

HOW MARGINAL TAX RATES AFFECT FAMILIES AT VARIOUS LEVELS OF POVERTY

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High marginal tax rates can make moving above poverty very difficult for low-income families. These high tax rates result from increasing direct taxes (both state and federal) as well as decreasing transfer payments (including both Supplemental Nutrition Assistance Program benefits and Temporary Assistance for Needy Families). Depending on which state a person lives, a single parent with two children can face an average marginal tax rate of over 100 percent or as low as 26.6 percent as they move from the poverty level of income to 150 percent of the poverty level. If her earnings are limited to only six months of the year, she may retain transfer benefits for the remaining six months, lowering her marginal rate over the same income range to between 66.0 percent and –17.7 percent for those additional earnings. Our analysis shows how sensitive marginal tax rates are to assumptions about earnings patterns and program participation.

Keywords: marginal tax rates, welfare policies, low-income households, work incentives, poverty, federal-state interactions

JEL Codes: D63, H71, I38

I. INTRODUCTION

When people move from not working to working or from a lower-wage job to a higher-wage job, their change in resources is affected not simply by the change in compensation but by their interactions with government. Their taxes often go up, and their eligibility for various forms of transfer payments and government benefits may go down. The extent of these changes depends upon many factors, including eligibility and

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participation in various government programs, family structure and the composition of their household, as well as the state in which the person lives.

A useful way to examine how these combined interactions with government play out is through a calculation of the “effective marginal tax rates” for various families in a way that combines both the direct tax and indirect benefit reduction rates. That tax rate equals the net amount of additional resources taken away (the rate may be negative if more is received than taken away) through tax and benefit changes as a percentage of the increase in earnings. High effective marginal tax rates, particularly among low- and middle-income families with children, have been noted by many researchers.

This analysis first surveys the existing literature on the effective marginal tax rates faced by households, within both the formal tax system and means-tested transfer programs. We next demonstrate graphically how taxes and transfer benefits change in combination as a household increases earnings and how these changes affect effective marginal tax rates.

We then extend the previous literature on marginal tax rates by using the Urban Institute’s Net Income Change Calculator (NICC)¹ to provide information for sample households in all 50 states and the District of Columbia, among which marginal tax rates can vary dramatically. We do this by calculating effective marginal tax rates as households increase their wage income to higher multiples of the federal poverty level (FPL). Our sample families begin with no earnings, and then move to 50 percent, 100 percent, 150 percent and finally 200 percent of the poverty level.

Our output includes information on taxes — state and federal income and payroll taxes — and transfers — Temporary Assistance for Needy Families (TANF) and the Food Stamps program, which was renamed the Supplemental Nutrition Assistance Program (SNAP) in late 2008, the year of our analysis. The analysis focuses on families headed by individuals who are between ages 25 and 50. Results are summarized in tables for all 50 states and the District of Columbia.

We find that in 2008, even excluding health care, a single parent with two children moving from no earnings to poverty level earnings faced a marginal tax rate between –13.3 percent (New Jersey) and 25.5 percent (Hawaii). That is, if living in New Jersey, when this parent increased her earnings, she kept all her earnings and received 13.3 additional cents for every dollar earned. In contrast, if this parent lived in Hawaii, she had a net change in income that was 25.5 percent *less* than her change in earnings.

Further, we show these calculated rates may exaggerate the effective marginal tax rates families face because they assume income is earned equally throughout the year. We provide a second set of calculations that assumes a person receives all her earnings in six months. Although her taxes are unaffected due to the annual tax accounting period, she could retain transfer payments for the half year she is not working. Here, we find that the effective marginal rate for a parent moving from no earnings to poverty-level earnings varies from –25.1 percent in New Jersey to 12.5 percent in Hawaii. That is, in New Jersey, moving from no earnings to earning at the FPL for six months out of the year enhances net household income by the increase in earnings plus 25.1 cents per each dollar earned. In Hawaii, the same worker would keep only 87.5 cents of each

¹ Urban Institute, “Net Income Change Calculator,” <http://nicc.urban.org/NetIncomeCalculator/>.

additional dollar she earned, with the remaining 12.5 cents being lost to reductions in transfer benefits and higher taxes.

While eligibility for public health care programs is often overlooked in effective marginal tax rate calculations due to the complexity surrounding its inclusion, health care subsidies comprise a large portion of the social welfare budget. Excluding health programs severely understates the impact of government policy on increases in net income as earnings increase. Accordingly, we attempt to provide some measure of the effect of health programs on the effective marginal tax rates faced by households by including an average government cost of health insurance. In addition, we briefly discuss the implications of the exchange subsidies under the Affordable Care Act scheduled to take effect in 2014.

II. LITERATURE REVIEW

Three groups of effective marginal tax rate analyses emerge in the literature: analyses that focus on tax programs (Congressional Budget Office (CBO), 2005); analyses that focus on transfer programs (Moffitt, 1979); and analyses that combine the two (e.g., Giannarelli and Steuerle, 1995; Holt and Romich, 2007). In most instances, this research is conducted by selecting sample families (Mok, 2011). With few exceptions, researchers focus on a specific state or a small set of states (Holt and Romich, 2007; Acs et al., 1998). The practice of selecting sample states can beg the question of how extensively such results apply in the population as a whole, or if they are simply theoretical idiosyncrasies, with little “real-world” meaning (Leguizamon, 2012).

Special concern has been paid by many researchers to the effective marginal tax rates faced by low- and moderate-income families as a result of tax and transfer programs (Giannarelli and Steuerle, 1995; Acs et al., 1998; Sammartino, Toder, and Maag, 2002; Holt and Romich, 2007; Mok, 2011). Previous efforts also focused on theoretical effective marginal tax rates, as applied to a “representative family,” but with only one or few states represented. Some analysts further confine their analyses mainly to the tax (Eissa and Liebman, 1996) or the transfer side of the budget (Wolfe, 2002), partly because reform often gets taken up in piecemeal fashion. For low- and moderate-income households, however, both taxes and transfers play an important role in determining the effective marginal tax rate. For example, in some income ranges food stamp benefits phase out (adding to a family’s effective marginal tax rate) as benefits from the Earned Income Tax Credit (EITC) phase in (subtracting from a family’s effective marginal tax rate).

A. Why Effective Marginal Tax Rates Matter

Effective marginal tax rates matter both as a matter of incentives and of fairness. On the former front, they may affect a person’s willingness to work, marry, and save. In general, high effective marginal tax rates are thought to decrease the incentives to perform an activity while low or negative effective marginal tax rates provide an incentive to perform an activity (CBO, 2005). This can be seen in early work on the effects of welfare, where steep benefit reductions when a person started earning money typically

were found to reduce a person's incentive to work (Moffitt and Rangarajan, 1991), while the negative marginal tax rates associated with the EITC encouraged people to start working (Meyer and Rosenbaum, 2001; Eissa and Liebman, 1996). If individuals perceive the cost of additional work to be high relative to the potential rewards, they will choose not to increase work, or may underreport their earnings or supplement them through the informal economy. While bringing down marginal tax rates for high earners has been a goal of supply-side adherents for many years, Steuerle (2008) contends that not enough focus has been given to effective marginal rates facing lower income groups.

Much of this literature focuses on efficiency issues and behavioral reactions, but there are equity issues as well, that will be briefly mentioned here. Equity issues can be divided into issues of progressivity or vertical equity, equal justice or horizontal equity, and individual equity or the right to receive the reward from one's own work.

Progressivity or vertical equity is also controversial. The recent debate over the Buffett rule or the taxation of hedge fund managers centers in part on whether these individuals should pay lower marginal tax rates than those with lower incomes.

Beyond the issue of progressivity, varying effective marginal tax rates affect whether tax and transfer systems provide equal justice (equal treatment of equals) under the law, which can be violated when two people in equal situations face very different effective marginal tax rates or when a couple pays very different taxes or receive different transfer benefits simply on the basis of whether they take marital vows when committing to each other.²

When tax and spending programs are considered one at a time, the debate over progressivity or equal justice becomes just as confused as the debate over efficiency, as each program tends to be judged separately rather than based on their combined effect. In addition, inconsistent standards are often applied.³

Finally, where high effective marginal tax rates or marriage penalties exist, the breach of individual equity can become quite large. When individuals receive little reward for their additional work or saving, the tax and transfer system might be judged as unfair. These individual equity issues are often related to, but are not the same as, the efficiency

² Although the Economic Growth and Tax Relief Reconciliation Act of 2001 and subsequent related legislation did much to reduce or eliminate marriage penalties for many middle- and upper-middle-income families, many low- and moderate-income families still pay higher taxes as a married couple than they would if they were two households, each headed by one adult (Acs and Maag, 2005; Steuerle and Carasso, 2005). These marriage interactions extend up the income scale. For instance, the value of tax credits such as the Child and Dependent Care Tax Credit (CDCTC) is also altered according to the secondary earner's income. In this case, a family with \$45,000 of income earned by a single parent is eligible for the CDCTC while a married couple with the same income earned by one parent and no income earned by the other parent is ineligible for the CDCTC. Marriage bonuses have also been well-documented (Wheaton, 1998).

