

Do Tax Progressivity and Transfers encourage Risk Taking?

Impacts on Labor Mobility¹

Ammar Farooq, Georgetown University

Adriana Kugler, Georgetown University, NBER, CEPR and IZA

Abstract

This paper looks at the insurance value of progressive taxation and transfer programs and their impacts on risk taking and labor mobility. We exploit the variation in taxes and the Medicaid and Temporary Aid to Needy Families income thresholds across states and over time over the 1990s and 2000s. We find that progressive taxation and higher Medicaid thresholds increase occupational and geographical mobility. In addition, we find that higher Medicaid thresholds increase mobility between self-employment and wage employment, thus encouraging entrepreneurship. On the other hand, higher Medicaid thresholds decrease mobility from self-employment into self-employment, allowing some who would not be able to afford it to hold on to their own businesses to hold. Women and minorities are most impacted in terms of geographical decisions and transitions into self-employment, while men are most affected in terms of occupational decisions.

¹ Ammar Farooq, Georgetown University, af448@georgetown.edu. Adriana Kugler, Georgetown University, NBER, CEPR, and IZA. Corresponding Author: kugler.adriana@georgetown.edu. We are grateful to George Akerlof, Heather Boushey, E.J. Dionne, Bill Gale, Ed Montgomery, and Joe Stiglitz for helpful conversations and comments. We would specially like to thank Hilary Hoynes for providing us with data on TANF and Medicaid limits by state which was used in the analysis.

1. Introduction

There are many reasons why inequality is thought to affect growth. Inequality may deprive a large part of the population from getting access to high quality education and reduce growth. It may also generate political instability that reduces investments and growth. In addition, inequality may reduce the purchasing power of the middle class and the effective size of the market thus reducing growth.

In this paper, we highlight a different mechanism through which inequality may affect growth. Reduced inequality due to transfer programs and progressive taxation may induce greater labor mobility and increase allocative efficiency and growth. Here we focus on the key role played by redistributive tax systems and transfer programs in providing insurance and allowing households to undertake risky decisions they would otherwise not take, including their decisions to move across occupations, across different types of jobs and across locations. A number of recent studies have indeed found that individuals derive both redistributive and insurance value from their state's tax-and-transfer systems and that there is significant insurance value to these.² The insurance role of tax-and-transfer programs has received much less attention than the redistribute role but is certainly an important component of the welfare state. Self-insurance is often under-supplied because of capital market imperfections and the inability of households to borrow against the future. Likewise, private insurance is likely under-supplied due to market due to information asymmetries. In fact, when government introduces additional insurance the crowd-out of private insurance is only 15%; suggestive that public insurance doesn't simply replace private insurance.³

² Hoynes and Luttmer (2011) and Grant et al. (2010).

³ Sinn (1996).

Social insurance is indeed important because it provides all-inclusive protection against many types of risks over a person's lifetime and over a person's career. Thus, social insurance allows individuals to make decisions that involve higher risk than they would otherwise undertake. For instance, individuals may dare to change occupations and jobs, to move to another part of the country, to seek employment in risky industries, or to open up their own businesses if provided with social insurance.

In this paper we use the Current Populations Survey's (CPS) Merged Outgoing Rotation Group (MORG) files to examine the impact of the progressivity of taxes and transfer programs, including Medicaid and Temporary Assistance for Needy Families (TANF), on labor mobility. In particular, we examine the impact of these transfer programs and taxation on occupational and industrial mobility, on geographical mobility and mobility across different types of jobs.

Our analysis exploits variation in taxes and transfer programs across states and over time over the 1990s and 2000s. We measure the progressivity of the tax system as the differential in the tax liabilities that individuals in the 75th and 25th percentiles of the national income distribution would face in each state in each year. In addition, we measure the Medicaid income and age thresholds that individuals would face in each state at each point in time. Finally, we construct the TANF that a family of three would receive in each state at a point in time if it were in the bottom 25th percentile of the national income distribution.

Our results show that more progressive taxation and increased access to health insurance for the poor increases occupational mobility as well as within-state geographical mobility. The results also show that increased access to health insurance for the poor increases transitions between self-employment and wage employment and reduces transitions from self-employment

into non-employment. A long established finding is that lack of access to health insurance, not tied to a job, may induce job lock. Here we find that health insurance not only encourages individuals to look for alternative job opportunities, but also to change occupations and location and to move or stay in self-employment. When we examine heterogeneous effects, we find that the impacts on occupational mobility are driven by white men, while the impacts on geographical mobility and entry into self-employment are largely on women and minority workers.

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 progressive taxation and transfer programs on occupational, industrial and geographic mobility. In Section 6, we present the results on transitions to various types of jobs. We conclude in Section 7.

2. Previous Literature on the Impact of Taxes and Transfers on Risk-Taking

Previous work on how progressive taxation and transfers affect risk-taking has been mainly been theoretical. Early work on this topic dates to the 1940s, when Domar and Musgrave (1944) showed that taxes can affect the average yield but also the variance of the yield of an investment. They argue that while a tax may reduce the yield of an investment because the government shares on the gains, it will also reduce the degree of risk by also sharing in the losses of the investment. Thus, they argue that a higher rate of loss offset by the government through the tax system will increase investments in risky ventures.

More recently, Sinn (1996) developed a similar argument emphasizing the double benefit of redistribute taxation: the insurance effect, and the risk-taking effect. Thus, Sinn argues that ex-

post dispersion of the income distribution can be greater or smaller depending on which of the two effects dominates. Income dispersion may increase if a progressive tax system induces enough risk-taking behavior but this will be welfare enhancing under ideal insurance where the premium is tailored to individual decisions. An exception is if individuals put too little effort into risky activities that they know are insured by the state but the state cannot observe whether the project failed because of lack of effort or because of other factors. In this case, there may be welfare losses as there may be too much risk-taking. Even in this situation, however, redistributive taxation can be designed to generate the optimal amount of risk-taking.

There is little evidence of the positive impact of taxation on risk-taking highlighted by the theory, but a number of studies have disentangled the insurance and the redistributive value of taxation and transfer programs. Hoynes and Luttmer (2011) find that individuals indeed derive both redistributive and insurance value from their state's tax-and-transfer systems and that there is significant insurance value. Moreover, they find that while the redistributive value declines sharply with income, the insurance value declines much less with income. In addition, as the economy becomes subject to technological shocks and globalization, the insurance value of tax-and-transfer systems has grown over the past few decades. Grant et al. (2010) also provide evidence of the insurance role of redistribute taxation using the American Consumer Expenditures Survey. They show that more progressive taxes reduce the dispersion in consumption in the U.S. Bird (2001) instead uses aggregate data from 7 countries (France, Germany, Hungary, Luxembourg, Poland, the U.K. and the U.S.) over the 1980s and 1990s to examine this question. He finds that countries with higher levels of social spending out of GDP also have higher level of pre-tax income risk, where income risk is measured as the unexpected changes in income constructed using individual level data.

Moreover, only a few studies look at the impact of taxes and transfers on risk-taking using micro-data. The only area in which the impact of tax progressivity on risk-taking in the labor market has been examined is in the area of self-employment and entrepreneurship. Cullen and Gordon (2002) find that a cut in personal tax rates reduces entrepreneurial activity as a lower personal tax rate implies less risk-sharing with the government (as argued by Domar and Musgrave (1944)). Similarly, Schuetze (2000) uses data for Canada and the U.S. and finds that increases in average taxes at the 50th and 90th percentiles increases self-employment but has a bigger effect at the higher end of the distribution. Yet, these papers do not directly model the progressivity of the tax system and they do not consider the impact of transfer programs on the decision to become self-employed.

Our paper also relates to the literature on the impact of health insurance on job lock. This literature focuses on the impact that employer-provided health insurance has on A number of studies find substantial effects of employer provided health insurance on reduced turnover (Cooper and Monleit, 1993; Madrian, 1994; Gruber and Madrian, 1994; Buchmueller and Valletta, 1996; and Anderson, 1997). However, Holtz-Eakin (1994) and Kapur (1994) find no effects, though Holtz-Eakin looks at Germany, which has a very different institutional environment.

