Effective Marginal Tax Rates on Low-Income Households

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Policy Perspective

I. Introduction

Major shifts in public policy invariably produce unintended consequences. Nowhere is this more clear than in policies affecting the working poor. In this paper, Professor Daniel Shaviro of New York University demonstrates that America's working poor are subject to punishing marginal tax rate effects that can sap most — and, in some cases, *all* — of the higher earnings accompanying their wage increases.

Professor Shaviro utilizes data from 11 states to examine the economic forces affecting the working poor. Past reports have recorded the potential for welfare recipients to achieve higher living standards by relying on public assistance rather than earned income. Professor Shaviro explores an important new angle: the *income* effects of *earnings* increases, focusing on scenarios facing a single parent with two children. He estimates the degree to which earnings gains are partially or wholly offset by reductions in government assistance across a range of earnings levels. He isolates the effects found in states that offer high levels of public assistance and those found in "low-benefit" states.

II. Marginal Tax Rate Effects

As an example, in states with ostensibly generous welfare benefits, Professor Shaviro shows that a single mother with two children could increase her earned income from $10,000 per year to $25,000 per year and actually find herself with 2,540 *fewer dollars* once she accounts for lost tax credits and benefits. Though her earned income more than doubles, she is worse off financially. The marginal tax rate effect applies (with varying consequences) at every step in the wage ladder. As wages rise, the working parent in this example faces substantial tax rate

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effects that claim between 58% and 109% of the next dollar she earns from a full-time job (see tables).

How does one account for these radically counterintuitive (and presumably unintended) effects? In a nutshell, such massive effective tax rates are the result of rapid-fire changes in means-tested federal tax credits, Food Stamp and Medicaid benefits, housing subsidies and welfare payments. The tax effect is magnified by payroll taxes that apply to the first dollar of income. As earned income rises, declines in unearned income offset large portions of the gain.

Professor Shaviro notes the nonsensical nature of this "system." No thinking legislator would create such a program from scratch. Yet these are factors that determine the success or failure of public policies intended to aid the working poor.

Effective Tax Rates on the Next Dollar of Income
Full-time Working Single Mothers with Two Children
High Benefit States

Wage Range	Effective Marginal Tax Rate
$5.15 to $6.15	89.6%
$6.16 to $6.42	89.6%
$6.43 to $7.17*	109.2%
$7.18 to $7.35*	78.0%
$7.36 to $7.52	61.3%
$7.53 to $12.50*	78.5%

*Note: An additional $1,800 in Medicaid benefits are lost when full-time wages increase to $7.17 per hour. At $7.35, these families also lose $1,250 per year in Food Stamps and an additional $1,000 in Medicaid benefits. At $9.77 per hour, another $1,000 in Medicaid is lost. All calculations assume receipt of a housing subsidy. Tables assume a standard 2000-hour work year.

Effective Tax Rates on the Next Dollar of Income
Full-time Working Single Mothers with Two Children
Low Benefit States

Wage Range	Effective Marginal Tax Rate
$5.15 to $6.15	58.4%
$6.16 to $6.42	58.4%
$6.43 to $7.35*	78.0%
$7.36 to $7.52	61.3%
$7.53 to $12.50*	78.5%

*At $7.35, these families also lose $1,250 per year in Food Stamps and $1,000 per year in Medicaid benefits. At $9.77 per hour, another $1,000 in Medicaid is lost. All calculations assume receipt of a housing subsidy. Tables assume a standard 2000-hour work year.

III. Policy Implications

Rather than studying specific public policies, Professor Shaviro limits his research to measuring the earnings effects faced by an important segment of today's low-income workforce. He equips policy makers with a simple, unbiased framework for estimating the benefits (or lack thereof) of various proposals, and leaves the application of the framework to others. Those who take the next step find stunning results.

For instance, policymakers at the federal, state and local levels often face a simple question: do mandated wage hikes benefit the working poor? Well-meaning legislators simply presume the answer is "yes." They ask how anyone earning entry-level wages could *not* benefit from a higher hourly wage. In reality, the consequences of a mandated wage hike contrast sharply with the intentions of those proposing the policy.

If we are to believe the proponents of higher minimum wages, a one-dollar-per-hour hike in the federal minimum wage (to $6.15 per hour) would create more than $2,000 per year in added income for a full-time worker. But if that worker is a single parent with two children, she would face astonishing effective tax rates on her additional earnings — *rates as high as 90% in some states*. If the mandated wage rate is just a few cents higher (*e.g.*, $6.45 per hour), she faces effective marginal tax rates averaging 78% to 109% in the states examined here (see chart). This is hardly the answer to poverty some policymakers prophesy.

The framework in this paper allows a glimpse at another inequity in mandated wage increases. Assuming the federal wage floor rises by a dollar (to $6.15 per hour), a single working teen or childless adult under the age of 25 would take home approximately $1,544 (or 69%) of the raise, after taxes. By contrast, a single mother of two, working full time in a state that offers generous public assistance benefits, would retain only $52.42 of the extra earnings—a mere 3 percent of the amount kept by the childless young adult. Arguably, those who need additional income the most receive the smallest "raise," while those who need less get much more.

Based on these findings, there is little doubt that higher mandated wages rarely "create" substantial benefits for low-wage adults supporting families. This fact should give rise to substantial doubts in the minds of those promoting city-level

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"living wage" mandates, which have already been implemented in more than a dozen major cities. These ordinances, which generally apply to workers in firms with city contracts or receiving city subsidies, commonly mandate wages as high as $10.75 per hour, and proposals call for even higher rates. But huge marginal tax rate effects (as high as 78%) persist even up to wages levels of $12.50 or higher for full-time workers. Thus, the hourly income gains foreseen by living wage proponents likely are not materializing.

IV. Conclusion

In the midst of a debate too often consumed by hyperbole, Professor Shaviro cuts straight to the core of the issue that should consume policy makers interested in helping the working poor: the actual income incentives and effects facing low-income workers. Professor Shaviro analyzes one of the most important but least recognized determinants of success or failure when wage or welfare policy changes are implemented. His contribution will prove invaluable not only in the ongoing federal minimum wage and welfare debates, but in similar discussions taking place in state houses and city councils across the nation.

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Research Director

Effective Marginal Tax Rates on Low-Income Households

Daniel N. Shaviro[*]

I. Introduction

If a family with income between zero and $25,000 (roughly 180 percent of the federal poverty line for a one-parent, two-child family)[1] earned an extra dollar, how much of that dollar would it get to keep? Most people, focusing only on the federal income tax with its initial 15 percent rate bracket, might think the answer was at least 85 cents. In fact, however, while the answer varies with household characteristics and where the family lives, in almost all cases the family would keep considerably less than this. Indeed, in some cases the effective marginal tax rate exceeds 100 percent, and the price of earning extra income may be to leave one's family worse off than previously. The effects on work incentives and the ability to escape poverty are potentially devastating.

