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Robyn Leslie
Oberlin College

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When it Pays More to Earn Less

Robyn Leslie¹

Oberlin Economics Department Honors Research (2009-2010)

Abstract:

The poorest individuals in the United States face some of the highest marginal tax rates on additional earned income. These tax rates arise from the benefit reduction rates of cash and in-kind transfer programs, and are often above 100%. Tax rates over 100% create a situation for low-income individuals where earning more leaves them with less after tax income. These implicit tax rates caused by welfare programs have an additive effect. If an individual participates in multiple welfare programs he or she will face a higher tax rate on his or her earned income. This study reveals that the structures of the federal welfare programs SNAP and HUD, cause participants who have a high cost of housing to experience higher marginal tax rates. In addition to federal programs, this study analyzes the TANF and Medicaid programs across five states. Within my five state sample, TANF programs that have a graduated system of work programs and relatively high per capita spending on TANF job assistance are more successful in encouraging participant self-sufficiency.

¹ The author thanks Barbara Craig, Ellis Tallman, Hirschel Kasper, Jonathan Lipow, and Mikayla Lytton for their comments and suggestions.

Introduction:

As illogical as it sounds, it often pays more for cash and in-kind transfer program participants to earn less. The network of welfare programs in the United States is designed to supply income support to families living in poverty. The support is provided either through cash benefits or in-kind transfers. Regardless of the method of transfer, these benefits have an estimated monetary value that reduces as income rises. This is called a withholding rate or a benefit reduction rate.

The general formula for the calculation of welfare benefits is,

$$B = G - (\text{benefit reduction rate}) * I$$

where B is the calculated benefit, G is the benefit guarantee or the maximum benefit, and I is income. If a welfare participant earns additional income in a given month, his or her benefits will decrease. The benefit reduction rate or withholding rate acts as an implicit tax on earned income. The key challenge of any assistance program is to provide participants with an incentive to work. Welfare programs that provide a graduated decline in benefits instead of a steep cutoff are less likely to create large implicit tax rates that cause work disincentives. Implicit tax rates of 100% completely eliminate the incentive to earn more money, as all earnings will be subtracted from benefits. One way to encourage work is through the structure of an assistance program. In the US, the responsibility for getting off welfare is often placed in the hands of participants instead of the welfare program, even though program structure can have a positive effect on participant self-sufficiency. This paper evaluates the work disincentives created in distinct welfare programs through implicit tax rates on earned income, and structural inequalities inherent in the calculation of benefits or income eligibility guidelines.

I will estimate the implicit tax rates created by benefit reduction rates for a specific family group (an assistance group) across five states. The states chosen for this analysis are Alabama, Massachusetts, New Mexico, Ohio, and Wisconsin. These states represent a sample of low and high per capita income states, as well as states with distinct approaches to welfare. I will examine the structure and implicit tax rates of the following programs: Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP), National School Lunch and Breakfast Programs, Special Supplemental Nutrition Program for Women Infants and Children (WIC), Medicaid, State Children's Healthcare Insurance Program (SCHIP), the Housing Choice Voucher Program (Section 8) run by the Department of Housing and Urban Development (HUD), and the Earned Income Tax Credit (EITC). My estimates will also incorporate the explicit tax rates faced by the assistance group under the federal and state income, and payroll taxes. The assistance group I will use for estimation is a hypothetical welfare group based on the most typical assistance group composition: a single mother with two children. I will compare the marginal tax rates she would face in different states as her income varies. This will be the theoretical basis of my analysis of the work disincentive effects created by the benefit reduction rates in each state. The analysis in this paper is time specific, and focuses on policies in place during October, November and December of 2008. This is because the federal fiscal year of 2009 begins in October 2008, while the Federal Poverty Level guidelines for 2009 begin in January 2009. Therefore, my model for the calculation of cash assistance benefits will be based on the 2008 Federal Poverty Levels (FPL), and the 2009 program guidelines for each state.

In addition to the calculation of tax rates, I will discuss the differences in TANF program structure between the states and how this contributes to work incentives and disincentives. The federal TANF administration, the Administration for Children and Families (ACF), evaluates all state TANF programs on a yearly basis and ranks them by their relative success in the workforce. ACF collects annual data from each state about their welfare program and participants, which is then used to determine success in the workforce. I will use this measure of success of each state TANF program in conjunction with per capita spending on TANF work-assistance programs, to analyze whether or not the structure of a state's welfare program provides a clear incentive for a participant to work.

In this paper I assume that all people involved with the calculation and distribution of welfare benefits follow the rules. We know empirically this is not the case, and that welfare participants supplement their benefits with additional unreported income.² This unreported income often comes in the form of off the books jobs, or cash from boyfriends or family. The high implicit tax rate on this additional income creates an incentive for fraudulent behavior. This incentive is interesting and worthy of discussion, but is not within the scope of this paper. This paper is intended as a theoretical analysis of the welfare policy in five states, and will deal with the policy as it is codified, assuming the best behavior of all participants.

The following section is a literature review of recent work involving the calculation, and implications of effective tax rates created by the benefit reduction rates of cash and in-kind transfer programs. Section III gives a brief outline of each of the programs I have chosen to include in my model, and an overview of basic characteristics of each of the five states. A full

² Edin, Kathryn, and Laura Lein. 1997. Making ends meet: How single mothers survive welfare and low-wage work: xxxi.

description of the programs analyzed in this study is located in Appendix 1. Section IV details the assumptions and methods I use in constructing a model for the calculation of benefits. Section V discusses the results from my model. In Section VI, I use TANF success rates and per capita income spent on TANF work-assistance to outline key difference between the distinct state TANF programs and their relation to program success. The results of this paper are used to give some policy suggestions in Section VII, and Section VIII concludes.

II. Literature Review

The literature on implicit tax rates faced by low-income individuals primarily deals with two issues. The first is the calculation of the marginal tax rates created by benefit reduction rates. The second is the negative effects these high marginal tax rates have on the labor supply of welfare participants.

Holt and Romich (2007), Dickert, Houser and Scholz (1994), and Meyer and Rosenbaum (2001) calculate the marginal tax rates on welfare participants earned income through the use of administrative data and/or national surveys. Meyer and Rosenbaum (2001) choose to model the federal and state tax system, AFDC³, food stamps and Medicaid. Dickert, Houser and Scholz (1994) select Supplemental Security Income (SSI)⁴, AFDC, Food Stamps and the state and federal taxation system for their analysis. Holt and Romich (2007) calculate the marginal tax rates faced by low-income individuals using the federal and state income tax systems, food stamps, subsidized childcare and Medicaid/SCHIP. Ziliak (2007) conducts a specific analysis of the marginal tax rates for AFDC and TANF from 1983 to 2002. Walden (1996) is the study that

³ Aid to Families with Dependent Children (AFDC) was the precursor to TANF. It had a similar structure to TANF, but had unlimited federal funds in form of a matching grant.

⁴ SSI is designed to provide income support for aged, blind and disabled individuals and is therefore excluded from my model of a program participant between the ages of 25-55 and non-disabled.

most closely relates to mine. He examines the effective tax rates faced by North Carolina participants in ADFC, food stamps, HUD housing vouchers, Medicaid, EITC, and state and federal income taxes. I will update Walden's estimates to include TANF instead of AFDC. I will also use a larger set of welfare programs for my analysis, and compare the safety net these programs create in five different states.

The literature centers on the analysis of the implicit tax rates and work disincentives for a single mother and two children. Walden (1996), Meyer and Rosenbaum (2001), Holt and Romich (2007) all choose this assistance group for analysis and other authors reference this assistance group. Meyer and Rosenbaum (2001) use the merged Current Population Survey (CPS) Outgoing Rotation Groups data to determine the wages and income distribution of welfare participants. They conclude that the expansion of the EITC was largely responsible for the increase in hours of labor supplied by single mothers from 1984 to 1996. An increase in the maximum benefits in the AFDC program, and a decrease in the implicit tax rate on earned income under the same program also had a significant positive effect on single mothers' labor supply.⁵

A common finding in past research is that not all individuals who qualify for assistance programs participate. Meyer and Rosenbaum (2001) estimate the transaction costs of applying and qualifying for welfare at around a few thousand dollars, which would be a significant deterrent. Holt and Romich (2007) agree with this finding. These studies would suggest that it is a mistake to assume full participation. However, they warn that examining programs independent of one another can lead to biases in the estimated behavioral effects. Holt and Romich (2007) as well as Walden (1996) find that participating in one or more transfer program increases the

⁵ They also find that, contrary to the theory, the Medicaid expansion that went on during the same time period had either a small or negative effect on single mother's labor supply.

marginal tax rate on earned income. I assume that my assistance group participates in every program for which they are eligible, which will cause my estimates to be higher than those calculated with administrative data in the literature. Dickert, Houser and Scholz (1994) and Ziliak (2007) share the finding that when a state maximum benefit for AFDC/TANF is above average, then the effective tax rate faced by participants is above average. This would suggest that high implicit tax rates are a consequence of a larger safety net.⁶

Ziliak (2007) measures the aggressiveness of states' adoption of federal TANF welfare reform after the 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA). The aggressiveness measure attempts to capture how quickly reforms were made, and the extent of change from the AFDC model. Ziliak compiles various methods used by other authors to compare the states' response to welfare reform. The states I have chosen to analyze fit distribute evenly across the spectrum of his aggressiveness index. The least aggressive states in my sample are Alabama and New Mexico, followed by Massachusetts and Ohio at the same level, with Wisconsin being the most aggressive state in the union.

Meyer and Rosenbaum (2001) briefly mention the importance of TANF training and job search assistance for future employment. They find that training and education has a short run negative effect on employment, and that job search assistance has a stronger effect on employment.

This paper examines the effect that program structure has on work incentives by mitigating high implicit tax rates. I will broaden the analysis found in the literature on the effect of program structure on work incentives, and the interaction of program structure and the benefit reduction rates of distinct welfare programs.

⁶ This is logical because the more an individual has to lose in terms of cash benefits, the more they will have to gain in earnings to outweigh the loss of benefits. The benefit reduction rate is higher in states that have a larger benefit guarantee.

III. Benefit Programs and State Descriptions

I will first outline some basic poverty statistics for reference throughout this project. I will then give a brief description of the benefit programs involved in this study, including the percentage of the population that participates in a given program. This section will finish with state specific poverty data.

The Federal Poverty Level (FPL) for a family of three in 2008 was \$17,600 of annual income. This equals \$1,467 per month. If an individual works a full-time job and receives the 2008 minimum wage in payment they will earn \$13,642 in annual gross income,⁷ or \$1,135 in monthly income. Even if an individual is employed full-time at the minimum wage they will fall below the poverty line and qualify for cash and in-kind transfer programs. According to the US Census Bureau, in 2008 13.2% of the US population was below the Federal Poverty Line. The Federal Poverty Line is 100% FPL and 13.2% of the population in 2008 was 40,177,480 people.

What follows is a brief description of the different programs that are incorporated in my paper. For a full explanation of these programs see Appendix 1. TANF, Medicaid, and SCHIP are all state run programs that are jointly funded by the individual state governments and the federal government. TANF gives needy families cash assistance, and helps individuals find and keep a job. Medicaid provides health insurance for low-income individuals, and SCHIP is an extension of Medicaid that covers children at higher levels of income. SNAP is an in-kind transfer program that offers food assistance. There is an additional food assistance program called WIC, which provides funds for malnourished mothers and young children to buy healthy foods. The National School Lunch and Breakfast programs supplies free or reduced price lunches to students from low-income families. Lower income individuals are able to receive a housing

⁷ Full time work assumes a 40-hour week, 52 weeks out of the year. The federal minimum wage in from July 2008 through July 2009 is \$6.55 an hour.

subsidy through HUD Section 8. One of the most prevalent cash transfer programs is actually tied to the federal tax system, the Earned Income Tax Credit (EITC). The EITC provides a refundable tax credit for families and individuals who earn little money but are working.

All of these programs have different rates of participation, and as mentioned before most people do not take advantage of all programs for which they qualify. In this paragraph I report the participation rates of all the programs in my study for the year 2008, as a percentage of the total US population. TANF supported 1.2% of the population in 2008,⁸ and Medicaid or SCHIP insured over 17% of the population. The percentage of the population who inhabited housing subsidized through HUD Section 8 was 1.7%, in 2,209,675 housing units. The EITC has become the largest cash transfer program in the US. In 2007, 8.1% of people who filed tax returns claimed the EITC. Unfortunately the data is not yet available for year 2008, but I assume that the number of claimants increased because of the economic downturn, and the steady increasing trend present in the years leading up to 2008. SNAP provided food assistance for 9.4% of the population, and 2.9% of the population received benefits from WIC. In 2008, 60.1% of all the lunches served by the public school system were free or reduced price. The percentage of breakfasts that were free or reduced price in 2008 was 80.6%. The School Meals programs supply food for well over half of public school students every breakfast and lunch.

It is difficult to estimate the exact percentage of the population effected by the implicit tax rates created by these programs, because there is overlap in program participation. Haveman, *et al.* (2002) find that the most common combination of welfare programs for a mother is ADFC/TANF, Medicaid and Food Stamps/SNAP. Holt and Romich (2007) find that an individual is almost as likely to use 2 to 3 transfer programs, as they are to use only one. This

⁸ TANF had an average number of 3,782,455 recipients through the year.

suggests that it is common for individuals to participate in more than one transfer program. An upper bound on the percentage of the population effected is 40.3%, the sum of all program participants as a percentage of the population.⁹ It is not true that 40.3% of the US population is below or close to the poverty line. This data supports the assumption that multiple program participation is common.

I will now present some basic information about the five states I've chosen to study. The tables below contain relevant data pertaining to each state for ease of comparison. Each state operates an independent TANF and Medicaid program, with different income levels where cash assistance or coverage is lost. For reference I also present the percentage of the population in each state that makes income at or below the Federal Poverty Level (FPL) at the 100% and 200% level. The unemployment rate in each state is an average of the unemployment rates in October, November and December 2008. The median state income is specifically for a family of three. Unless otherwise noted, all of the income amounts in the table are in terms of gross monthly income.

| State | TANF Program | Income Threshold for TANF | FPL where TANF Ends | Income Threshold for Job Assistance and Training | Income Threshold for Adult Medicaid | FPL where Adult Medicaid Ends | Income Threshold for Child Medicaid | FPL where Child Medicaid Ends |
|---------------|-------------------|---------------------------|---------------------|--|-------------------------------------|-------------------------------|-------------------------------------|-------------------------------|
| Alabama | Family Assistance | \$300 | 20% | NA | \$300 | 20% | \$4,500 | 300% |
| Massachusetts | TAFDC | \$1,100 | 75% | \$1,100 | \$2,900 | 200% | \$4,500 | 300% |
| New Mexico | NM Works | \$200 | 14% | \$1,467 | \$1,300 | 89% | \$3,500 | 240% |
| Ohio | Ohio Works First | \$800 | 55% | \$3,000 | \$0 | NA | \$3,100 | 211% |
| Wisconsin | W-2 | \$1,687 | 115% | \$1,687 | \$3,000 | 200% | No Threshold | NA |

| State | Pop. Below 100% FPL | Pop. Below 200% FPL | Average Unemployment rate | Median State Income | Annual Gross State Product (in billions) | Pop. Rank |
|---------------|---------------------|---------------------|---------------------------|---------------------|--|-----------|
| Alabama | 14.3% | 32.4% | 6.1% | \$46,500 | \$170 | 23 |
| Massachusetts | 11.3% | 22.3% | 6.1% | \$70,400 | \$365 | 15 |
| New Mexico | 19.3% | 40.1% | 4.6% | \$45,500 | \$80 | 36 |
| Ohio | 13.7% | 29.2% | 7.1% | \$53,100 | \$471.5 | 7 |
| Wisconsin | 9.8% | 24.7% | 5.4% | \$57,300 | \$240.5 | 20 |

⁹ This number does not include School Meals participants.