³ Steuerle (2002) notes that emphasis is given to "rates" in measuring the progressivity of the formal tax system, so that a flat rate of tax can be considered either neutral or slightly regressive. On the spending side, however, progressivity is not measured as a rate relative to income but on the basis of the "absolute dollars" expended. If a subsidy for education were to be higher for higher-income individuals, that would often be considered regressive. By these inconsistent standards, a "regressive" tax and a "regressive" spending system may redistribute to those with fewer means (as is the case with Social Security).

issues that can arise when high effective marginal tax rates breed disrespect for the law, discourage legal efforts to work and build families, and make informal market activity and lack of family engagement more attractive (Steuerle, 2002).

B. Early Work Estimating Effective Marginal Tax Rates of Low-Income Families

Previous work on effective marginal tax rates finds consistently high rates facing low- and middle-income families. The Congressional Budget Office (2005) finds that within the formal tax system (federal income tax, payroll tax, and an “average” state tax), marginal tax rates are negative at very low incomes but accelerate quickly above that level. More precisely, for a head of household with one child, CBO finds that the marginal tax rate climbs to 40 percent when a worker earns slightly more than about \$12,000, and then to nearly 50 percent in the mid-\$20,000 range. To observe effective marginal tax rates faced in actual populations, Dickert, Houser, and Scholz (1994) and Giannarelli and Steuerle (1995) both used the Urban Institute’s Transfer Income Model (TRIM2) based on Survey of Income and Program Participation (SIPP) and Current Population Survey (CPS) data, respectively. Dickert, Houser, and Scholz found marginal tax rates around 60 percent facing low income families, but they expressed optimism that the EITC, which had not been fully phased in, would lower these burdens.

Giannarelli and Steuerle gave a more nuanced conclusion. Even when modeling the rules of the fully phased in EITC, many households on welfare still faced rates in excess of 75 percent even without transportation costs. They found that the poverty trap created by these rates had been extended upward in the income scale. They labeled this new set of disincentives the “twice-poverty trap.” That is, high effective marginal tax rates as a result of benefit reductions created strong disincentives to increase earnings for households earning more than some minimum if they moved toward two times the poverty level and sometimes beyond.

The welfare reform efforts of the 1990s reshaped the work incentives imposed on low-income families by public assistance programs. The AFDC program was replaced with TANF, a federal-state program that allows states a wider degree of latitude to experiment with ways to provide assistance to low-income families. In addition, 25 states (including the District of Columbia) created EITCs of their own, typically giving tax filers a percentage of their federal credit. Differing program designs and tax systems across states — as well as municipalities — caused benefit levels and effective marginal tax rates to vary geographically. However, by the time that welfare reform came around, AFDC and its TANF replacement had long since passed their place as the dominant source of means-tested or welfare dollars and comprised only a modest fraction of the total.

Somewhat similar to Steuerle’s twice-poverty trap conclusion, Acs et al. (1998) found that low-income single mothers were better off working than relying solely on welfare, but gained little from raising their wage from \$5.15 to \$9.00 per hour. Work by Wolfe (2002) documented the tension between providing a safety net for people unable to work and incentives to increase work. In both studies, analysts noted a tradeoff between

benefit levels and phase-out rates. States with high initial benefits typically phased them out more rapidly, imposing high effective marginal tax rates, whereas lower benefit levels permitted slower benefit reduction rates.

The prevailing consensus that emerges from existing work on effective marginal tax rates is that moving from nonparticipation to employment in the formal labor force yields a net benefit to the primary earner in a low-income household, but often not a secondary worker in that household. However, lifting a single or married household with children beyond the poverty threshold by seeking more hours of work or higher wages often resulted in high effective marginal tax rates. These findings appear fairly consistent across time. While programs such as the EITC targeted at keeping low-income working households out of poverty have largely succeeded (Center on Budget and Policy Priorities, 2012), a growing body of literature points to the inability of the nation's current tax and transfer system to reward upward mobility as the loss of benefits and other costs of working — child care and transportation costs — enter into the equation.

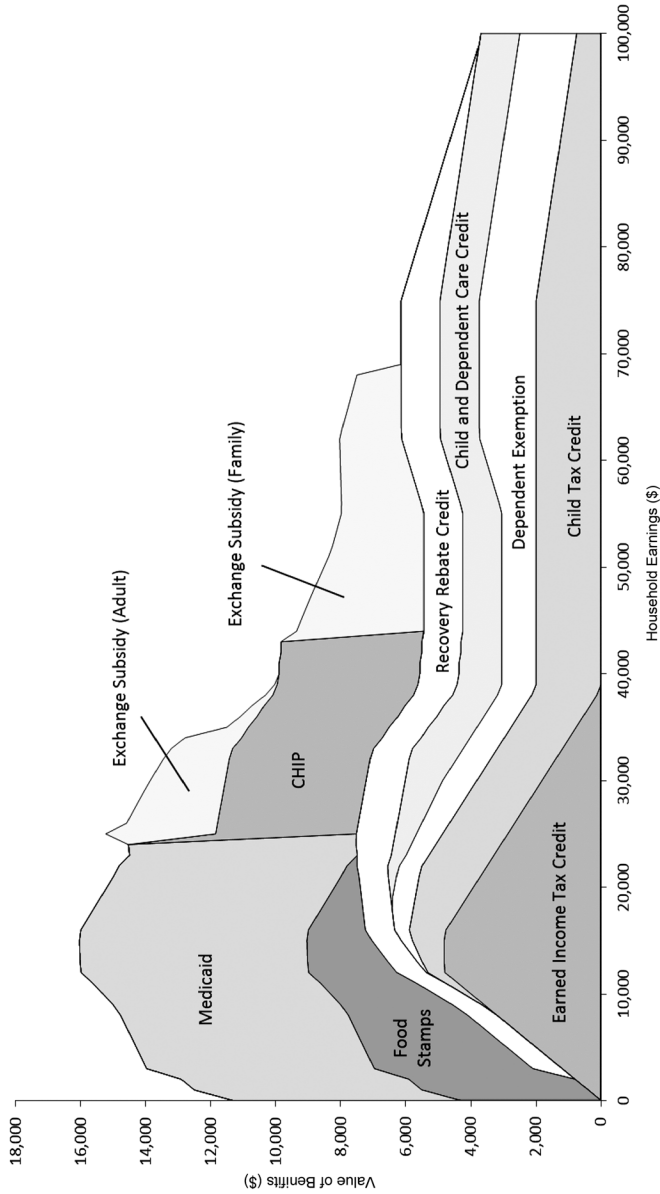
Including health benefits as part of the tax and transfer system presents a daunting technical task, but health benefits represent such a significant share of the social welfare budget that they should be taken into account. Giannarelli and Steuerle (1995) assigned an insurance value to Medicaid coverage to individuals of the CPS population based on their demographic and residence characteristics. Coverage by state health programs generally has “cliff effects” on eligibility and “spike effects” on marginal tax rates: as individuals pass some eligibility threshold, they or their children lose coverage which is valued at some (large) constant amount. These effects tend to mask the impact, for instance, when graphs or calculations imply that only those who are right at the cliff are affected. For instance, a marginal rate of 30 percent may be followed one dollar later by the loss of thousands of dollars' worth of Medicaid (implying a marginal tax rate of 100,000 percent per each thousand dollar loss), followed one dollar later by an effective marginal tax rate of 30 percent. Obviously, the equity and behavioral effects of the loss of Medicaid stretch over a much wider income range than this one dollar of income.

Implementation of the Affordable Care Act (ACA) over the coming years could smooth this effect as those eligible for Medicaid are transitioned into the exchange system as their income rises beyond the income threshold. At the same time, the phase out of the exchanges and cost share subsidies in ACA will add to the effective marginal tax rates facing workers up to 400 percent of the FPL, after which a new but more moderate cliff occurs. While we include some ACA estimates below for hypothetical households, future iterations of our work will expand on these estimates and analyze households as they move between health subsidies in the transfer and tax systems, and eventually become ineligible for health subsidies.

C. Understanding Tax and Transfer Programs for Low- and Middle-Income Families

We illustrate the universally available tax and transfer benefits available to a single head of household with two children in 2011 as household earnings increase (Figure 1). By universal programs, we mean those for which all people are eligible as long as

Figure 1
Universally Available Tax and Transfer Benefits
(Single Parent with Two Children in Colorado, 2008)



Notes: Value of tax and value transfer benefits for a single parent with two children living in Colorado. Tax and transfer rules are for 2008 with hypothetical exchange plans in 2014 added in. Health value estimates are based on Medicaid spending and insurance premiums as reported by the Kaiser Family Foundation. Coverage varies by source: Medicaid and CHIP benefits are more comprehensive and have less cost-sharing than those in the exchange. Medicaid and CHIP also pay providers for services at lower rates than private insurers.

their earnings are at the appropriate level and they apply to the program. Other programs such as TANF, housing subsidies, and supplemental nutrition for Women, Infants, and Children (WIC), are limited or queued in such a way that a family that meets eligibility requirements could still be denied benefits. Thus, they are not universally available to all who meet the eligibility criteria.

Here we include a value of Medicaid that is integrated with the exchange subsidies that will soon be available under ACA. (The values are discounted to 2008 levels.) We provide the information in the figure to illustrate the tax and transfer system that will soon affect many low- and middle-income families.

Health programs are an extremely important part of the transfer system. Although there is no uniformly agreed upon method of valuing the programs, not valuing them is certainly incorrect. Prior analysis often avoids the issue of health care by ignoring it. We attempt to add the effects of health programs to our more comprehensive estimates of effective marginal tax rates for sample households by assigning them a value roughly equal to the cost the government bears.