This perverse effective marginal tax rate structure, which results from layering multiple income-conditioned transfer phaseouts on top of various income-related taxes, is arguably the most destructive feature of the American tax-transfer system insofar as it bears on low-income households. Excessive marginal tax rates ought to be objectionable across the ideological spectrum — whether one is liberal or conservative, favors increasing or reducing aid to the poor, and supports or opposes work requirements in transfer programs. Yet this problem received little attention during the debate that culminated in the enactment of 1996 welfare reform, and remains under-appreciated. Indeed, various new proposals that are being widely discussed, such as adopting income-conditioned school voucher programs at the state and local government level, could make the problem worse.

No one deliberately designed the effective marginal tax rate structure that applies to low-income households in this country. Indeed, it is inconceivable that anyone *would* deliberately design such a structure, or consider it desirable once correctly understood. The problem has two main causes. The first is that so many different government programs, limited to poor households, have been separately designed and drafted with little regard for the overall tax-transfer picture or the effects on families that are just begin-

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ning to escape from poverty. The second is a failure to understand that phasing out a benefit as income increases has identical incentive and distributional effects to explicitly imposing a positive marginal income tax rate.[2] Myopic conventions of fiscal language have thus contributed to substantive results that few would consider desirable if the same policies were described and presented differently.

This paper examines the problem of excessive marginal tax rates on the poor and near-poor in three stages. **First**, I discuss how marginal tax rates should be defined and why they matter, and then provide illustrative marginal tax rate tables under existing policy to provide a rough sense of the problem's magnitude. **Second**, I discuss the design reasons why such high marginal tax rates on the poor and near-poor have arisen despite being unintended and to a large extent unnoticed. **Third**, I briefly sketch how excessive marginal tax rates on the poor and near-poor could be mitigated — leaving aside such controversial issues as the total level of aid and the role played by work requirements.

In policy discussion of the marginal tax rates on people's earnings, it is common to look only at the federal income tax. This, however, can provide an extremely misleading picture. An initial point to keep in mind is that a variety of other taxes burden the exercise of earning power.

II. Defining and Estimating Marginal Tax Rates on Low-income Households

A. The Significance to Marginal Tax

Rates of All Taxes and Transfers That Are Directly or Indirectly Income-Conditioned

In policy discussion of the marginal tax rates on people's earnings, it is common to look only at the federal income tax. This, however, can provide an extremely misleading picture. An initial point to keep in mind is that a variety of other taxes burden the exercise of earning power. For example, federal payroll taxes are part of the picture to the extent not offset by future expected Social Security benefits, and so are state and local taxes on sales and property, no less than those on income. Sales and property taxes affect what one can buy with one's earnings, and thus the earnings' real value in terms of consumption opportunities.

However, the analysis cannot stop with provisions that are formally denominated "taxes." The reason one should care about marginal tax rates is that they show how government policy is affecting incentives and the distributional consequences of people's decisions. Thus, if my work is worth $10 to a prospective employer, my marginal tax rate determines how strong an inducement the employer can offer me to do the work and, if I do it, how much I will gain compared to someone in similar circumstances who chooses not to work. These incentive and distributional consequences depend on all aspects of government tax-transfer policy.[3] My incentive to work is no less re-

duced by losing benefits than by paying positive taxes. For example, my incentive to work is the same – zero – in a case where my earning $10 causes me to lose an offsetting $10 in transfers, as in one where the applicable income tax rate is 100 percent.

A marginal tax rate analysis thus must take account of all government programs that are either directly or indirectly income-conditioned. Without attempting to list all such programs, the principal examples under present law include: (1) the federal income tax, through its positive marginal tax rates; (2) also within the federal income tax, the granting and then phase-out of the earned income tax credit; (3) federal payroll taxes; (4) state and local income, sales, excise, and property taxes; (5) welfare benefits (in common parlance) under Temporary Aid to Needy Families (TANF); (6) Food Stamps; (7) Medicaid; and (8) federal housing subsidies.

Given marginal tax rates' important effects on wealth production and distribution, it would be useful for policymakers to know what rates they actually are imposing on low-income households. Unfortunately, accurate computations of broad applicability are hard to provide for a number of reasons. One is the wide range of household characteristics that affect the application of different programs. For example, housing subsidies are rationed through queuing, rather than being provided to all eligible families, causing their availability to depend on such factors as how often one moves (Bradford and Shaviro forthcoming, 37). A second computational problem arises from various programs' regional variation. Since even federally mandated or funded transfer programs often vary in content with the jurisdiction, there is no uniform national marginal tax rate structure. A third problem is that even tax or transfer programs that are explicitly (rather than

just indirectly) income-conditioned vary in how they define income. Thus, two individuals with the same "income" as defined for purposes of one program may have different "income" under another program. Finally, state-level TANF programs are still emerging and have as yet been little studied.

Nevertheless, illustrative calculations based on simplifying assumptions have value simply to demonstrate – without any pretense of precision – the approximate magnitude of the problem. The rest of this section therefore provides such calculations (revising and updating Shaviro 1997a, 476-480) for one-parent, two-child households as income increases from zero to $25,000, assuming compliance with various eligibility requirements (income aside) for receiving transfers, such as time limits and willingness to work. I further assume that one of the children is above the age of 6 and the other below; this matters under Medicaid.

My choice of a household with two children worsens the marginal tax rate picture relative to that of a smaller household, because the presence of children generally increases transfers that are subject to phaseout. However, I ignore incentive problems apart from that relating to earning income, such as questions of the incentive to save (affected by various programs' assets tests) or to avoid becoming a two-parent household (in light of income and asset tests along with work requirements). I begin by describing how the above programs individually affect marginal tax rates.

B. Principal Tax and Transfer Programs That Affect Marginal Tax Rates as Income Increases from Zero to $25,000

The major building blocks of the United States tax-transfer system, insofar as it bears on

low-income households, are as follows:

Payroll taxes: Federal payroll taxes are levied at 7.65 percent on both the employer and the worker until earnings rise considerably above $25,000. Economists generally agree, however, that both are borne by the worker as a matter of economic incidence (Rosen 1995, 285; Lyon 1995, 231). Thus, both should be charged to the worker in a marginal tax rate computation. While this may initially seem to imply a marginal tax rate of 15.3 percent, there are two complications. First, the employer's nominal portion of the tax is excluded from the wage base in determining both parties' tax liabilities. Thus, the true marginal tax rate, computed as a percentage of the employer's total outlay, is only 14.2 percent.[4] However, the need for this adjustment is not limited to the payroll tax. Since no tax and transfer programs include the employer share in income, all stated marginal tax rates must similarly be reduced, and the dollar amounts in all rate brackets increased, to avoid inaccuracy. Accordingly, in the marginal tax rate computations in Tables 1 through 4 below, I multiply all otherwise applicable rate bracket dollar amounts by 1.0765, and all otherwise applicable marginal tax rates by 1/1.0765, or .9289. (In addition, I round all rate bracket dollar amounts to the nearest $50 increment.) In the rest of this section, for expositional convenience, I first provide the more familiar unadjusted numbers, and then supply in brackets the adjusted numbers that I use in the tables.