The major industries vary widely between the states, ranging from higher education in Massachusetts to manufacturing and farming in Alabama. Some states have certain characteristics worth mentioning. New Mexico's population contains the highest percentage of native peoples of any state, and receives large amounts of federal funding for air force bases and laboratories in the state. In 2006 Massachusetts implemented state wide healthcare reform requiring universal health insurance. Wisconsin also has an interesting prescription drug program available to all Wisconsin residents. Badger Rx Gold is a membership program where the state of Wisconsin negotiates lower drug prices for Wisconsin residents.

IV. The Model

I have modeled TANF, SNAP, WIC, National School Lunch and School Breakfast, the Housing Vouchers Program, Medicaid, the EITC, and their interaction with the federal and state income, and payroll tax systems. Included as well are the supplemental Wisconsin Earned Income Credit (EIC) and FoodShare programs that are run with state funds. For an outline of the equations used for these calculations please see Appendix 2.

I will employ this model of cash assistance programs to calculate the marginal tax rates faced by the assistance group in five different states. I allow gross monthly income vary from \$0 to \$5,000, in increments of \$100. The total amount of cash benefits will be calculated for each income level by comparing the difference between total benefits and total liabilities. The tax rate on an individual's next \$100 of earnings in period 1 will be,

$$MTR_1 = [(Benefits_2 - Liabilities_2) - (Benefits_1 - Liabilities_1)]/100$$

where MTR stands for the marginal tax rate and subscript 2 refers to the period that follows period 1. In modeling the various Federal programs along with the individual state Medicaid and

TANF programs, I made certain assumptions that can affect the calculation of the resulting marginal tax rates.

I have chosen to analyze the marginal tax rates faced by a single mother and two children. The two children will be assumed to be between age 2 and 18, their mother employed, and no member of the household has a disability. All of their income will be earned income, without any cash gifts or unearned income other than program benefits. As discussed earlier most single mothers on welfare supplement their earned income with unreported income. It is logical to assume that income is more likely to go unreported if it isn't documented, such as cash gifts. Therefore, my assumption that the mother earns all of her income is likely accurate from the perspective of welfare administration. In addition, at no point during this analysis is the mother pregnant, or is the family outside the federal time limit on TANF receipt.¹⁰ I assume that the family lives in a two-bedroom apartment in the largest city in each state, which is the most probable location for a welfare assistance group. In their study of the distribution of welfare participants within a state, Waller and Berube (2001) find that there is a high concentration of welfare recipients in urban centers.

Medicaid is not a cash benefit, but is an important program to include in my analysis. I will need to estimate the monthly monetary value of Medicaid to incorporate it into my analysis of marginal tax rates. Following Meyer and Rosenbaum (2001), I use administrative data available through the Centers for Medicaid and Medicare to back out the average expenditure for an adult and a child in the year 2004. Unfortunately the data is not available past 2004, but using the Medical Care section of the Consumer Price Index generated by the Bureau of Labor Statistics I

¹⁰ The time limit on federal TANF receipt is 60 months. I must assume that the assistance group is within this time limit and not in their 59th month of benefits at any point because the work disincentive will be distorted as the end of cash benefits approaches. If an individual knows they will stop receiving benefits soon, they will have a large work incentive, and there will be no tax rate applied to their income in the next period because they will no longer be receiving TANF even if they are income eligible.

adjust the estimates from 2004, to produce the 2008 equivalents.

There are many problems with this estimation, the largest being that I am trying to assign monetary value to publicly provided health insurance coverage. Restricted cash and in-kind transfers are hard to estimate because their value depends on the individuals' utility function and personal preferences. I cannot know the value of health insurance to an individual because it depends on how that individual values health insurance in comparison with other needs. Theory would suggest that Medicaid is worth less than its monetary value to an individual because it doesn't allow redistribution of the funds to fit the individual's utility function. Calculating the monetary value of Medicaid in this manner assumes that the spending pattern of Medicaid per consumer is unchanged month to month for the assistance group. This is rarely the case because healthcare costs, and hence the implicit value of benefits, for an individual vary widely between months. As such, the implicit tax rate on Medicaid will probably be overestimated because of the estimation problems listed above.

I decided not to include Medicaid co-payments in the calculations of total liabilities. This is both because of the difficulty of their estimation and their limited monetary importance. In order to create an estimate of the average monthly co-payments I would first need an estimate of how often a person utilizes a specific medical service. Since individuals do not maintain uniform consumption of medical services across different months, this estimate would necessarily be completely inaccurate for the majority of months. The co-payments are also all within the \$1 to \$25 range, with the majority of co-payments for appointments with a doctor around \$3 to \$5 and ER visits around \$5 to \$10. The estimated monetary value of Medicaid per month ranges from \$100 to \$300. The \$1 to \$10 an individual would likely spend a month on co-payments are not a valuable contribution to this analysis.

I determine the monetary value of monthly WIC benefits through the use of the data available on the Food and Nutrition Service website. The program data provides the average monthly benefit per person. I assume that this average is the monthly WIC benefit for my assistance unit for all months they are income eligible. By making this assumption I lose any variation in benefits that could be caused by the children aging. As children from a certain family age, WIC benefits are reduced. The equations I use to model WIC structure the program benefits in a way that creates one implicit tax rate equal to the value of the benefits. This one implicit tax rate will occur where income eligibility ends for WIC.

In Massachusetts income eligibility and the benefit calculation for TANF depend on whether or not an individual lives in subsidized housing. For simplicity I assume my representative household lives in subsidized housing up to the level of income where they no longer qualify for the HUD housing voucher program.

New Mexico's resource limits for TANF are \$1,500 in liquid resources and \$2,000 in non-liquid resources. Because the definitions of liquid and illiquid assets are not available, I assume that liquid resources are income, and illiquid resources are items such as houses and cars. In that case, I am going to assume that the resource limit for New Mexico is \$1,500, because my representative individual does not own a house or a car.

In computing the federal payroll and state unemployment tax rates I have assumed that the State unemployment tax rate is the mean of the minimum and maximum rate for companies in the given state. The estimate of unemployment tax liability this produces may be too low a number.

In the calculation of the Alabama state income tax I make a simplifying assumption that will raise the tax liability of the family in Alabama for at least half the sample. The standard

deduction from state income tax for a family in Alabama varies with every \$500 change in annual income. The deduction is \$2,500 when income is zero, and decreases incrementally to \$2,000 as income rises to \$30,000. I will use \$2,000 as the standard deduction for all incomes that require an individual in Alabama to file a tax return.

I made a large compromise in the calculation of TANF in Ohio. For Ohio Works First, the definition of income includes unearned income from any needs-tested transfer program. The problem is that all the other programs use TANF in their definition of income, and this creates a circular feedback between all the programs. I calculate the TANF benefit as if the family did not receive any other cash assistance. This will make the imputed Ohio benefits higher than actual benefits for families receiving these types of cash assistance. If I did not make this assumption then a household that participates in TANF and any other cash assistance program will, after adjustment, have a TANF benefit equal to zero.

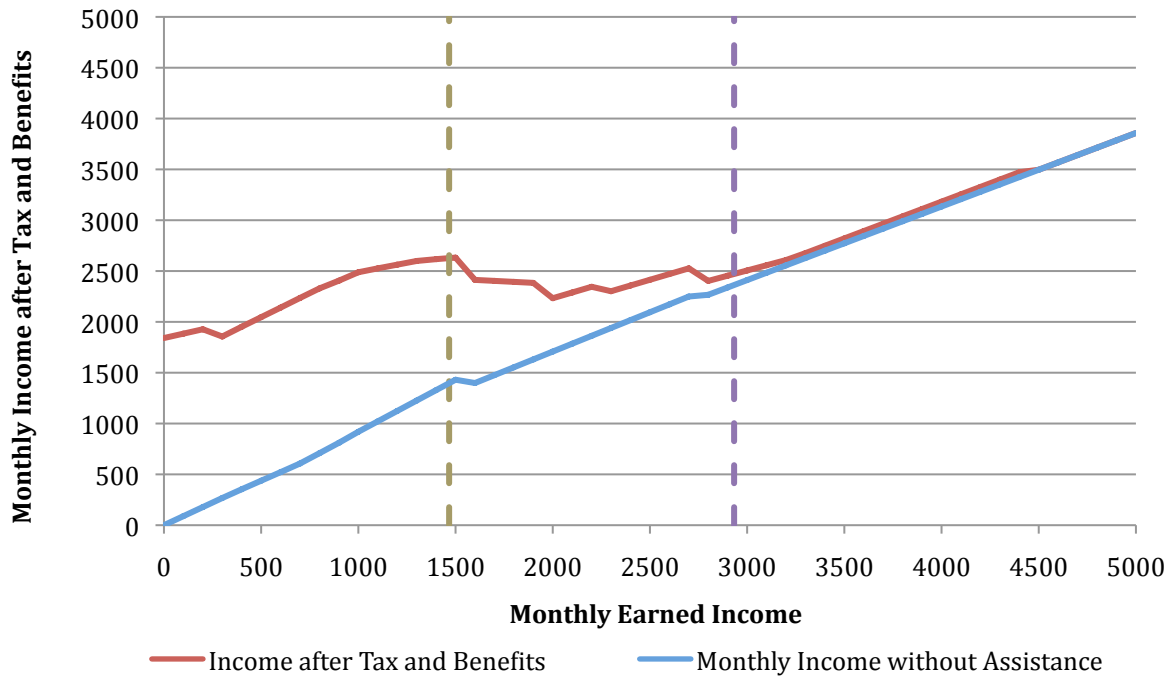
Following these assumptions I have mapped the effective tax rates for a single mother and two children from \$0 to \$5,000 of earnings a month.

V. Results

The first half of the results section will be devoted to the graphical analysis of each state. I will present tables of the implicit tax rate data generated by my model in the second half of my result section.

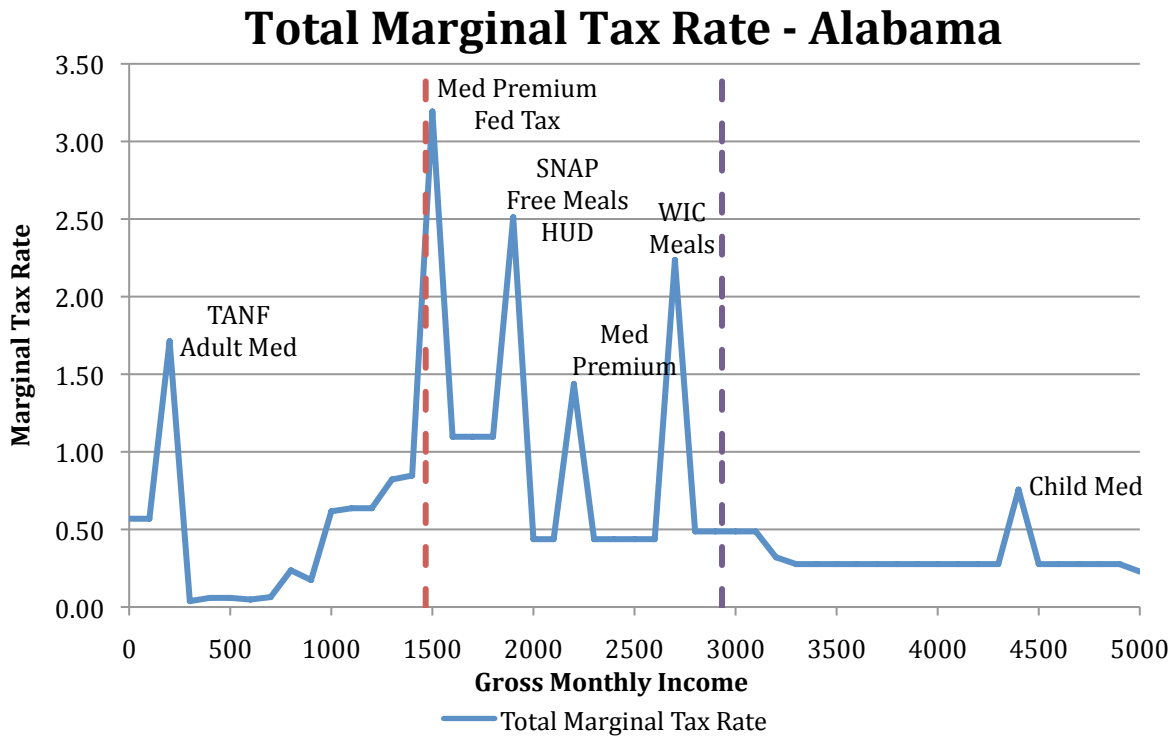
The question is: when does it pay more to earn less? In Figure 1 you can see there is an interval where earned income rises, but income after tax and benefits falls.