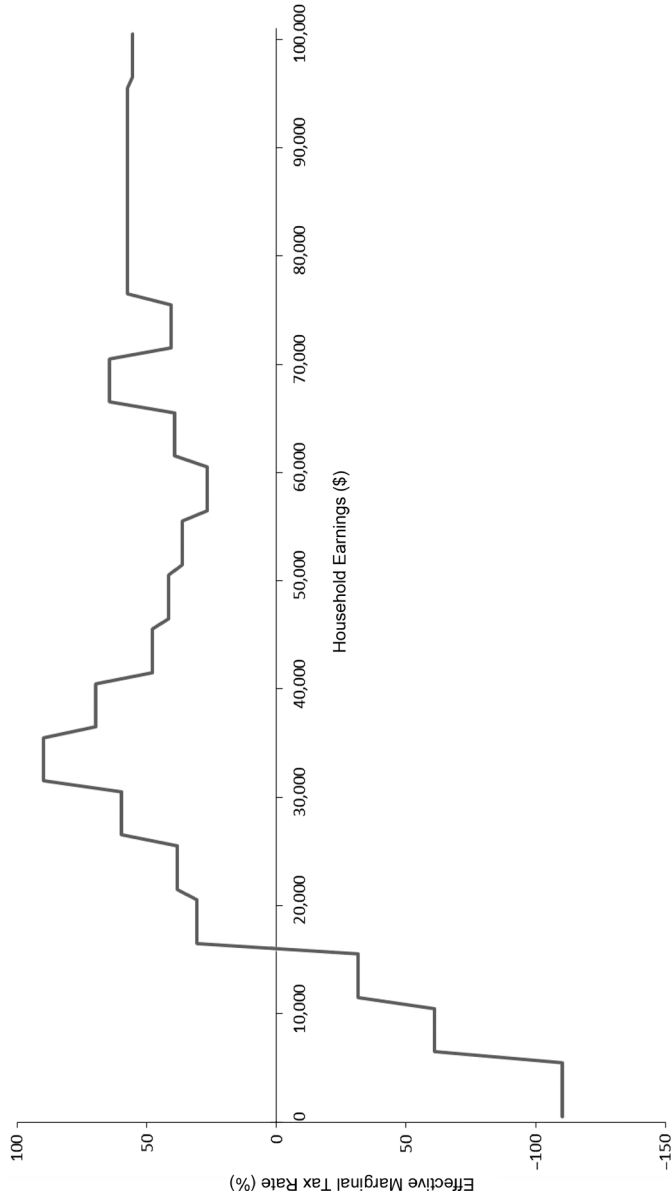
The benefits in Figure 1 can be translated into a chart showing effective marginal tax rates for this family with a single head of household with two children (Figure 2). As benefits decline with additional earnings, effective marginal tax rates increase. The figure shows people who participate in all of the programs for which they are eligible.

III. METHODOLOGY AND DATA FOR THE URBAN INSTITUTE'S NET INCOME CHANGE CALCULATOR

As we move to a multi-state approach using NICC, we extend the analysis to include TANF, but exclude Medicaid/SCHIP. Our model further allows us to add child care subsidies as in other papers (Leguizamon, 2012), but does not include costs associated with working. For purposes of this paper, we assume no child care costs, but readers can add them in performing their own analysis. We provide brief descriptions of the programs in Appendix A.

This section describes our approach for calculating marginal tax rates for families. We focus on tax units headed by someone between ages 25 and 50. The model we employ does not adjust the tax rates for the extent to which they add to Social Security benefits — a key part of the safety net for older Americans, but not as important for most of our population. In any case, most workers get very little additional benefit for their additional Social Security taxes. Social Security only counts 35 years of work, so any single year of work often at best only replaces that of another year in determining whether any net additional benefits will be paid. In addition, many spouses get little or nothing for their additional work, while the progressive Social Security benefit schedule insures that the marginal dollar paid in tax yields a much lower return, if any at all, relative to the first dollars contributed. Even when some earnings additions do increase the value of future Social Security benefits, those future benefits generally don't affect current take-home pay. The bottom line is that Social Security marginal tax rates are very close for most people to their net marginal rate even after accounting for marginal benefits. Still, for

Figure 2
Effective Marginal Tax Rates
(Single Parent with Two Children in Colorado, 2008)



Notes: Average effective marginal tax rates facing a single parent with two children living in Colorado. The effective marginal rate is the marginal tax rate faced in the formal tax system (federal, state, and payroll), in addition to the rates arising from the reduction in disposable income from the loss of transfer benefits. The tax rules used for federal and state income taxes are for CY2008. Hypothetical exchange values were calculated to display the eventual impact of the Affordable Care Act for a worker without employer provided coverage based on insurance premium data reported by the Kaiser Family Foundation.

this analysis, we exclude those most affected by Social Security by excluding many people who are likely to be retired, and unlikely to return to work.

We focus on effective marginal tax rates as people move between various levels of poverty ranging from no work to earnings at twice the FPL. Although effective marginal tax rate calculations are often evaluated in terms of the impact of an additional dollar of earnings, few workers can make incremental decisions that affect only one dollar earned at a time, making the value of effective marginal tax rates calculated in this manner somewhat unclear. It is more likely that families receive additional income in increments derived from an increase in the number of hours they work, or a fixed wage rate increase (for example, their current employer could offer them more hours or they might receive a pay increase).

Policymakers often think in terms of family well-being, and the poverty level offers one such measure of family well-being and adjusting for family size in determining when families are at approximately equal levels of such well-being. Therefore, we display and classify workers based on the relation of their earnings to various multiples of the FPL.

The approach we employ to calculate marginal tax rates under our multi-state analysis is consistent with most prior work, which relies on creating hypothetical or “sample” families. We add to the current literature by showing that state of residence can be an important driver in the effective marginal tax rate a family faces. The model also allows us to vary somewhat the source of the additional earnings (e.g., more hours of work). Previous studies that rely on a representative state miss important components of the broader picture (Leguizamon, 2012).

We analyze effective marginal tax rates for sample families using NICC, which allows users to input wage and hour parameters to produce monthly incomes for sample families. We look at effective marginal tax rates, by state, for two family types — a single parent with one child and a single parent with two children.⁴ We highlight families with children as they are much more affected by high effective marginal tax rates than families without children, since many tax credits and transfers provide larger benefits to families with children. Families that participate in transfer programs typically face higher effective marginal tax rates than families that do not participate — though that does not mean that families who do not participate are better off. It simply means that as families who do not participate in transfer programs increase their earnings, they gain more from their additional earnings, typically because they are not losing as many transfer program benefits.

Our sample families participate in food stamps and TANF and are subject to a higher effective marginal tax rate than applies to those in the more universal system or in practice than applies to families who, while eligible, do not participate in the food stamp

⁴ All calculations assume the family described lives alone with no other people in the household, and that only one adult in the family works. Wages are divided evenly across all 12 months of the year. TANF and earnings have been combined for no prior months. It is also assumed that there are no child care costs and the children in the house are ages seven and four. The family has no assets and owns no vehicle.

program. Outside of our model, we add an indicator of Medicaid eligibility, based on previously published information. We assign a value for this insurance equal to the average cost the government pays. As noted, certainly there is debate over the true value of Medicaid, and we show calculations with and without our assumed value. For simplicity, we do not add the costs of working (such as child care and transportation), though Leguizamón (2012) points out child care costs can be another important source of variation in net gains from work.

IV. RESULTS

We find that effective marginal tax rates faced by people vary greatly based on state of residence. This is a function of variation in TANF programs, SNAP benefits (which vary based on a person's TANF and on her fair market rent⁵), and state income taxes. The variation can be the difference between having a negative effective marginal tax rate (an incentive to work) and a positive effective marginal tax rate (a possible disincentive to work). In 2008, a single parent with two children moving from no work to poverty-level earnings (\$17,350) could face an effective marginal tax rate anywhere from -13.3 percent to 25.5 percent — assuming she participated in TANF and SNAP (Table 1). Calculations also include state and federal income taxes and the worker share of payroll taxes. In six states, this family would face a negative effective marginal tax rate (Alabama, Connecticut, Nevada, New Jersey, Texas, and Virginia). In the remaining states and DC, they would face positive effective marginal tax rates as those wages would be taxed away either through benefit loss or direct taxes.

When a family moves from no work to having a worker earning almost \$8,700 (50 percent of the poverty level), effective marginal tax rates vary from -27.9 percent in New Jersey to 36.3 percent in Wisconsin. That is, in New Jersey, this family's net income (wages, food stamps, TANF, and taxes) increases from almost \$9,200 when the family has no earnings to a little over \$20,200 when a family adds about \$8,700 in earnings. This change of \$11,000 occurs because earnings increase by \$8,700, the federal EITC increases by almost \$3,500, other federal credits add a little over \$900 to the family's net income, and state tax credits add almost \$800 to this family's net income. Offsetting these income increases are almost \$2,100 in lost food stamp benefits and \$600 in the employee share of payroll taxes. The family's TANF benefit is unchanged. In total, the family's income — net of taxes and transfer — is 27.9 percent *more* than their increase in wages.

In Wisconsin, the story is quite different for a family moving from no earnings to earnings at half of the poverty level. Here, the family adds the same \$8,700 in earnings but its net income increases by only \$5,500. Beyond the wage increase, the family's food stamp benefits increase by \$200, the federal EITC again increases by almost \$3,500,

⁵ We use the fair market rent in the largest county in each state to calculate the excess shelter expense deduction in the Food Stamp program, which can affect benefits.

