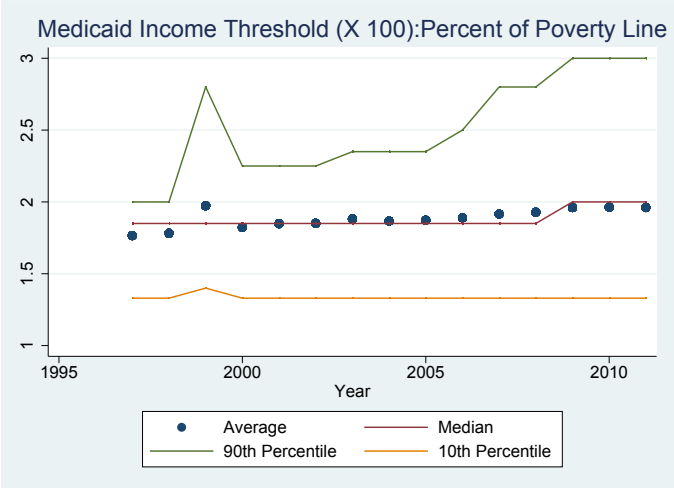

Figure 1: Income Thresholds

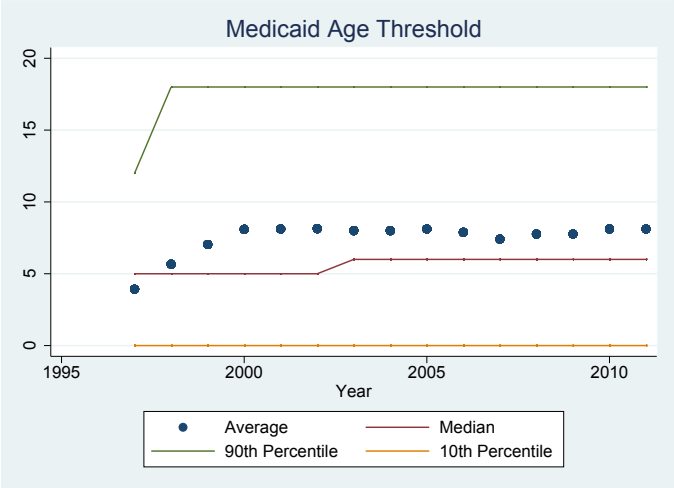

Figure 2: Age Thresholds

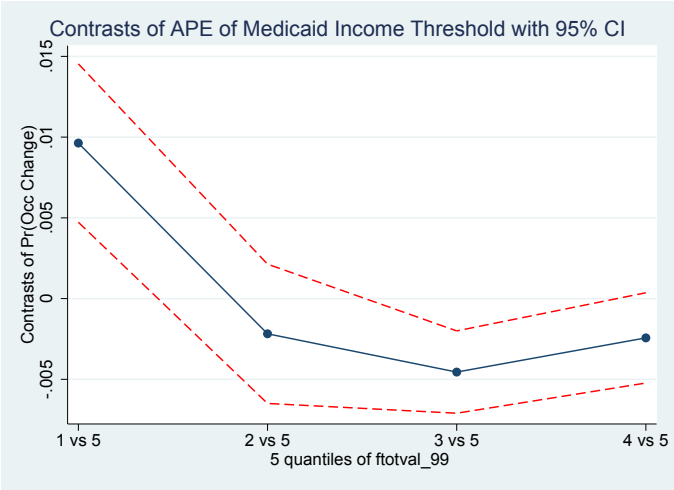

Figure 3: Occupation Transitions

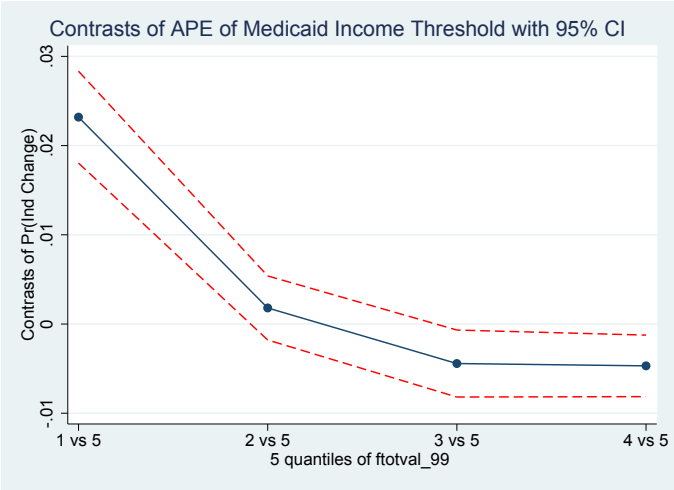

Figure 4: Industry Transitions

Table 1 - Descriptive statistics

	All Sample	Sample of Above Mean Medicaid Income Threshold	Sample of Below Mean Medicaid Income Threshold
Diff in avg taxes at 75th and 25th pct	0.496	0.509	0.484
	(0.0524)	(0.0586)	(0.0418)
Real TANF benefits	1.725	2.396	1.062
	(4.303)	(4.162)	(4.338)
Med inc threshold	1.910	2.129	1.693
	(0.360)	(0.338)	(0.225)
Age limit for medicaid threshold1	4.691	5.215	4.173
	(7.378)	(7.962)	(6.709)
Average Median Tax	0.110	0.105	0.115
	(0.0195)	(0.0167)	(0.0210)
Average Tax at the 25th Percentile	-0.260	-0.273	-0.248
	(0.0510)	(0.0563)	(0.0416)
Average Tax at the 75th Percentile	0.236	0.236	0.236
	(0.0247)	(0.0232)	(0.0262)
Occupation Change	0.476	0.477	0.475
	(0.499)	(0.499)	(0.499)
Transition to Risky Occ-Wage	0.217	0.219	0.215
	(0.412)	(0.414)	(0.411)
Transition to Risky Occ-Sep Rates	0.230	0.231	0.229
	(0.421)	(0.422)	(0.420)
Transition to Better Occ-Median Wage	0.215	0.218	0.213
	(0.411)	(0.413)	(0.409)
Industry Change	0.334	0.343	0.326
	(0.472)	(0.475)	(0.469)
Transition to Risky Ind-Wage	0.160	0.163	0.157
	(0.367)	(0.369)	(0.364)
Transition to Risky Ind-Sep Rates	0.163	0.167	0.158
	(0.369)	(0.373)	(0.365)
Transition to Better Ind- Median Wage	0.160	0.165	0.156
	(0.367)	(0.371)	(0.363)

Transition to Better Match-Education	0.331	0.330	0.333
	(0.471)	(0.470)	(0.471)
Highest Grade Completed	13.81	13.89	13.73
	(2.768)	(2.859)	(2.673)
Age	43.50	43.79	43.22
	(10.68)	(10.66)	(10.69)
Number of Children	0.810	0.884	0.737
	(1.088)	(1.111)	(1.060)
Male	0.524	0.524	0.524
	(0.499)	(0.499)	(0.499)
Foreign Born	0.149	0.197	0.102
	(0.356)	(0.398)	(0.303)