Income after Tax and Benefits - Alabama



It pays more to earn less over the interval where the slope of the income after tax and benefits line is negative. The monthly income without assistance line represents monthly income without assistance, subject to the federal and state systems. The income after tax and benefits line represents income with full program participation. The two vertical dashed lines represent 100% and 200% FPL. Alabama has a relatively shallow trough in benefits, less than \$500 in monthly income. In order for a single mother with children to maintain the same income she has at \$1,500 in monthly earned income with program participation, she will have to earn over \$3,100, more than double her earlier income. This means that she will have to earn an hourly wage of \$19.38 to attain the same level of income she has when participating in benefit programs and earning a wage of \$9.38. As stated before, this is a comparatively small trough, partly because Alabama has a relatively small safety net, and also because Alabama employs a stringent premium system for Medicaid. Medicaid can create some of the largest marginal tax rates on earned income, and decreasing the monetary benefit of Medicaid as income rises will

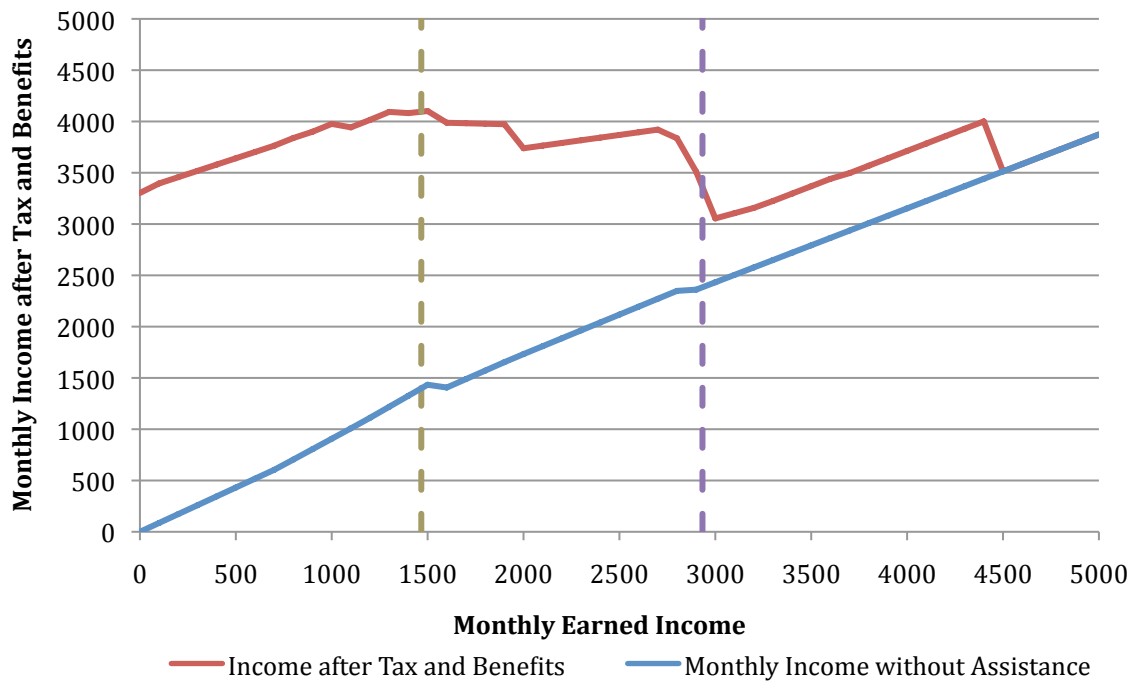
keep the marginal tax rate associated with the loss of Medicaid benefits low. The Alabama premium system decreases the monetary benefit of Children’s Medicaid to less than \$50 before income eligibility is lost. This is 1/5 of the original benefit.



The losses of benefits that create the trough in the last graph are identifiable in this one. The general pattern of benefits followed by welfare programs is that the calculated benefit will reduce at the benefit reduction rate as income rises until income eligibility is lost. When income eligibility is lost the marginal tax rate on the next \$100 of earned income is the remaining monetary value of the cash benefit. Each label on this graph indicates where a program loses income eligibility, or where Medicaid premiums begin. The term “Fed Tax” on the graph indicates where the child tax credit ceases to be refundable and the assistance group starts to pay federal income tax.

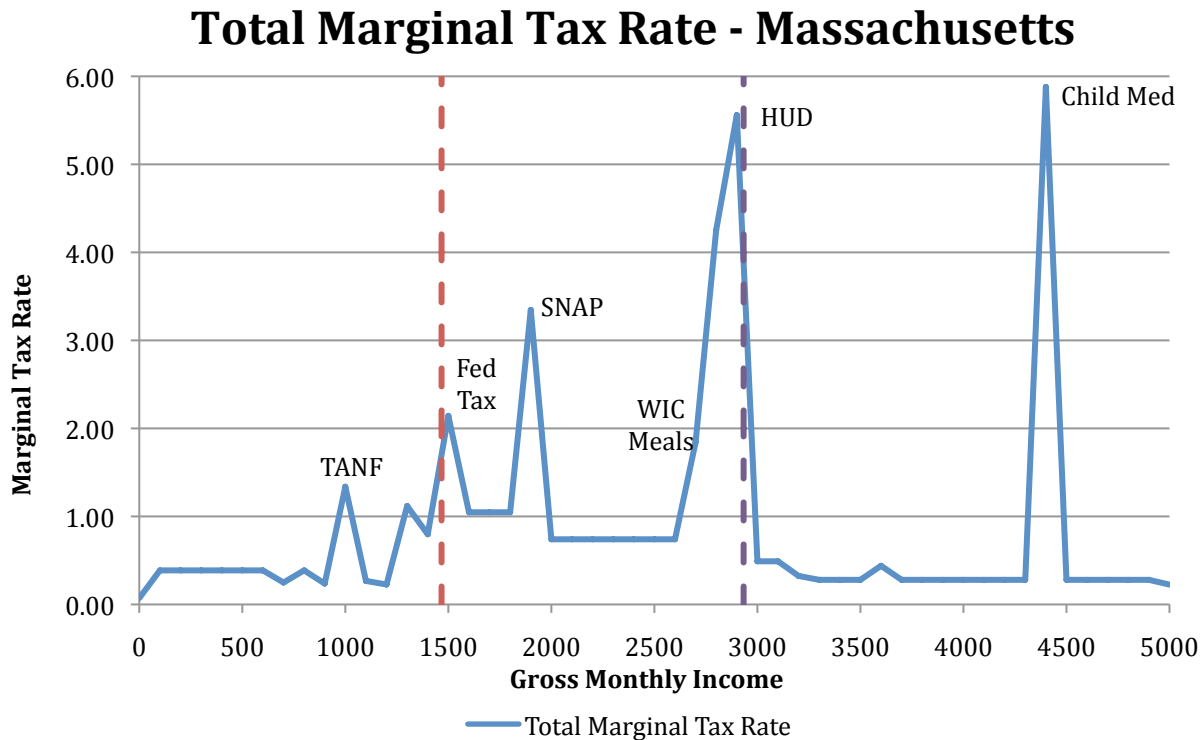
Alabama’s Medicaid premiums occur in \$100 increments once a certain Federal Poverty Level is attained. When each stage of the Medicaid premium system is triggered, there is a 100% tax rate created. This contributes to the high tax rate of 319% at \$1,500 in monthly earnings. The assistance group in Alabama will lose SNAP, HUD and free school meals benefit all at the same time. However, this tax rate is low in comparison to the tax rates created by the loss of SNAP and HUD in other states. One important thing to note is the scale of this graph, because the spikes in the blue line may look to be of comparable size in the next graphs but it entirely depends on the scale. This graph varies from 0-350% tax rates, whereas Massachusetts varies from 0-600%.

Income after Tax and Benefits - Massachusetts



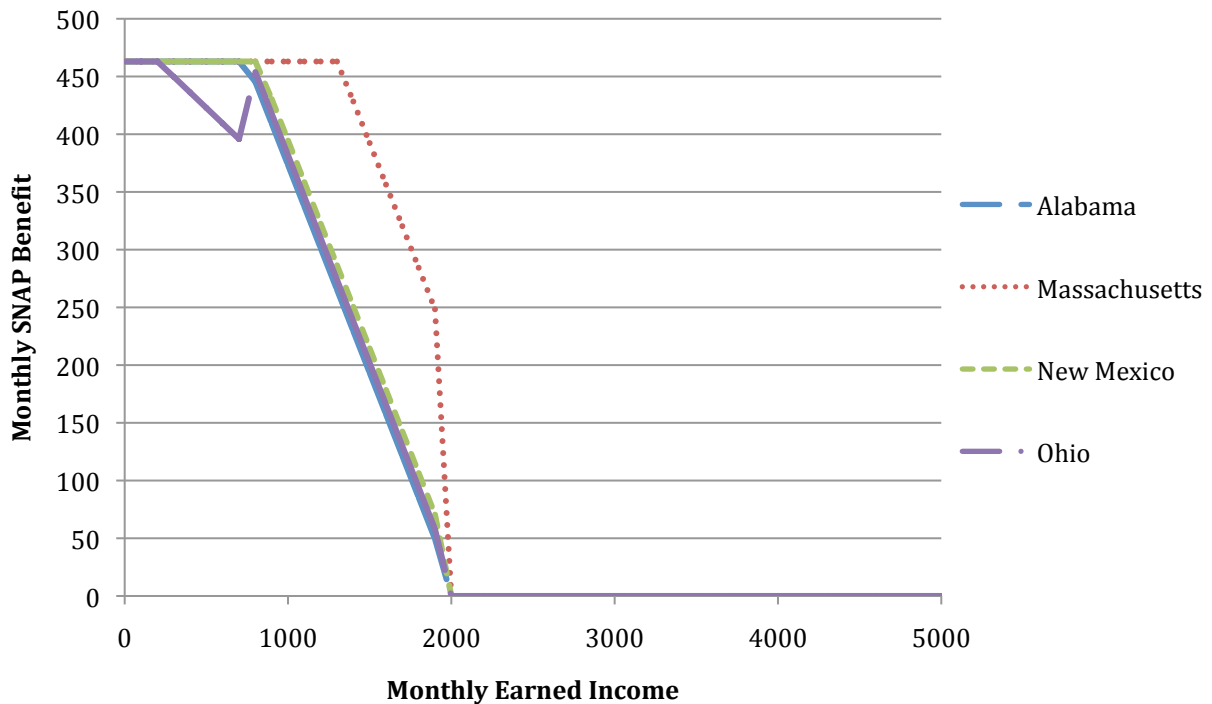
Massachusetts has the most dramatic trough of any state in my sample. Benefits fall approximately \$1000 between 100% FPL and 200% FPL. Again, this is between \$17,600 and \$35,200 in annual income for a family of three. A single mother’s wage in Massachusetts would

need a rise from \$9.38 to \$27.5 an hour working full time in order to have the same income as she does at 1,500 a month of earned income with benefits.

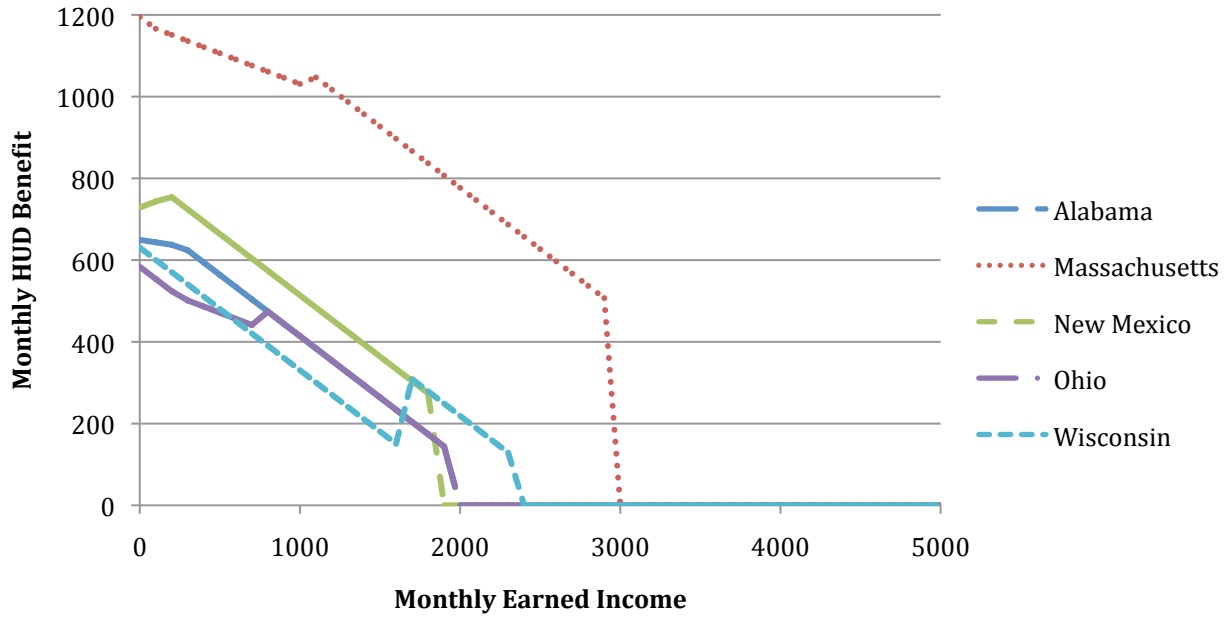


The loss of HUD and Child Medicaid cause the sharp downward motion we saw on the last graph. The reason the tax rate for Child Medicaid is so high is because Massachusetts employs a premium system that changes minimally as income rises with respect to the overall monetary benefit for child Medicaid. This negates the ability of the Massachusetts premium system to act as a form of cost sharing as income rises. Massachusetts also spends the most per child recipient of Medicaid, which contributes to the very high tax rate. The tax rates for the loss of SNAP and HUD are significantly higher in Massachusetts than Alabama. The income eligibility for SNAP is done on a national basis, where the income limit for benefit receipt is 130%. In contrast, the benefit calculation takes local cost of housing into account. Higher cost of housing results in a higher benefit for individuals with the same earned income. The problem

with a national income eligibility limit is that assistance groups that have a relatively high cost of living and participate in SNAP, will face a benefit cliff at the end of income eligibility. The benefit reduction rate of SNAP, which is on average 36%, will make the transition off SNAP smoother in lower cost of living states.



HUD income eligibility limits are more variable than SNAP income eligibility limits, but present the same problem inside each state. The eligibility limit for HUD is 50% of the median state income. This causes individuals who live in cities (higher cost of housing) in a given state rather than in rural areas to experience the same type of benefit cliff created by the structure of SNAP eligibility and benefits. This is especially worrisome because individuals below the federal poverty line concentrate disproportionately in cities.



When the line tracing Massachusetts’ HUD benefit line goes vertical it signifies a benefit cliff.¹¹ None of the other states experience the type of benefit cliff that Massachusetts Boston residents do. The problem with macro income eligibility limits is that they will cause a severe work disincentive right before eligibility is lost for participants that live in relatively higher cost of living areas. As a result of the income eligibility limits and benefit calculations of SNAP and HUD, participants have a tax rate disadvantage if they live in high cost of living areas.

New Mexico has a deeper and longer dip in benefits than Alabama, whose welfare guarantees are most comparable to New Mexico’s.

¹¹ The jog in the Wisconsin line represents the loss of TANF benefits, which increases the HUD benefit.