Table 1

Effective Marginal Tax Rates (%) Moving from Various Earnings Levels
(Single Parent with Two Children; TANF and Food Stamps;
Equal Earnings in All Months)

| | \$0 Earnings to Half Poverty | Half- Poverty to Poverty | Poverty to 150 Percent of Poverty | 150 Percent of Poverty to Twice Poverty | \$0 to Poverty | \$0 to Twice Poverty |
|----------------------|------------------------------------|--------------------------------|---|---|-------------------|----------------------------|
| Alabama | -18.7 | 9.0 | 40.1 | 46.8 | -4.9 | 19.3 |
| Alaska | 5.7 | 36.4 | 81.6 | 51.3 | 21.1 | 43.8 |
| Arizona | 14.7 | 5.2 | 44.8 | 44.1 | 9.9 | 27.2 |
| Arkansas | 0.9 | 7.9 | 49.7 | 47.9 | 4.4 | 26.6 |
| California | 5.3 | 40.1 | 53.3 | 41.5 | 22.7 | 35.0 |
| Colorado | -2.3 | 23.0 | 46.5 | 46.1 | 10.3 | 28.3 |
| Connecticut | -18.9 | -1.7 | 104.7 | 44.4 | -10.3 | 32.1 |
| Delaware | -18.6 | 28.7 | 51.6 | 51.2 | 5.0 | 28.2 |
| District of Columbia | -16.5 | 26.6 | 56.2 | 55.9 | 5.0 | 30.5 |
| Florida | 6.4 | 9.2 | 42.5 | 41.5 | 7.8 | 24.9 |
| Georgia | 6.8 | 9.0 | 48.1 | 47.6 | 7.9 | 27.9 |
| Hawaii | 5.4 | 45.5 | 88.2 | 48.6 | 25.5 | 46.9 |
| Idaho | 11.0 | 5.2 | 45.1 | 47.7 | 8.1 | 27.2 |
| Illinois | 3.4 | 25.9 | 46.6 | 45.5 | 14.6 | 30.3 |
| Indiana | -2.7 | 18.0 | 47.2 | 46.2 | 7.7 | 27.2 |
| Iowa | 2.0 | 24.1 | 51.2 | 49.7 | 13.0 | 31.7 |
| Kansas | -1.1 | 22.7 | 50.1 | 53.1 | 10.8 | 31.2 |
| Kentucky | 0.0 | 11.5 | 55.6 | 47.3 | 5.8 | 28.6 |
| Louisiana | -20.3 | 30.2 | 47.5 | 48.3 | 5.0 | 26.4 |
| Maine | -2.2 | 35.3 | 43.7 | 48.1 | 16.6 | 31.2 |
| Maryland | 13.2 | 16.9 | 52.0 | 48.8 | 15.0 | 32.7 |
| Massachusetts | 4.3 | 34.0 | 50.4 | 49.9 | 19.2 | 34.7 |
| Michigan | 17.7 | 13.6 | 48.7 | 48.0 | 15.7 | 32.0 |
| Minnesota | 8.2 | 25.6 | 46.2 | 57.0 | 16.9 | 34.3 |
| Mississippi | -2.2 | 6.1 | 46.5 | 46.5 | 2.0 | 24.2 |
| Missouri | -4.2 | 19.5 | 47.5 | 47.5 | 7.7 | 27.6 |
| Montana | 26.7 | 6.8 | 46.6 | 46.9 | 16.8 | 31.8 |
| Nebraska | 2.7 | 13.7 | 47.6 | 47.0 | 8.2 | 27.8 |
| Nevada | -18.9 | 5.2 | 26.6 | 41.5 | -6.9 | 13.6 |
| New Hampshire | 16.1 | 30.6 | 42.5 | 41.5 | 23.3 | 32.7 |
| New Jersey | -27.9 | 1.3 | 34.6 | 47.9 | -13.3 | 14.0 |
| New Mexico | 6.8 | 19.1 | 46.8 | 46.6 | 13.0 | 29.8 |
| New York | -1.3 | 35.2 | 50.8 | 53.8 | 16.9 | 34.6 |
| North Carolina | 6.0 | 6.3 | 49.1 | 48.8 | 6.1 | 27.6 |
| North Dakota | -2.7 | 21.2 | 58.2 | 43.6 | 9.2 | 30.1 |
| Ohio | 4.1 | 23.0 | 45.5 | 45.2 | 13.5 | 29.5 |
| Oklahoma | 8.8 | 5.6 | 47.9 | 48.0 | 7.2 | 27.6 |
| Oregon | 24.2 | 8.8 | 52.7 | 51.7 | 16.5 | 34.4 |
| Pennsylvania | 20.1 | 5.2 | 45.1 | 51.0 | 12.6 | 30.3 |
| Rhode Island | 6.5 | 31.4 | 43.9 | 46.6 | 19.0 | 32.1 |
| South Carolina | -18.9 | 30.6 | 42.5 | 42.9 | 5.9 | 24.3 |
| South Dakota | 30.2 | 8.2 | 42.5 | 41.5 | 19.2 | 30.6 |
| Tennessee | -19.0 | 23.1 | 42.5 | 41.5 | 2.1 | 22.0 |
| Texas | -12.9 | 12.1 | 53.3 | 41.5 | -0.4 | 23.5 |
| Utah | 5.6 | 26.6 | 47.6 | 47.9 | 16.1 | 31.9 |
| Vermont | 6.4 | 27.7 | 52.3 | 51.7 | 17.0 | 34.5 |

Table 1 (Continued)
Effective Marginal Tax Rates (%) Moving from Various Earnings Levels
(Single Parent with Two Children; TANF and Food Stamps;
Equal Earnings in All Months)

| | \$0 Earnings to Half Poverty | Half- Poverty to Poverty | Poverty to 150 Percent of Poverty | 150 Percent of Poverty to Twice Poverty | \$0 to Poverty | \$0 to Twice Poverty |
|----------------|------------------------------------|--------------------------------|---|---|-------------------|----------------------------|
| Virginia | -18.9 | 5.0 | 84.5 | 51.5 | -6.9 | 30.5 |
| Washington | 16.1 | 24.5 | 42.5 | 41.5 | 20.3 | 31.1 |
| West Virginia | 14.0 | 5.2 | 50.5 | 45.8 | 9.6 | 28.9 |
| Wisconsin | 36.3 | 6.0 | 52.0 | 52.1 | 21.1 | 36.6 |
| Wyoming | 14.0 | 5.2 | 42.5 | 41.5 | 9.6 | 25.8 |
| Simple Average | 2.4 | 17.9 | 50.5 | 47.3 | 10.2 | 29.5 |
| High | 36.3 | 45.5 | 104.7 | 57.0 | 25.5 | 46.9 |
| Low | -27.9 | -1.7 | 26.6 | 41.5 | -13.3 | 13.6 |

Notes: The data include TANF, food stamps, federal and state income taxes, and the employee portion of payroll taxes. Calculations were performed using the Urban Institute's Net Income Change Calculator (NICC).

other federal credits add a little over \$900, and state tax credits add almost \$500. The family loses \$7,500 in TANF benefits and pays \$600 in the employee share of payroll taxes — which results in a net income change of only \$5,500. Their net income is thus 36.3 percent *less* than their change in earnings.

Moving from half-poverty to the poverty level results in a positive effective marginal tax rate in almost all states for our prototypical family. This family would see a negative effective marginal tax rate in Connecticut (-1.7 percent). For all other families, the addition of another \$8,700 in earnings results in net income (wages, taxes, and transfers) of as little as \$4,740 (Hawaii). In six states, more than a third of the earnings increase will be offset by increases in taxes and loss of transfers (Alaska, California, Hawaii, Maine, Massachusetts, and New York).

If this single parent with two children adds another \$8,700 in earnings and moves from poverty to 150 percent of the poverty level, her effective marginal tax rate will range from 26.6 percent to over 100 percent (Connecticut). That is, in Connecticut, this family will actually have fewer resources at hand when earnings increase from poverty to 150 percent of the poverty level because of lost transfers and increased taxes.

Finally, moving from 150 percent of the FPL to twice the FPL for a single parent with two children results in an effective marginal tax rate of between 41.5 percent and 57 percent. With rates this high, individuals may question whether the additional work effort is worth it — particularly when the costs associated with working are included, such as child care and transportation.