A second complication with respect to pay-

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roll taxes is that workers may accrue expected Social Security benefits by paying the taxes. To the extent that a given tax payment increases the present value of expected benefits, the marginal tax rate is reduced and may even become negative. Unfortunately, even if one assumes that Social Security law will not change (despite the likely unsustainability of the current promised relationship between taxes and benefits, as discussed in Shaviro 1997b, 307), the payout scheme is so complicated that one cannot easily generalize about the relationship between taxes paid and expected benefits. However, the benefit side is too important to ignore, particularly given the progressivity of Social Security's payout formula, which, according to a 1992 estimate by Martin Feldstein and Andrew Samwick, actually resulted in a negative marginal tax rate on low-wage earners (considering only the payroll tax and benefits accrued by paying it).

Despite this estimate, it is most plausible to assume that low-wage earners' marginal tax rate under the payroll tax is significantly positive. Otherwise, one might not expect to find the widespread payroll tax compliance problem of illegal avoidance. Reasons for making significant upward adjustments to the Feldstein-Samwick estimate include the following: (1) due to the law at the time of their study and their exclusive focus on the Social Security component of the payroll tax, they assume a tax rate of 11.2 percent rather than 15.3 percent (ignoring exclusion of the employer share); (2) they assume the retention of present law, whereas it is probably more realistic to expect significant ben-

efit curtailment for workers who are not currently near retirement age (Shaviro 1997b, 307); and (3) the 2 percent discount rate that they use to determine the present value of future benefits is probably far below the rate at which most low-income households would be indifferent between present and future benefits. For convenience, therefore, I adopt the arbitrary assumption that the accrual of expected future benefits reduces the marginal tax rate under the payroll tax to 10 [9.3] percent. This might be considered quite generous in assigning a value to future benefits; Giannarelli and Steuerle (1995, 17 n. 3) argue that the benefits are so distant and speculative that they ought to be valued at zero.[5]

Federal income tax: The federal income tax in effect has a zero rate bracket, given the standard deduction and personal exemptions. This zero bracket is indexed for inflation, but in 1997 stood at $14,000 [$15,050] for a one-parent, two-child family. Thereafter, the federal income tax applies a 15 [13.9] percent marginal tax rate on taxable income throughout the relevant range.

Earned income tax credit: The federal income tax is used to deliver a low-wage subsidy, the earned income tax credit (EITC), that varies with household structure. For households with two or more children, which receive the most generous benefits, the EITC (ignoring certain complicating features) applies a tax rate of **negative** 40 [37.2] percent on (as of 1997) the first $9,100 [$9,800] of earnings, followed by a zero marginal tax rate on earnings up to $11,950 [$12,850], followed by a tax rate of **positive** 21.06 [19.6] percent on earnings continuing past the $25,000 cut-off point to this article's analysis. The positive tax rate results from phasing out the EITC in order to limit its application to what are considered poor or near-poor households.

State and local taxes: State and local taxes vary between jurisdictions and in some cases raise difficult economic incidence questions. However, a decent rough measure is provided by Edgar Browning (1995, 28-29), who suggests treating sales and excise taxes as a flat 4.8 [4.5] percent wage tax, based on their 1992 percentage of net national product; and state and local income taxes as a 3.5 [3.3] percent tax on earnings above the federal income tax's zero rate bracket, based on adjusting the federal income tax's initial 15 percent bracket to reflect the relationship between federal and state income tax revenues.

Temporary Aid to Needy Families: Under post-1996 welfare law, states have discretion over not only benefit levels (as under prior law), but income disregards and benefit reduction rates—in conventional tax parlance, zero bracket amounts and marginal tax rates on earnings over that amount. While this means that, in effect, each state has its own unique marginal tax rate structure under TANF, some degree of generalization is possible. A recent Urban Institute study provides relevant data for twelve states that "contain almost half the nation's population, including about half of all AFDC recipients, and represent a broad range with respect to geography, fiscal capacity, citizen needs, and traditions of providing government services" (Acs, Coe, Watson, and Lerman 1998). I divided eleven of these states into two groups: those that provide more than the median annual TANF benefit for the group, and those that provide less than the median.[6]

As is further detailed in Appendix A, I then computed for each of these two groups of states — with payroll tax adjustments already incorporated — the mean zero bracket amount, marginal tax rate above that amount, and amount where phaseout has been completed and the marginal tax rate therefore returns to zero percent. Under these computations, for a high-benefit state the

average zero-bracket amount is $1,650, whereupon the marginal tax rate becomes 53.5 percent. Phaseout is completed, and the marginal tax rate returns to zero, when earnings reach $14,350. For a low-benefit state, the average zero-bracket amount is $1,800, whereupon a marginal tax rate of 57.8 percent applies until phaseout is completed when earnings reach $7,550.

Food Stamps: While Food Stamp benefits also vary by state, some generalization is possible. Due to the program's complicated treatment of earned income (net of assumed expenses) and TANF benefits, the marginal tax rate can be estimated to start at 18 [16.7] percent, declining to negative 6 [5.6] percent when TANF phaseout begins, and reverting to 18 [16.7] percent once TANF phaseout is completed (see Lyon 1995, 241). In addition, at a notch point that is calibrated to the poverty line — for 1998, $13,650[7] [$14,700] — remaining Food Stamps worth an estimated $1,250 are suddenly lost (Lyon 1995, 242-243). Thereafter, the marginal tax rate under the program is zero, since no further benefits remain to be phased out.

Medicaid: Medicaid benefits are provided to various groups, such as the aged, blind, and disabled, along with families meeting the old AFDC eligibility standards. However, children's benefits are not terminated until family income reaches the federal poverty line (or 133% of the poverty line-for families with children under age 6). Roughly speaking, therefore, a family of one adult and two children (one of whom is over the age of 6) loses its Medicaid benefits in three stages, each involving a sudden "notch." The adult loses benefits upon completion of the AFDC phaseout (which I treat as equaling the TANF phaseout), subject to a period of transitional assistance, which I ignore for simplicity although it may be significant in the short run.[8] The older child loses benefits when family income reaches the 1998 federal poverty line for such families of $13,650 [$14,700], and the younger child loses benefits when family income reaches $18,150 [$19,550]. I assume that the adult's Medicaid benefits are worth $1,800 and those of the children $1,000 each. This reflects the fact that, in 1994, Medicaid payments averaged $1,791 per AFDC adult and $1,006 per AFDC child (Committee on Ways and Means 1996, 905). In practice, however, the value of Medicaid benefits varies greatly between households, depending on the particular household members' need for medical expenditure.