Married	0.795	0.797	0.793
	(0.404)	(0.402)	(0.405)
Union Members	0.131	0.146	0.115
	(0.337)	(0.353)	(0.320)
White	0.844	0.829	0.860
	(0.363)	(0.377)	(0.347)
Black	0.0978	0.0949	0.101
	(0.297)	(0.293)	(0.301)
Hispanic	0.0866	0.0980	0.0752
	(0.281)	(0.297)	(0.264)
Observations	65209	30508	34701

Notes: This table reports means and standard deviation in parentheses.
Medicaid income threshold is the most generous income threshold for receiving Medicaid benefits in each state (units: % of poverty line). Medicaid age threshold is the age at which the most generous income threshold expires for each state. TANF benefits are calculated for a family of 3 using the following formula. TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income. Average tax rates at different income percentiles are calculated using data from the March CPS ASEC supplement and using NBER's taxsim software.
We construct two measures of transitions to risky occupations, transitions to occupations with higher separation rates (Transition to Risky Occ-Wage) and transitions to occupations with higher wage variance (Transition to Risky Occ-Wage). We construct similar measures for transitions across industries. We construct two measures of quality of matches. The first is based on median wages paid in the occupation or industry and we construct at transitions to higher paying occupations and industries (Transition to Better Occ-Median Wage and Transition to Better Ind-Median Wage). The second measure is only at the occupation level and looks at the education requirements of each occupation using the Labor Department's ONET database. A transition to a better match in terms of education requirement occurs if a worker moves to an occupation with a similar or higher education requirement as his/her previous occupation. This variable is labelled as Transition to Better Match-Education.