The Kaiser Family Foundation releases a yearly report on the attributes of the Medicaid and SCHIP programs, which includes summary tables on basic income eligibility guidelines of state Medicaid programs, both for children and for parents (Ross and Marks, 2009). Using information on Medicaid and SCHIP rules for January 2009 contained

Table 2
Effective Marginal Tax Rates (%) Moving from Various Earnings Levels
(Single Parent with Two Children; TANF, Food Stamps, and Medicaid;
Equal Earnings in All Months)

| | \$0 Earnings to Half Poverty | Half- Poverty to Poverty | Poverty to 150 Percent of Poverty | 150 Percent of Poverty to Twice Poverty | \$0 to Poverty | \$0 to Twice Poverty |
|----------------------|------------------------------------|--------------------------------|---|---|-------------------|----------------------------|
| Alabama | 12.0 | 9.0 | 40.1 | 96.6 | 10.5 | 39.4 |
| Alaska | 5.7 | 36.4 | 112.3 | 101.2 | 21.1 | 63.9 |
| Arizona | 14.7 | 5.2 | 44.8 | 94.0 | 9.9 | 39.7 |
| Arkansas | 0.9 | 7.9 | 49.7 | 97.7 | 4.4 | 39.0 |
| California | 5.3 | 40.1 | 84.0 | 41.5 | 22.7 | 42.7 |
| Colorado | -2.3 | 53.7 | 46.5 | 46.1 | 25.7 | 36.0 |
| Connecticut | -18.9 | -1.7 | 104.7 | 44.4 | -10.3 | 32.1 |
| Delaware | -18.6 | 28.7 | 82.3 | 101.0 | 5.0 | 48.3 |
| District of Columbia | -16.5 | 26.6 | 56.2 | 55.9 | 5.0 | 30.5 |
| Florida | 6.4 | 39.9 | 42.5 | 91.4 | 23.2 | 45.0 |
| Georgia | 6.8 | 39.8 | 48.1 | 47.6 | 23.3 | 35.6 |
| Hawaii | 5.4 | 45.5 | 118.9 | 48.6 | 25.5 | 54.6 |
| Idaho | 41.7 | 5.2 | 45.1 | 97.6 | 23.4 | 47.4 |
| Illinois | 3.4 | 25.9 | 46.6 | 126.1 | 14.6 | 50.5 |
| Indiana | -2.7 | 18.0 | 47.2 | 46.2 | 7.7 | 27.2 |
| Iowa | 2.0 | 24.1 | 51.2 | 99.5 | 13.0 | 44.2 |
| Kansas | 29.7 | 22.7 | 50.1 | 103.0 | 26.2 | 51.4 |
| Kentucky | 0.0 | 42.2 | 55.6 | 97.2 | 21.1 | 48.8 |
| Louisiana | 10.5 | 30.2 | 47.5 | 48.3 | 20.3 | 34.1 |
| Maine | -2.2 | 35.3 | 43.7 | 98.0 | 16.6 | 43.7 |
| Maryland | 13.2 | 16.9 | 82.7 | 48.8 | 15.0 | 40.4 |
| Massachusetts | 4.3 | 34.0 | 81.1 | 49.9 | 19.2 | 42.3 |
| Michigan | 17.7 | 44.3 | 48.7 | 97.8 | 31.0 | 52.1 |
| Minnesota | 8.2 | 25.6 | 46.2 | 57.0 | 16.9 | 34.3 |
| Mississippi | 28.6 | 6.1 | 46.5 | 96.3 | 17.3 | 44.4 |
| Missouri | 26.5 | 19.5 | 47.5 | 47.5 | 23.0 | 35.2 |
| Montana | 26.7 | 37.5 | 46.6 | 96.7 | 32.1 | 51.9 |
| Nebraska | 2.7 | 44.5 | 47.6 | 96.9 | 23.6 | 47.9 |
| Nevada | -18.9 | 5.2 | 26.6 | 91.4 | -6.9 | 26.1 |
| New Hampshire | 16.1 | 61.3 | 42.5 | 41.5 | 38.7 | 40.3 |
| New Jersey | -27.9 | 1.3 | 34.6 | 47.9 | -13.3 | 14.0 |
| New Mexico | 6.8 | 19.1 | 46.8 | 46.6 | 13.0 | 29.8 |
| New York | -1.3 | 35.2 | 50.8 | 84.5 | 16.9 | 42.3 |
| North Carolina | 6.0 | 37.0 | 49.1 | 98.7 | 21.5 | 47.7 |
| North Dakota | -2.7 | 51.9 | 108.1 | 43.6 | 24.6 | 50.2 |
| Ohio | 4.1 | 53.7 | 45.5 | 95.1 | 28.9 | 49.6 |
| Oklahoma | 8.8 | 5.6 | 47.9 | 97.8 | 7.2 | 40.0 |
| Oregon | 24.2 | 8.8 | 83.4 | 101.6 | 16.5 | 54.5 |
| Pennsylvania | 20.1 | 5.2 | 45.1 | 51.0 | 12.6 | 30.3 |
| Rhode Island | 6.5 | 31.4 | 43.9 | 77.3 | 19.0 | 39.8 |
| South Carolina | -18.9 | 61.3 | 42.5 | 92.7 | 21.2 | 44.4 |
| South Dakota | 30.2 | 38.9 | 42.5 | 91.4 | 34.6 | 50.7 |
| Tennessee | -19.0 | 23.1 | 73.2 | 41.5 | 2.1 | 29.7 |
| Texas | 17.8 | 12.1 | 53.3 | 91.4 | 14.9 | 43.6 |
| Utah | 5.6 | 26.6 | 47.6 | 128.4 | 16.1 | 52.0 |
| Vermont | 6.4 | 27.7 | 52.3 | 82.5 | 17.0 | 42.2 |

Table 2 (Continued)
Effective Marginal Tax Rates (%) Moving from Various Earnings Levels
(Single Parent with Two Children; TANF, Food Stamps, and Medicaid;
Equal Earnings in All Months)

| | \$0 Earnings to Half Poverty | Half- Poverty to Poverty | Poverty to 150 Percent of Poverty | 150 Percent of Poverty to Twice Poverty | \$0 to Poverty | \$0 to Twice Poverty |
|----------------|------------------------------------|--------------------------------|---|---|-------------------|----------------------------|
| Virginia | 11.8 | 5.0 | 84.5 | 101.3 | 8.4 | 50.7 |
| Washington | 16.1 | 24.5 | 42.5 | 41.5 | 20.3 | 31.1 |
| West Virginia | 44.7 | 5.2 | 50.5 | 45.8 | 24.9 | 36.5 |
| Wisconsin | 36.3 | 6.0 | 52.0 | 52.1 | 21.1 | 36.6 |
| Wyoming | 14.0 | 35.9 | 42.5 | 91.4 | 24.9 | 45.9 |
| Simple Average | 7.8 | 26.4 | 56.3 | 76.7 | 17.1 | 41.8 |
| High | 44.7 | 61.3 | 118.9 | 128.4 | 38.7 | 63.9 |
| Low | -27.9 | -1.7 | 26.6 | 41.5 | -13.3 | 14.0 |

Notes: The data include TANF, food stamps, federal and state income taxes, and the employee portion of payroll taxes. Calculations were performed using NICC.

in the report, we add information about eligibility for Medicaid for our sample family.⁶ Next, we assign a value of Medicaid consistent with what the government pays (State Health Facts, 2012). Effective marginal tax rates with Medicaid/SCHIP are shown in Table 2. Once Medicaid is included, this family faces an effective marginal tax rate exceeding 100 percent much more often.

The above numbers understate effective marginal tax rates by excluding additional costs associated with working — namely child care and transportation — and the value of health benefits. They also overstate the effective marginal tax rates most people face because the effective marginal tax rates in the table only apply to people who participate in both TANF and SNAP if they are eligible, a situation becoming increasingly unlikely as TANF participation declines.

We observe wide variation across states for a married couple with two children as well (Table 3). All of these families face negative effective marginal tax rates when moving from no income to earnings at half poverty level. In other words, all families receive more than their increase in earnings, considering they also gain transfers in excess of any taxes paid. Effective marginal tax rates vary from -87 percent in North Dakota to -21 percent in South Dakota. In North Dakota, adding \$10,900 in wages adds \$20,400 in net income, and in South Dakota, the same addition of earnings increase net income by \$18,664. Interestingly, both of these families have a net income of \$20,400 when

⁶ The Kaiser Family Foundation did not release this information for 2008, but we observed few changes between 2007 and 2009.

Table 3
Effective Marginal Tax Rates (%) Moving from Various Earnings Levels
(Married Couple with Two Children; TANF and Food Stamps;
Equal Earnings in All Months)