Income after Tax and Benefits - New Mexico

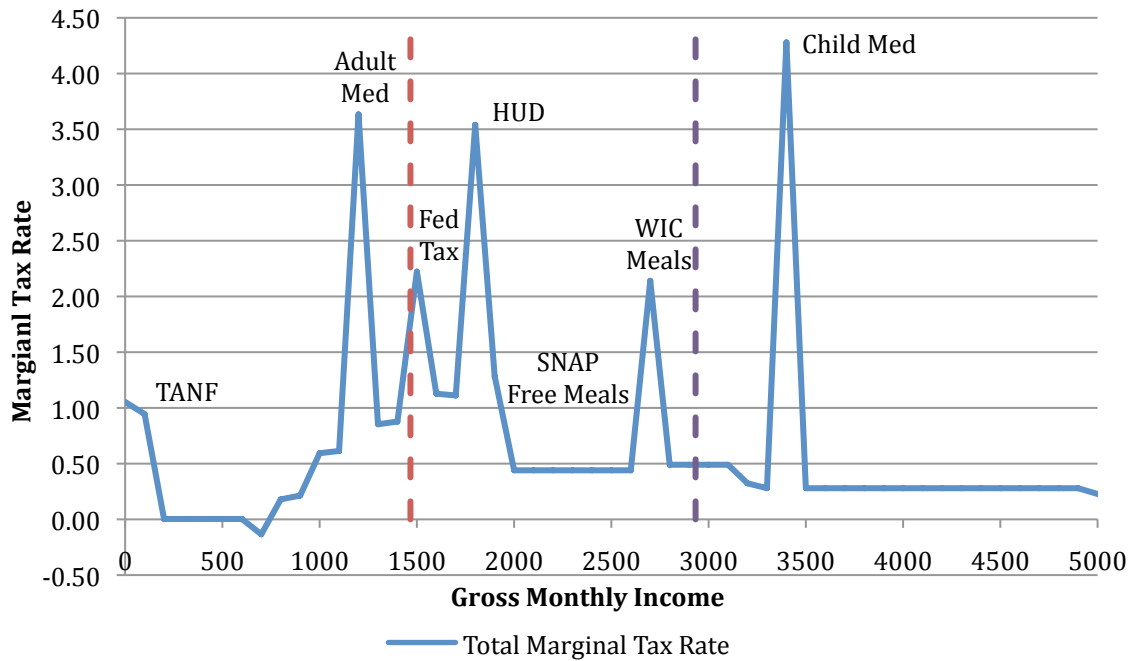


The loss of benefits isn't as severe as Massachusetts, but the trough is long, and it will take the single mother of the assistance group a relatively longer period of time (in terms of wages gained) to earn the same level of income without benefits. The past three examples of benefit troughs have demonstrated that a large gain in wages is needed to overcome the reduction in benefits that occurs between 100 and 200% of FPL. Congress stated that its definition of "needy" is at or below 200% FPL. Other sources site the interval between 100 and 200% FPL as "low-income." It is counter-productive to create a system that provides income support, but takes it away right when families are attaining stability.

One argument for the high implicit tax rates on earned income is that if welfare programs are too attractive they will attract a larger portion of the population, to the detriment of the originally targeted population. The broader attraction to a program is only an issue if the program's funding is capped, or there are administrative barriers to an increased case load.

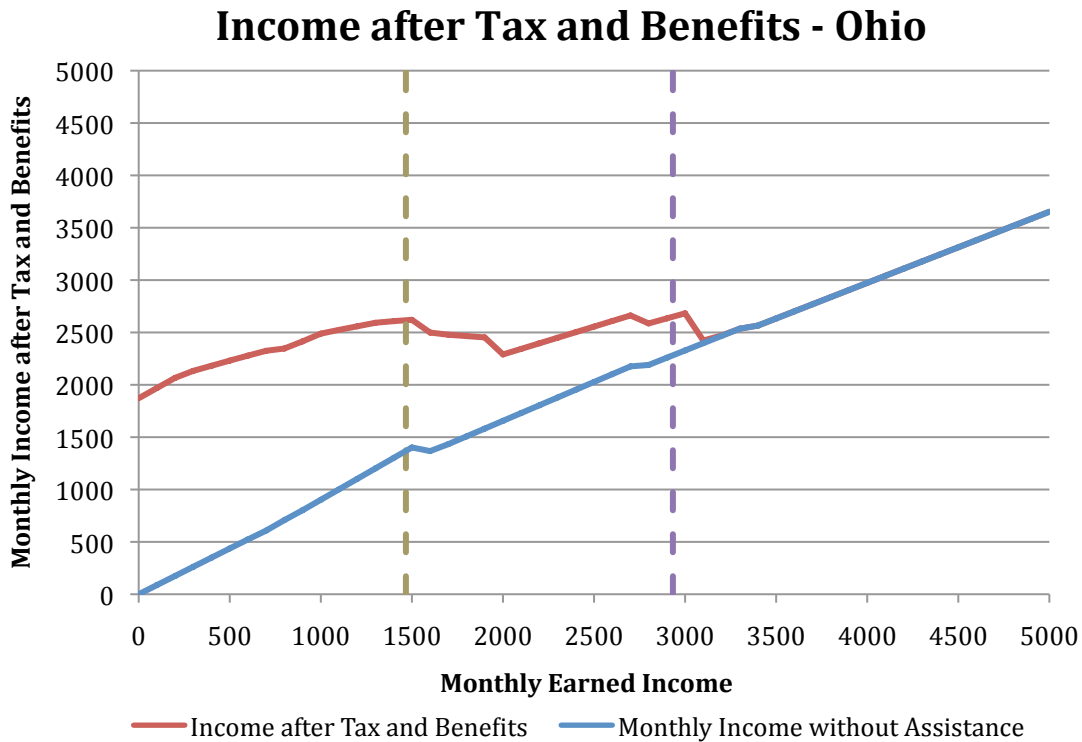
I would argue that a larger problem than making welfare programs too attractive is not encouraging those already using them to work. These tax rates are a significant barrier to work, which is in turn a barrier to self-sufficiency.

Total Marginal Tax Rate - New Mexico



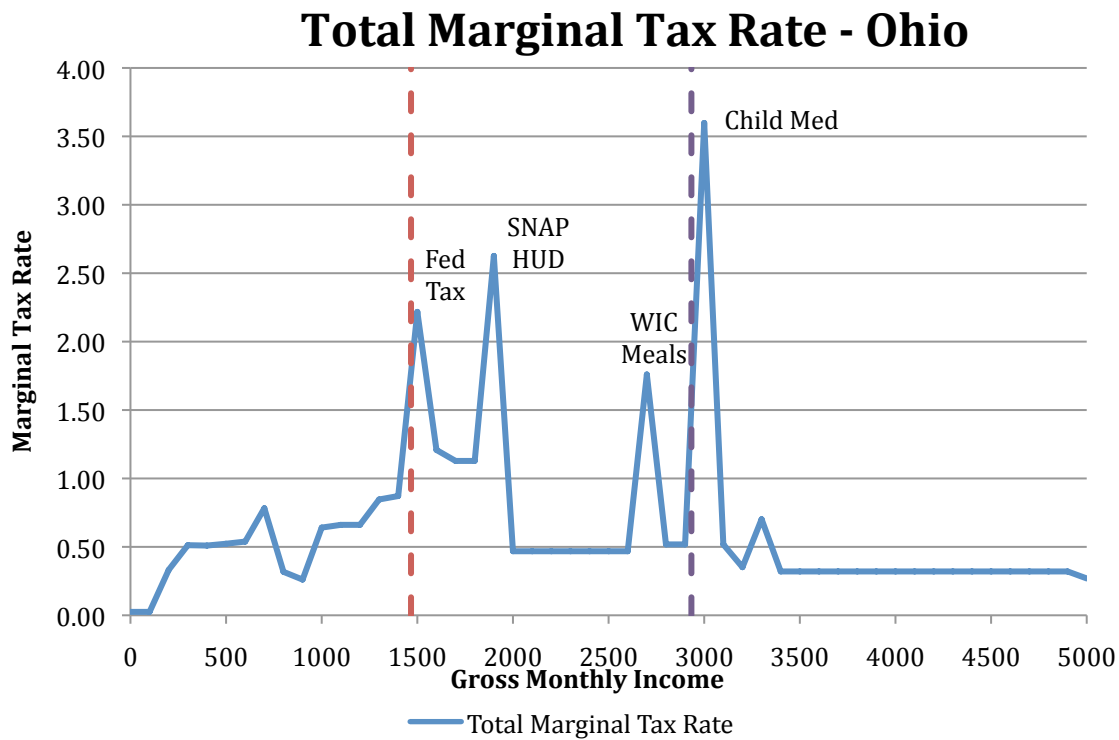
The tax rate spikes are more spread out in New Mexico, partly what causes the long low trough we saw in the last graph. The reason there are such high tax rates at the loss of Child and Adult Medicaid, is because New Mexico does not utilize any premium system in their Medicaid program. The interaction of HUD and SNAP with the cost of living in New Mexico is further evidence that there are lower tax rates at the loss of SNAP and HUD benefits for individuals who have a lower cost of housing. Average monthly rent in Boston for a two bedroom apartment is \$1,353, in Albuquerque it is \$760 a month. The marginal tax rate for the loss of HUD benefits is over 500% for residents of Boston, versus 274% in Albuquerque.

Ohio has the shallowest trough of all five states. Benefits drop a little over \$300 before income begins an upward trend.



There is less to lose in Ohio in comparison with Wisconsin or Massachusetts, but the loss is also smoother than in either of those other states. Ohio is the least generous state in terms of Medicaid, but this doesn't mean there is no tax rates associated with Medicaid. The last dive of benefits right before income after tax and benefits meets income without assistance is caused by the loss of income eligibility for Child Medicaid.

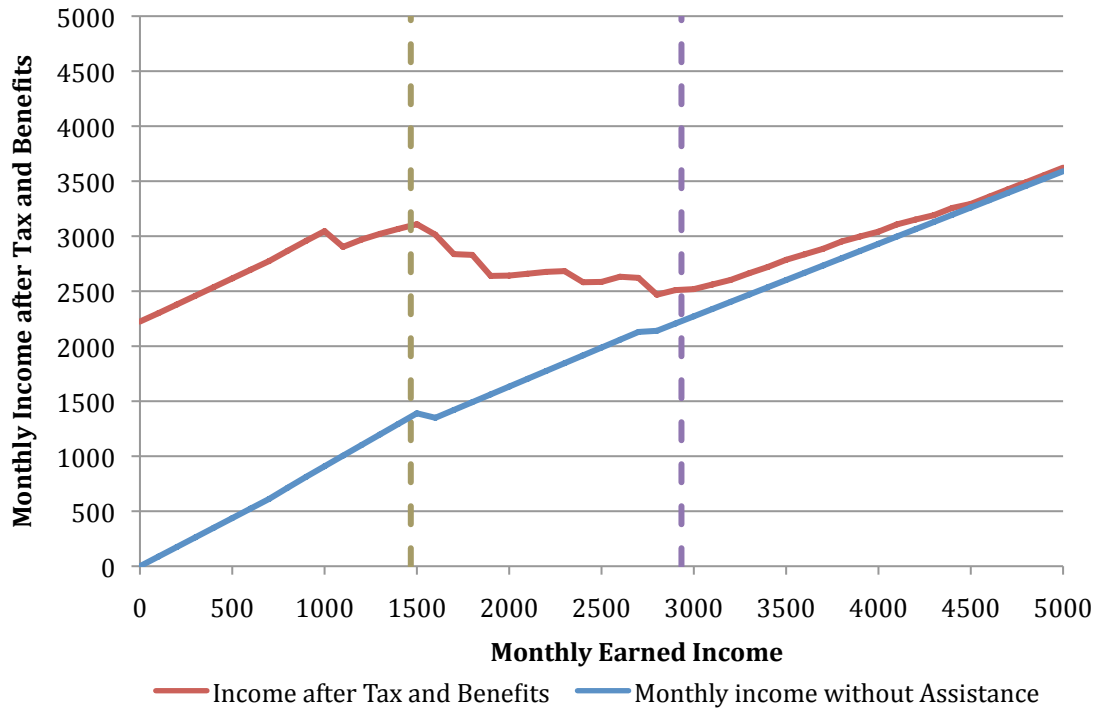
The loss of child Medicaid causes a large marginal tax rate on earned income, partly because Ohio also does not employ a premium system in their Medicaid program.



Ohio generates the fewest marginal tax rate barriers to increased income. The majority of the over 100% marginal tax rates on earned income in Ohio are caused by Federal programs. While TANF cash assistance is not generous, Ohio’s TANF jobs program is extensive. It is called Prevention Retention and Contingency (PRC) and it supplies job services up to \$3,000 in monthly income, over 200% FPL. This will be important in later analysis. Under the assumptions that I make in modeling Medicaid in Ohio, an adult resident that participates in TANF will not qualify for Medicaid.

Wisconsin has an over \$500 drop in benefits, but it happens very gradually. The peak in benefits occurs at \$1,500 in monthly income, and the bottom of the trough is at \$3,000 in monthly income.

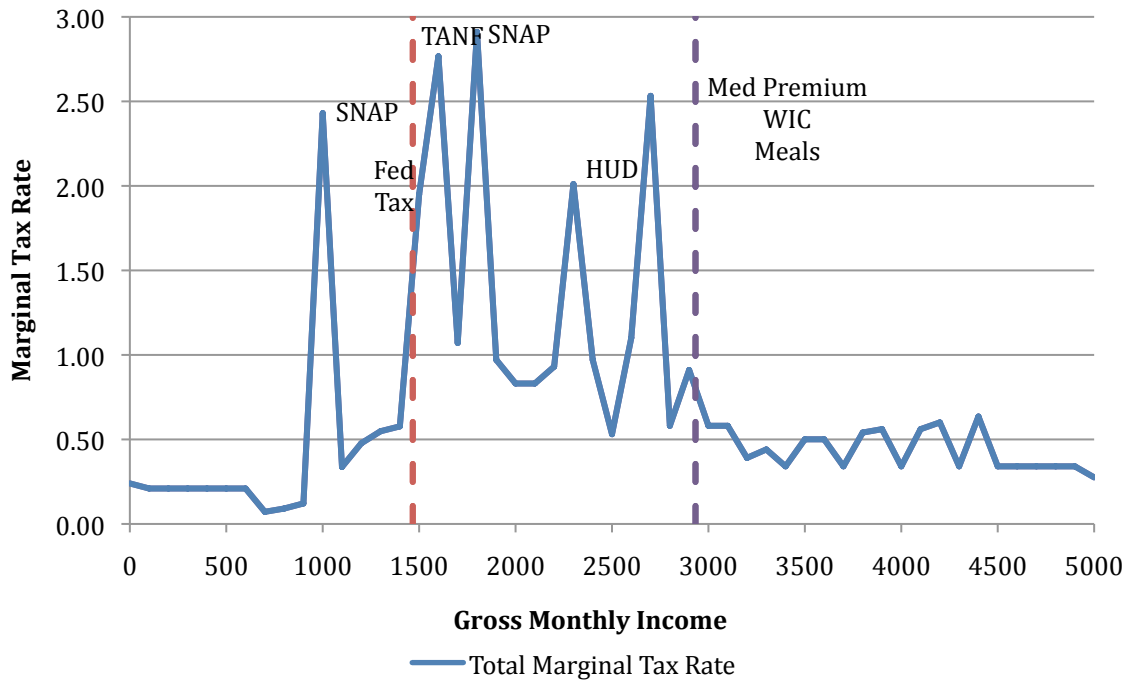
Income after Tax and Benefits - Wisconsin



A single mother will have the same income at \$1,500 and at \$4,100 in monthly income. This means that a single mother must make an hourly wage of \$25.6 to earn the same income that she has at a wage of \$9.38 with benefits. This is the second largest gap in the wage differential that equates income for welfare participants and individuals not using assistance. Only Massachusetts requires a higher wage to attain the same level of income after benefits start decreasing.

Wisconsin needs the smallest scale for total marginal tax rates of any state. The tax rates on additional earned income never rise above 300%.