Table 2- Effects of State Demographic Characteristics and Economic Conditions on Medicaid Income Threshold

	Medicaid Income Threshold						Medicaid Age Threshold			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Unemployment Rate	-0.00402	-0.00547	-0.00462	-0.00485	-0.0000729	0.0383	-0.00547	-0.00462	-0.00485	-0.0000729
	(-0.95)	(-0.76)	(-0.56)	(-1.04)	(-0.02)	(0.56)	(-0.76)	(-0.56)	(-1.04)	(-0.02)
Real GDP (Millions of 2009 dollars)	-7.17e-09	-7.20e-09	-8.01e-09	-0.000000315	-0.000000494	-0.000000525	-7.20e-09	-8.01e-09	-0.000000315	-0.000000494
	(-0.30)	(-0.30)	(-0.31)	(-0.44)	(-0.73)	(-1.36)	(-0.30)	(-0.31)	(-0.44)	(-0.73)
Pct of White in Population	0.0381	0.0385	0.0399	0.0373	-0.0402	-1.497	0.0385	0.0399	0.0373	-0.0402
	(0.58)	(0.58)	(0.56)	(0.52)	(-0.65)	(-1.41)	(0.58)	(0.56)	(0.52)	(-0.65)
Pct of Male in Population	-0.314	-0.312	-0.327	-0.326	-0.0245	3.117	-0.312	-0.327	-0.326	-0.0245
	(-0.86)	(-0.85)	(-0.82)	(-0.82)	(-0.07)	(0.53)	(-0.85)	(-0.82)	(-0.82)	(-0.07)
Average Age of Population	-0.00569	-0.00551	-0.00505	-0.00543	0.00125	-0.224	-0.00551	-0.00505	-0.00543	0.00125
	(-0.91)	(-0.88)	(-0.74)	(-0.80)	(0.21)	(-2.24)	(-0.88)	(-0.74)	(-0.80)	(0.21)
Pct of Married in the Population	-0.133	-0.131	-0.142	-0.156	-0.108	3.257	-0.131	-0.142	-0.156	-0.108
	(-0.89)	(-0.87)	(-0.86)	(-0.95)	(-0.75)	(1.36)	(-0.87)	(-0.86)	(-0.95)	(-0.75)
Average Education level	0.0296	0.0303	0.0331	0.0304	0.0362	-0.0556	0.0303	0.0331	0.0304	0.0362
	(1.52)	(1.54)	(1.55)	(1.45)	(1.93)	(-0.18)	(1.54)	(1.55)	(1.45)	(1.93)
Pct of Workforce in Goods Producing Ind	0.00107	0.00107	0.00122	0.00126	-0.00102	0.00178	0.00107	0.00122	0.00126	-0.00102
	(0.47)	(0.47)	(0.49)	(0.50)	(-0.46)	(0.05)	(0.47)	(0.49)	(0.50)	(-0.46)
First lag: Unemployment Rate		0.00212	-0.000791				0.00212	-0.000791		
		(0.25)	(-0.06)				(0.25)	(-0.06)		
Second Lag Unemployment Rate			0.00377					0.00377		
			(0.34)					(0.34)		
First Lag: Real GDP				0.000000315	0.000000641				0.000000315	0.000000641
				(0.43)	(0.54)				(0.43)	(0.54)
Second lag: Real GDP					-0.000000137					-0.000000137
					(-0.18)					(-0.18)
N	714	714	663	663	612	714	714	663	663	612

Notes: The table reports results from a OLS model with standard errors in parentheses. State level unemployment rate was taken from the Bureau of Labor Statistics' Local Area Unemployment Statistics program. State level GDP was taken from the Bureau of Economic Analysis' Regional Economic Accounts. The rest of the variables were constructed from within the sample.

Table 3- Occupational Change as dependent variable

	(1)	(2)	(3)	(4)	(5)	(6)
Medicaid income threshold	0.0349	0.0292	0.0297	0.0306	0.0309	0.0323
	(0.0131)	(0.00939)	(0.00921)	(0.00959)	(0.0101)	(0.0109)
Medicaid age threshold	0.000865	0.000524	0.000366	0.000354	0.000435	0.000275
	(0.000676)	(0.000604)	(0.000610)	(0.000619)	(0.000604)	(0.000504)
Tax Progressivity 75th & 25th Pct				-0.0816	-0.0507	-0.0503
				(0.206)	(0.223)	(0.223)
TANF Benefits at the 25th Percentile				-0.000548	-0.000439	-0.000438
				(0.00108)	(0.00112)	(0.00111)
Average Median Tax					0.894	0.893
					(0.923)	(0.922)
Medicaid income threshold X Female						-0.00289
						(0.00999)
Medicaid age threshold X Female						0.000328
						(0.000658)
State Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	No	No	Yes	Yes	Yes	Yes
Regional Trends	No	Yes	Yes	Yes	Yes	Yes
N	65,209	65,209	65,209	65,209	65,209	65,209

Notes: The table reports marginal effects from a probit model with standard errors in parentheses. All specifications include the following controls: Years of education, age ,number of children, and dummies for sex, race, ethnicity and country of birth. TANF benefits are calculated for a family of 3 using the following formula. TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income. Standard Errors are clustered at the state level.