Federal housing subsidies: The federal government currently provides a variety of income-conditioned housing subsidies, involving both public housing and voucher or other aid to-

Table 1

Estimated marginal tax rates for a one-parent, two-child household residing in a high-TANF benefit state and receiving a federal housing subsidy.

Income Range ($)	Marginal Rate (%)
0-1,550	-6.7
1,550-1,650	21.2
1,650-9,800	52.4
9,800-12,850	89.6
12,850-14,350	109.2
At 14,350	"Notch" loss of $1,800
14,350-14,700	78
At 14,700	"Notch" loss of $2,250
14,700-15,050	61.3
15,050-19,550	78.5
At 19,550	"Notch" loss of $1,000
19,550-25,000	78.5

For detailed assumptions underlying the computations in this table, see Appendix B and Table B-1.

wards rent for qualified private housing. While details vary, beneficiaries typically pay rent equal to 30 percent of "income," and the government makes up the difference between this amount and what it defines as a fair market rental. The income measure permits a standard deduction of $480 per family member, and housing subsidies typically can continue past the $25,000 cutoff point in my analysis. Accordingly, after rounding to the nearest $50 increment, I treat the programs as having a $1,450 [$1,550] zero rate bracket for a family of three, followed by the imposition of a flat 30 [27.9] percent marginal tax rate within the relevant income range. One should keep in mind, however, that program beneficiaries are only a small subset of eligible families, given queuing for scarce benefits. Only about 20 percent of TANF recipients simultaneously receive federal housing assistance (Acs, Coe, Watson, and Lerman 1998), and "[o]nly one eligible applicant in three ever receives federal housing assistance" (Hershkoff and Loffredo 1997, 229).

C. Illustrative Marginal Tax Rate Estimates Based on the Combined Application of the Above Programs

The above specifications permit one to determine the approximate marginal tax rates that apply to one-parent, two-child families as income increases from zero to $25,000. Because there are two main variables — residence in a state with high versus low TANF benefits, and receipt versus non-receipt of federal housing subsidies — I provide four alternative marginal rate tables. The rates shown provide the percentage of an added dollar of earnings that a family retains after application of all the various tax and transfer programs. A negative rate means that the family not only retains the full dollar but gains additional benefits. A rate above 100 percent means that the family loses more than the full dollar, and thus is worse off than if it had not earned the dollar.

The following comments about the tables may help to explain their significance and put them in perspective:

1) Since these are marginal rate tables, they show how the impact of the tax-transfer system changes when one receives an extra dollar under different circumstances, rather than how one is being treated overall. At least in a short-term financial sense, the phaseout of a benefit never leaves one worse off than if the benefit had never been offered to begin with, even if the phaseout rate exceeds 100% or involves a notch. Thus, if the entire Medicaid program were repealed, while low-income families would no longer be subject to "notch" effects from losing benefits, all such families would either be worse off than under present law (if they

Table 2

Estimated marginal tax rates for a one-parent, two-child household residing in a high-TANF benefit state and receiving no federal housing subsidy.

Income Range ($)	Marginal Rate (%)
0-1,650	-6.7
1,650-9,800	24.5
9,800-12,850	61.7
12,850-14,350	81.3
At 14,350	"Notch" loss of $1,800
14,350-14,700	50.1
At 14,700	"Notch" loss of $2,250
14,700-15,050	33.4
15,050-19,550	50.6
At 19,550	"Notch" loss of $1,000
19,550-25,000	50.6

For detailed assumptions underlying the computations in this table, see Appendix B and Table B-2.

had previously qualified for benefits) or unaffected (if they were fully phased out). Similarly, while TANF recipients face higher marginal tax rates in high-benefit states than in low-benefit states, their overall tax-transfer treatment at any given income level is always either the same or better in the high-benefit states (ignoring possible regional variations in other programs).

2) The highest marginal tax rates appear in Table 1, pertaining to a housing-subsidized family in a high-TANF state. Table 1 suggests that, if this family's earnings increased from $10,000 to $25,000, the seeming $15,000 gain would be more than offset by the loss of $17,539.90 in extra taxes and lost transfers.[9] It thus is left $2,539.90 behind where it was at $10,000, and does not recoup its former position (assuming indefinite continuation of the 78.5% marginal rate at $25,000) until its earnings have increased to $36,813.48.[10] Admittedly, this case is somewhat unusual even in high-TANF states given the limited availability of federal housing subsidies. However, it is worth noting that some high-TANF states have higher TANF phaseout rates than I assumed in Table 1, thus potentially making the picture still worse for some families.[11]

3) While the marginal tax rates in the tables depict the effect of earning an additional dollar, the decisions that prospective workers actually face typically involve multiple dollars. Thus, suppose that a Table 2 family started with $14,300 of income, or just below the first notch point at which Medicaid benefits begin to be lost. Increasing annual earnings by $50 would cost the family $1,840.65 in taxes and lost benefits (once the period for temporary retention of Medicaid ended). It is possible, however, that extra earning opportunities for the family would mostly come in larger packages than $50, thus making the aggregate marginal tax rate for the entire package, rather than the proximity of a particular notch or temporarily high marginal rate, the critical consideration.

4) The impact of other government programs can be importantly modified by the tax-transfer picture shown here. For example, high marginal tax rates may cause workers in low-income households to gain considerably less than low-wage earners in middle-income households (such as secondary earners and teenagers) if the government increases the minimum wage or the supply of low-wage jobs.[12] Thus, suppose that two new minimum wage jobs are created, paying $206 per week ($5.15 per hour for 40 hours) without adjustment for the payroll tax gross-up, or $221.76 per week with that adjustment. One of these two new

Table 3

Estimated marginal tax rates for a one-parent, two-child household residing in a low-TANF benefit state and receiving a federal housing subsidy.

Income Range ($)	Marginal Rate (%)
0-1,550	-6.7
1,550-1,800	21.2
1,800-7,550	56.7
At 7,550	"Notch" loss of $1,800
7,550-9,800	21.2
9,800-12,850	58.4
12,850-14,700	78
At 14,700	"Notch" loss of $2,250
14,700-15,050	61.3
15,050-19,550	78.5
At 19,550	"Notch" loss of $1,000
19,550-25,000	78.5

For detailed assumptions underlying the computations in this table, see Appendix C and Table C-1.

jobs is held for the entire year by a mother in a Table 3 family that previously had no earnings. Taxes and lost transfers reduce the family's gain from the earnings from $11,531.52 ($221.76 per week for 52 weeks) to $5,033.92,[13] or $96.80 per week. The other new job is held by a middle-class college student for a twelve-week period during his summer vacation, and he bears only the federal payroll tax along with state sales and excise taxes.[14] Under the assumptions concerning these taxes reflected in Tables 1 through 4, the student's gain from his job is reduced by the tax-transfer system only from $2,661.12 ($221.76 per week for twelve weeks) to $2,293.89,[15] or $191.16 per week. Thus, the student, despite working for the same wage as the mother of the Table 3 family, ends up gaining almost twice as much per week.