Most of these studies focus on employer-provided health insurance on job lock, but there are a handful of studies looking at the impact of non-employer-provided health insurance on increased mobility. Hamersma and Kim (2009) instead examine the impact of Medicaid expansions and find strong evidence that expanded eligibility reduces job lock among unmarried women but not men or married women, and only weak evidence of reduced job push among men. Hamersma and Kim (2009) and the papers above focus solely on the impact of employer-provided health insurance on job departures and job-to-job transitions. However, like our analysis, the recent

papers by Fairlie et al. (2010), Niu (2013) and Lurie and Hein (2014) also focus on self-employment. Fairlie et al. (2010) use a difference-in-difference strategy and find evidence of a larger negative effect of health insurance demand on business creation for those without spousal coverage than for those with spousal coverage. In addition, they use a regression discontinuity design and compare individuals right under and right over 65, who qualify for Medicaid, and they find that the probability of business ownership increases for individuals right over 65 years of age. Niu (2013) and Lurie and Hein (2014) both examine the impact of the health reform in Massachusetts on self-employment using the CPS and IRS records, respectively. Niu finds a short-term increase in self-employment in Massachusetts, while Lurie and Hein find positive impacts on self-employment for joint filers and older workers but a negative impact on single filers and middle-age workers.

Our paper adds to this literature by examining the impacts of both the progressivity of taxes and the expansion of Medicaid on many dimensions of labor mobility, including occupational and geographical mobility and transitions among various types of jobs.

3. MORG and March CPS Supplements: Data Description and Construction of Variables

a. 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 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 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 4th interview and the 8th interview. We merged the 4th to the 8th 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. Also, checked that the difference in age from one year to the next was either zero or one and deleted those who had differences in age that were greater or smaller than one or zero. Finally, we merged these panels with the March supplements.

We use the March surveys because they have access to demographic information, labor market information, information on geographic mobility and a whole series of questions on different income sources, which will allow us to construct the tax liabilities and TANF benefits variables. Our dependent variables include indicators of whether a person changed 3-digit occupations and industries from one year to the next. We also construct an indicator for whether the person moved from one state to another and another indicator for whether the person moved to a different location within the state from one survey to the next. The March CPS asks two consecutive questions that allow us to construct these indicators. It first asks if the person moved and then it asks the state of previous residence. Finally, we use information on class of worker and labor force status to construct transitions between different types of employment and non-employment. We construct indicators that take the value of one if the person moved from self-employment (whether incorporated or unincorporated) into wage employment (whether private or Government employment) and zero if the person did not transition to another status. Similarly, we construct an indicator for those who moved from self-employment into non-employment (either into unemployment or out of the labor force) and zero if the person did not transition to another

status. We control for basic demographic variables including: age, years of education, gender, marital status, race, and whether the person is foreign born.

Table 1 provides descriptive statistics of the variables used in our analysis for the period from 1996 to 2012. The sample consists of almost half are women, who are married, with one child, and on average they are 42 years old and have 13.5 years of education. The vast majority of those in the sample, 83.9% are white, 9.8% African American and 9.6% Hispanic. Only 9.3% are union member and 13.9% are foreign born. A substantial fraction of the sample changes occupational and industry from year to year – 12.8% experience occupational changes and 9.7% industry changes. Geographical mobility across states is low, only 2.3% of those in the sample move to a new state from year to year. However, the fraction of those moving within states is much higher at 11.6%. While 9.1% of those in the sample are self-employed this is a fairly stable group. Transitions from and to self-employment are low. The fraction of individuals transitioning from self-employment into wage employment and back are 0.7% and 0.8% and the fractions of individuals transitioning from self employment into non-employment and vice-versa are even lower, 0.2% and 0.3%.

b. Variation and Construction of Tax and Transfer Variables

Our key explanatory variables are a measure of tax progressivity and measures of access to transfer programs in each state over time. 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 Current Population Survey (CPS) to calculate the earned income, assets, pensions, disability, etc. for those at the 75th and 25th percentile of the total income distribution. The average tax rate is then obtained by dividing the

tax liabilities by the average income at the 75th and 25th percentile. We construct tax liabilities for those at the 75th and 25th percentile of the national income distribution to hold constant the population for all states and capture solely 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 75th and 25th 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. We also construct these for the 90th and 10th percentiles.

Figure 1 shows the large variation across states in differences in tax liabilities for those at the top and bottom quartile of the income distribution. The Figure shows the difference between the 75th and 25th percentile for the top 10 states, the bottom 10 states and the overall sample average. The top 10 states had differences of close to 50% throughout the sample period. The group of most progressive states includes: Minnesota, Vermont, New York, Washington, D.C., Wisconsin, Kansas, Oregon, Hawaii, Idaho, Maine, Colorado, Massachusetts, Maryland and New Jersey. By contrast, the bottom states had differences of close to 40%. Among the least redistributive states are: North Dakota, Wyoming, Washington, Alaska, Nevada, New Hampshire, Tennessee, Texas, Florida and Indiana. For all states, the progressivity of state taxes has been changing over time but especially over the past few years. Columns 2 and 3 of Table 1 show that more and less progressive states vary along some observable characteristics, with more progressive states having more union members, less whites and more African Americans, and many more foreign born individuals. Importantly, occupational and industrial mobility is higher, geographical

mobility lower, and transitions out of self-employment are somewhat higher. This highlights the importance of controlling for state effects and region-specific time trends the way we describe in the next section.

We also construct measures of transfers. The first measure of transfers we construct is 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 25th percentile by year from the 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 .⁴ We construct these Benefits for the average individual at the lowest 25th and 10th percentiles of the income distribution, so the earnings and unearned income are for the average individual in the 25th percentile of the national income distribution. Table 1 shows that The TANF benefit was on average \$326 for those in the lowest quartile over the period studied for a family of 3. There are, however, big differences in the

⁴ We are grateful to Hilary Hoynes for providing us with information on maximum benefits, benefit reduction rates and flat earnings disregards through 2007, which we updated until 2012.

generosity of TANF across states, as shown in Figure 2. The most generous states provide \$731 on average for a family of three, while the least generous do not offer any cash transfers, thus highlighting the need to control for differences across states. The figure also shows a downward trend in the generosity of these cash benefits over time for the higher paying states, highlighting the need to control for regional trends.

Finally, we use the Medicaid income and age thresholds, which vary across states and over time. We examine Medicaid and the State Children's Health Insurance Program (SCHIP), which provide health insurance to poor families and poor children. Medicaid provides health insurance to eligible low-income individuals. Medicaid was initially created in 1965 and established eligibility only for families receiving AFDC. However, starting in 1987 eligibility has been expanded to include families with a threshold above the poverty line as well as pregnant women and children under certain ages. The generosity of these programs varies across states and over time because the income and age thresholds to qualify for Medicaid are higher in some states than others. The average income threshold to qualify for Medicaid over this time period is around 190% of the Federal Poverty Line (FPL), though this threshold increased from the 1990s to the 2000s.

The average age threshold over the period is 6 years of age, but this age threshold almost doubled from the 1990s to the 2000s indicating that SCHIP has been expanded and made more generous by including more children over time.⁵ Figure 3 shows large differences in the availability of Medicaid for low-income households across states. The most generous states provide free health services for low-income households with incomes as high as 256% of the federal poverty level. By contrast, the least generous states only provide Medicaid to households

⁵ We are very grateful to Hilary Hoynes for providing income and age thresholds for the period from 1996-2007. We updated the Hoynes and Luttmer (2011) data until 2012.

barely above the poverty line at 133% of the federal poverty level. There are also differences over time between the most and least generous states with generosity declining in the early 2000s and increasing again after the Great Recession. Figure 4 also shows large differences in the age threshold for eligibility to SCHIP across states. The Figure shows an average age threshold of around 4 initially which rises to 8 by the end of the 2000s. Thus, SCHIP has been expanded and made more generous by including more children over the years. The difference across states, however, is drastic. Some states have no SCHIP and do not cover children at any age, while the most generous states cover children until age 18. Columns (4) and (5) of Table 1 show that those in states with a higher income threshold for Medicaid are more likely to have foreign born individuals in their population, union members, less likely to have whites and more likely to have African Americans and Hispanics in their population. By contrast, Columns (6) and (7) show that states which have a higher age thresholds and have SCHIP programs have a smaller foreign born population, less union members and less African Americans and Hispanics. Yet, occupational and industry mobility are higher in states with higher income and age thresholds, as is mobility into and out of self-employment.