| | \$0 Earnings to Half Poverty | Half- Poverty to Poverty | Poverty to 150 Percent of Poverty | 150 Percent of Poverty to Twice Poverty | \$0 to Poverty | \$0 to Twice Poverty |
|----------------------|------------------------------------|--------------------------------|---|---|-------------------|----------------------------|
| Alabama | -78.8 | 22.8 | 51.2 | 61.4 | -28.0 | 6.5 |
| Alaska | -44.8 | 49.9 | 75.0 | 55.8 | 2.5 | 29.3 |
| Arizona | -40.9 | 18.5 | 57.1 | 63.7 | -11.2 | 16.0 |
| Arkansas | -59.7 | 19.2 | 64.1 | 59.9 | -20.3 | 13.8 |
| California | -32.0 | 53.6 | 59.7 | 66.4 | 10.8 | 27.5 |
| Colorado | -55.3 | 34.5 | 57.1 | 61.8 | -10.4 | 16.9 |
| Connecticut | -65.1 | 69.2 | 55.0 | 62.9 | 2.0 | 22.7 |
| Delaware | -71.4 | 42.0 | 61.8 | 56.6 | -14.7 | 17.1 |
| District of Columbia | -66.1 | 44.2 | 68.4 | 52.0 | -10.9 | 21.7 |
| Florida | -46.9 | 18.5 | 54.1 | 66.4 | -14.2 | 13.1 |
| Georgia | -49.9 | 20.6 | 59.8 | 60.4 | -14.7 | 15.7 |
| Hawaii | -71.0 | 55.9 | 102.9 | 59.5 | -7.6 | 29.3 |
| Idaho | -52.9 | 18.5 | 56.0 | 60.4 | -17.2 | 13.5 |
| Illinois | -48.9 | 34.6 | 58.0 | 62.3 | -7.2 | 18.7 |
| Indiana | -58.9 | 30.9 | 58.7 | 61.8 | -14.0 | 15.4 |
| Iowa | -49.7 | 38.1 | 61.9 | 58.2 | -5.8 | 21.3 |
| Kansas | -52.7 | 34.7 | 62.7 | 59.0 | -9.0 | 19.6 |
| Kentucky | -53.8 | 21.9 | 68.3 | 60.6 | -15.9 | 16.9 |
| Louisiana | -78.8 | 42.0 | 58.2 | 61.7 | -18.4 | 13.0 |
| Maine | -48.8 | 47.7 | 55.3 | 60.4 | -0.6 | 22.0 |
| Maryland | -32.4 | 31.7 | 62.8 | 55.7 | -0.3 | 25.0 |
| Massachusetts | -38.9 | 44.4 | 62.1 | 57.8 | 2.7 | 25.9 |
| Michigan | -27.6 | 23.4 | 60.3 | 59.9 | -2.1 | 22.5 |
| Minnesota | -47.2 | 31.7 | 64.3 | 50.9 | -7.7 | 22.7 |
| Mississippi | -65.5 | 19.1 | 57.9 | 61.3 | -23.2 | 10.5 |
| Missouri | -59.2 | 29.3 | 59.3 | 60.4 | -14.9 | 15.4 |
| Montana | -24.4 | 20.4 | 58.6 | 60.6 | -2.0 | 22.0 |
| Nebraska | -47.7 | 23.5 | 58.4 | 60.7 | -12.1 | 16.6 |
| Nevada | -72.1 | 18.6 | 36.8 | 66.4 | -26.7 | 2.6 |
| New Hampshire | -29.2 | 36.4 | 54.1 | 66.4 | 3.6 | 22.5 |
| New Jersey | -79.7 | 21.2 | 41.6 | 60.0 | -29.3 | 4.0 |
| New Mexico | -45.7 | 34.7 | 57.7 | 61.3 | -5.5 | 19.8 |
| New York | -40.5 | 46.7 | 64.8 | 55.4 | 3.1 | 27.4 |
| North Carolina | -55.5 | 19.8 | 60.7 | 59.2 | -17.8 | 14.5 |
| North Dakota | -86.9 | 18.5 | 55.5 | 64.3 | -34.2 | 3.5 |
| Ohio | -44.8 | 33.6 | 57.5 | 62.7 | -5.6 | 19.3 |
| Oklahoma | -47.7 | 19.7 | 60.2 | 59.8 | -14.0 | 16.2 |
| Oregon | -25.6 | 23.5 | 64.3 | 56.1 | -1.1 | 24.9 |
| Pennsylvania | -32.2 | 18.5 | 54.1 | 54.2 | -6.9 | 20.0 |
| Rhode Island | -38.9 | 38.9 | 55.3 | 59.5 | 0.0 | 22.6 |
| South Carolina | -76.4 | 42.9 | 54.1 | 64.9 | -16.7 | 12.2 |
| South Dakota | -21.5 | 18.5 | 54.1 | 66.4 | -1.5 | 19.8 |
| Tennessee | -79.4 | 35.9 | 54.1 | 66.4 | -21.7 | 9.2 |
| Texas | -70.9 | 35.6 | 54.1 | 66.4 | -17.7 | 11.3 |
| Utah | -42.0 | 34.7 | 57.9 | 60.0 | -3.7 | 21.1 |
| Vermont | -33.8 | 35.8 | 63.3 | 56.2 | 1.0 | 25.7 |

Table 3 (Continued)
Effective Marginal Tax Rates (%) Moving from Various Earnings Levels
(Married Couple with Two Children; TANF and Food Stamps;
Equal Earnings in All Months)

| | \$0 Earnings to Half Poverty | Half- Poverty to Poverty | Poverty to 150 Percent of Poverty | 150 Percent of Poverty to Twice Poverty | \$0 to Poverty | \$0 to Twice Poverty |
|----------------|------------------------------------|--------------------------------|---|---|-------------------|----------------------------|
| Virginia | -72.0 | 53.3 | 59.7 | 56.3 | -9.4 | 19.4 |
| Washington | -30.0 | 34.4 | 54.1 | 66.4 | 2.2 | 21.7 |
| West Virginia | -44.7 | 19.7 | 61.5 | 62.0 | -12.5 | 16.8 |
| Wisconsin | -23.3 | 20.4 | 62.7 | 56.0 | -1.5 | 24.3 |
| Wyoming | -49.5 | 18.5 | 54.1 | 66.4 | -15.5 | 12.4 |
| Simple Average | -51.2 | 31.8 | 59.2 | 60.6 | -9.7 | 18.1 |
| High | -21.5 | 69.2 | 102.9 | 66.4 | 10.8 | 29.3 |
| Low | -86.9 | 18.5 | 36.8 | 50.9 | -34.2 | 2.6 |

Notes: The data include TANF, food stamps, federal and state income taxes, and the employee portion of payroll taxes. Calculations were performed using NICC.

they have a single wage earner that earns \$10,900. The difference in the effective marginal tax rates stems from North Dakota offering no benefits at an earnings level of \$0, while South Dakota offers a little over \$7,000 in TANF benefits for a married couple with two children and no earnings.

It is important to note that the average effective marginal tax rates faced in the actual population will tend to be below those found in sample family analyses. This happens for a variety of reasons. Families do not tend to participate in all of the programs for which they are eligible, not all families are eligible for transfer programs (because of immigrant status, for example), and many families will retain eligibility for some benefits in many months, even though they increase work. Results also vary for those who work in some months and not others.

In the extreme case, consider the same single parent with two children participating in SNAP (or food stamps in earlier years), but assume they have no earnings from January to June and then earn money equally in all months from July to December. Having inconsistent earnings throughout the year could be the case for seasonal workers (who may be employed in summer and over the winter holidays with no employment in late spring and fall) or others who have difficulty retaining steady employment. It could also be the case for someone who simply lost her job at some point during the year. If a family has earnings lumped into only six months of the year, they could still have total earnings equivalent to half the poverty level, but rather than receiving benefits at the “half-poverty level,” they will receive benefits at the “no earnings” level for six months of the year and at poverty-level earnings for the other 6 months of the year (assuming no

Table 4
Effective Marginal Tax Rates (%) Moving from Various Earnings Levels
(Single Parent with Two Children; TANF and Food Stamps;
No Employment January-June; Employed July-December)

| | \$0 Earnings to Half Poverty | Half- Poverty to | Poverty to 150 Percent of Poverty | 150 Percent of Poverty to Twice Poverty | \$0 to Poverty | \$0 to Twice Poverty |
|----------------------|------------------------------------|---------------------|---|---|-------------------|----------------------------|
| Alabama | -22.8 | 7.5 | 32.8 | 46.8 | -7.7 | 16.0 |
| Alaska | 9.0 | 30.0 | 9.9 | 41.5 | 11.3 | 22.6 |
| Arizona | -2.1 | 13.2 | 4.5 | 44.1 | -6.5 | 15.0 |
| Arkansas | -9.0 | 6.1 | 19.3 | 47.9 | -8.5 | 16.1 |
| California | 10.7 | 29.3 | -8.4 | 41.5 | 2.6 | 18.3 |
| Colorado | -1.7 | 13.9 | 5.6 | 46.1 | -6.3 | 16.0 |
| Connecticut | -22.3 | -18.9 | 66.0 | 44.4 | -1.3 | 17.3 |
| Delaware | -7.0 | 4.5 | 15.7 | 51.2 | -6.7 | 16.1 |
| District of Columbia | -14.1 | 17.2 | 10.3 | 55.9 | -13.3 | 17.3 |
| Florida | -4.2 | 10.2 | 5.2 | 41.5 | -7.5 | 13.2 |
| Georgia | -4.9 | 10.7 | 12.5 | 47.6 | -6.8 | 16.5 |
| Hawaii | 11.6 | 54.4 | -8.2 | 48.6 | 12.5 | 26.6 |
| Idaho | -4.0 | 10.6 | 7.4 | 47.7 | -7.4 | 15.5 |
| Illinois | 1.0 | 21.3 | 0.5 | 45.5 | -3.8 | 17.1 |
| Indiana | -6.2 | 11.7 | 11.0 | 46.2 | -7.3 | 15.6 |
| Iowa | -1.1 | 20.1 | 5.4 | 49.7 | -5.3 | 18.5 |
| Kansas | -6.2 | 20.3 | 5.9 | 53.1 | -6.9 | 18.3 |
| Kentucky | -6.2 | 7.4 | 21.2 | 47.3 | -8.5 | 17.4 |
| Louisiana | -8.7 | 7.7 | 14.6 | 48.3 | -8.9 | 15.5 |
| Maine | 4.5 | 22.8 | -6.1 | 48.1 | -3.1 | 17.3 |
| Maryland | -1.5 | 27.5 | -3.3 | 48.8 | -6.6 | 17.9 |
| Massachusetts | 5.0 | 30.3 | -8.7 | 49.9 | -3.7 | 19.2 |
| Michigan | 0.9 | 24.7 | -1.4 | 48.0 | -4.1 | 18.1 |
| Minnesota | 1.8 | 22.2 | -6.9 | 57.0 | -6.4 | 18.5 |
| Mississippi | -10.5 | 2.0 | 18.4 | 46.5 | -10.2 | 14.1 |
| Missouri | -4.8 | 10.3 | 11.0 | 47.4 | -7.4 | 16.0 |
| Montana | 3.9 | 23.5 | -2.3 | 46.9 | -2.6 | 18.0 |
| Nebraska | -5.1 | 13.2 | 6.1 | 47.0 | -8.6 | 15.3 |
| Nevada | -18.9 | -18.7 | 52.6 | 41.5 | -18.8 | 14.1 |
| New Hampshire | 11.3 | 32.5 | -17.0 | 41.5 | 0.2 | 17.1 |
| New Jersey | -28.5 | -21.5 | 63.9 | 47.9 | -25.1 | 15.4 |
| New Mexico | -0.6 | 19.9 | -0.4 | 46.6 | -5.8 | 16.4 |
| New York | 0.3 | 32.0 | -13.3 | 53.8 | -7.8 | 18.2 |
| North Carolina | -7.1 | 9.2 | 14.0 | 48.8 | -8.4 | 16.2 |
| North Dakota | -2.8 | 9.3 | 14.9 | 43.6 | -3.3 | 16.3 |
| Ohio | 0.9 | 18.7 | 0.9 | 45.2 | -4.4 | 16.4 |
| Oklahoma | -5.3 | 9.9 | 11.4 | 48.0 | -7.9 | 16.0 |
| Oregon | 1.5 | 25.4 | 3.8 | 51.7 | -2.9 | 20.6 |
| Pennsylvania | 0.6 | 17.1 | 0.9 | 51.0 | -5.1 | 17.4 |
| Rhode Island | 6.5 | 27.0 | -10.7 | 46.6 | -2.4 | 17.4 |
| South Carolina | -6.2 | 7.4 | 8.0 | 42.9 | -8.5 | 13.0 |
| South Dakota | 7.2 | 26.5 | -11.1 | 41.5 | -1.8 | 16.0 |
| Tennessee | -10.0 | 2.1 | 13.4 | 41.5 | -10.4 | 11.7 |
| Texas | -12.5 | -3.8 | 24.6 | 41.5 | -9.0 | 12.5 |
| Utah | 4.1 | 22.0 | -1.5 | 47.9 | -3.4 | 18.1 |
| Vermont | 0.5 | 31.5 | -10.0 | 51.7 | -7.0 | 18.4 |