Now suppose the minimum wage increases from $5.15 to $6.15 per hour. Taking account of the payroll tax gross-up, this increases the annual earnings of a full-time minimum wage worker by $2,239.12, or from $11,531.52 to $13,770.64. On these added earnings, a single adult under the age of 25 with no dependents (and thus ineligible for various transfers) would bear only federal income taxes[16] plus state and local income, sales, and excise taxes. Thus, under the assumptions in Tables 1 through 4, this individual would retain

$1,544.99 of the added earnings.[17] By contrast, for a single-parent, two-child family, even if it fit the profile in Table 4 (low-TANF state and no housing subsidy) it would retain only $1,375.74 of the extra earnings,[18] or about 89 percent as much as the childless young adult. If it fit the profile in Table 1 (high-TANF state and receiving a housing subsidy), it would retain only $52.42 of the extra earnings,[19] just 3 percent of the after-tax benefit to the childless young adult.

5) The analysis in this section has been entirely static, and ignores how wages and prices might adjust at equilibrium to the incentive and wealth effects of the tax-transfer system. While equilibrium effects are hard to predict, the extremely high marginal tax rates that I have depicted are likely to have two main effects, if sufficiently widespread to significantly reduce low-wage labor supply at any given wage. The first is increasing wages in this sector relative to prices in the economy generally (increasing as well the relative prices of goods and services that use low-wage labor). Higher relative wages may be needed to coax out labor supply where the marginal worker's marginal tax rate is close to (but under) 100 percent. This price shift would tend to reduce the loss from high marginal tax rates to low-wage workers who remain employed (although the benefit would not be limited to workers in low-income households who have high marginal

Table 4

Estimated marginal tax rates for a one-parent, two-child household residing in a low-TANF benefit state and receiving no federal housing subsidy.

Income Range ($)	Marginal Rate (%)
0-1,800	-6.7
1,800-7,550	28.8
At 7,550	"Notch" loss of $1,800
7,550-9,800	-6.7
9,800-12,850	30.5
12,850-14,700	50.1
At 14,700	"Notch" loss of $2,250
14,700-15,050	33.4
15,050-19,550	50.6
At 19,550	"Notch" loss of $1,000
19,550-25,000	50.6

For detailed assumptions underlying the computations in this table, see Appendix C and Table C-2.

tax rates). The second likely effect, however, is reducing low-wage employment, as producers are induced by the increase in low-wage labor costs to substitute other inputs.

III. Design Reasons for Inadvertently Imposing Excessive Marginal Tax Rates on Low-Income Households

While the specific marginal tax rates set forth in Tables 1 through 4 provide only a rough benchmark estimate reflecting various simplifying assumptions, the picture that the tables present is likely to be approximately accurate. No plausible modifications would eliminate the core features of extremely high marginal tax rates that approach or even exceed 100 percent, along with notches that can cause an extra dollar of earnings to result in the loss of at least hundreds of dollars worth of in-kind benefits. The tables should therefore be taken as essentially accurate if, rather than seeking precise econometric data, one is trying to understand how the American tax-transfer system affects work incentives and the ability to escape poverty through work in poor and near-poor households.

No matter what one's stance on various controversial issues in the ongoing welfare de-

In large part, policymakers have erred due to an important misconception: the belief that it makes sense, as a matter of general program design, to think in terms of phasing out specific benefits, rather than directly in terms of marginal tax rates.

bate, one should agree that this marginal tax rate structure makes no sense. For example, from the standpoint of efficiency, it is a truism in economics that the distortion caused by a tax rises more than proportionately with the marginal tax rate — indeed, roughly with the square of the rate (Rosen 1995, 314). Thus, a 90 percent marginal tax rate is likely to induce not three times but rather nine times as much distortion as a 30 percent rate. Accordingly, it is highly likely that reducing marginal tax rates on the poor and near-poor would increase efficiency even if it were offset by slightly increasing marginal tax rates on everyone else.

Or suppose one believes in the moral or instrumental value of rewarding work effort. Having families potentially worsen their circumstances when they increase their earnings from $10,000 to $25,000 is unlikely to be desirable under such a view. The pernicious consequences might include inculcating the norm that work is not worthwhile, with possible long-term behavioral consequences.

Similarly, suppose one considers social mobility important, so that the same families will not be poor generation after generation. A tax-transfer system that in effect kicks out the chair from under poor people with dependents whose earnings are starting to increase is unlikely to be desirable from this perspective. One can believe in a social safety net that emphasizes relieving the direst privation without condoning work penalties of the sort resulting from present law.

Excessive marginal tax rates on the poor and

near-poor do not, however, seem to have been selected deliberately or knowingly. Rather, they have resulted from the piecemeal adoption of different components of the overall tax-transfer system, often without the taking of a comprehensive view. The problem, however, goes beyond mere lack of coordination between programs. In large part, policymakers have erred due to an important misconception: the belief that it makes sense, as a matter of general program design, to think in terms of phasing out specific benefits, rather than directly in terms of marginal tax rates.

An abstract illustration may help to make this clear. Suppose that the poverty line is $10,000 (ignoring questions of household composition), and that, while the income tax system has a $10,000 zero bracket amount so that the poor need not pay tax, there initially is no transfer system. Then, Congress decides to address extreme need by guaranteeing everyone – perhaps subject to time limits, work requirements, and the like – at least $7,500, or three-quarters of the poverty line. One way to do this would be through a "demogrant" – a universal transfer (subject to whatever restrictions were adopted) that could be netted against people's positive tax liabilities. For example, if I otherwise owed $25,000 of income tax, I would reduce my payment to $17,500 rather than receive a demogrant check. The decision to structure the transfer program this way would carry no implication regarding how – presumably through increased marginal tax rates – it would be financed. Policymakers could make that decision separately.

The term, "demogrant," however, is generally considered a political suicide pill. People would ask, for example, why Bill Gates or Warren Buffett should receive a transfer (even if only notionally) that is aimed at poverty relief. Thus, it seems politically more likely that the transfer,

considered as a distinct item, would be explicitly limited to people below or at least near the poverty line. One possibility might be to give each person three-quarters of the amount, if any, by which his income fell short of the $10,000 poverty line. Thus, someone with zero income would get $7,500, phasing down to zero as income increased to $10,000. A final stage would be to decide how to pay for this nominally "cheaper" program, presumably by increasing marginal tax rates above the poverty line in some as yet unspecified fashion.