4. Identification Strategy

Our analysis approach to establish a causal relation between mobility and the tax-and-transfer variables is to rely on statutory taxes and transfer program qualification rules and statutory benefits, as opposed to the actual payment of taxes or benefits received by an individual. In addition, to avoid capturing characteristics about the population in a state or other factors that affect the distribution of income in a state, we construct a measure of the progressivity of the tax system and the level of benefits for those at the top and bottom quartiles of the entire U.S. income

distribution rather than those at the top and bottom quartiles of the state-level income distribution, which would confound the effect with differences in the composition of the population in the state.

We also control for individual characteristics of the person that could be affected to mobility, including: years of education, age, number of children, marital status, gender, race, ethnicity and country of birth. Importantly, since many of the tax-and-transfer variables vary at the state level and over time, we also control for state and time effects. In addition, we estimate models that also control for region-specific time trends (for the nine major regions) to allow for the possibility that a group of states that may be modifying taxes and transfers over time is also changing in other ways.

We begin by estimating the following regression of mobility on tax and transfer variables on individual characteristics, and state fixed effects:

$$Y_{isrt} = \delta \times \text{Tax Progressivity}_{st} + \varphi \times \text{Medicaid Income Threshold}_{st} + \varphi \times \text{Medicaid Age Threshold}_{st} + \psi \times \text{TANF Benefits}_{st} + \beta X_{isrt} + \kappa_s + \varepsilon, \quad (1)$$

where $\text{Tax Progressivity}_{st}$ is the difference in the average overall tax rate between the top and bottom quartile of the tax distribution; the $\text{Medicaid Income Threshold}_{st}$ is the maximum income that allows a family to qualify for health insurance through Medicaid in state s at time t ; $\text{Medicaid Age Threshold}_{st}$ is the maximum age of a child that allows him/her to qualify for State Child Health Insurance Programs (SCHIP) in state s at time t ; $\text{TANF Benefits}_{st}$ as described in the previous section.

Since tax progressivity and benefits are changing over time, we add time effects to our regression as follows:

$$Y_{isrt} = \delta \times \text{Tax Progressivity}_{st} + \varphi \times \text{Medicaid Income Threshold}_{st} + \varphi \times \text{Medicaid Age Threshold}_{st} \\ + \psi \times \text{TANF Benefits}_{st} + \beta X_{isrt} + \kappa_s + \tau_t + \varepsilon \quad (2)$$

where all the variables are as in (1), and τ_t are time fixed effects. Finally, we regresses mobility on all the previous variables and on region-specific time-trends:

$$Y_{isrt} = \delta \times \text{Tax Progressivity}_{st} + \varphi \times \text{Medicaid Income Threshold}_{st} + \varphi \times \text{Medicaid Age Threshold}_{st} \\ + \psi \times \text{TANF Benefits}_{st} + \beta X_{isrt} + \kappa_s + \tau_t + \Omega_{rt} + \varepsilon \quad (3)$$

where all the variables are as in (2), and Ω_{rt} are region-specific time trend that allows 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).

5. Impacts of Taxes and Transfers on Occupational, Industrial and Geographical 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 their experiences evolve in the labor market, they may realize that they are not a good fit in a particular occupation or industry but that their skills may be better suited in 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 the match with the new occupation or industry. A progressive tax system, which shares the risk if things do not work out, and transfer programs, that help people from falling below a given standard of living, may help individuals in the labor market undertake investments necessary to change occupations or industries.

However, while mobility across occupations and industries is key for the health of the labor market, there is relatively little mobility of this type. Only 12.8% of workers moved occupations from one year to the next over the period of study, and even less, 9.7%, moved industries over the same period.

Table 2 shows that a more progressive tax system indeed induces individuals to change occupations and industries more often than they would otherwise. An increase of two standard deviations of the tax differential from the 75th to the 25th percentile, which is equivalent of moving from the least to the most progressive states, increases occupational mobility by 1.4 percentage points or an 11% increase in occupational mobility. Similarly, an increase in the income and age thresholds of Medicaid increases the likelihood that workers will move to a new occupation. An increase in the income threshold of one and a half standard deviation increases occupational mobility by half a percentage point or by 3.7%. By contrast, the impacts of the age SCHIP thresholds and cash transfers through TANF do not have any effect on occupational mobility, once time and region-specific trends are controlled for. Also, we do not find any effects on industrial mobility.

Table 3 shows the differential effects of taxes and transfers on women and men and on whites, African Americans and Hispanics. The results show that the impacts of tax progressivity and Medicaid are largely driven by increased occupational mobility of white men.

b. Geographic Mobility

Aside from occupational and industrial mobility, geographic mobility is also key to allow the proper functioning of labor markets. As we know, even during the last recession, some parts of the country were more greatly affected than others by the downturn and looking for job

opportunities elsewhere could have helped reduce the unemployment rate somewhat. While this was certainly not the key reason why unemployment remained high during the great recession, geographical mobility can help bring unemployment down even during good times. Yet, the prospects of moving to find a new job is risky and moving even when a person has already found a job is risky because the job may not pan out and moving is costly.

Table 4 shows that the increased progressivity of the tax system induces mobility within the U.S. The table disentangles within and across state mobility, since across state mobility is likely to largely capture the impact of competition across states in the generosity of different programs. We indeed find that the impact of both transfers and Medicaid are largely on within state mobility and most likely to be associated in increased risk-taking and willingness to move of individuals within a state. Also, 11.6% of people move in the U.S. within a given year and only 2.3% move across states. Thus, the bulk of geographical mobility occurs within state.

Increasing the progressivity of taxes by two standard deviation would increase within state mobility by 1.1 percentage points or by 9.6%. Also, an increase of 2.3 standard deviations or an increase from 0 to 18 in the Medicaid age threshold, increases within state mobility by 1 percentage point or 8.7%. By contrast, the income threshold has small negative effect on within state mobility and TANF has no impact. Inter-state mobility is more complex to consider as state taxes and transfer programs may generate incentives for those receiving benefits not to move and for those contributing taxes but not receiving benefits to leave the state. Overall, we find no impact on mobility across states. Table 5 shows that the impact of tax progressivity and Medicaid on within state mobility is largely on women and minorities, African Americans and Hispanics.

6. Effects of Tax and Transfer Systems Transitions into and out of Self-Employment

While previous work has found that lower taxes reduce entrepreneurship, these studies have not looked at the progressivity of the tax system nor have they looked at transitions from and to self-employment.

Table 6 shows little impact of tax progressivity and TANF on flows between self-employment and wage employment. However, Table 6 shows that expanded eligibility for Medicaid and SCHIP increases transitions from self-employment into wage employment and also from wage employment into self-employment. Higher income thresholds for Medicaid increase transitions from self-employment into wage employment – an increase of two standard deviations in the income Medicaid threshold increases the transitions from self- to wage employment by 2.6%. Also, an increase in the Medicaid age threshold to 18 years of age increases the transition from wage to self-employment by 26%. Thus, while there are transitions in both directions, health coverage for children has a much larger impact on the ability for individuals to leave employment with someone else and to move into self-employment.

Table 7 also shows transitions between self-employment and non-employment. An increase in the income and age thresholds for Medicaid decrease transitions from self-employment into non-employment. That is, increased eligibility for Medicaid allows individuals to continue operating their businesses rather than having to end their self-employment to qualify for health insurance. An increase of one and a half standard deviations in the Medicaid income thresholds reduces the transitions from self-employment into non-employment by 28.5%. Similarly, an increase in the Medicaid age threshold to 18 years of age reduces transitions from self-employment into non-employment by 54%. Thus, increased eligibility of health insurance keeps and attracts individuals into self-employment and also allows self-employed individuals to transition into more

secure wage employment. Table 8 reports results disaggregated for different groups and shows that this is largely driven by impact on women.

7. Conclusion

The insurance component of taxes and transfers has usually received much less attention than the redistributive component. However, the insurance role of progressive taxation and transfer programs can play a key role in inducing households to undertake investments and make decisions that are risky but worthwhile both individually and to the economy as a whole.