Total Marginal Tax Rate - Wisconsin



FoodShare is Wisconsin’s addendum to SNAP that raises the benefit guarantee of SNAP and lowers the average marginal tax rate. According to theory this makes FoodShare a superior program in terms of work incentives for a single mother.¹² However, the structure of FoodShare mimics the same mistake as the federal programs; benefits are higher for higher cost of living, but the income eligibility limit remains constant over the state. The reason there are two high marginal tax rates is because of the loss of TANF income causes the assistance group to qualify for SNAP again, only to be income ineligible shortly after.

One of the highest tax rates can also be ignored in terms of incentives. Wisconsin TANF is structured in a way that diminishes the work disincentive created by the loss of TANF cash benefits. Wisconsin operates a graduated ladder of work options that requires work to receive cash assistance, and where cash benefits are directly tied to participation in a given work program. The ladder begins with a mostly training work option for individuals who face serious

¹² Meyer and Rosenbaum (2001)

barriers to employment, and proceeds through subsidized employment. The subsidy is paid directly to the employer in return for on the job training of the participant, and the participant receives a full wage. On each rung of the work ladder, there is an associated TANF cash benefit that does not vary with income. The amount is over \$600 per month, and increases as the individual climbs the ladder to unsubsidized employment. Because 30 hours of work a week is required of all TANF program participants, there can be very little work disincentive as individuals leave TANF because they will already be working. There is another incentive in the Wisconsin TANF system that is powerful and encourages work: higher income. Each step closer to unsubsidized employment earns the TANF participant a larger monthly benefit. When the individual begins to work in a subsidized work option they will earn more at the federal minimum wage working 30 hours a week than they will on TANF. There is a direct income incentive to progress up the ladder, with minimal extra effort being asked of participants. The jagged end of the tax rate graph is caused by the steadily increasing premiums that Wisconsin employs in its Medicaid program. Wisconsin has the best structured Medicaid premium program. It asks participants to pay non-trivial portions of their health insurance costs as their income rises.

Even though Massachusetts and Wisconsin would seem similar because of their wage gap, there are important differences. Wisconsin has a long trough, but it is shallow and the actual loss of benefits is the close to Alabama and New Mexico that provide a substantially smaller safety net. Also, Wisconsin is the most generous state in terms of the guarantees for both TANF and Medicaid. As discussed earlier in this paper, a larger safety net implies higher marginal tax rates as there is more to lose. By this assumption Wisconsin should have the highest average marginal tax rates, but this is not the case. Massachusetts has the highest average marginal tax rate of any

state at 87% on earned income. Wisconsin follows Massachusetts with an average marginal tax rate on earned income of 71%, but the marginal tax rates on income in Wisconsin never peak above 300%. The fact that Wisconsin has the second highest versus the highest average marginal tax rates implies that the structure of their programs help keep tax rates low. This line of reasoning does not imply good things about the structure of Massachusetts' programs.

The following table summarizes the total income with benefits of a single mother with two children at 100% FPL (where benefits peak in the majority of states), and the wage that the same mother would need to earn working 40 hours a week, 52 weeks out of the year to earn the same income.

| State | Income at 100% FPL +Benefits | Wage to Earn Same Income |
|---------------|------------------------------|--------------------------|
| Alabama | 2632 | 19.38 |
| Massachusetts | 4102 | 27.50 |
| New Mexico | 2916 | 21.75 |
| Ohio | 2621 | 16.88 |
| Wisconsin | 3109 | 25.60 |

I find that the average marginal tax rate for people receiving public assistance across all states and levels of income is 70%. That is double the highest marginal tax rate in our federal income tax system. As shown in later analysis, there are some significant outliers that pull that value upwards.

In this section of my analysis I use five different measures to describe my results. I display the maximum and minimum tax rates for a program in a given state, the mean of all the tax rates for a given program over all different incomes including the zero rates (average), the mean of all the non-zero tax rates (average non-zero rate), and the median of all non-zero tax rates for a given program.

The federally administered programs should have the same marginal tax rates in each state. These programs are SNAP, HUD, National School Lunch and Breakfast and the EITC. The median marginal rate of taxation should be the same for these programs in every state regardless of the income level at which benefits end. The tax rates that I expect will not be consistent across states are the measures of Wisconsin SNAP and the EITC. Wisconsin runs supplemental state programs for both SNAP and the EITC that raise the income eligibility and benefit guarantees for both programs.

**Federal Programs
Table 3**

| SNAP | | | | | |
|--|----------------|----------------------|-------------------|-------------|------------------|
| Rate | Alabama | Massachusetts | New Mexico | Ohio | Wisconsin |
| Maximum | 0.49 | 2.48 | 0.70 | 0.58 | 2.12 |
| Minimum | 0.00 | 0.00 | 0.00 | -0.58 | -2.32 |
| Average | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |
| Average non-zero rate | 0.36 | 0.66 | 0.39 | 0.26 | 0.27 |
| Median Rate | 0.36 | 0.36 | 0.36 | 0.36 | 0.24 |
| HUD | | | | | |
| Rate | Alabama | Massachusetts | New Mexico | Ohio | Wisconsin |
| Maximum | 1.44 | 5.07 | 2.74 | 1.44 | 1.29 |
| Minimum | 0.00 | -0.16 | -0.15 | -0.33 | -1.58 |
| Average | 0.13 | 0.23 | 0.14 | 0.11 | 0.12 |
| Average non-zero rate | 0.32 | 0.40 | 0.38 | 0.29 | 0.26 |
| Median Rate | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| National School Lunch and Breakfast | | | | | |
| Rate | Alabama | Massachusetts | New Mexico | Ohio | Wisconsin |
| Maximum | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 |
| Minimum | 0.00 | 0.00 | 0.00 | 0.00 | -0.14 |
| Average | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Average non-zero rate | 0.41 | 0.41 | 0.41 | 0.41 | 0.21 |
| Median Rate | 0.41 | 0.41 | 0.41 | 0.41 | 0.14 |
| EITC | | | | | |
| Rate | Alabama | Massachusetts | New Mexico | Ohio | Wisconsin |
| Maximum | 0.21 | 0.21 | 0.21 | 0.21 | 0.24 |
| Minimum | -0.40 | -0.40 | -0.40 | -0.40 | -0.46 |
| Average | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average non-zero rate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Median Rate | 0.21 | 0.21 | 0.21 | 0.21 | 0.24 |
| State Income Tax Rates | | | | | |
| Rate | Alabama | Massachusetts | New Mexico | Ohio | Wisconsin |
| Maximum | 0.05 | 0.05 | 0.05 | 0.43 | 0.09 |
| Minimum | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average | 0.05 | 0.03 | 0.04 | 0.04 | 0.05 |
| Average non-zero rate | 0.05 | 0.05 | 0.05 | 0.05 | 0.06 |
| Median Rate | 0.05 | 0.05 | 0.05 | 0.03 | 0.07 |

I find that the median rate is the same for each program across all states with the exception of Wisconsin. Wisconsin's median tax rate doesn't match the other states in SNAP, National School Lunch and Breakfast Program, or the EITC. Holt and Romich (2007) find that the marginal tax rate for SNAP is 24% with error of a few percentage points because of the effect that utility bills and rent have on the SNAP benefit calculation. I find that individuals who participate in many programs simultaneously with SNAP have a median tax rate of 36% on earned income. This is evidence that my estimation of the tax rate for SNAP is pushed upwards by multiple program participation. Interestingly the Wisconsin median rate matches the 24% Meyer and Rosenbaum (2001) estimate for the implicit tax rate generated by SNAP. The Wisconsin EIC provides additional income support using the same method as the federal EITC, and therefore adds to the benefit reduction rate created federally. The reason that Wisconsin has a lower average non-zero tax rate on earned income for the National School Lunch and Breakfast programs is because of the program's interaction with W-2, the Wisconsin TANF program. At \$1,700 of monthly gross income, an individual loses income eligibility for TANF cash assistance in Wisconsin. This creates a large drop in gross income at \$1,700, which increases the benefits a household could then receive from HUD, SNAP and National School meals. The increase in benefits in all these programs causes the large minimum rates in Wisconsin.

The results are uniform for SNAP, National School Meals, and the EITC, when measured by the average tax rate over all incomes. The HUD average is relatively consistent, with Alabama, New Mexico, Ohio and Wisconsin grouped together between 11-14%, and Massachusetts as an outlier of 23%. The average marginal rate for HUD is lowest in Wisconsin because of HUD's interaction with W-2. When an individual loses TANF benefits in Wisconsin they lose a significant amount of cash income. As stated before, this will cause a large increase

in the HUD benefit. The result is a negative 158% tax rate on the HUD living subsidy, which pulls down the average marginal tax rate in Wisconsin.

The average non-zero rates are more scattered. It would seem that including the zero value marginal tax rates balances the programs across states. One interesting feature is that the average non-zero rate for the EITC is zero. This implies that the benefit reduction rate and the negative income tax created by the program balance out for a program participant. Massachusetts sticks out with high marginal tax rates, and Ohio tends to be on the lower end as is expected from the graphs.

The marginal tax rates for federal programs are more or less equal across the five states. The majority of the variation in marginal tax rates between states will come from the differences in the design of their TANF and Medicaid programs. In Table 1 I have tabulated the maximum, minimum and average total tax rates faced in each state across all levels of income. Table 2 displays the maximum, minimum and average tax rates for total benefits excluding Medicaid. As we have seen, Medicaid produces some of the highest marginal tax rates in this study, and this separation is to determine the contribution of Medicaid to the total marginal tax rate. Table 3 displays the marginal tax rates at every monthly income level for all five states. The shading on the Table 3 is to highlight certain tax rates that are particularly high or theoretically interesting. The lighter shading indicates a marginal tax rate created by TANF or Medicaid, and the darker shading indicates other tax rates of interest. Tables 4 and 5 separate out the marginal tax rates created by TANF and Medicaid in each state in the same fashion as the tables above pertaining to the federally administered programs. The effective tax rate faced by a single mother can be as low as -13% and as high as 588% as earned income varies.

| Total Marginal Tax Rate Summary | | | | | |
|---|----------------|----------------------|-------------------|--------------------------------------|------------------|
| Table 1 | | | | | |
| States | Alabama | Massachusetts | New Mexico | Ohio | Wisconsin |
| Maximum Rate | 3.19 | 5.88 | 4.28 | 3.60 | 2.91 |
| Minimum Rate | 0.04 | 0.07 | -0.13 | 0.03 | 0.07 |
| Average Rate | 0.59 | 0.87 | 0.68 | 0.64 | 0.71 |
| Income Eligibility for TANF Lost | 300 | 1100 | 200 | 800 | 1700 |
| Income Eligibility for Medicaid for Adults Lost | 300 | 2900 | 1300 | 0 if participating in other programs | 3000 |
| Income Eligibility for Medicaid for Children Lost | 4500 | 4500 | 3500 | 3100 | NA |

| Total Marginal Tax Rate Subtracting Medicaid | | | | | |
|---|----------------|----------------------|-------------------|-------------|------------------|
| Table 2 | | | | | |
| States | Alabama | Massachusetts | New Mexico | Ohio | Wisconsin |
| Maximum Rate | 3.19 | 5.56 | 3.54 | 2.63 | 2.91 |
| Minimum Rate | -1.72 | -0.28 | -0.13 | 0.03 | 0.07 |
| Average Rate | 0.50 | 0.69 | 0.53 | 0.58 | 0.63 |

The variation in marginal tax rates for Medicaid and TANF are large. The maximum marginal tax rate arising from TANF varies from 80% in Alabama, to 628% in Wisconsin. As described before, the Wisconsin TANF cash assistance does not decrease as income rises, but instead is lost all at once. The value of the cash assistance is \$628 when income eligibility is lost, which creates an effective tax rate of 628%. Interestingly, the expected 628% tax rate does not materialize in Wisconsin. The loss of TANF benefits causes a simultaneous negative tax on earned income because of the increase in SNAP, HUD and National School Lunch and Breakfast program benefits. The negative income taxes created by these three programs will balance the 628% marginal tax rate on earned income at \$1,600 in monthly income so that the resulting tax rate is 277%.

Total Marginal Tax Rates by State

Table 3

| Monthly Earned Income | Alabama | Massachusetts | New Mexico | Ohio | Wisconsin |
|-----------------------|---------|---------------|------------|------|-----------|
| 0 | 0.57 | 0.07 | 1.05 | 0.03 | 0.24 |
| 100 | 0.57 | 0.39 | 0.95 | 0.03 | 0.21 |
| 200 | 1.71 | 0.39 | 0.00 | 0.33 | 0.21 |
| 300 | 0.04 | 0.39 | 0.00 | 0.51 | 0.21 |
| 400 | 0.06 | 0.39 | 0.00 | 0.51 | 0.21 |
| 500 | 0.06 | 0.39 | 0.00 | 0.52 | 0.21 |
| 600 | 0.05 | 0.39 | 0.00 | 0.54 | 0.21 |
| 700 | 0.06 | 0.25 | -0.13 | 0.78 | 0.07 |
| 800 | 0.24 | 0.39 | 0.18 | 0.32 | 0.09 |
| 900 | 0.17 | 0.24 | 0.21 | 0.26 | 0.12 |
| 1000 | 0.62 | 1.34 | 0.59 | 0.64 | 2.43 |
| 1100 | 0.64 | 0.27 | 0.61 | 0.66 | 0.34 |
| 1200 | 0.64 | 0.23 | 3.63 | 0.66 | 0.48 |
| 1300 | 0.82 | 1.12 | 0.85 | 0.85 | 0.55 |
| 1400 | 0.85 | 0.80 | 0.88 | 0.87 | 0.58 |
| 1500 | 3.19 | 2.14 | 2.22 | 2.22 | 1.95 |
| 1600 | 1.10 | 1.05 | 1.13 | 1.21 | 2.77 |
| 1700 | 1.10 | 1.05 | 1.11 | 1.13 | 1.07 |
| 1800 | 1.10 | 1.05 | 3.54 | 1.13 | 2.91 |
| 1900 | 2.51 | 3.35 | 1.28 | 2.63 | 0.97 |
| 2000 | 0.44 | 0.74 | 0.44 | 0.47 | 0.83 |
| 2100 | 0.44 | 0.74 | 0.44 | 0.47 | 0.83 |
| 2200 | 1.44 | 0.74 | 0.44 | 0.47 | 0.93 |
| 2300 | 0.44 | 0.74 | 0.44 | 0.47 | 2.01 |
| 2400 | 0.44 | 0.74 | 0.44 | 0.47 | 0.97 |
| 2500 | 0.44 | 0.74 | 0.44 | 0.47 | 0.53 |
| 2600 | 0.44 | 0.74 | 0.44 | 0.47 | 1.10 |
| 2700 | 2.24 | 1.84 | 2.14 | 1.76 | 2.53 |
| 2800 | 0.49 | 4.25 | 0.49 | 0.52 | 0.58 |
| 2900 | 0.49 | 5.56 | 0.49 | 0.52 | 0.91 |
| 3000 | 0.49 | 0.49 | 0.49 | 3.60 | 0.58 |
| 3100 | 0.49 | 0.49 | 0.49 | 0.52 | 0.58 |
| 3200 | 0.32 | 0.32 | 0.32 | 0.35 | 0.39 |
| 3300 | 0.28 | 0.28 | 0.28 | 0.70 | 0.44 |
| 3400 | 0.28 | 0.28 | 4.28 | 0.32 | 0.34 |
| 3500 | 0.28 | 0.28 | 0.28 | 0.32 | 0.50 |
| 3600 | 0.28 | 0.44 | 0.28 | 0.32 | 0.50 |
| 3700 | 0.28 | 0.28 | 0.28 | 0.32 | 0.34 |
| 3800 | 0.28 | 0.28 | 0.28 | 0.32 | 0.54 |
| 3900 | 0.28 | 0.28 | 0.28 | 0.32 | 0.56 |
| 4000 | 0.28 | 0.28 | 0.28 | 0.32 | 0.34 |
| 4100 | 0.28 | 0.28 | 0.28 | 0.32 | 0.56 |
| 4200 | 0.28 | 0.28 | 0.28 | 0.32 | 0.60 |
| 4300 | 0.28 | 0.28 | 0.28 | 0.32 | 0.34 |
| 4400 | 0.76 | 5.88 | 0.28 | 0.32 | 0.64 |
| 4500 | 0.28 | 0.28 | 0.28 | 0.32 | 0.34 |
| 4600 | 0.28 | 0.28 | 0.28 | 0.32 | 0.34 |
| 4700 | 0.28 | 0.28 | 0.28 | 0.32 | 0.34 |
| 4800 | 0.28 | 0.28 | 0.28 | 0.32 | 0.34 |
| 4900 | 0.28 | 0.28 | 0.28 | 0.32 | 0.34 |
| 5000 | 0.23 | 0.23 | 0.23 | 0.27 | 0.28 |