Table 4 (Continued)
 Effective Marginal Tax Rates (%) Moving from Various Earnings Levels
 (Single Parent with Two Children; TANF and Food Stamps;
 No Employment January-June; Employed July-December)

| | \$0 Earnings to Half Poverty | Half- Poverty to Poverty | Poverty to 150 Percent of Poverty | 150 Percent of Poverty to Twice Poverty | \$0 to Poverty | \$0 to Twice Poverty |
|----------------|------------------------------------|--------------------------------|---|---|-------------------|----------------------------|
| Virginia | -19.0 | -18.7 | 57.3 | 51.5 | -5.5 | 17.8 |
| Washington | 8.3 | 28.1 | -12.7 | 41.5 | -1.3 | 16.3 |
| West Virginia | -2.4 | 12.8 | 10.7 | 45.8 | -6.6 | 16.7 |
| Wisconsin | 5.9 | 33.5 | -7.7 | 52.1 | -2.0 | 21.0 |
| Wyoming | -2.4 | 12.8 | 2.7 | 41.5 | -6.6 | 13.6 |
| Simple Average | -3.2 | 15.1 | 8.5 | 47.1 | -5.7 | 16.9 |
| High | 11.6 | 54.4 | 66.0 | 57.0 | 12.5 | 26.6 |
| Low | -28.5 | -21.5 | -17.0 | 41.5 | -25.1 | 11.7 |

Notes: The data include TANF, food stamps, federal and state income taxes, and the employee portion of payroll taxes. Calculations were performed using NICC.

transitional benefits are in place). Because state, federal, and payroll taxes have an annual accounting system, taxes will be unchanged, regardless of the timing of the earnings.

Using NICC, we can calculate effective marginal tax rates for this type of single parent family in each state, assuming earnings in only the last six months of the year (Table 4). Here, we find effective marginal tax rates for a single parent with two children moving from no earnings to half-poverty earnings range from a low of -28.8 percent in Alabama to a high of 11.6 percent in Hawaii, excluding health care. Moving from half-poverty to poverty, our sample family's effective marginal tax rate ranges from -21.5 percent to 54.4 percent. Under the previous set of assumptions, the high effective marginal tax rate was 61.3 percent. Families moving from poverty level earnings to earnings at 150 percent of poverty who have earnings in only the second half of the year will face effective marginal tax rates ranging from -17.0 percent to 66.0 percent and families moving from earnings at 150 percent of poverty to earnings at twice poverty will face an effective marginal tax rate ranging from 41.5 percent to 55.2 percent. In general, we find, as expected, lower effective marginal tax rates when people have all of their earnings in only half of the year.

V. CONCLUSION

Effective marginal tax rates for low-income families vary greatly depending on income level, state of residence, earning patterns, and program participation. Previous analyses of marginal tax rates tend to focus exclusively on taxes or transfers in a limited set of states or ignoring state programs altogether. Using Urban Institute's NICC, we

calculate effective marginal tax rates for single parents and married couples with two children, assuming earnings are distributed evenly throughout the year in every state and the District of Columbia. These rates are likely exaggerated, as they assume people participate in both TANF and food stamps and assume that people earn income evenly in all 12 months of the year. We perform a second set of calculations that shows the impact of working half the year for the same total earnings, and being unemployed the remainder of the year. These lower effective marginal tax rates may well be the rates people face, as having low-income is often a function of working only part year. We invite users to test even more variations than we have covered in this analysis.

The interaction of tax and transfer systems and the effective marginal tax rates they produce for families have wide-ranging implications — for the material well-being of low- and moderate-income families, for the incentives those families face with respect to marriage and upward mobility, and for the overall fairness of the nation’s safety net and real tax system. Reform-minded policymakers at both the federal and state levels would do well to consider the interactions between these systems when exploring options for reform. While reform of the welfare and tax systems is so often debated in a piecemeal fashion that focuses on only one credit or program, our findings and the findings of others demonstrate that a more comprehensive approach is crucial to success in designing policy that provides basic adequacy to households in need, treats households in equal circumstances equally, and promotes upward mobility by rewarding work effort.

ACKNOWLEDGEMENTS AND DISCLAIMERS

Initial development of NICC was funded by the Annie E. Casey Foundation as part of the Low Income Working Families Project. Funding for the update of the 2008 rules was provided, in part, by HHS/ASPE. Additional funding came from the John D. and Catherine T. MacArthur Foundation. NICC’s calculations are performed by an adapted version of the TRIM3 microsimulation model. The standard version of TRIM3 is funded and copyrighted by HHS/ASPE and developed and maintained by the Urban Institute.

The authors would like to thank Linda Giannarelli, Kye Lippold, and Laura Wheaton for their invaluable assistance on this article. We are especially grateful to Nada Eissa for her comments and insights at the National Tax Association Spring Symposium. Any errors or omissions are our own. All opinions and conclusions expressed are solely those of the authors and should not be construed to represent the views of the Urban Institute, its board, or its sponsors.

REFERENCES

Acs, Gregory, Norma B. Coe, Keith Watson, and Robert I. Lerman, 1998. “Does Work Pay? An Analysis of the Work Incentives under TANF.” Occasional Paper No. 9. Assessing the New Federalism, Urban Institute, Washington, DC.

Acs, Gregory, and Elaine Maag, 2005. "Irreconcilable Differences? The Conflict between Marriage Promotion Initiatives for Cohabiting Couples with Children and Marriage Penalties in Tax and Transfer Programs." Policy Brief No. B-66. Assessing the New Federalism, Urban Institute, Washington, DC.

Center on Budget and Policy Priorities, 2012. "The Earned Income Tax Credit." Center on Budget and Policy Priorities, Washington, DC, <http://www.cbpp.org/files/policybasics-eitc.pdf>.

Congressional Budget Office, 2005. *Effective Marginal Tax Rates on Labor Income*. Congressional Budget Office, Washington, DC.

Dickert, Stacy, Scott Houser, and John Karl Scholz, 1994. "Taxes and the Poor: A Microsimulation Study of Implicit and Explicit Taxes." *National Tax Journal* 47 (3), 621–638.

Eissa, Nada, and Jeffrey B. Liebman, 1996. "Labor Supply Response to the Earned Income Tax Credit." *Quarterly Journal of Economics* 111 (2), 605–637.

Finegold, Kenneth, 2008. "Food Stamps, Federalism, and Working Families." Brief No. 6. Perspectives on Low-Income Working Families, Urban Institute, Washington, DC.

Giannarelli, Linda, and C. Eugene Steuerle, 1995. "The Twice Poverty Trap: Tax Rates Faced by AFDC Recipients." Urban Institute, Washington, DC.

Holt, Stephen D., and Jennifer L. Romich, 2007. "Marginal Tax Rates Facing Low- and Moderate-Income Workers Who Participate in Means-Tested Transfer Programs." *National Tax Journal* 60 (2), 253–276.

Kaiser Commission on Medicaid and the Uninsured, 2010. "Medicaid: A Primer." Kaiser Family Foundation, Washington, DC.

Leguizamon, J. Sebastian, 2012. "Estimating Implicit Marginal Tax Rates Across the U.S. States." *Public Finance Review* 40 (3), 401–430.

Levitis, Jason, and Jeremy Koulish, 2008. "State Earned Income Tax Credits 2008 Legislative Update." Center on Budget and Policy Priorities, Washington, DC.