This analysis underscores the important role of progressive taxation and transfer programs in inducing mobility in the labor market. We find that redistributive taxes and health insurance for the poor all induce greater occupational and geographic mobility. In addition, we find that increased access to health insurance for the poor increases transitions from wage employment into self-employment, reducing job lock. IN addition, increased eligibility for health insurance allows individuals to stay self-employed rather than having to leave the labor force and but allows them to more freely move to better paid wage employment.

While decreased worker and job mobility has been widely documented in the past decade, few studies have emphasized the importance of providing public insurance to encourage greater mobility in the labor market. This analysis indicates that decreased uncertainty should help encourage individual mobility and greater flexibility in the labor market.

References

- Anderson, Patricia. 1997. "The Effect of Employer-provided Health Insurance on Job Mobility: Job-lock or Job-push?" Mimeo, Dartmouth.
- Bird, Edward. 2001. "Does the Welfare State Induce Risk-Taking?" *Journal of Public Economics*, 80: 357-384.
- Bruce, Donald. 2000. "Effects of the United States Tax System on Transitions into Self-employment," *Labor Economics*, 7: 545-574.
- Buchmueller, Thomas and Robert Valletta. 1996. "The Effects of Employer-provided Health Insurance on Worker Mobility," *Industrial and Labor Relations Review*, 439-455.
- Cooper, Philip and Alan Monleit. 1993. "Does Employment-related Health Insurance Inhibit Job Mobility?" *Inquiry*, 30: 400-416.
- Cullen, Julie and Roger Gordon. 2002. "Taxes and Entrepreneurial Activity: Theory and Evidence from the U.S.," Mimeo.
- Currie, Janet and Brigitte Madrian. 1999. "Health, Health Insurance and the Labor Market," in O. Ashenfelter and D. Card, eds., *Handbook of Labor Economics*, Volume 3, Chapter 50, pp. 3309-3416.
- Dey, Matthew. 2000. "Welfare and Mobility Effects of Employer-provided Health Insurance," Mimeo, University of Chicago.
- Domar, Evsey and Richard Musgrave. 1944. "Proportional Income Taxation and Risk-Taking," *Quarterly Journal of Economics*, 58(2): 388-422.
- Fairlie, Robert, Kanika Kapur and Susan Gates. 2010. "Is Employer-based Health Insurance a Barrier to Entrepreneurship?" *Journal of Health Economics*, 30(1): 146-162.
- Feenberg, Daniel and Elisabeth Coutts. 1993. "An Introduction to the TAXSIM Model," *Journal of Policy Analysis and Management*, 12(1).
- Gordon, Roger. 1998. "Can High Personal Tax Rates Encourage Entrepreneurial Activity?" *IMF Staff Papers*, 45: 49-80.
- Grant, Charles, Cristos Koulovatianos, Alexander Michaelides and Mario Padula. 2010. "Evidence on the Insurance Effect of Redistributive Taxation," *Review of Economics and Statistics*, 92: 965-973.
- Gruber, Jonathan and Brigitte Madrian. 1994. "Health Insurance and Job Mobility: the Effects of Public Policy on Job Lock," *Industrial and Labor Relations Review*, 48(1): 86-102.
- Hamersma, Sarah and Matthew Kim. 2009. "The Effect of Parental Medicaid Expansions on Job Mobility," *Journal of Health Economics*, 28(4): 761-770.

- Holtz-Eakin, Douglas. 1994. "Health Insurance Provision and Labor Market Efficiency in the U.S. and Germany," in R. Blank, ed., *Protection versus Economic Flexibility: is there a Tradeoff?* Chicago: Chicago University Press, pgs. 157-187.
- Holtz-Eakin, Douglass, John Penrod and Harvey Rosen. 1996. "Health Insurance and the Labor Supply of Entrepreneurs," *Journal of Public Economics*, 62(1-2): 209-235.
- Hoynes, Hilary and Erzo Luttmer. 2011. "The Insurance Value of State Tax-and Transfer Programs," *Journal of Public Economics*, 95: 1466-1484.
- Lurie, Ithai and Bradley Hein. 2014. "Does Health Reform Affect Self-Employment?" Evidence from Massachusetts," *Small Business Economics*.
- Niu, Xiaotong. 2014. "Health Insurance and Self-Employment: Evidence from Massachusetts," forthcoming, *Industrial and Labor Relations Review*.
- Madrian, Brigitte. 1994. "Employment Based Health Insurance and Job Mobility: is there Evidence of Job Lock?" *Quarterly Journal of Economic*, 109(1): 27-54.
- NBER. 2013. "Explanation of Relevant MORG Data File Variables," <http://data.nber.org/morg/docs/morg99.pdf> and <http://data.nber.org/morg/cos/cpsx.pdf>.
- Schuetze, Herb. 2000. "Taxes, Economic Conditions and Recent Trends in male Self-Employment: a Canada-US Comparison," *Labor Economics*, 7: 507-544.
- Sinn, Hans-Werner. 1996. "Social Insurance, Incentives, and Risk-Taking," *International Tax and Public Finance*, 3: 259-280.

Table 1 - Descriptive statistics

	All Sample	Sample of Below Mean Average Tax Diff	Sample of Above Mean Average Tax Diff	Sample of Below Mean Medicaid Income Threshold	Sample of Above Mean Medicaid Income Threshold	Sample of Below Mean Medicaid Age Threshold	Sample of Above Mean Medicaid Age Threshold
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Diff in average taxes at 75th and 25th percentile	0.495 (0.0533)	0.464 (0.0230)	0.549* (0.0478)	0.482 (0.0415)	0.509* (0.0610)	0.491 (0.0487)	0.500* (0.0600)
Real TANF benefits at the 25 th percentile	1.675 (4.479)	1.966 (5.191)	1.157* (2.727)	1.312 (4.750)	2.080* (4.119)	1.620 (3.811)	1.769* (5.441)
Medicaid income threshold	1.910 (0.425)	1.844 (0.392)	2.027* (0.454)	1.644 (0.237)	2.208* (0.389)	1.901 (0.322)	1.926* (0.558)
Age limit for Medicaid	5.838 (7.742)	5.624 (7.528)	6.220* (8.093)	5.355 (7.038)	6.379* (8.427)	0.502 (1.490)	15.04* (5.070)
Occupation change	0.128 (0.334)	0.124 (0.330)	0.133* (0.340)	0.121 (0.327)	0.134* (0.341)	0.124 (0.329)	0.134* (0.341)
Industry change	0.0966 (0.295)	0.0891 (0.285)	0.109* (0.311)	0.0890 (0.285)	0.104* (0.306)	0.0935 (0.291)	0.101* (0.302)
Self Employed	0.0912 (0.288)	0.0930 (0.290)	0.0883* (0.284)	0.0932 (0.291)	0.0892* (0.285)	0.0879 (0.283)	0.0964* (0.295)
Transition to self-employment from wage employment	0.00733 (0.0853)	0.00728 (0.0850)	0.00743* (0.0859)	0.00722 (0.0847)	0.00745* (0.0860)	0.00697 (0.0832)	0.00790* (0.0885)
Transition to self-employment from non-employment	0.00236 (0.0485)	0.00215 (0.0463)	0.00270* (0.0519)	0.00231 (0.0480)	0.00241* (0.0490)	0.00213 (0.0461)	0.00272* (0.0521)
Transition out of self-employment to wage employment	0.00796 (0.0889)	0.00755 (0.0866)	0.00862* (0.0924)	0.00730 (0.0851)	0.00865* (0.0926)	0.00778 (0.0879)	0.00823* (0.0903)
Transition out of self-employment to non-employment	0.00289 (0.0537)	0.00269 (0.0518)	0.00321* (0.0565)	0.00274 (0.0523)	0.00304* (0.0550)	0.00278 (0.0527)	0.00305* (0.0551)