Table 4- Industrial Change as dependent variable

	(1)	(2)	(3)	(4)	(5)	(6)
Medicaid income threshold	0.0334	0.0321	0.0308	0.0313	0.0315	0.0215
	(0.0113)	(0.00821)	(0.00856)	(0.00922)	(0.00947)	(0.00997)
Medicaid age threshold	-0.000729	-0.00101	-0.00108	-0.00120	-0.00114	-0.00114
	(0.000646)	(0.000630)	(0.000652)	(0.000683)	(0.000699)	(0.000765)
Tax Progressivity 75th & 25th Pct				0.0283	0.0496	0.0489
				(0.261)	(0.269)	(0.269)
TANF Benefits at the 25th Percentile				-0.00145	-0.00137	-0.00137
				(0.000523)	(0.000583)	(0.000588)
Average Median Tax					0.611	0.611
					(0.711)	(0.710)
Medicaid income threshold X Female						0.0197
						(0.00601)
Medicaid age threshold X Female						-1.44e-08
						(0.000509)
State Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	No	No	Yes	Yes	Yes	Yes
Regional Trends	No	Yes	Yes	Yes	Yes	Yes
N	65,209	65,209	65,209	65,209	65,209	65,209

Notes: The table reports marginal effects from a probit model with standard errors in parentheses. All specifications include the following controls: Years of education, age ,number of children, and dummies for sex, race, ethnicity and country of birth. TANF benefits are calculated for a family of 3 using the following formula. TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income. Standard Errors are clustered at the state level.

Table 5: Transitions Across Jobs

	(1) Transition to Risky Occ-Higher S.D of Wages	(2) Transition to Risky Occ-Higher Separation Rates	(3) Transition to Risky Ind-Higher S.D of Wages	(4) Transition to Risky Ind-Higher Separation Rates	(5) Transition to Better Occ-Higher Median Wage	(6) Transition to Better Ind-Higher Median Wage	(7) Transition to a job with higher or similar education Requirements	(8) Transition to a job with higher or similar education Requirements-Non-College Workers	(9) Transition to a job with higher or similar education Requirements-College Workers
Medicaid income threshold	0.0263	0.00853	0.0143	0.0319	0.0214	0.0110	0.0231	0.0240	0.0202
	(0.00949)	(0.00596)	(0.00762)	(0.00957)	(0.00530)	(0.00573)	(0.00946)	(0.0116)	(0.0107)
Medicaid age threshold	0.00100	0.000124	-0.000937	-0.000364	0.0000945	-0.00119	0.00112	0.000909	0.00168
	(0.000545)	(0.000477)	(0.000472)	(0.000466)	(0.000305)	(0.000420)	(0.000603)	(0.000764)	(0.000929)
Tax Progressivity 75th & 25th Pct	-0.0696	-0.0674	-0.00646	0.0460	-0.0486	-0.177	0.0888	0.0879	-0.0166
	(0.183)	(0.127)	(0.253)	(0.160)	(0.155)	(0.181)	(0.275)	(0.302)	(0.350)
TANF Benefits at the 25th Percentile	0.000131	-0.000263	0.000310	0.0000773	0.000113	-0.000699	0.00103	0.00177	-0.000245
	(0.000671)	(0.00114)	(0.000538)	(0.000760)	(0.000695)	(0.000728)	(0.000897)	(0.000700)	(0.00181)
Average Median Tax	0.284	0.708	-0.117	0.613	-0.480	-0.0997	1.119	0.522	1.729
	(1.097)	(0.529)	(0.538)	(0.630)	(0.899)	(0.746)	(0.964)	(1.349)	(1.137)
State Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regional Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	64,248	65,209	64,930	65,209	64,248	64,930	61,246	41,359	19,887

Notes: The table reports marginal effects from a probit model with standard errors in parentheses. All specifications include the following controls: Years of education, age, number of children, and dummies for sex, race, ethnicity and country of birth. TANF benefits are calculated for a family of 3 using the following formula. TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income. Separation rates and wages for each occupation and industry are calculated from our sample. Education requirements for each occupation are calculated from the Labor Department's ONET database. Standard Errors are clustered at the state level.