While the demogrant and phaseout programs may look very different in ways that make the latter more politically appealing, in fact they differ in only one respect. In the phaseout case, we have specified a 75 percent marginal tax rate on people's first $10,000 of income. In the demogrant case, we have not yet specified any marginal tax rates, and are probably unlikely to impose a 75 percent rate on anyone. (If we adopted a 75 percent rate on the first $10,000 of income, the two programs would be identical.) The phaseout program is not even "cheaper" in any economically meaningful sense. It merely has a higher marginal rate on the first $10,000 of income (assuming adoption under the demogrant of a lower first-tier rate), presumably in exchange for lower marginal rates at higher income levels once both programs have been fully financed.

Generalizing from this example, the appeal of phaseouts results from two widespread illusions. The first is the belief that it matters who gets a specific or distinct item that is merely a component of the overall tax-transfer system. Thus, imagine the headlines if Bill Gates had his income tax liability increased by $5,000 but also received $5,000 worth of Food Stamps. The headline, "Billionaire Receives Food Stamps," would cause people to overlook the fact that,

on balance, nothing of significance had changed.

The second illusion that underlies the appeal of phaseouts is that people at a given income level (such as poverty) face fundamentally different, not just marginally different, circumstances than those who have slightly more income. Income transfer programs are phased out rapidly in order to limit them to the poor or near-poor, as opposed to being an instrument of progressive redistribution (at whatever level one thinks desirable) across the entire income spectrum. However, limiting progressive redistribution in this way necessarily implies having the tax-transfer system start to treat people much more adversely as soon as they start to escape from poverty. To say that transfers should be limited to the poor is just a nice (and perhaps inadvertent) way of saying that, as one moves past the poverty line, one should have little if any incentive to work and retain little if any of the net reward if one does work.

Nonetheless, the mitigation of these excessive marginal tax rates is hard to argue against as policy.

IV. How Could Excessive Marginal Tax Rates on Low-Income Households be Mitigated?

To eliminate excessive marginal tax rates on low-income households, what is needed in part is simply the adoption of a better way of thinking about design issues — one that emphasizes marginal rates in the overall tax-transfer system, rather than the use of phaseouts to target benefits from distinct programs. Unavoidably, however, correcting the problem would also involve real distributional shifts in tax-transfer policy.

As a pure matter of arithmetic, the reason marginal tax rates are so steep for low-income households is that current policy treats the poorest families so much more favorably than those who are almost as poor. Thus, one cannot correct the problem without some combination of worsening the current treatment of the very poorest, and/or improving the treatment of the almost as poor. Either choice may be politically unpopular — the former due to its effect on the social safety net and our society's neediest people, and the latter due to its possibly adverse financial effect on middle-class voters (who might have to bear the revenue cost of more favorable treatment for the near-poor).

Nonetheless, the mitigation of these excessive marginal tax rates is hard to argue against as policy. For example, if done by slowing phaseouts rather than reducing maximum benefits, it has the potential to combine efficiency gain with progressive redistribution, rather than involving the usual tradeoff between the two, due to the mitigation of extremely high marginal tax rates. Indeed, it is even possible that slower benefit phaseouts would pay for themselves, thus permitting marginal tax rates to be lowered for some families and increased for none. This possibility arises because marginal tax rates as high as many of those shown in Tables 1 through 4 may lie above the revenue-maximizing point, suggesting that their reduction might sufficiently increase labor supply and equilibrium employment levels to leave people throughout the income distribution at least as well-off as previously. While, pending further research, this is no more than a hope, it is worth keeping in mind during the ongoing debate about welfare policy.

Endnotes

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1 In 1998, the federal poverty line for a family of three was $13,650. See 63 Fed. Reg. 12,719, 12,720 (March 16, 1998).

2 The phaseout problem is not limited to programs affecting poor households. Recent years have seen the enactment of various benefits that are aimed at the middle class through the use of income-conditioned phaseouts, such as the Roth IRA and HOPE education credits. Such proposals can cause middle-class households to face effective marginal tax rates that are considerably in excess of those set forth in the federal income tax rate tables.

3 For simplicity, I ignore other government programs and regulations that may have similar effects. See Shaviro 1997a, 414-415, describing the minimum wage as a tax plus a transfer.

4 In illustration, suppose that the wage, computed without regard to the employer contribution, is $100. The employer writes a payroll tax check of $15.30 (covering both parties' nominal contributions), and pays $92.35 to the worker (ignoring all other tax withholding) after charging $7.65 against the wage. The employer's total outlay is therefore $107.65, and $15.30 is 14.2 percent of this amount.

5 Giannarelli and Steuerle appear to overstate their case, since the fact that benefits will not be received for a while only justifies discounting them, not ignoring them altogether. In addition, despite Social Security's serious financing problems, outright elimination of accrued benefits appears unlikely. Thus, a rational worker clearly should assign some positive value to expected future Social Security benefits. A more powerful ground for assuming a zero value is that, as Laurence Kotlikoff and Jeffrey Sachs (1997) have argued, "[t]he benefit provisions of Social Security are so complex and arcane that most Americans have very little understanding of [them]," with the consequence that, in making labor supply decisions, "most contributors are likely to view the system's 14.2 percentage point payroll tax as a pure tax." Nonetheless, I assume a positive value to future expected benefits in order to err, if at all, in the direction of understating rather than overstating the marginal tax rates that underlie labor supply decisions.

6 I omitted Minnesota due to the lack of a breakdown in the data between its provision of TANF benefits and Food Stamps. See Acs, Coe, Watson, and Lerman (1998), Figure 2.

7 See 63 Fed. Reg. 12,719, 12,720 (March 16, 1998), stating that the 1998 federal poverty line for a family of three is $13,650.

8 Households that lose TANF benefits due to increased earnings may continue to receive reduced Medicaid coverage for at least a year. However, there is evidence that, due to misunderstanding of Medicaid rules, many TANF recipients are unaware of this and thus base work decisions on the belief that the loss of Medicaid benefits would be immediate. Acs, Coe, Watson, and Lerman (1998).

9 Under Table 1, a family that increases its earnings from $10,000 to $25,000 bears taxes and transfers in the amount of .896($12,850 - $10,000) + 1.092($14,350-$12,850) + $1,800 + .78($14,700 - $14,350) + $2,250 + .613($15,050 - $14,700) + .785($19,550 - $15,050) + $1,000 + .785($25,000 - $19,550) = $2,553.60 + $1,638 + $1,800 + $273 + $2,250 + $214.55 + $3,532.50 + $1,000 + $4,278.25 = $17,539.90.

10 Keeping only 21.5% of its earnings at a 78.5% marginal rate, the family would have to earn an additional $11,813.48 in order to keep $2,539.90. The actual amount that the family would have to earn may be slightly lower, since its effective marginal tax rate would decline upon completion of the phaseout for the earned income tax credit.