| TANF Marginal Tax Rate by State | | | | | |
|--|----------------|----------------------|-------------------|-------------|------------------|
| Table 4 | | | | | |
| State | Alabama | Massachusetts | New Mexico | Ohio | Wisconsin |
| Maximum | 0.80 | 1.53 | 1.50 | 2.09 | 6.28 |
| Minimum | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average | 0.04 | 0.12 | 0.06 | 0.09 | 0.12 |
| Average non-zero rate | 0.80 | 1.53 | 1.50 | 2.09 | 6.28 |
| Median Rate | 0.80 | 0.50 | 1.42 | 0.50 | 6.28 |

| Medicaid and SCHIP Marginal Tax Rate by State | | | | | |
|--|----------------|----------------------|-------------------|-------------|------------------|
| Table 5 | | | | | |
| State | Alabama | Massachusetts | New Mexico | Ohio | Wisconsin |
| Maximum | 1.32 | 5.60 | 4.00 | 3.08 | 2.47 |
| Minimum | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average | 0.07 | 0.18 | 0.14 | 0.06 | 0.12 |
| Average non-zero rate | 0.95 | 1.83 | 3.51 | 3.08 | 0.44 |

It is informative for comparison to look at the average tax rates in TANF. Again, I have split up the measurements of an average tax rate over all values of income and the average of all values that are not zero. TANF is a program that applies to assistance groups on the lower end of the \$0 to \$5,000 in monthly income range. Eligibility for TANF cash assistance ends at monthly incomes as low as \$200 (in New Mexico) and at the highest \$1,700 (in Wisconsin) across my sample. As a result there are many TANF marginal tax rates that are zero, which causes the average tax rates over all income to be low. Ignoring Wisconsin, the average marginal tax rates created through benefit reduction in TANF range from 80% to 209%. The median implicit tax rate on TANF benefits is no lower than 50% for all states. This is a serious disincentive to work.

There is a similar pattern in Medicaid, as it has few and high valued changes in benefits. For Ohio and New Mexico the fluctuations in benefits come from a total loss of coverage, while in Wisconsin, Alabama and Massachusetts the premium payments act as the benefit reduction rate. The loss of Medicaid causes some of the most consistently high tax rates in all states. The highest tax rate faced by a Medicaid recipient ranges from 137% to 560%. If an individual would

need to contribute over 200% of her additional earned income to retain the same health care insurance, she will most probably no longer use the service. These levels of tax rates imply a loss of the service entirely, as monthly income will not be able to cover the cost of insurance. More importantly, Medicaid might not have been worth its monetary value to the individual in the first place depending on her utility function. If the estimated value of Medicaid is high relative to the utility it gives the individual, he or she will be even less likely to buy health insurance independently. This implies that the state plays a part in creating demand for health coverage, and that without the Medicaid subsidy fewer people would be insured. As a reminder, over 17% of the US population was insured through Medicaid or SCHIP in 2008.¹³

The assistance group generally faces two major tax rates generated by Medicaid: the loss of benefits for children and for adults. The following tax rates will not match up with the table of results on which they are highlighted, because they are measured as the portion of the total tax rate for which Medicaid is accountable. My estimate for the marginal tax rate generated by the loss of coverage for children in Ohio is 308%, at \$3,000 in monthly income. As noted before, Ohio has no premiums attached to their Medicaid program, and Medicaid coverage is never extended to adults if the family assistance group participates in TANF.¹⁴ Ideally premiums should steadily increase until the net monetary benefit is reduced to zero, which will eliminate the Medicaid tax cliff. New Mexico also does not use premiums in their Medicaid program. The tax rate created at the incomes where coverage is lost for children and adults are 400% and 301% respectively. Massachusetts pays the most of any state per child that participates in their Medicaid program, driving up the tax rate to 560% when children lose coverage. The estimated

¹³In June, 2008 there were 47,142,791 individuals enrolled in Medicaid and 4,848,221 children enrolled in SCHIP. The total US population was 303,824,640 in July 2008. Data from the Centers for Medicaid and Medicare, and the Kaiser Family Foundation website.

¹⁴ See explanation on p.14

tax rate for adult loss of Medicaid is 286%. While Massachusetts's premium system does exhibit a progressive trend, the state's Medicaid program still creates a large work disincentive.

Alabama extends few benefits to adult participants in Medicaid. This causes the relatively low marginal tax rate of 132% for the loss of adult Medicaid in Alabama.

Wisconsin and Alabama are the exceptions to the rule of high marginal tax rates in Medicaid. This is because of the balancing effect of both states' premium schedules. Children do not lose coverage under SCHIP in Alabama until their family's monthly income passes \$4,400. The marginal tax rate on earned income for the loss of child coverage is 48%. This is because Alabama participants' share of cost is close to the monetary benefit on Medicaid at the point where income eligibility is lost. Alabama's premiums are constant over wide ranges of monthly income, and within those ranges they are not progressive. To avoid high marginal tax rates share of cost should be determined on a graduated scale with respect to income. As a result of this chunky premium system in Alabama, Medicaid creates a 100% tax rate on earned income at earnings of \$1,500 and \$2,200. This is where the premium costs change first from \$0 to \$100 and then \$100 to \$200 per month.

When Medicaid coverage is lost for an adult in Wisconsin the marginal tax rate created is 247% if we are only looking at Medicaid. However, the other programs have a mediating effect on the tax rate, and the total tax rate at \$2,900 of monthly income, where Medicaid coverage is lost, is 83%. The overall liabilities faced by the assistance group in Wisconsin decreases dramatically at the same time as the Medicaid benefit, partly because the loss of Medicaid coverage eliminates the need to pay Medicaid premiums. Therefore the sum benefits – liabilities maintains a consistent decreasing pattern rather than causing a sudden decrease in benefits without the decrease in liabilities that is characteristic of the Medicaid programs in other states.

Children are covered at all income levels in Wisconsin, so there is no other drop in Medicaid/SCHIP benefits.

Even though TANF and Medicaid account for most of the variance between the states, other programs are responsible for some of the states' high marginal tax rates. When monthly earnings are between \$1,300 and \$1,900¹⁵ in Alabama, Massachusetts, and Ohio individuals face tax rates close to 100% tax rates on earned income. The same pattern is present in New Mexico and Wisconsin, but it begins at \$1,200 in monthly-earned income in New Mexico and \$1,500 in Wisconsin. The string of high marginal tax rates is ended at \$1,900 in each state by a tax rate of close to 250% or higher. These incredibly high tax rates are the result of the interaction of the SNAP, HUD, child tax credit, and EITC benefit reduction rates. The assistance group faces a strong disincentive to earn more in this income interval. The peak in marginal tax rates that occurs at \$1,900 for Alabama, Massachusetts and Ohio, and at \$1,800 for New Mexico and Wisconsin is caused by the combination of the loss of SNAP and HUD benefits dependent on the state.

The average welfare participant doesn't participate in all the programs for which she qualifies, so my estimation of their tax burden may be high. However, this assumes that individuals do not act rationally for their own benefit, or there is asymmetric information inherent in the welfare system. Either explanation represents an inefficiency and implies that there are serious issues with the current network of cash and in-kind transfer assistance programs. If the goal of social welfare programs is to be available as a resource to low-income families, a family should be able to access all the assistance available to them. Under the current social welfare system families pay over 100% in implicit tax rates over an earnings differential of \$15,600-\$22,800 in annual gross income. For reference, 100% of the Federal Poverty Line for

¹⁵ \$15,600-\$22,800 annual gross income.

a family of three in 2008 was \$17,600 in annual income. Welfare participants who use HUD, SNAP and the EITC in concert will face over 100% implicit tax rates on their earned income when they are earning at the Federal Poverty Line.

The 335% tax rate faced by the assistance group in Massachusetts at \$1,900 in monthly income is especially high because of the inconsistency that occurs between the federal income limits for SNAP and the cost of living in Massachusetts. Earlier in this paper the graph of the total marginal tax rates indicated that Massachusetts residents will experience a high marginal tax rate on earned income when they lose income eligibility for HUD. The loss of HUD income eligibility in Massachusetts causes a marginal tax rate of 507% at \$2,900 in monthly income. Instead of decreasing to zero at the 40% median HUD benefit reduction rate, HUD benefits in Massachusetts are cut off by an income eligibility limit that is too low relative to the cost of housing. As demonstrated graphically, assistance groups that live in places with higher costs of living are disadvantaged.

In all states, when the assistance group reaches \$2,700 in gross monthly income they will experience a tax rate close to 200%. This is caused by the loss of both WIC and National School Lunch and Breakfast benefits at the same income level. An additional tax burden faced at this level is an increase in federal income tax bracket. These three factors combine to create this universal spike in tax rates.

If we examine the total marginal tax rates faced by individuals transitioning off all types of cash assistance, it is not a work-friendly picture. The average rates for all states are above 50%. The situation is only slightly better when I remove Medicaid from the equation. TANF and Medicaid are the two programs that have the biggest impact on marginal tax rates. The average impact of other programs on marginal tax rates all hover around 30-40%. The policy

implications of my findings are that TANF in all states should be reformed to resemble Wisconsin's program, whose seemingly astronomical looking marginal tax rate ends up having little to no effect on work because of the program structure. The Wisconsin W-2 program requires individuals to participate in work-related activities in order to receive cash assistance. This will negate the disincentive to work created by withdrawal of benefits because the individual will be able to work the same hours for a wage that will be higher than TANF assistance. The states that employ a premium system for Medicaid decrease the implicit tax rates and therefore the work disincentive created by Medicaid. The federal government should institute premium guidelines for Medicaid to ensure that states provide feasible cost sharing opportunities for participants as their income approaches the cutoff for eligibility.

VI. TANF Program Success Rates

Welfare programs can be constructed to combat the work disincentive created by high marginal tax rates caused by benefit reduction rates. The structure of a welfare program is everything from the definition of income to the services offered with program participation. The TANF program is the most complex welfare program in the country. States offer cash assistance but also job search assistance, training, education, work subsidies, as well as other benefits depending on the specific state's TANF plan. This section is concerned with the parts of TANF that deal with training, education and work subsidies. The job assistance benefits provided by TANF programs are hard to quantify but are a necessary part of this analysis, because they have an effect on the work skills and incentives of individual participants.

There are two main types of spending for TANF: assistance and non-assistance. Funds spent on assistance are the direct cash benefits and other vouchers needed to support an

assistance group. TANF non-assistance funds are spent on “work related activities,” meaning wage subsidies, training and job search assistance. Non-assistance covers childcare and transportation services provided to TANF participants in a given state, as well as the salaries for social workers. To fully understand the benefits offered by a state TANF program, we must understand not only the cash benefit but also the non-monetary job assistance available in a given state. Cash assistance may raise a family’s level of income instantaneously, but it is the non-assistance training and job retention services that will increase the probability that a family becomes self-sufficient at a higher level of income. I hypothesize that the more money a state is willing to spend on non-assistance, the more successful their welfare program will be in enabling participants to become financially self sufficient.¹⁶ If an individual receives training and education, there may be a small negative effect on their employment while completing the training, but it will raise their expected future income in the long run.

The job assistance and training element of TANF is difficult to compare across states because the lack of federal guidelines or standards prompts variation in state programs. There is no uniformity in types of job assistance, or quality of job assistance across state. I have constructed a table below with some basic characteristics of services provided through non-assistance funding. Assistance groups that participate in TANF often have severe barriers to employment that can be alleviated through a graduated system of steps towards self-sufficiency. These steps can include education, training opportunities, community service jobs, on-the-job training, subsidized employment, and job retention services once the TANF participant is employed in unsubsidized work. The table below attempts to map the work ladder created in each state. In calculating the job assistance score I add the number of different types of job assistance, with subsidized employment receiving a weight equal to double that of other job

¹⁶ In this analysis I make the assumption that the more money spent on a non-assistance program the better it will be.

assistance programs. I use this weight because subsidized employment is an opportunity for training and a guarantee of employment, and thus is a strong indicator of success in the workforce. Subsidizing employment also is a direct cost to the TANF program, and thus is a more expensive type of job assistance.

TANF Job Assistance Program Evaluation

| State | Subsidized Employment/ on-the-job training | Community Work Opportunity | Job Search Assistance | Job Retention Support | Education /training | Transportation | Child Care | Weekly Work Requirement | Job Assistance Score |
|----------------------|---|----------------------------|-----------------------|-----------------------|---------------------|----------------|------------|---------------------------------|----------------------|
| Alabama | | | * | * | | * | * | 32-35 hours | 4 |
| Massachusetts | * | * | * | * | * | * | * | 30 hours | 8 |
| New Mexico | | * | * | | * | * | * | 20 hours | 5 |
| Ohio | * | | * | * | * | * | * | 30 hours, 20 in a core activity | 7 |
| Wisconsin | * | * | * | * | * | * | * | Participation in a W-2 program | 8 |

Note: an asterisk indicates that the state has that program.

Alabama’s TANF program includes a program called JOBS. The JOBS program has two components, short-term employment services and the family coaches program. The short-term employment services program supplies former TANF recipients with support groups that help them keep a job. These groups also help recent TANF participants to formulate career plans, and can provide monetary assistance for unforeseen financial obligations related to working. The family coaches program helps connect TANF recipients with community volunteers for coaching on self-sufficiency. Individuals qualify for short-term employment services for a year after participation in TANF, and for the family coaches program until earnings over 200% FPL. The work requirements for Alabama begin after 24 months of TANF receipt. The 32-35 hour work requirement can be fulfilled through community work experience, on-the-job training, job search or readiness classes or vocational education training. No educational opportunities are funded through Alabama TANF.