Moved within the US in the last year	0.116 (0.321)	0.124 (0.329)	0.105* (0.306)	0.122 (0.327)	0.111* (0.314)	0.115 (0.320)	0.118* (0.322)
Changed state in the previous year	0.0228 (0.149)	0.0250 (0.156)	0.0192* (0.137)	0.0247 (0.155)	0.0208* (0.143)	0.0203 (0.141)	0.0266* (0.161)
Years of education	13.51 (2.850)	13.38 (2.836)	13.72* (2.860)	13.42 (2.750)	13.59* (2.948)	13.41 (2.901)	13.67* (2.760)
Age	42.12 (12.16)	41.89 (12.05)	42.49* (12.32)	42.01 (12.10)	42.22* (12.22)	41.86 (12.09)	42.52* (12.26)
Number of own children < 18	0.780 (1.099)	0.778 (1.099)	0.783* (1.098)	0.732 (1.082)	0.833* (1.115)	0.746 (1.077)	0.833* (1.130)
Male	0.482 (0.500)	0.481 (0.500)	0.482* (0.500)	0.482 (0.500)	0.481* (0.500)	0.480 (0.500)	0.484* (0.500)
Foreign Born	0.139 (0.346)	0.129 (0.335)	0.156* (0.363)	0.103 (0.304)	0.177* (0.382)	0.161 (0.368)	0.104* (0.305)
Married	0.616 (0.486)	0.630 (0.483)	0.594* (0.491)	0.633 (0.482)	0.598* (0.490)	0.616 (0.486)	0.616* (0.486)
Union Member	0.0935 (0.291)	0.0854 (0.280)	0.107* (0.309)	0.0845 (0.278)	0.103* (0.304)	0.0975 (0.297)	0.0873* (0.282)
White	0.839 (0.367)	0.846 (0.361)	0.827 (0.378)	0.858 (0.349)	0.819* (0.385)	0.843 (0.363)	0.832* (0.374)
African American	0.0978 (0.297)	0.0944 (0.292)	0.103* (0.304)	0.0943 (0.292)	0.101* (0.302)	0.103 (0.304)	0.0900* (0.286)
Hispanic	0.0963 (0.295)	0.0993 (0.299)	0.0914* (0.288)	0.0789 (0.270)	0.114* (0.318)	0.119 (0.324)	0.0597* (0.237)
Observations	290,286	179,600	110,686	148,294	141,992	177,779	112,507

Notes: Mean coefficients; standard deviation in parentheses.

Table 2- Effects of Taxes and Transfers on Occupation and Industry Changes

	<u>Occupational Change</u>			<u>Industrial Change</u>		
	(1)	(2)	(3)	(1)	(2)	(3)
Average Tax Difference	-0.317*** (-12.14)	0.133** (2.12)	0.133** (2.11)	0.0211 (0.92)	0.0376 (0.81)	0.0376 (0.81)
Medicaid income threshold 2	0.0166*** (4.25)	0.00751** (2.12)	0.00751** (2.11)	0.0128*** (3.63)	0.00300 (1.06)	0.00300 (1.06)
Medicaid age threshold 2	0.00475*** (12.10)	0.000102 (0.26)	0.000102 (0.26)	0.00386*** (10.60)	-0.0000897 (-0.28)	-0.0000897 (-0.28)
TANF Benefits at the 25th Percentile	0.00273*** (6.44)	-0.000171 (-0.36)	-0.000171 (-0.36)	-0.000891** (-2.38)	-0.000173 (-0.53)	-0.000173 (-0.53)
State Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	No	Yes	Yes	No	Yes	Yes
Regional Effects	No	No	Yes	No	No	Yes
<i>N</i>	180,026	160,797	160,797	180,026	180,026	180,026

Notes: The table reports marginal effects from a probit model with t-statistics in parentheses. All specifications include the following controls: Years of Education, Age, number of children, sex, marital status and dummies for race, ethnicity and country of birth. Average Tax Difference is the difference in average taxes at the 75th & 25th percentile. TANF benefits are calculated for a family of 3 using the following formula: TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income.

* p<0.10, ** p<0.05, ***p<0.01

Table 3-Effects of Taxes and Transfers on Occupational Changes by Gender, Race, and Ethnicity

	(1) Women	(2) Men	(3) Whites	(4) African Americans	(5) Hispanics
Average Tax Difference	0.116 (1.42)	0.158 (1.62)	0.184*** (2.64)	-0.157* (-1.69)	0.182 (0.64)
Medicaid income threshold 2	0.00482 (1.05)	0.0111** (1.98)	0.00757* (1.84)	0.000426 (0.08)	0.0192 (0.97)
Medicaid age threshold 2	0.000583 (1.13)	-0.000525 (-0.85)	0.000320 (0.72)	0.00103* (1.70)	0.00283 (1.42)
TANF Benefits at the 25th Percentile	-0.000326 (-0.53)	-0.0000337 (-0.05)	-0.000205 (-0.39)	-0.000669 (-0.93)	-0.00135 (-0.88)
State Effects	Yes	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes	Yes
Regional Effects	Yes	Yes	Yes	Yes	Yes
<i>N</i>	86,803	73,994	136,504	10,401	15,910

Notes: The table reports marginal effects from a probit model with t-statistics in parentheses. All specifications include the following controls: Years of Education, Age, number of children, sex, marital status and dummies for race, ethnicity and country of birth. Average Tax Difference is the difference in average taxes at the 75th & 25th percentile. TANF benefits are calculated for a family of 3 using the following formula: TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income.

* p<0.10, ** p<0.05, ***p<0.01

Table 4- Effects of Taxes and Transfers on Geographical Mobility

	<u>Moved within the State</u>			<u>Changed State</u>		
	(1)	(2)	(3)	(1)	(2)	(3)
Average Tax Difference	0.0379** (2.00)	0.105** (2.20)	0.105** (2.20)	-0.0708*** (-7.35)	-0.00653 (-0.29)	-0.00653 (-0.29)
Medicaid income threshold 2	-0.0123*** (-4.44)	-0.0110*** (-3.91)	-0.0110*** (-3.91)	-0.000180 (-0.14)	-0.000775 (-0.61)	-0.000775 (-0.61)
Medicaid age threshold 2	0.000154 (0.58)	0.000559* (1.86)	0.000559* (1.86)	0.000163 (1.30)	0.000173 (1.23)	0.000173 (1.23)
TANF Benefits at the 25th Percentile	-0.0000878 (-0.31)	-0.000410 (-1.40)	-0.000410 (-1.40)	0.000224 (1.55)	-0.0000608 (-0.41)	-0.0000608 (-0.41)
State Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	No	Yes	Yes	No	Yes	Yes
Regional Effects	No	No	Yes	No	No	Yes
<i>N</i>	180,026	180,026	180,026	180,026	180,026	180,026

Notes: The table reports marginal effects from a probit model with t-statistics in parentheses. All specifications include the following controls: Years of Education, Age, number of children, sex, marital status and dummies for race, ethnicity and country of birth. Average Tax Difference is the difference in average taxes at the 75th & 25th percentile. TANF benefits are calculated for a family of 3 using the following formula: TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income.
 * p<0.10, ** p<0.05, ***p<0.01

Table 5: Effects of Taxes and Transfers on Within State Geographical Mobility by Gender, Race and Ethnicity

	(1) Women	(2) Men	(3) Whites	(4) African Americans	(5) Hispanics
Average Tax Difference	0.120* (1.85)	0.0858 (1.23)	0.0789 (1.55)	0.0657 (0.38)	-0.0117 (-0.05)
Medicaid income threshold 2	-0.0133*** (-3.45)	-0.00845** (-2.05)	-0.00864*** (-2.80)	-0.0179* (-1.81)	-0.0278 (-1.48)
Medicaid age threshold 2	0.000623 (1.50)	0.000467 (1.08)	0.000289 (0.90)	0.00171* (1.69)	0.00424** (2.29)
TANF Benefits at the 25th Percentile	-0.000432 (-1.06)	-0.000382 (-0.91)	-0.000309 (-0.97)	-0.0000689 (-0.06)	0.000495 (0.48)
Time Effects	Yes	Yes	Yes	Yes	Yes
Regional Effects	Yes	Yes	Yes	Yes	Yes
<i>N</i>	96,725	83,301	152,271	16,179	18,180

Notes: The table reports marginal effects from a probit model with t-statistics in parentheses. All specifications include the following controls: Years of Education, Age, number of children, sex, marital status and dummies for race, ethnicity and country of birth. Average Tax Difference is the difference in average taxes at the 75th & 25th percentile. TANF benefits are calculated for a family of 3 using the following formula:

TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income.