11 For example, Michigan, which provides slightly more than the median level of TANF benefits for the twelve states included in a recent survey (Acs, Coe, Watson, and Lerman 1998) phases out these benefits at an 80 [74.3] percent marginal rate.

12 It should be noted that relatively few minimum wage earners are single parents. Most are their households' secondary earners or teenagers. See Employment Policies Institute 1998.

13 Under Table 3, the family bears taxes and lost transfers in the amount of -.067($1,550) + .212($1,800 - $1,550) + .567($7,550 - $1,800) + $1,800 + .212($9,800 - $7,550) + .584($11,531.52 - $9,800) = -$103.85 + $53 + $3260.25 + $1,800 + $477 + $1,011.21 = $6,497.60. This reduces the family's gain from $11,531.52 to $5,033.92.

14 Even if claimed as a dependent on his parents' tax return, the student would be able to avoid federal income tax liability (assuming no income other than that from the job) given the standard deduction. See Internal Revenue Code, section 63(c)(2)(C).

15 Levying payroll taxes at 9.3% and sales and excise taxes at 4.5% to earnings of $2,661.12 results in a tax burden of $367.23, lowering the student's after-tax return to $2,293.89.

16 Under the federal income tax (using 1997 dollar amounts), the effective zero bracket amount for such an individual, from claiming the standard deduction plus a personal exemption, is only $6,800 [$7,320.20].

17 Under the assumptions in Tables B1-B2 and C1-C2, the combined tax rate from federal and state income taxes along with sales and excise taxes is 31 percent (13.9 + 9.3 + 3.3 + 4.5), thus reducing the after-tax return from $2,239.12 to $1,544.99.

18 Under Table 4, the family bears taxes and lost transfers in the amount of .305($12,850 - $11,531.52) + .501($13,770.64 - $12,850) = $402.14 + $461.24 = $863.38, thus reducing its gain from $2,239.12 to $1,375.74.

19 Under Table 1, the family bears taxes and lost transfers in the amount of .896($12,850 - $11,531.52) + 1.092($13,770.64 - $12,850) = $1,181.36 + $1,005.34 = $2,186.70, reducing its gain from $2,239.12 to $52.42.

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Appendix A:

TANF program details for a family of three in eleven representative states.

For a one-parent family of three, the following are the maximum annual benefits, zero bracket amounts, marginal tax rates, and estimated points of complete phaseout (when the marginal tax rate returns to zero) for eleven states covered in a recent study (Acs, Coe, Watson, and Lerman 1998). (I exclude Minnesota, a twelfth state covered by the survey, because the data for it combine TANF benefits with Food Stamp benefits.)

State	Annual Benefit ($)	Zero Bracket Amount	Marginal Tax Rate	Full Phaseout Point ($)
Alabama	1968	0	74.3	2650
California	6780	2900	46.4	17,500
Colorado	4272	2800	62	9700
Florida	3636	2600	46.4	10,450
Massachusetts	6780	1550	46.4	16,150
Michigan	5508	2600	74.3	10,000
Mississippi	1440	3350	55.7	5950
New Jersey	5088	500	46.4	11,450
New York	6924	1150	53.9	14,000
Texas	2256	1550	62	5200
Washington	6552	0	46.4	14,100
Mean for High-TANF Benefit States	6509	1650	53.5	14,350
Mean for Low-TANF Benefit States	3110	1800	57.8	7550

Source: All data are derived from Acs, Coe, Watson, and Lerman (1998). Annual benefits equal monthly benefits from their Figure 2, multiplied by 12. Zero bracket amounts equal the higher of the "Flat Disregard" figures from their Table C-1, multiplied by twelve to annualize and multiplied by 1.0765 to take account of the employer share of payroll taxes. They are then rounded to the nearest $50 increment. Marginal tax rates equal the lower of the "Benefit Reduction Rate" figures from their Table C-1, multiplied by .9289 to take account of exclusion of the employer share of payroll taxes from counted income. Full phaseout points equal the annual benefit divided by the marginal tax rate (in the form of a decimal rather than a percentage), plus the zero bracket amount, rounded to the nearest $50 increment. They show at approximately what point benefits would be fully phased out, and marginal tax rates therefore revert to zero, if the information in the prior three columns provided a complete description of how benefits were calculated. Actual phaseout points may differ due not only to rounding but some states' use of more complicated alternative benefit computation formulas.

The annualized mean TANF benefit for the states in the survey (from Acs, Coe, Watson, and Lerman 1998, Figure 2) is $5,304. Accordingly, the high-TANF benefit states (those providing more than this amount) are California, Massachusetts, Michigan, New York and Washington. The low-TANF benefit states are Alabama, Colorado, Florida, Mississippi, New Jersey and Texas.

Appendix B:

Derivation of tables 1 and 2 (Marginal tax rates for a one-parent, two-child household in a high-TANF benefit state, with and without a federal housing subsidy)

The following are the assumed marginal tax rates on earnings up to $25,000 (as grossed-up to include the employer share of payroll taxes) under the various tax and transfer rules reflected in Tables 1 and 2:

- **Payroll taxes:** 9.3% on all earnings within the range covered by the table.
- **Federal income tax:** 0% on earnings up to $15,050; then 13.9 percent.
- **Earned income tax credit:** Negative 37.2% on earnings up to $9,800; then 0% up to $12,850; then 19.6%.
- **State and local sales and excise taxes:** 4.5% on all earnings.
- **State and local income taxes:** 0% on earnings up to $15,050; then 3.3%.
- **TANF:** 0% on earnings up to $1,650, then 53.5% up to $14,350, then 0%.
- **Food Stamps:** 16.7% on earnings up to $1,650; then negative 5.6% up to $14,350; then 16.7% up to $14,700; then a notch loss of $1,250 at $14,700, then 0%.
- **Medicaid:** 0% throughout, but with notch losses of $1,800 at at $14,350, $1,000 at $14,700, and $1,000 at $19,550.
- **Federal housing subsidies:** For Table 1, 0% on earnings up to $1,550, then 27.9%. Omitted from Table 2, which assumes no housing subsidy.

The use of this data to construct Tables 1 and 2 is shown in spreadsheet form in Tables B-1 and B-2, respectively.