Massachusetts' Temporary Aid for Families with Dependent Children partners with many NGOs to provide a wide variety of services. They connect individuals with skills training offered through other organizations, and have a community service jobs programs for individuals who cannot find paid work. The subsidized work option operates as a reduction of TANF benefits and reduced wages from an employer in return for on-the-job training. Massachusetts TANF also pays for GED testing.

New Mexico offers limited educational and work opportunities. NMWorks operates a high school completion program, and offers work opportunities in community service. The program also offers employment counseling and job search assistance but no support during employment.

Ohio's non-assistance is spent through a program called Prevention Retention and Contingency (PRC). PRC operates on a county level, which helps the services provided through PRC be more specific to the TANF participants in that area. My hypothetical individual used for analysis lives in Columbus, but in order to make a more general statement about PRC services in Ohio I have also examined the PRC plans from the counties containing Columbus, Cleveland and Cincinnati. The three county plans are identical, except for the lack of provision for training or education opportunities in Columbus. There is no community work opportunity for my assistance group, which is why it is left out of the chart.¹⁷ The work requirement is general for all Ohio Works First (OWF) participants, and the core activities can be sponsored through PRC. Core activities are any work-related activity such as training or a subsidized work program. Education such as GED classes or learning English does not count as a core activity. An OWF participant must be working after 24 months of receiving TANF cash assistance. This is in

¹⁷ Though it appears that Ohio lacks a community work opportunity, this is not entirely the case. They have a seniors community work program where individual over the age 55 and unemployed are paid minimum wage to work at non-profit organizations in jobs that would normally be filled by volunteers.

accordance with the federal rule that no individual receiving TANF cash assistance will remain unemployed for more than 24 months while on assistance.

In Wisconsin, cash assistance is contingent on work participation. There are four different W-2 programs available to participants at different levels of work-readiness. W-2 Transition is for participants facing severe barriers to employment, and requires a combination of work training activities and education in order to receive a monthly grant. Community Service Jobs is a step up the ladder from W-2 Transition, and requires 30 hours of work and training activities per week with an additional 10 hours of education or training. The monthly grant received is larger than that for W-2 Transition, and there are opportunities to build work experience. In the Trial Jobs program Wisconsin TANF pays employers part of the participants' wages, in exchange for on-the-job training. In Wisconsin's subsidized work option the participant receives full wages from the employer. The time limit for participation in these W-2 programs is 24 months, but former TANF recipients can receive job retention counseling and aid from the W-2 agency until they earn over 115% FPL, where they are no longer income eligible for W-2 assistance.

I will now compare the per capita dollars spent on non-assistance in different states. In order to conduct the comparison in real terms, I will adjust for the difference in the cost of living between states in two ways. First, I will use fair market rent data available through HUD to adjust the per capita expenditure on non-assistance. The second way I adjust for the cost of living is through the use of weekly wages in different cities. Both of these adjustments are relative to the US averages, and are calculated as the quotient of the state value divided by the national average. I use the Quarterly Census of Employment and Wages to find the annual average weekly wages for Albuquerque, Birmingham, Boston, Columbus, Milwaukee, and all the US

Metropolitan Statistical Areas. I hope to eliminate doubt about the real value of non-assistance in a given state by accounting for the cost of living through both wages and housing costs.

The outcomes of the indices for the costs of living across states are relatively uniform between the adjustment using housing costs and the adjustment using weekly wages.

Average Annual Per Capita Spending on TANF Non-assistance 2001-2007

| State | Average per capita spending adjusted with housing costs | Average per capita spending adjusted with weekly wages |
|---------------|---|--|
| Alabama | \$1,376 | \$1,135 |
| Massachusetts | \$1,196 | \$1,575 |
| New Mexico | \$664 | \$723 |
| Ohio | \$3,078 | \$2,872 |
| Wisconsin | \$5,187 | \$5,021 |

The most important result is that the ordinal ranking of state expenditure on non-assistance differs only between Alabama and Massachusetts. Wisconsin spends the most, followed by Ohio, Alabama (Massachusetts), Massachusetts (Alabama), and New Mexico spends the least on non-assistance programs.

Each year, the federal TANF office releases rankings of states “Success in the Workforce” as measured through job retention and earnings gains of TANF participants. The success in the workforce measure is a method of ranking the performance of all state TANF plans. Each year states are required to submit all necessary information to the Administration for Children and Families (ACF), so they can rank states based on different performance measures. The ACF method for calculating a state TANF program’s success in the workforce is to take the state’s ranking in job retention and earnings gains and combine them. This combined measure is calculated for all states and then the resulting numbers are recalibrated to rank the states by success in the workforce. For the years 2000 to 2003 the success in the workforce calculation weighted job retention twice as much as earnings gain. After 2004 the calculation weighted the two measures equally. As a result some states may end up with the same numerical ranking for

success in the workforce if they either have the same ranks in both job retention and earnings gains, or if their ranking in the different areas sum to the same number dependent on the different weights. The success rates are displayed for the years 2001 to 2007 in Table 7 at the end of this section.

When the success rates are averaged over the seven-year period, the ranking of the states is perfectly correlated with the average annual per capita expenditure on non-assistance adjusted with housing costs. Spending on non-assistance does not seem to be proportional to rank in success in the workforce, but there is a positive relationship between TANF success rate in a given state and the amount spent on TANF non-assistance. In the future I hope to expand this work to cover all fifty states and find more meaningful statistical support to inform the design of policies aimed at assisting low-income families.

This relationship is not surprising; training and education are known to raise the lifetime income of an individual¹⁸. If we examine the TANF programs of each state independently it becomes clear that the programs with a more extensive graduated ladder of work and training options are more successful. Both Ohio and Wisconsin have a subsidized work option, as well as training provided through their TANF programs. While Massachusetts provides a graduated work ladder like Wisconsin, on average Wisconsin spends 374% more than Massachusetts. On average Ohio spends 220% more than Massachusetts. Massachusetts outsources many of their non-assistance programs to community organizations, which homogenizes and decreases the available resources for low-income individuals. Instead of having a TANF program as well as community organizations to rely on, individuals seeking job assistance or training will have one resource.

¹⁸ Day and Newburger, 2002

Furthermore, the job subsidy offered in Massachusetts is more of a transition from cash assistance to work than a job subsidy. The prospective employer of a Massachusetts TANF participant does not pay them a full wage, but offers them training on the job. This means the employer is paying them close to their actual value, instead of paying the worker for the value of their potential productivity. The lower wage is made up for by continued but lowered TANF benefits. The individual will obtain on-the-job training, which will be a positive influence on their earning potential, but the program itself is flawed. The decrease of TANF cash benefits as earned income rises is a basic tenet of the TANF program, but Massachusetts frames it in terms of a work subsidy. The TANF participants could get the same benefit from obtaining training independently and maintaining their full TANF cash payment. The only clear incentives TANF participants in Massachusetts have to participate in the job subsidy program is for references for another job, or if the combined reduced TANF payment and partial wages are significantly higher than their full TANF benefit. Otherwise, an individual could be just as well off choosing to continue receiving their full TANF benefit and obtain independent training.

In Wisconsin, the middle stage of receiving half TANF/half wages is eliminated in favor of a full wage for TANF participants. Another feature of the Wisconsin and Ohio TANF non-assistance programs is that participation is mandatory for all cash assistance recipients. In Wisconsin, participation is mandatory at TANF enrollment and in Ohio recipients are evaluated through PRC and begin working as soon as they are “work-ready,” in one of the work activities offered through PRC. While all TANF programs are required to help individuals find jobs once they are “work-ready,” not all of them have the evaluation resources and placement opportunities like Ohio and Wisconsin. Massachusetts has the placement opportunities but comparatively less resources to offer their TANF participants. Thus, when an individual is work-ready in Wisconsin

or Ohio they are placed into a job that is subsidized and supported through PRC instead of finding an unsubsidized job in the workforce.

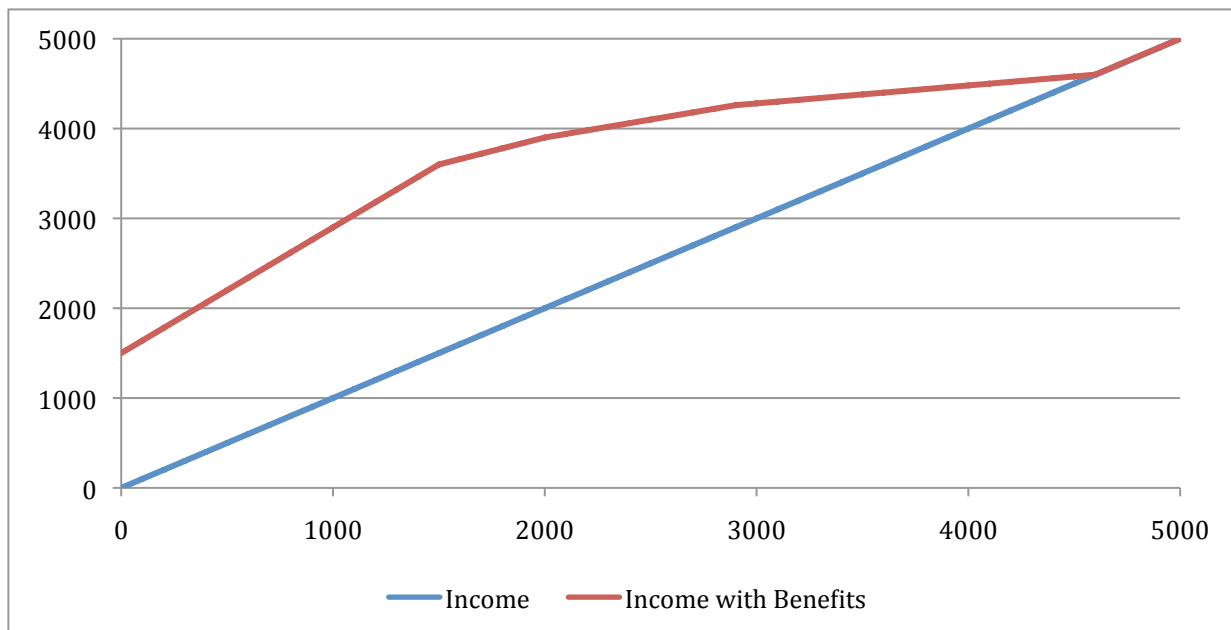
Success Rates of State TANF Programs
Table 7

| State | Measure | Average Rate '01-'07 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 |
|----------------------|---------------------------------------|----------------------|---------------------|------|------|-------------|-------------|-------------|-------------|
| U.S. Average | Total High Performance Bonus Allotted | | - | - | - | 200,000,000 | 200,000,000 | 200,000,000 | 200,000,000 |
| | Job Entry | | 36% | 36% | 34% | 35% | 34% | 36% | 33% |
| | Job Retention | | 64% | 65% | 65% | 59% | 59% | 59% | 63% |
| | Earnings Gain | | 37% | 34% | 36% | 37% | 33% | 33% | 26% |
| | TANF Work Participation Rate | | 29.7% ^{1/} | 32% | 33% | 32% | 31% | 33% | 34% |
| Alabama | High Performance Bonus | | - | - | - | 620,343 | 2,561,627 | 505,051 | 0 |
| | Success in the Workforce | 26 | 27 | 47 | 9 | 20 | 26 | 32 | 23 |
| | Job Entry | | 40% | 42% | 29% | 39% | 35% | 38% | 39% |
| | Job Retention | | 67% | 50% | 65% | 61% | 57% | 57% | 58% |
| | Earnings Gain | | 34% | 41% | 46% | 44% | 43% | 39% | 40 |
| | TANF Work Participation Rate | | 34% | 42% | 39% | 38% | 37% | 37% | 39% |
| Massachusetts | High Performance Bonus | | - | - | - | 9,204,824 | 7,260,861 | 0 | 2,192,717 |
| | Success in the Workforce | 42 | 39 | 42 | 43 | 42 | 49 | 46 | 34 |
| | Job Entry | | 29% | 30% | 30% | 28% | 24% | 26% | 31% |
| | Job Retention | | 61% | 58% | 59% | 53% | 46% | 48% | 51% |
| | Earnings Gain | | 39% | 43% | 42% | 39% | 35% | 33% | 41% |
| | TANF Work Participation Rate | | 17% | 14% | 60% | 60% | 61% | 61% | 77% |
| New Mexico | High Performance Bonus | | - | - | - | 0 | 0 | 2,092,578 | 3,288,880 |
| | Success in the Workforce | 42 | 48 | 51 | 41 | 46 | 47 | 29 | 34 |
| | Job Entry | | 30% | 35% | 29% | 33% | 33% | 35% | 37% |
| | Job Retention | | 57% | 22% | 64% | 55% | 57% | 61% | 61% |
| | Earnings Gain | | 39% | 32% | 35% | 31% | 30% | 33% | 26% |
| | TANF Work Participation Rate | | 36% | 42% | 42% | 46% | 42% | 43% | 46% |
| Ohio | High Performance Bonus | | - | - | - | 14,678,325 | 28,115,197 | 21,385,937 | 0 |
| | Success in the Workforce | 12 | 15 | 11 | 21 | 9 | 8 | 3 | 15 |
| | Job Entry | | 17% | 32% | 32% | 31% | 31% | 33% | 34% |
| | Job Retention | | 65% | 63% | 63% | 62% | 62% | 62% | 62% |
| | Earnings Gain | | 51% | 50% | 50% | 48% | 42% | 44% | 38% |
| | TANF Work Participation Rate | | 24% | 55% | 58% | 65% | 62% | 56% | 53% |
| Wisconsin | High Performance Bonus | | - | - | - | 6,415,765 | 10,860,369 | 0 | 10,288,002 |
| | Success in the Workforce | 10 | 19 | 9 | 8 | 9 | 6 | 15 | 7 |
| | Job Entry | | 33% | 32% | 34% | 33% | 31% | 33% | 36% |
| | Job Retention | | 61% | 62% | 63% | 60% | 59% | 58% | 58% |
| | Earnings Gain | | 59% | 60% | 60% | 51% | 50% | 51% | 54% |
| | TANF Work Participation Rate | | 37% | 36% | 44% | 61% | 67% | 69% | 75% |

VII. Policy Suggestions

Based upon the literature and findings of this paper I will give a few examples of possible ways to structure welfare programs that would positively affect work incentives. I will first discuss the optimal shape of a line describing income with benefits. All the graphs that follow can be compared to the graphs in the results section that display the difference between income with benefits, and income subject to the federal and state income tax systems.