* p<0.10, ** p<0.05, ***p<0.01

Table 6: Effects of Taxes and Transfers on Transitions between Self-Employment and Wage Employment

	<u>Transition from Wage Employment to Self-Employment</u>			<u>Transition from Self-Employment to Wage Employment</u>		
	(1)	(2)	(3)	(1)	(2)	(3)
Average Tax Difference	-0.00695 (-1.47)	0.000645 (0.08)	0.000645 (0.08)	-0.00245 (-0.39)	-0.00647 (-0.58)	-0.00647 (-0.58)
Medicaid income threshold 2	0.000550 (0.73)	0.000271 (0.54)	0.000271 (0.53)	0.00296*** (2.93)	0.00192*** (2.76)	0.00192*** (2.69)
Medicaid age threshold 2	0.000258*** (3.16)	0.000107* (1.76)	0.000107* (1.76)	0.000243** (2.41)	0.0000833 (1.09)	0.0000833 (1.09)
TANF Benefits at the 25th Percentile	-0.0000233 (-0.29)	-0.0000241 (-0.41)	-0.0000241 (-0.41)	0.000138 (1.35)	0.0000816 (1.07)	0.0000816 (1.07)
State Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	No	Yes	Yes	No	Yes	Yes
Regional Effects	No	No	Yes	No	No	Yes
<i>N</i>	180,026	180,026	180,026	180,026	180,026	180,026

Notes: The table reports marginal effects from a probit model with t-statistics in parentheses. All specifications include the following controls: Years of Education, Age, number of children, sex, marital status and dummies for race, ethnicity and country of birth. Average Tax Difference is the difference in average taxes at the 75th & 25th percentile. TANF benefits are calculated for a family of 3 using the following formula: TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income.

* p<0.10, ** p<0.05, ***p<0.01

Table 7- Effects of Taxes and Transfers on Transitions between Self-Employment and Non-employment

	<u>Transition from Self Employment to Non-Employment</u>			<u>Transition from Non-Employment to Self-Employment</u>		
	(1)	(2)	(3)	(1)	(2)	(3)
Average Tax Difference	0.00705* (1.81)	-0.00846 (-1.36)	-0.00846 (-1.36)	0.00293 (0.80)	0.00747 (1.10)	0.00747 (1.09)
Medicaid income threshold 2	-0.00171*** (-2.75)	-0.00129*** (-2.94)	-0.00129*** (-3.01)	-0.000313 (-0.59)	-0.000333 (-0.92)	-0.000333 (-0.92)
Medicaid age threshold 2	-0.0000267 (-0.44)	-0.0000873* (-1.95)	-0.0000873* (-1.95)	0.0000946 (1.48)	0.0000237 (0.49)	0.0000237 (0.49)
TANF Benefits at the 25th Percentile	-0.000109* (-1.85)	-0.0000535 (-1.24)	-0.0000535 (-1.27)	0.00000289 (0.05)	0.00000114 (0.03)	0.00000114 (0.03)
State Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	No	Yes	Yes	No	Yes	Yes
Regional Effects	No	No	Yes	No	No	Yes
<i>N</i>	162,681	162,681	162,681	162,681	162,681	162,681

Notes: The table reports marginal effects from a probit model with t-statistics in parentheses. All specifications include the following controls: Years of Education, Age, number of children, sex, marital status and dummies for race, ethnicity and country of birth. Average Tax Difference is the difference in average taxes at the 75th & 25th percentile. TANF benefits are calculated for a family of 3 using the following formula: TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income.

* p<0.10, ** p<0.05, ***p<0.01

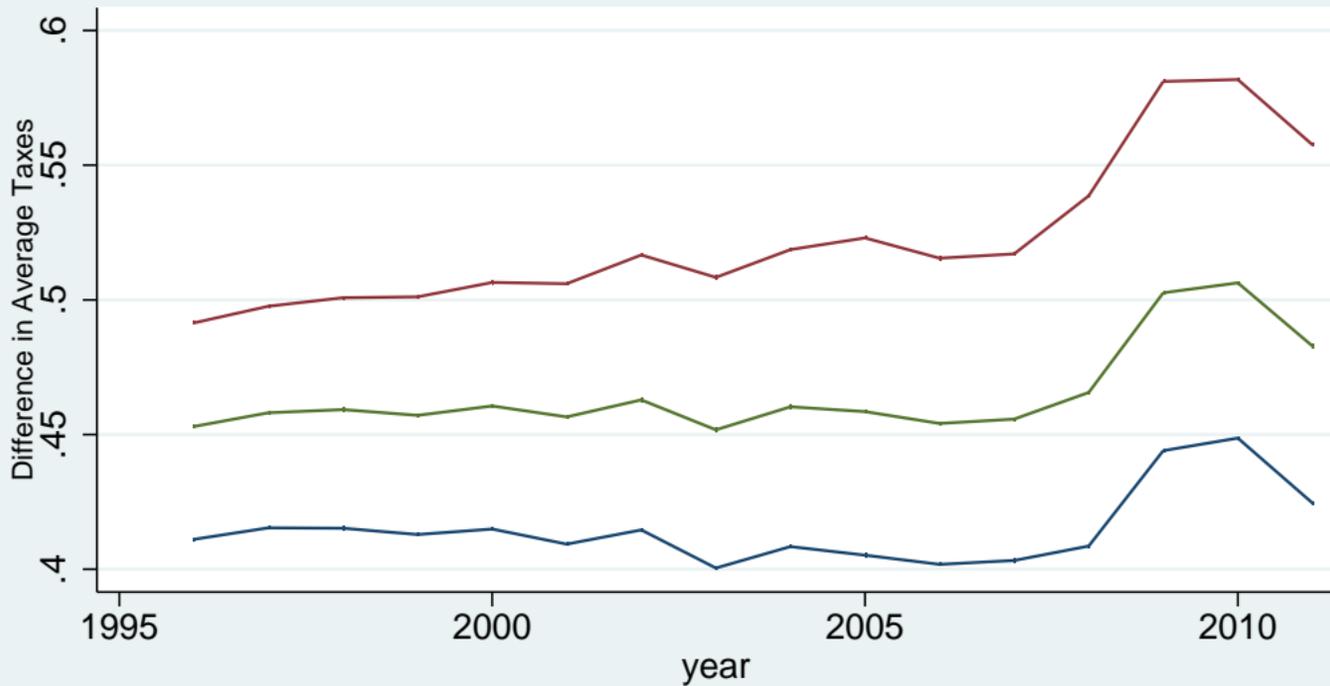
Table 8: Effects of Taxes and Transfers on Transitions between Self-Employment and Wage Employment by Gender, Race, and Ethnicity

	Transitions from Self-Employment to Wage Employment					Transitions From Wage Employment to Self-Employment				
	(1) Women	(2) Men	(3) Whites	(4) African Americans	(5) Hispanics	(1) Women	(2) Men	(3) Whites	(4) African Americans	(5) Hispanics
Average Tax Difference	-0.0332*** (-2.78)	0.0229 (1.18)	-0.00367 (-0.28)	0.00581 (0.29)	-0.00957 (-0.02)	0.0136 (1.00)	-0.0108 (-0.87)	0.00179 (0.20)	-0.00304 (-0.13)	0.0139 (0.01)
Medicaid income threshold 2	0.00223*** (2.62)	0.00149 (1.26)	0.00238*** (2.78)	0.000343 (0.32)	0.00236 (0.02)	0.000821 (0.92)	0.0000590 (0.07)	0.000281 (0.47)	-0.000871 (-0.50)	-0.000352 (-0.01)
Medicaid age threshold 2	0.000119 (1.26)	0.0000410 (0.34)	0.0000605 (0.69)	0.000134 (0.94)	0.000811 (0.02)	0.000267** (2.37)	0.0000305 (0.31)	0.000127* (1.79)	0.0000369 (0.30)	0.000188 (0.01)
TANF Benefits at the 25th Percentile	0.000113 (1.23)	0.0000409 (0.33)	0.0000812 (0.90)	0.000292 (1.50)	0.0000204 (0.02)	-0.000125 (-1.29)	0.0000642 (0.64)	-0.0000427 (-0.62)	-0.0000419 (-0.23)	-0.0000609 (-0.01)
State Effects	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regional Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	96,725	83,301	152,271	12,684	15,993	88,993	83,301	152,271	10,894	14,182

Notes: The table reports marginal effects from a probit model with t-statistics in parentheses. All specifications include the following controls: Years of Education, Age, number of children, sex, marital status and dummies for race, ethnicity and country of birth. Average Tax Difference is the difference in average taxes at the 75th & 25th percentile. TANF benefits are calculated for a family of 3 using the following formula: TANF Benefit = Maximum Benefit-t(Earnings-D)-Unearned Income.