Table B-1:

Spreadsheet for derivation of Table 1 (estimated marginal tax rates for a one-parent, two-child household residing in a high-TANF benefit state and receiving a federal housing subsidy)

Amount Earned ($)	Payroll Tax	Federal Income Tax	EITC	State-Local Sales & ExciseTax	State-Local Income Tax	TANF	Food Stamps	Medicaid	Housing Subsidies	Marginal Tax Rate
0 - 1550	9.3	0	(37.2)	4.5	0	0	16.7	0	0	(6.7)
1550 - 1650	9.3	0	(37.2)	4.5	0	0	16.7	0	27.9	21.2
1650 - 9800	9.3	0	(37.2)	4.5	0	53.5	(5.6)	0	27.9	52.4
9800 - 12850	9.3	0	0	4.5	0	53.5	(5.6)	0	27.9	89.6
12850 - 14350	9.3	0	19.6	4.5	0	53.5	(5.6)	0	27.9	109.2
14350							$1,800 notch			
14350 - 14700	9.3	0	19.6	4.5	0	0	16.7	0	27.9	78
14700							$1,250 notch	$1,000 notch		
14700 - 15050	9.3	0	19.6	4.5	0	0	0	0	27.9	61.3
15050 - 19550	9.3	13.9	19.6	4.5	3.3	0	0	0	27.9	78.5
19550								$1,000 notch		
19550 - 25000	9.3	13.9	19.6	4.5	3.3	0	0	0	27.9	78.5

Table B-2:

Spreadsheet for derivation of Table 2 (estimated marginal tax rates for a one-parent,
two-child household residing in a high-TANF benefit state and not receiving a federal housing subsidy)

Amount Earned ($)	Payroll Tax	Federal Income Tax	EITC	State-Local Sales & ExciseTax	State-Local Income Tax	TANF	Food Stamps	Medicaid	Marginal Tax Rate
0 - 1650	9.3	0	(37.2)	4.5	0	0	16.7	0	(6.7)
1650 - 9800	9.3	0	(37.2)	4.5	0	53.5	(5.6)	0	24.5
9800 - 12850	9.3	0	0	4.5	0	53.5	(5.6)	0	61.7
12850 - 14350	9.3	0	19.6	4.5	0	53.5	(5.6)	0	81.3
14350 .... $1,800 notch									
14350 - 14700	9.3	0	19.6	4.5	0	0	16.7	0	50.1
14700 .... $1,250 notch ..... $1,000 notch									
14700 - 15050	9.3	0	19.6	4.5	0	0	0	0	33.4
15050 - 19550	9.3	13.9	19.6	4.5	3.3	0	0	0	50.6
19550 .... $1,000 notch									
19550 - 25000	9.3	13.9	19.6	4.5	3.3	0	0	0	50.6

Appendix C:

Derivation of tables 3 and 4 (Marginal tax rates for a one-parent, two-child household in a low-TANF benefit state, with and without a federal housing subsidy)

The following are the assumed marginal tax rates on earnings up to $25,000 (as grossed-up to include the employer share of payroll taxes) under the various tax and transfer rules reflected in Tables 3 and 4:

- **Payroll taxes:** 9.3% on all earnings within the range covered by the table.
- **Federal income tax:** 0% on earnings up to $15,050; then 13.9 percent.
- **Earned income tax credit:** Negative 37.2% on earnings up to $9,800; then 0% up to $12,850; then 19.6%.
- **State and local sales and excise taxes:** 4.5% on all earnings.
- **State and local income taxes:** 0% on earnings up to $15,050; then 3.3%.
- **TANF:** 0% on earnings up to $1,800, then 57.8% up to $7,550, then 0%.
- **Food Stamps:** 16.7% on earnings up to $1,800; then negative 5.6% up to $7,550; then 16.7% up to $14,700; then a notch loss of $1,250 at $14,700, then 0%.
- **Medicaid:** 0% throughout, but with notch losses of $1,800 at at $7,550, $1,000 at $14,700, and $1,000 at $19,550.
- **Federal housing subsidies:** For Table 3, 0% on earnings up to $1,550, then 27.9%. Omitted from Table 4, which assumes no housing subsidy.

The use of this data to construct Tables 3 and 4 is shown in spreadsheet form in Tables C-1 and C-2, respectively.

Table C-1:

Spreadsheet for derivation of Table 3 (estimated marginal tax rates for a one-parent, two-child household residing in a low-TANF benefit state and receiving a federal housing subsidy)

Amount Earned ($)	Payroll Tax	Federal Income Tax	EITC	State-Local Sales & ExciseTax	State-Local Income Tax	TANF	Food Stamps	Medicaid	Housing Subsidies	Marginal Tax Rate
0 - 1550	9.3	0	(37.2)	4.5	0	0	16.7	0	0	(6.7)
1550 - 1800	9.3	0	(37.2)	4.5	0	0	16.7	0	27.9	21.2
1800 - 7550	9.3	0	(37.2)	4.5	0	57.8	(5.6)	0	27.9	56.7
7550							$1,800 notch			
7550 - 9800	9.3	0	(37.2)	4.5	0	0	16.7	0	27.9	21.2
9800 - 12850	9.3	0	0	4.5	0	0	16.7	0	27.9	58.4
12850 - 14700	9.3	0	19.6	4.5	0	0	16.7	0	27.9	78
14700							$1,250 notch	$1,000 notch		
14700 - 15050	9.3	0	19.6	4.5	0	0	0	0	27.9	61.3
15050 - 19550	9.3	13.9	19.6	4.5	3.3	0	0	0	27.9	78.5
19550							$1,000 notch			
19550 - 25000	9.3	13.9	19.6	4.5	3.3	0	0	0	27.9	78.5

Table C-2:

Spreadsheet for derivation of Table 4 (estimated marginal tax rates for a one-parent, two-child household residing in a low-TANF benefit state and not receiving a federal housing subsidy)

Amount Earned ($)	Payroll Tax	Federal Income Tax	EITC	State-Local Sales & ExciseTax	State-Local Income Tax	TANF	Food Stamps	Medicaid	Marginal Tax Rate
0 - 1800	9.3	0	(37.2)	4.5	0	0	16.7	0	(6.7)
1800 - 7550	9.3	0	(37.2)	4.5	0	57.8	(5.6)	0	28.8
7550 .... $1,800 notch									
7550 - 9800	9.3	0	(37.2)	4.5	0	0	16.7	0	(6.7)
9800 - 12850	9.3	0	0	4.5	0	0	16.7	0	30.5
12850 - 14700	9.3	0	19.6	4.5	0	0	16.7	0	50.1
14700 .... $1,250 notch ..... $1,000 notch									
14700 - 15050	9.3	0	19.6	4.5	0	0	0	0	33.4
15050 - 19550	9.3	13.9	19.6	4.5	3.3	0	0	0	50.6
19550 .... $1,000 notch									
19550 - 25000	9.3	13.9	19.6	4.5	3.3	0	0	0	50.6

The Employment Policies Institute is a nonprofit research organization dedicated to studying public policy issues surrounding employment growth. In particular, EPI research focuses on issues that affect entry-level employment. Among other issues, EPI research has quantified the impact of new labor costs on job creation, explored the connection between entry-level employment and welfare reform, and analyzed the demographic distribution of mandated benefits. EPI sponsors nonpartisan research which is conducted by independent economists at major universities around the country.

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