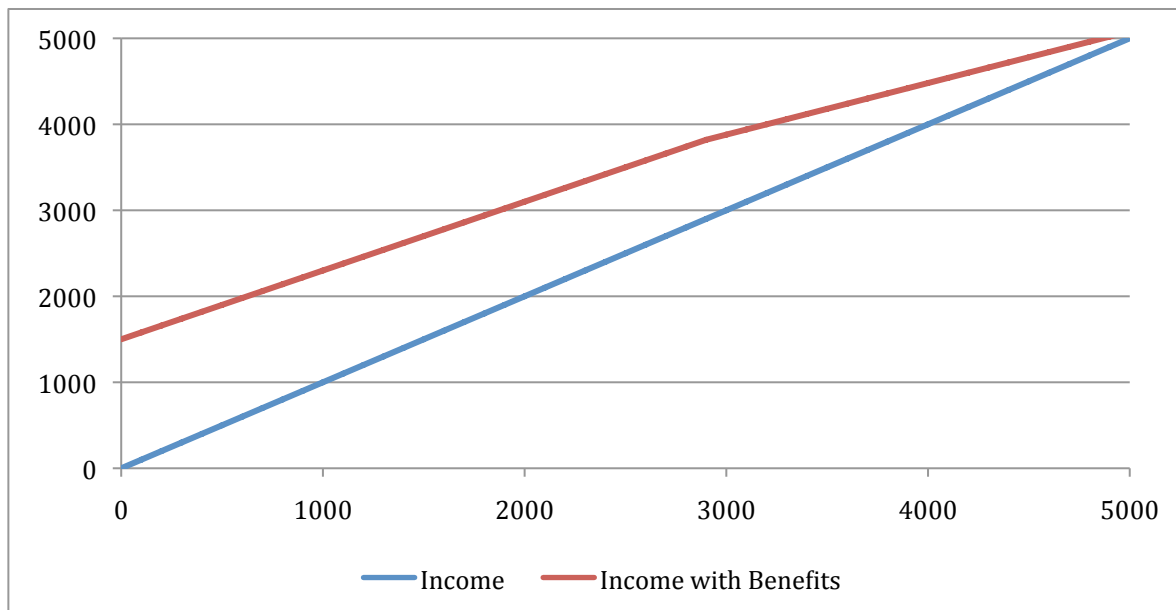
The factors that are important to consider in determining the shape of a curve that traces income plus benefits are the intercept (original benefit guarantee), whether the program should offer direct work incentives, and what should be the limit for the implicit tax rate on additional earned income. In this first graph I will assume that the intercept is 100% FPL, that there will be a direct work incentive offered similar to the EITC, and that the marginal tax rates will not rise above 80%.



The problem with this program structure is that it is expensive. It costs \$63,980 per single mother with two children from earnings of \$0 to \$5,000. Benefits under this model peak at 100%

FPL as in all the states, and the maximum cash grant is \$2,100. This model is basically an enlargement of the EITC program that has a 40% negative income tax during its phase-in period and a 27% implicit tax rate on earnings during the phase-out period. The reason the phase-out tax rates are higher in this model is because of the increased scale. The 80% marginal tax rate on earnings that begins at \$3,000 in monthly income creates a work disincentive for a single mother earning just above 200% FPL, or \$32,000 annually. While it would be perfect to never have a system that creates high implicit tax rates, and simultaneously offers a direct work incentive, such a system would be exceedingly expensive.

One solution to the above problem is to not offer a work incentive, and therefore not have to impose a higher benefit reduction rate. Throughout this paper it has been that case that the programs that offer a higher benefit guarantee have a higher implicit tax rate. The graph below displays the option of providing a minimum benefit guarantee of 100% FPL, and then decreasing the benefit at a low reduction rate.



The tax rates on earned income are 20% up until 200% FPL, and then 40% onwards. The total cost per individual participant in this style of program is significantly lower at \$46,380.

This could be the model for the sum of all welfare benefits except the EITC. It creates far fewer work disincentives than the models currently in place in all the states. The cost for a welfare participant in each state ranges from \$36,522 in Ohio to \$87,167 in Massachusetts. This model is attractive because it is relatively cheap, and has low marginal tax rates on additional earned income. However, the maximum benefit is \$1,500 at zero dollars of earned income, and in contrast with the other model income growth is slow. The growth in income that is generated through the negative income tax in the first model helps to quickly raise participants' income above 200% FPL.

To conclude this section I would like to argue in favor of the program models that offer a direct work incentive. Above all other welfare programs, the EITC has been the most successful in encouraging single mothers to increase their labor supply¹⁹. No other welfare program in this study offers as direct a work incentive. Therefore I believe it is important for any successful welfare program to utilize direct work incentives, as they can help to quickly raise the family out of poverty. Even though a program that incorporates a direct work incentive will generate higher marginal tax rates during the phase-out period, it will still encourage more work than a similar program without a direct work incentive and lower marginal tax rates on earned income. In the case of the EITC the average marginal tax rate on earned income over earnings from \$0 to \$5,000 was 0%.

VIII. Conclusions

There must be policy change to heal the inequalities inherent in the structure of our welfare programs. When federally managed programs are used in concert with state programs

¹⁹ Meyer, *et al.* (2001)

they create severe work disincentives. Low-income individuals should not be punished for utilizing support services. The structures of the federal programs SNAP and HUD cause individuals who live in higher cost of living areas to experience higher implicit tax rates on their earned income. The benefits for SNAP and HUD vary positively with the cost of housing for a given participant. In contrast, the income eligibility limit across states is either constant in the case of SNAP, or varies less than housing costs in the case of HUD. In areas with higher costs of living the monetary value of SNAP and HUD benefits will be substantial when income eligibility is lost, causing a benefit cliff and a high marginal tax rate on earned income. In lower cost of living areas, benefits reduce to zero at the normal benefit reduction rate of 36% or 30% as income rises. The benefit cliff experienced by SNAP and HUD participants that live in high cost of living areas is a disadvantage in their the transition from welfare to self-sufficiency. The Federal Poverty Level is another measure that is used nationally to the detriment of individuals who have a higher cost of living. 100% of the Federal Poverty Level does not ensure the same standard of living in different areas, even within the same state. The Federal Poverty Level and the calculation of SNAP and HUD benefits encourage participants to find the lowest cost of housing possible, with the eventual result being the concentration of welfare participants and low income individuals in poor areas. The federal government must find a more localized method of determining income limits and poverty levels, and change the unequal treatment of needy families.

Evidence presented in this paper supports the hypothesis that higher spending on TANF work programs increases the success of program participants in the work force. In addition to a correlation with high spending on work programs, success is also connected to a specific TANF program structure. The Wisconsin TANF program generates a 628%

tax rate on earned income when individuals lose income eligibility for TANF. This should deter earnings gains for Wisconsin TANF participants, yet Wisconsin is the most successful out of all five states. This is logical because Wisconsin spends the most per capita on TANF work programs, and offers extensive training in its graduated ladder of work programs. Welfare program structure can provide not only an incentive to work, but also construct a clear path out of poverty. If an individual can raise him or herself out of poverty through employment in a higher paying job because of acquired training, then well structured TANF programs have the potential to increase the expected future income of participants. However, this study has shown that there are significant barriers to climbing out of poverty through the use of support programs. These barriers are high implicit tax rates on additional earned income, and structural problems in TANF, Medicaid, and federal programs that do not provide incentives to work. Without incentives to work, there is a small chance that impoverished individuals will be able to climb the sometimes vertical path out of poverty.

Appendix 1

TANF is the general cash and job assistance program. It was enacted by the 1996 PRWORA reform, and is run individually by the states with shared state and federal funding. The purpose of TANF is to supply needy families with temporary extra income and job support resources. The Purposes listed below are a loose set of federal guidelines for the state use of TANF funds:

Purpose 1: To provide assistance to needy families so that children may be cared for in their own homes or in the homes of relatives

Purpose 2: To end the dependence of needy parents on government benefits by promoting job preparation, work and marriage

Purpose 3: To prevent and reduce the incidence of out-of-wedlock pregnancies and establish annual numerical goals for preventing and reducing the incidence of these pregnancies

Purpose 4: To encourage the formation and maintenance of two-parent families²⁰

States are given license to design their own program within these loose guidelines, subject to a 60-month time limit on receipt of TANF. Congress suggests a definition of needy as at or below 200% of the Federal Poverty Level, but provides no legislation that mandates states' income eligibility limits. The federal work requirements indicate that individuals must begin working once they are "work ready" or after 24 months of receiving TANF funds. States are required to write a TANF plan in order to qualify for TANF funds, but the vague guidelines offered by the federal government allow for significant variation between state TANF programs. The two main features of a state TANF programs are cash assistance and job search and readiness aid. States determine the level of aid they will provide in terms of income eligibility for cash assistance, and the subsidies provided for training, education and work. TANF funds are allocated to states through federal block grants each year. States may choose to add additional funds to the program, or reallocate excess funds elsewhere in their budget.

²⁰ Ohio Department of Jobs and Family Services. [Ohio State TANF Plan](#). December, 2008.

The Medicaid program is also set up as a partnership between the federal and state governments. The costs for state Medicaid programs are shared between the state and federal governments according to the Federal Medical Assistance Percentage (FMAP). States with lower average income receive a higher FMAP. The federal government will not contribute any less than 50% of the total costs and no more than 83% of total costs. Under this partnership states are required to cover the elderly, persons with disabilities, poor children and some of their parents. The eligibility requirements may be expanded by the states as they see fit, and a state may use its own funds to supplement Medicaid with additional health programs. There is no federal rule that requires states to employ premiums or other cost-sharing measures in their Medicaid programs.

SCHIP is an additional insurance system for children from low-income families. It extends children's coverage as their families lose Medicaid due to an increase in income. Federal and state governments jointly provide funding for SCHIP. The federal government provides a capped grant each year based on previous state spending on their SCHIP program. Each SHIP program is designed and administered by the state. The five states I study integrate SCHIP eligibility with Medicaid, so that child coverage under Medicaid continues when adult coverage has been lost due to increased income.

The Supplemental Nutrition Assistance Program (SNAP) is the current name for food stamps. SNAP provides in-kind food assistance for individuals earned less than 130% of the Federal Poverty Level (FPL), \$1,907 per month. It is a federally funded program that is jointly administered by the states and the federal government. The monetary values of SNAP benefits are transferred onto a debit card that can only be used to purchase SNAP sanctioned food items. The maximum monthly benefit for a family of three is \$463, which decreases as income rises.

Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is designed to provide nutritional assistance to pregnant, postpartum and breast-feeding women, and children under 5 who are at risk of malnutrition. Malnutrition is determined by a healthcare professional, at an evaluation that is provided for all applicants. WIC is a federally funded grant program that is distributed locally according to federal guidelines. Since it is a grant program, not everyone that qualifies will receive benefits. An individual who participates in SNAP, TANF or Medicaid automatically qualifies for WIC. Eligible women will receive monthly checks that can be used to purchase federally approved WIC foods.

Students from low-income families can qualify for free or reduced price lunch and breakfast under the National School Lunch and School Breakfast Programs. If a family's income is at or below 130% of the Federal Poverty Level, its school-aged children are eligible for free lunch and breakfast. Students are eligible for reduced price lunch if their family's gross monthly income is between 130% FPL (\$1,907) and 185% FPL (\$2,714). The benefits from this program can lift a burden on families' food budgets so that students can be better nourished at home and school.

The US Department of Housing and Urban Development (HUD) operates the Housing Choice Voucher Program, known informally as Section 8. Section 8 is designed to subsidize low-income individuals housing choices, rather than assigning them to public housing ("projects"). The housing voucher program allows families and individuals to choose where they live and still receive a subsidy. Vouchers are distributed by local Public Housing Authorities to individuals whose income is at or below 50% of the median state income (50% of the average median income from all five states is \$31,874). The nation's Public Housing Authorities must compete for the limited funding provided by HUD, and not all individuals who qualify can

receive benefits. There are a limited number of vouchers at each PHA, and they must send an application to HUD to increase their number of vouchers. All PHA's are required to distribute 75% of their housing vouchers to individuals with income below 30% of the median state income.

The EITC is a tax credit that can be claimed by low-income individuals who are employed. An individual's tax credit is partially determined by the number of children he or she can claim as dependents. For a family with two children, the credit increases as a percentage of earnings until it reaches the maximum credit of \$4,824 at \$12,060 in annual income where it plateaus, then begins to decrease in a phase-out period after the individual earns \$15,740 in annual income. The EITC is the largest means tested cash assistance program run by the federal government. The program creates a direct work incentive through increased income and a modest disincentive during the phase-out period. Period in this instance does not refer to time, but a range of income.

Appendix 2

Equations for the Calculations of Benefits

All of the below calculations assume that the individuals applying for benefits or a credit have passed the income and other eligibility requirements.

SNAP

Adjusted Income = gross income + TANF – .2(earned income) – standard deduction

Net Income = adjusted income – abs(adjusted income/2 – shelter costs)

Benefit = maximum allotment – .3(net income)

WIC

Benefit = monthly average in given state

National School Lunch and Breakfast Program

Benefit = reimbursement rate for lunch*20 + reimbursement rate for breakfast *20

HUD

Adjusted Income = monthly gross income – 40*number of dependents – .3(monthly income)

Benefit = fair market rent – .3(adjusted income)

EITC

Credit = .4(earned income), or 402 – .02106(gross income – 1312)

Dependent on whether income is above the phase-out income level.

Alabama

TANF

Benefit = payment standard – gross income – .2(gross income)

Medicaid

Benefit = estimated value – (0, or 50*number of children, or 100*number of children)

Premiums are dependent on income.

Massachusetts

TANF

Net Income = gross income – (90 from earned income) – (30 + .5(remaining gross income))

Benefit = needs standard – net income

Medicaid

Benefit = estimated value – (0, or 15, or 12*number of children + 27*adults)

Premiums depend on income.

New Mexico

TANF

Net Income = gross income – 125 – .5(earned income-125)

Benefit = needs standard – net income

Medicaid

Benefit = estimated value

Ohio

TANF

Countable Income = earned income – .5(earned income – 250) – 250

Benefit = payment standard – countable income

Medicaid

Benefit = estimated value

Wisconsin

TANF

Benefit = 0, or 628, or 673

Dependent on the W-2 program in which you are involved. Trial jobs, W-2 Transition, or Community Service Jobs.

Medicaid

Benefit = estimated value – premium

The premiums for Badgercare Plus increase for both children and adults as income rises.

Children

| FPL Income Range | Above 200% up to 210% | 210% to 220% | 220% to 230% | 230% to 240% | 240% to 250% | 250% to 260% |
|-------------------------|------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Premium Amounts | \$10 | \$10 | \$10 | \$15 | \$23 | \$31 |
| FPL Income Range | 260% to 270% | 270% to 280% | 280% to 290% | 290% to 300% | 300% | Above 300% |
| Premium Amounts | \$41 | \$52 | \$63 | \$76 | \$90.74 | \$90.74 |

Adults

| FPL Income Range | Above 150% to 160% | 160% to 170% | 170% to 180% | 180% to 190% | 190% to 200% | 200% |
|-------------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|-------------|
| Premium Amounts | \$10 | \$29 | \$73 | \$130 | \$201 | \$286 |

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