* p<0.10, ** p<0.05, ***p<0.01

Figure 1 : Difference in Average Taxes from 1996-2011



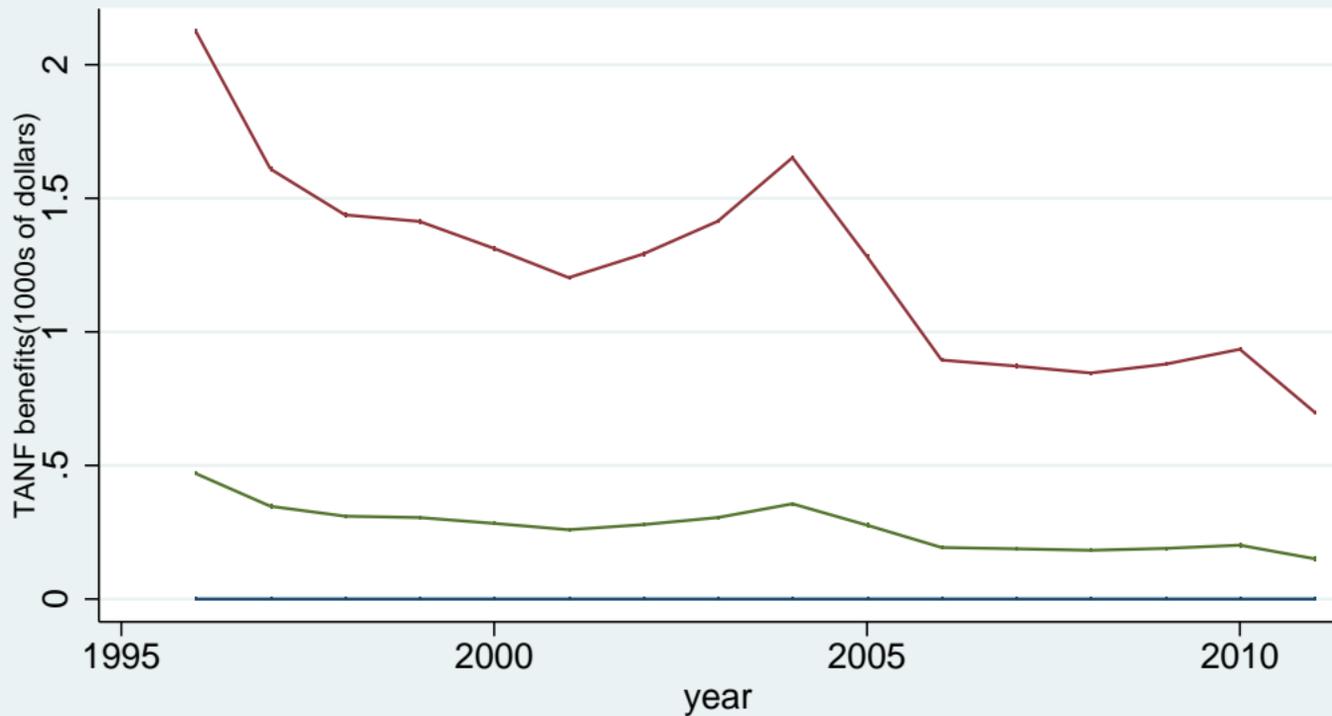
— Average in Bottom 10 States

— Average in Top 10 States

— Overall Sample Average

Difference in Average Taxes is the difference at the 75th and 25th percentile Average Taxes within a group are $(\text{total taxes})/(\text{total income})$

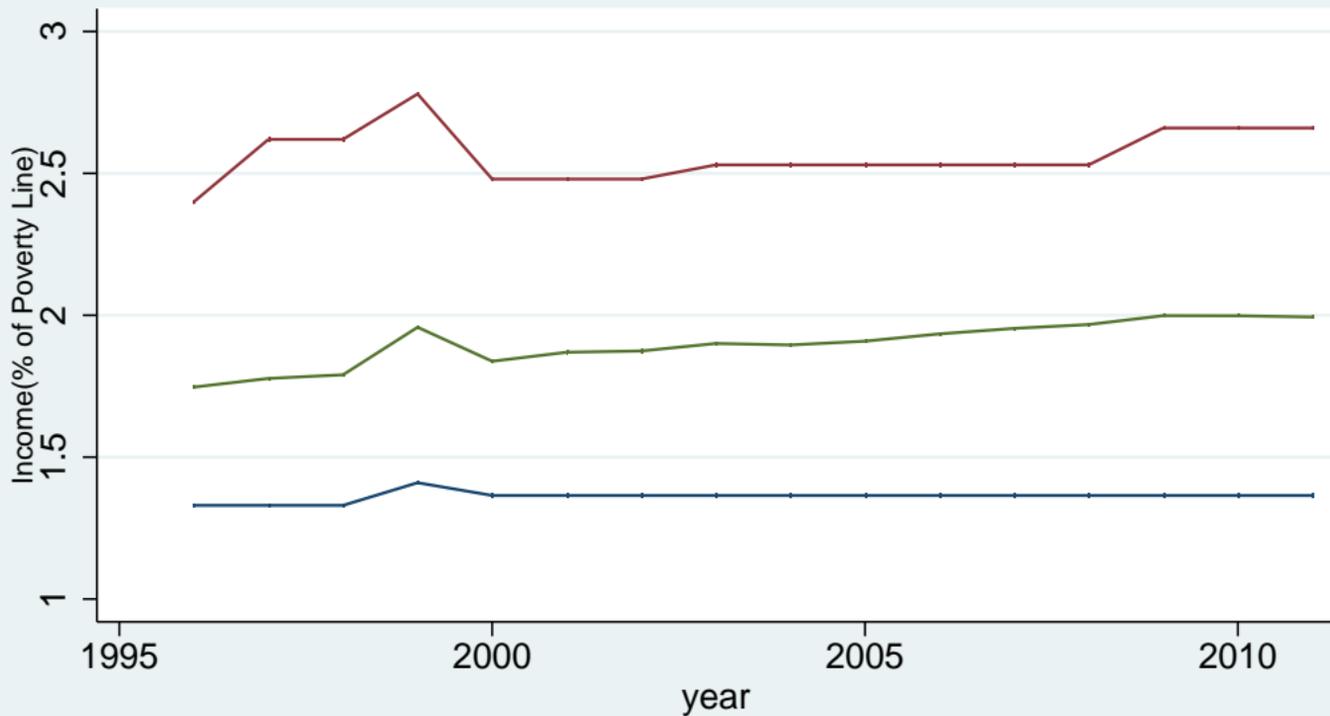
Figure 2 : TANF benefits from 1996-2011



— Average in Bottom 10 States — Average in Top 10 States
— Overall Sample Average