Maag, Elaine, 2011. "Tax Simplification: Clarifying Work, Child, and Education Incentives." *Tax Notes* 130 (March 28), 1587–1596.

Meyer, Bruce D., and Dan T. Rosenbaum, 2001. "Welfare, the Earned Income Tax Credit, and the Labor Supply of Single Mothers." *Quarterly Journal of Economics* 116 (3), 1063–1114.

Moffitt, Robert A., 1979. "Cumulative Effective Tax Rates and Guarantees in Low-Income Transfer Programs." *Journal of Human Resources* 14 (1), 122–129.

Moffitt, Robert, and Anuradha Rangarajan, 1991. "The Work Incentives of AFDC Tax Rates: Reconciling Different Estimates." *Journal of Human Resources* 26 (1), 165–179.

Mok, Shannon, 2011. "Marginal Tax Rates Under the Tax and Transfer Systems." Paper presented at the 104th Annual Conference on Taxation of the National Tax Association, Nov. 17–19. National Tax Association, Washington, DC.

Ross, Donna Cohen, and Caryn Marks, 2009. "Challenges of Providing Health Coverage for Children and Parents in a Recession: A 50 State Update on Eligibility Rules, Enrollment and Renewal Procedures, and Cost-Sharing Practices in Medicaid and SCHIP in 2009." Kaiser Family Foundation, Washington, DC, <http://www.kff.org/medicaid/upload/7855.pdf>.

Sammartino, Frank, Eric Toder, and Elaine Maag, 2002. "Providing Federal Assistance for Low-Income Families through the Tax System: A Primer." Discussion Paper No. 4. Urban-Brookings Tax Policy Center, Urban Institute, Washington, DC.

State Health Facts, 2012. "Medicaid Payments per Enrollee, FY2009." Kaiser Family Foundation, Washington, DC, <http://www.statehealthfacts.kff.org/comparemaptable.jsp?ind=183&cat=4#>.

Steuerle, C. Eugene, 2002. "And Equal (Tax) Justice for All?" In Thorndike, Joseph J., and Dennis J. Ventry, Jr. (eds.), *Tax Justice: The Ongoing Debate*, 253–284. Urban Institute Press, Washington, DC.

Steuerle, C. Eugene, 2008. *Contemporary U.S. Tax Policy*. Urban Institute Press, Washington, DC.

Steuerle, C. Eugene, and Adam Carasso, 2005. "The Hefty Penalty on Marriage Facing Many Households with Children." *The Future of Children* 5 (2), 157–175.

Wheaton, Laura, 1998. "Low Income Families and the Marriage Tax." Brief No. 1. Strengthening Families, Urban Institute, Washington, DC.

Wolfe, Barbara L., 2002. "Incentives, Challenges, and Dilemmas of TANF: A Case Study." *Journal of Policy Analysis and Management* 21 (4), 577–586.

APPENDIX A: CHARACTERISTICS OF SIMULATED PROGRAMS

Brief descriptions of the included programs follow.

A1. Supplemental Nutrition Assistance Program (SNAP, formerly Food Stamps)

The Supplemental Nutrition Assistance Program (SNAP) provides recipients with electronic cards that can be used to purchase approved food items for preparing meals at home. For purposes of eligibility, a household unit is considered to be a group of individuals and their dependents who regularly purchase and prepare food together. Generally, eligible units have gross incomes of less than 130 percent of the federal poverty level (FPL), net incomes of less than 100 percent of FPL, and countable assets of no more than \$2,000, with special exclusions for vehicles used for work transportation (Finegold, 2008).

Benefits are fairly universal across the continental United States⁷ and are based on the USDA's Thrifty Food Plan, designated to meet a minimum adequate diet appropriate for an individual's age. The average monthly benefit per household in Fiscal Year 2008 was \$226.60, with an average of 12.7 million households (representing 28.2 million people) participating each month.⁸ Although

⁷ Benefit levels are set higher in Alaska and Hawaii to reflect higher costs of living in those states.

⁸ U.S. Department of Agriculture, Food and Nutrition Service, "Supplemental Nutrition Assistance Program," <http://www.fns.usda.gov/pd/snapmain.htm>.

benefits are fairly universal, at very low incomes, there is a wide range of variation due to interactions with TANF benefits and variations in fair market rents, both of which affect benefits.

A2. Temporary Assistance for Needy Families (TANF)

TANF was created by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) to replace three existing welfare programs: Aid to Families with Dependent Children (AFDC), Job Opportunities and Basic Skills (JOBS), and Emergency Assistance (EA). TANF placed greater emphasis on work effort through the introduction of lifetime time limits for benefits receipt and stricter job search requirements.⁹

The federal government provides states with a fixed grant of money which they use to design and implement benefit and eligibility policies within parameters approved by the Department of Health and Human Services (HHS). Benefits are comprised primarily of general cash assistance, but some states designate part of their benefits towards child care and transportation assistance, or for education and job training. On average, about 1.6 million families (3.8 million individuals) received TANF each month in FY 2008.¹⁰ Benefits vary widely based on state of residence.

A3. Medicaid/CHIP

Medicaid provides basic health insurance services for eligible low-income and medically needy individuals and families. States set eligibility criteria based on federal guidelines, which must include all children under the age of six and pregnant women under 133 percent of the federal poverty level, and children between ages 6 and 18 beneath 100 percent of the federal poverty level (Kaiser Family Foundation, 2010). Recipients of SSI are also categorically eligible, while adults without dependents are categorically ineligible. Adults generally lose coverage before children as a result of differing eligibility criteria for the two groups.

The structure of Medicaid coverage will change dramatically with implementation of the Affordable Care Act, beginning in 2014. All uninsured individuals under age 65 and beneath 133 percent of the poverty level will be entitled to Medicaid coverage in states that opt into new federal guidelines in exchange for new federal funding. Because the adjusted gross income calculation for Medicaid eligibility includes a 5 percent disregard, coverage effectively expands to 138 percent of the poverty level.

A4. State and Federal Income Taxes

The federal government and 41 states and the District of Columbia tax personal income. Alaska, Florida, Nevada, South Dakota, Texas, Washington, and Wyoming do not have a personal income tax, and New Hampshire and Tennessee have a very narrow income tax. Typically, a fixed level of income is exempt from taxation, often based on marital status and family size. After that, tax rates are associated with varying amounts of income. In almost all cases, higher rates apply to

⁹ The Urban Institute's Welfare Rules Database documents individual state policy parameters, including eligibility and benefit standards, by year. See Urban Institute, "Welfare Rules Database," <http://anfdata.urban.org/wrd/>.

¹⁰ U.S. Department of Health and Human Services, http://www.acf.hhs.gov/programs/ofa/data-reports/caseload/caseload_recent.html.

higher income amounts, with a few exceptions where one rate applies to all income. States and the Federal government also use their income tax system to provide transfers to low-income families. Most notably, the federal government has an Earned Income Tax Credit which, in 2008, provided families with at least two children up to \$4,800 in benefits. The credit phases in at a rate of 40 percent for families with two or more children until maximum benefits are reached. Families then received a fixed credit until the credit begins to phase out at earnings of \$15,740 in 2008. Benefits phase out at a rate of 21.06 percent. A smaller credit is available to families with one child and families with no children can receive a very small credit (Maag, 2011). The federal credit is fully refundable, so even if a person doesn't owe income taxes, they can receive their EITC as a credit. Many states have their own EITCs which are often based on the federal credit, providing a percentage of the federal credit on the state tax return (Levitis and Koulish, 2008). Also important to low-income families with children is the Child Tax Credit (CTC). In 2008, the CTC provided a credit of up to \$1,000 per child. Families receive a refundable credit worth 15 percent of earnings in excess of \$8,500. The credit phases out at earnings in excess of \$75,000 (\$110,000 for married couples). The final credit broadly affecting low-income families is the 2008 Recovery Rebate Credit which provided families with up to \$600 per taxpayer, \$1,200 for married couples plus \$300 for each qualifying child. The credit phased out at a rate of 5 percent once Adjusted Gross Income reached \$75,000 for single adults, \$150,000 for married couples.

A5. Federal Payroll Taxes (Social Security Administration)

Operations of the Old Age, Survivors, and Disability Insurance (OASDI, or Social Security) program, and the Medicare Hospital Insurance (HI, or Medicare Part A) program are financed through flat-rate taxes on wage income. Both employers and employees each pay a rate of 6.2 percent on wage income up to a maximum taxable amount (\$102,000 in 2008) for OASDI programs. The rate collected from both employers and employees for HI funds is 1.45 percent each, with no maximum earnings base.¹¹ Thus, the combined tax rate for federal insurance is 15.3 percent.¹² While the economic incidence of the employer portion of the tax likely falls primarily on the employee, for simplicity our calculations only include the employee share of the tax. The employer share is not included as a tax or as part of the individual's income.

Appendices B and C are available:

<http://www.taxpolicycenter.org/taxfacts/displayafact.cfm?Docid=617> and
<http://www.taxpolicycenter.org/taxfacts/displayafact.cfm?Docid=618>.

¹¹ Social Security Administration, "Social Security and Medicare Tax Rates," <http://www.ssa.gov/oact/ProgData/taxRates.html>.

¹² Self-employed individuals pay the entire 15.3 percent on self-employment income but are allowed to deduct half of the tax from their adjusted gross income on their federal income tax returns.