Table 6: Tennessee Experiment

	(1) Occupation Change	(2) Industry Change	(3) Transition to Risky Occ-Higher S.D of Wages	(4) Transition to Risky Occ-Higher Separation Rates	(5) Transition to Risky Ind-Higher S.D of Wages	(6) Transition to Risky Ind-Higher Separation Rates	(7) Transition to Better Occ-Higher Median Wage	(8) Transition to Better Ind-Higher Median Wage	(9) Transition to a job with higher or similar education Requirements
Treat X After	-0.0691	-0.103	-0.0855	-0.0392	-0.0786	-0.0561	-0.0382	-0.0510	-0.0930
	(0.0129)	(0.0110)	(0.0144)	(0.0248)	(0.0158)	(0.0161)	(0.0116)	(0.0125)	(0.0101)
After 2000	0.190	0.120	0.0887	-0.0274	-0.0102	0.00922	0.0136	-0.0153	0.0175
	(0.0490)	(0.0541)	(0.0559)	(0.0207)	(0.0156)	(0.0338)	(0.0288)	(0.0179)	(0.0396)
Treat (Tennessee)	-0.968	0.994	-0.506	0.986	-0.928	-0.243	-0.602	-0.730	-1.000
	(0.0625)	(0.0204)	(0.450)	(0.0689)	(0.231)	(0.478)	(0.351)	(0.361)	(0.00115)
Tax Progressivity 75th & 25th Pct	-0.512	-0.654	-0.786	-0.719	-0.142	-0.392	-0.389	0.0183	0.278
	(0.306)	(0.427)	(0.343)	(0.232)	(0.167)	(0.256)	(0.298)	(0.377)	(0.272)
TANF Benefits at the 25th Percentile	-0.00253	-0.00139	0.000225	-0.00128	0.000473	0.00213	-0.00230	-0.00119	-0.00220
	(0.000849)	(0.00126)	(0.000833)	(0.000625)	(0.000408)	(0.000637)	(0.000954)	(0.000379)	(0.000734)
Average Median Tax	4.917	-2.213	0.985	4.097	-0.398	-3.411	2.219	2.359	3.258
	(1.499)	(1.620)	(1.686)	(2.322)	(1.299)	(1.894)	(2.421)	(1.574)	(2.061)
State Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regional Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	20,426	20,426	20,113	20,426	20,318	20,426	20,086	20,318	19,174

Notes: The table reports marginal effects from a probit model with standard errors in parentheses. All specifications include the following controls: Years of education, age and dummies for sex, race, ethnicity and country of birth. TANF benefits are calculated for a family of 3 using the following formula. TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income. Separation rates and wages for each occupation and industry are calculated from our sample. Education requirements for each occupation are calculated from the Labor Department's ONET database. Standard Errors are clustered at the state level.

Appendix Tables- Not for Publication

Table A1: Occupation Change for Subgroups

	(1) Females	(2) Males	(3) Married	(4) Non-Married	(5) No Children	(6) 1 or More Children
Medicaid income threshold	0.0381	0.0230	0.0298	0.0310	0.0322	0.0465
	(0.0174)	(0.00746)	(0.0114)	(0.0204)	(0.0112)	(0.0131)
Medicaid age threshold	0.000675	0.000214	0.000877	-0.000490	0.00188	0.000164
	(0.00127)	(0.000445)	(0.000609)	(0.00153)	(0.00129)	(0.00109)
Tax Progressivity 75th & 25th Pct	-0.210	0.0962	-0.303	0.994	-0.237	-0.277
	(0.314)	(0.188)	(0.244)	(0.458)	(0.273)	(0.306)
TANF Benefits at the 25th Percentile	-0.000114	-0.00102	0.000269	-0.00264	0.0000580	0.000827
	(0.00149)	(0.000901)	(0.00139)	(0.00133)	(0.00231)	(0.00201)
Average Median Tax	0.928	0.721	1.091	1.405	1.296	0.678
	(1.532)	(0.907)	(1.028)	(1.405)	(1.253)	(1.361)
State Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes
Regional Trends	Yes	Yes	Yes	Yes	Yes	Yes
N	31,789	33,420	52,438	12,771	26,832	27,918

Notes: The table reports marginal effects from a probit model with standard errors in parenthesis. All specifications include the following controls: Years of education, age number of children, and dummies for sex, race, ethnicity and country of birth. TANF benefits are calculated for a family of 3 using the following formula. TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income.
Standard Errors are clustered at the state level.