TANF benefits are calculated for a family of size 3 below the 25th percentile

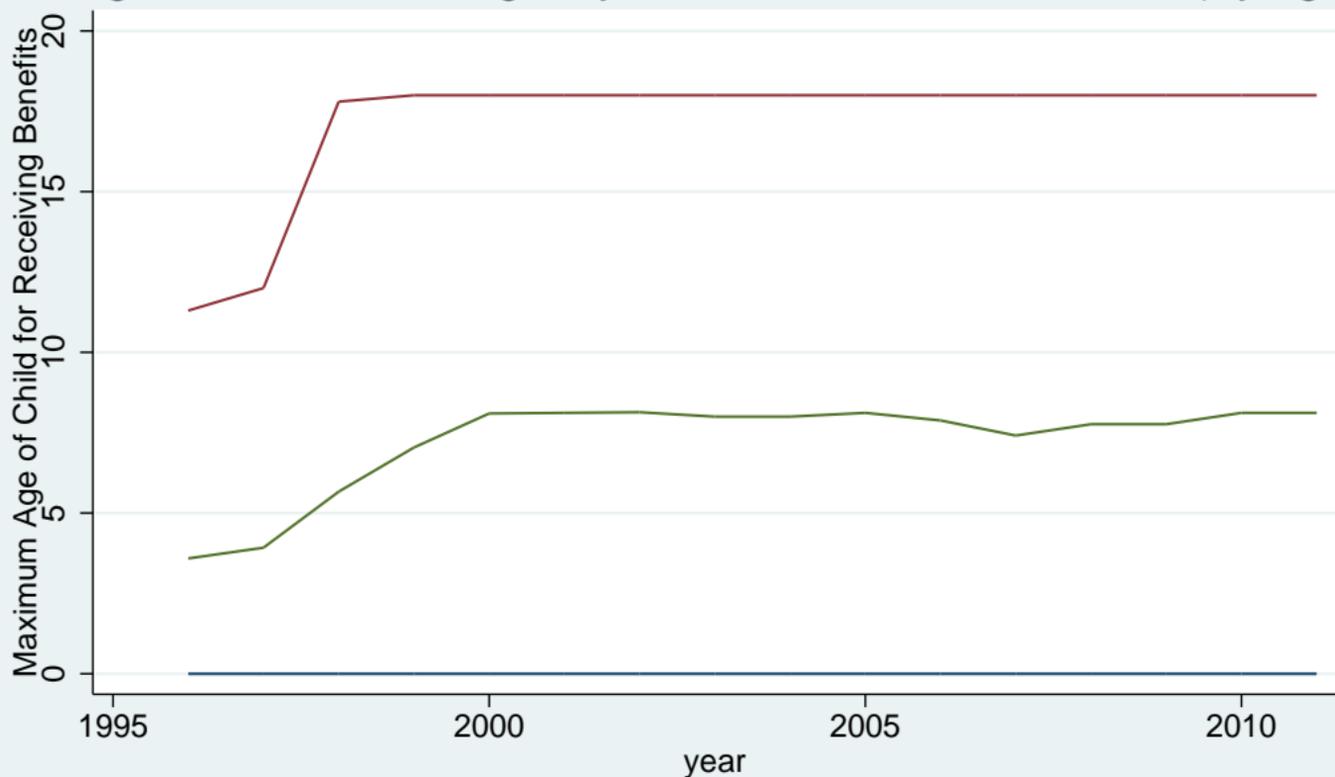
Figure 3: Medicaid Eligibility Thresholds from 1996-2011



— Average in Bottom 10 States — Average in Top 10 States
— Overall Sample Average

Medicaid Income Thresholds for family of 3

Figure 4: Medicaid Eligibility Thresholds from 1996-2011 (By age)



Appendix Table 1: Effects of Taxes and Transfers on Occupation and Industry Changes

	<u>Occupational</u> <u>Change</u> (1)	<u>Industrial</u> <u>Change</u> (2)	<u>Occupational</u> <u>Change</u> (3)	<u>Industrial</u> <u>Change</u> (4)
Average Tax Difference: 75 th - 25 th	0.112* (1.78)	0.0259 (0.56)		
Average Tax Difference: 90 th - 10 th			0.0267 (1.49)	0.00210 (0.15)
Medicaid income threshold 1	0.00810** (2.20)	0.00519* (1.78)		
Medicaid age threshold 1	0.000472** (2.20)	0.0000763 (0.44)		
Medicaid income threshold 2			0.00840** (2.39)	0.00345 (1.22)
Medicaid age threshold 2			0.000164 (0.41)	-0.0000774 (-0.24)
TANF Benefits at the 25th Percentile	-0.000119 (-0.25)	-0.000196 (-0.60)		
TANF Benefits at the 10 th Percentile			-0.0000426 (-0.12)	-0.000164 (-0.65)
State Effects	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes
Regional Effects	Yes	Yes	Yes	Yes
<i>N</i>	160797	180026	160797	180026

Notes: The table reports marginal effects from a probit model with t-statistics in parentheses. All specifications include the following controls: Years of Education, Age, number of children, sex, marital status and dummies for 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.
* p<0.10, ** p<0.05, ***p<0.01

Appendix Table 2: Effects of Taxes and Transfers on Geographical Mobility

	<u>Within State</u>	<u>Intra-State</u>	<u>Within State</u>	<u>Intra-State</u>
	(1)	(2)	(3)	(4)
Average Tax Difference: 75 th - 25 th	0.0922* (1.93)	-0.0227 (-0.99)		
Average Tax Difference: 90 th - 10 th			0.00658 (0.46)	-0.0102 (-1.43)
Medicaid income threshold 1	-0.00247 (-0.81)	0.00318** (2.30)		
Medicaid age threshold 1	-0.000272 (-1.55)	0.0000663 (0.82)		
Medicaid income threshold 2			-0.0103*** (-3.67)	-0.000525 (-0.42)
Medicaid age threshold 2			0.000603** (2.01)	0.000176 (1.26)
TANF Benefits at the 25th Percentile	-0.000355 (-1.20)	-0.0000487 (-0.32)		
TANF Benefits at the 10 th Percentile			-0.000722*** (-3.28)	-0.0000884 (-0.84)
State Effects	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes
Regional Effects	Yes	Yes	Yes	Yes
<i>N</i>	180026	180026	180026	180026

Notes: The table reports marginal effects from a probit model with t-statistics in parentheses. All specifications include the following controls: Years of Education, Age, number of children, sex, marital status and dummies for 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.

* p<0.10, ** p<0.05, ***p<0.01

Appendix Table 3: Effects of Taxes and Transfers on Transitions between Self-Employment and Wage Employment

	<u>Self -Employment to</u> <u>Wage Employment</u>	<u>Wage Employment to</u> <u>Self-Employment</u>	<u>Self -Employment to</u> <u>Wage Employment</u>	<u>Wage Employment to</u> <u>Self-Employment</u>
	(1)	(2)	(3)	(4)
Average Tax Difference: 75 th - 25 th	-0.00714 (-0.64)	0.000183 (0.02)		
Average Tax Difference: 90 th - 10 th			-0.000257 (-0.08)	-0.00130 (-0.57)
Medicaid income threshold 1	0.00128* (1.90)	0.000682 (1.26)		
Medicaid age threshold 1	0.0000835** (2.04)	0.00000415 (0.14)		
Medicaid income threshold 2			0.00183** (2.57)	0.000321 (0.64)
Medicaid age threshold 2			0.0000835 (1.09)	0.000107* (1.75)
TANF Benefits at the 25th Percentile	0.0000830 (1.07)	-0.0000251 (-0.43)		
TANF Benefits at the 10 th Percentile			0.00000860 (0.15)	-0.0000448 (-1.05)
State Effects	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes
Regional Effects	Yes	Yes	Yes	Yes
<i>N</i>	180026	180026	180026	180026

Notes: The table reports marginal effects from a probit model with t-statistics in parentheses. All specifications include the following controls: Years of Education, Age, number of children, sex, marital status and dummies for 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.

* p<0.10, ** p<0.05, ***p<0.01

Appendix Table 4: Effects of Taxes and Transfers on Transitions between Self-Employment and Non-employment

	<u>Self -Employment to</u> <u>Non Employment</u>	<u>Non Employment to</u> <u>Self-Employment</u>	<u>Self -Employment to</u> <u>Non Employment</u>	<u>Non Employment to</u> <u>Self-Employment</u>
	(1)	(2)	(3)	(4)
Average Tax Difference: 75 th - 25 th	-0.00847 (-1.34)	0.00672 (0.97)		
Average Tax Difference: 90 th - 10 th			-0.00321 (-1.49)	0.00102 (0.48)
Medicaid income threshold 1	-0.000849* (-1.79)	0.0000728 (0.18)		
Medicaid age threshold 1	-0.0000464* (-1.70)	-0.0000226 (-0.91)		
Medicaid income threshold 2			-0.00128*** (-3.19)	-0.000285 (-0.81)
Medicaid age threshold 2			-0.0000907** (-2.06)	0.0000263 (0.55)
TANF Benefits at the 25th Percentile	-0.0000529 (-1.20)	-0.000000902 (-0.02)		
TANF Benefits at the 10 th Percentile			-0.0000533* (-1.70)	-0.0000406 (-1.31)
State Effects	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes
Regional Effects	Yes	Yes	Yes	Yes
<i>N</i>	162681	162681	162681	162681

Notes: The table reports marginal effects from a probit model with t-statistics in parentheses. All specifications include the following controls: Years of Education, Age, number of children, sex, marital status and dummies for 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.

* p<0.10, ** p<0.05, ***p<0.01