Table A2: Industry Change for Subgroups

	(1) Females	(2) Males	(3) Married	(4) Non-Married	(5) No Children	(6) 1 or More Children
Medicaid income threshold	0.0476	0.0151	0.0136	0.0740	0.0436	0.0192
	(0.00932)	(0.0113)	(0.0111)	(0.0145)	(0.0178)	(0.0160)
Medicaid age threshold	-0.000929	-0.00132	-0.000859	-0.00176	0.000454	-0.00230
	(0.000794)	(0.00107)	(0.000703)	(0.00131)	(0.00132)	(0.00109)
Tax Progressivity 75th & 25th Pct	0.221	-0.120	-0.146	0.899	-0.528	-0.0214
	(0.294)	(0.288)	(0.260)	(0.401)	(0.479)	(0.204)
TANF Benefits at the 25th Percentile	-0.00171	-0.00133	-0.00141	-0.00299	0.000489	-0.00394
	(0.000504)	(0.00104)	(0.000820)	(0.000813)	(0.00137)	(0.00225)
Average Median Tax	-0.238	1.297	-0.321	3.244	1.485	-0.809
	(1.065)	(0.959)	(0.775)	(1.155)	(0.827)	(1.272)
State Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes
Regional Trends	Yes	Yes	Yes	Yes	Yes	Yes
N	31789	33420	52438	12771	26832	27918

Notes: The table reports marginal effects from a probit model with standard errors in parentheses. All specifications include the following controls: Years of education, age ,number of children, and dummies for sex, race, ethnicity and country of birth. TANF benefits are calculated for a family of 3 using the following formula. TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income.
Standard Errors are clustered at the state level.

Appendix: Construction of Tax and Transfer Variables

Since tax systems were changing during the time period of analysis, we construct measures of tax progressivity and median taxes. To construct a measure of tax progressivity, we start by constructing state income tax liabilities using the TAXSIM software from the National Bureau of Economic Research (NBER) jointly with the information from the March Supplement of the Current Population Survey (CPS) to calculate the earned income, assets, pensions, disability, etc. for those at the 75^{th} and 25^{th} percentile of the total income distribution. The average tax rate is then obtained by dividing the tax liabilities by the average income at the 75^{th} and 25^{th} percentile. We construct tax liabilities for those at the 75^{th} and 25^{th} percentile of the national income distribution to hold constant the characteristics of the population for all states and capture solely on the differences in tax rates, credits and exemptions across states. To construct the tax liabilities, we assume that the person is married and with one child and we use the averages for those at the 75^{th} and 25^{th} percentiles of the national income distribution of the following variables: wage and salary income of taxpayer, wage and salary income of spouse, dividend income, interest income, rent income, alimony income, fellowships, taxable IRA distributions, taxable pensions, gross social security benefits, other taxable transfer income, child care expenses, and unemployment compensation. Similarly, we measure the average tax rate for those at the median of the national income distribution, assuming the person is married with one child and using the various income variables to construct the tax rate for those at the 50^{th} percentile of the income distribution.

We also construct measures of cash transfers since these were also changing importantly during the period of study. We construct a measure of Temporary Assistance for Needy Families (TANF) benefits. TANF provides cash assistance to low-income families with children. When TANF was introduced in 1996 to replace the Aid to Families with Dependent Children (AFDC) program, the system was reformed by the legislation but also through state waivers introducing work requirements, lifetime time limits, financial sanctions and enhanced-earnings disregards. The benefits under TANF are constructed using information on maximum benefits, benefit-reduction rates and flat earnings disregards which vary over time and across states, as well as using earned and unearned income for the 25^{th} percentile by year from the March CPS. In particular, we estimate TANF benefits using the following formula from Hoynes and Luttmer (2011):

$$\text{TANF Benefit}_{st} = \text{Max. Benefit}_{st} - \tau_{st} \times (\text{Earnings}_{t25th} - D_{st}) - \text{Unearned Income}_{t25th},$$

where Max. Benefit_{st} is the maximum benefit in state s at time t, τ_{st} is the benefit-reduction rate in state s at time t and D_{st} is the flat earnings disregard in state s at time t. We construct these Benefits for the average individual at the lowest 25^{th} percentile of the income distribution, so the earnings and unearned income are for the average individual in the 25^{th} percentile of the national income distribution.