

## Moving Toward a Unified Credit for Low-Income Workers

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### A. Introduction

The purpose of this article is to put forward proposals that might be useful in simplifying the maze of tax credits that are typically available to low-income individuals under the tax code. Some of these include the earned income tax credit, the child tax credit (CTC), and the refundable child credit. Each of these programs has a bewildering array of eligibility rules, with the result that some families that are entitled to the benefits do not file for them, while others that are not entitled receive benefits anyway. The size of these programs has also grown tremendously over time. For instance, in 2006 the EITC paid out almost \$44 billion in tax credits, while the CTCs paid out about \$48 billion. Overall, the size of the credits has grown by nearly 70 percent in just six years. Therefore, an understanding of the actual redistributive impact of these credits and the targets that they were intended to achieve is critical.

Our article has two objectives. The first is to analyze the availability and the amount of the credits going to low-income people. In other words, who actually benefits under the current system of tax credits? Second, we propose several alternatives to the existing tax credits that we hope will substantially simplify the tax code while maintaining the redistributive principles that underlie it. As it stands today, the tax code provides incentives to work and to save, and it also attempts to offset the costs of raising children (such as child-care expenses) and providing them an education. Therefore,

we assess different proposals that might maintain those incentives, either by providing credits only to families with children or only to individuals who work. Because it is unclear what weights society assigns to each of these incentives, we provide several choices while explaining the costs associated with each and the target group that would benefit from each choice. We believe this is the best approach to reaching our final objective of having one simplified system of tax credits.

This effort reignites the debate over an issue that received substantial attention earlier in this decade with papers by Carasso, Rohaly, and Steuerle (2003); Sawhill and Thomas (2001); Sawicky, Cherry, and Denk (2002); Ellwood and Liebman (2000); and Steuerle (2000). Some of the most extensive and detailed work on this issue was conducted in 2005 by the President's Advisory Panel on Federal Tax Reform. While the proposals differ, the underlying objective of each was to consolidate and strengthen tax programs that benefit low-income people or, in the case of the tax panel, to rationalize and simplify all aspects of the tax code. Our article builds on the framework provided in that earlier work but provides several alternatives to the current system. In particular, we establish broader principles that determine the current distribution of credits and calculate how far up the income distribution the credits could be paid out given a budget constraint conditional on that principle. For instance, if we care about work incentives and paid out credits only to workers, how many families would benefit from the credits? What if we cared about families with children? Or what if we wanted to provide benefits only to working families with children? Toward that end, we narrow in on one proposal that we believe is the most practical of all the alternatives and has the greatest likelihood of being adopted.

Our data for the distributional tables are derived from the IRS Statistics of Income Division. This provides information on the total returns filed in each income category, as well as the number of returns that involved married or single filers, the number of returns claiming exemptions for children, and so on. Our data are limited because they are aggregated to represent total filers in each income range. Because we do not have the micro-data on each family that files, it is difficult to obtain actual estimates of the total dollar amount of benefits claimed under different proposals, especially when the phase-in or phaseout ranges lie in the middle of our income ranges. However, with the use of the tax calculator developed at the American Enterprise Institute (AEI) (discussed later), we have been able to overcome many of these problems because we can estimate the benefits for a typical family and average them across families in that range.

At the same time, the use of aggregate data also simplifies our exposition. Some of our proposals include

providing lump sum benefits that phase out, and the only information required is the total number of filers that would be entitled to the benefits. This also makes it easier to see the aggregate costs of different policies and how far up the income distribution credits can be provided before we hit a resource constraint.

In the next section, we describe and analyze the growth in these credits between 2000 and 2006. In Section C, we discuss the complexity that these credits have added to the marginal tax schedule with regions of spikes, plateaus, and steps. Section D provides an overview of the literature on the effects of programs such as the EITC on labor supply and the design of the optimal tax transfer program, and it discusses some prior proposals for reform. In Section E, we derive the current distribution of credits as well as our proposed alternatives. Section F concludes.

## B. Types of Credits

**1. Types of credits.** In this section, we provide a brief overview of the different types of credits.

**a. Earned income tax credit.** The EITC, originally enacted in 1975, has become one of the principal antipov-erty programs in the federal budget. Six separate phase-out schedules exist, which are applied according to the taxpayer's marital status and the number of qualifying children. For 2009 the maximum credit amount for a joint filer with two qualifying children is \$5,028, which equals 40 percent of the couple's first \$12,570 of income. The maximum credit is reduced by 21.06 percent of earned income (or adjusted gross income, if greater) in excess of \$21,420 and is entirely phased out at \$45,295 of income. Note that the credit is available to childless low-income filers as well, although the level of the credit is much lower than for those with children.

The EITC seeks to transfer income back to low-income households and encourage work. Because of these features, the credit has been politically popular, enabling its initial adoption and subsequent expansions (Liebman (1998) and Ventry (2002)).

**b. Child- and dependent-care credit.** The child- and dependent-care tax credit (CDCTC) is a nonrefundable credit available to low-income workers who pay for the care of children under age 13, a disabled spouse, or other dependents. The credit is intended to offset some of the costs of child and dependent care and is equal to a percentage of qualified expenses up to a cap.

The Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) expanded the maximum allowable expenses that could be used to claim the credit from \$2,400 to \$3,000 per child, and up to \$6,000 per family. The legislation also increased the maximum credit rate from 30 percent to 35 percent. As under prior law, the credit rate decreases to 20 percent for higher-income taxpayers, but the phaseout range is longer, so more people qualify for the higher rates. The maximum value of the credit is flat at \$600 beyond \$60,000. Although the maximum possible credit value is technically 35 percent of \$3,000 (\$1,050), the stylized families can never claim nearly that much because the credit is nonrefundable and phases down at a low income. Like the rest of EGTRRA, the changes expire at the end of 2010.

**c. American opportunity tax credit.** The American opportunity tax credit was enacted through the American Recovery and Reinvestment Act of 2009 (ARRA) and provides additional support for parents and students with college expenses. The credit expands the reach of the existing HOPE credit, making it available to a broader range of taxpayers, including many with higher incomes and those who owe no tax. It also adds required course materials to the list of qualifying expenses and allows the credit to be claimed for four postsecondary education years instead of two. Many of those eligible will qualify for the maximum annual credit of \$2,500 per student. The full credit is available to individuals whose modified AGI is \$80,000 or less, or \$160,000 or less for married couples filing a joint return. The credit is phased out for taxpayers with incomes above these levels. These income limits are higher than under the prior HOPE and lifetime learning credits. In the fiscal 2010 budget, President Obama has proposed making the credit permanent, but it is currently scheduled to expire at the end of 2010.

**d. Child tax credit.** The CTC is the single largest federal cash assistance program for children, providing an estimated \$46 billion in subsidies to families with children in 2007. The CTC, originally enacted as part of the Taxpayer Relief Act of 1997, provided a \$500 tax credit for each dependent child under the age of 17. EGTRRA and the Jobs and Growth Tax Relief Reconciliation Act of 2003 doubled the credit to \$1,000 and made it partially refundable. In 2009 return filers may claim a refundable credit equal to 15 percent of the excess of earnings over \$3,000, lowered from \$12,550 by ARRA, up to the \$1,000 maximum per child. The expanded refundability has made the CTC more valuable to many lower-income families, although many with very low incomes were still left out. The lower \$3,000 floor for refundability is scheduled to expire at the end of 2010, but Obama has proposed making the provision permanent.

**e. Making Work Pay credit.** The Making Work Pay (MWP) credit was perhaps the most prominent tax measure in the 2009 stimulus package. The credit, designed to offset the employee share of payroll taxes, equals 6.2 percent of income up to a maximum of \$400 for working individuals and \$800 for joint filers. The credit begins to phase out at an income of \$75,000 for individuals and \$150,000 for couples. The credit is typically administered by employers, who adjust employees' automated withholdings, resulting in an increase in take-home pay. Obama's fiscal 2010 budget proposes to make the credit permanent, but it is currently scheduled to expire at the end of 2010.

According to an analysis by the Tax Policy Center, the MWP credit would reduce income taxes for three-fourths of all tax units in 2012 by an average of more than \$500, raising average after-tax income by 0.6 percent. The credit is highly progressive because after-tax income would rise by 2.4 percent for the poorest 20 percent (quintile) of households, compared with 1 percent for the middle quintile and 0.2 percent for the top quintile. In the fiscal 2010 budget, Obama has proposed changing the phaseout of the MWP credit starting in 2011 by reducing the rate (from 2 percent to 1.6 percent), which would extend the range of the phaseout and also index the phaseout threshold for inflation.

**Table 1. Current Cost of Credit Programs and Growth Between 2000-2006**  
(in billions of dollars)

	2000	2001	2002	2003	2004	2005	2006
<b>Child Care Credit</b>	3	3	3	3	3	3	3
<b>CTC</b>							
Regular	20	22	22	23	32	32	32
Additional	1	5	6	9	14	16	16
Both	21	27	28	32	47	48	48
<b>Education Credits</b>	5	5	5	6	6	6	7
<b>EITC</b>							
Offsetting Income Tax	2	1	1	1	1	1	1
Offsetting Other Tax	3	3	3	4	4	4	5
Refundable	28	29	34	34	35	37	39
Total	32	33	38	39	40	42	44
<b>Total</b>	61	69	74	80	96	100	103

*Note:* All numbers have been rounded off to the nearest billion.

**2. Growth in size of credits.** The scale of the existing tax credit programs has increased exponentially in recent years. Here we provide a brief overview of the credits paid out in 2006 and the expansion in these programs since 2000. Table 1 shows the total costs of each credit in 2000-2006.

As the table shows, there has been a spike in the CTC. The total credits have more than doubled over this period, rising from approximately \$20 billion to about \$47 billion. The refundable portion of the CTC has grown by more than 1,000 percent, while the nonrefundable portion has grown by about 60 percent. The EITC has also grown by about 40 percent over this entire period, and the education credits have grown by about 45 percent. On average, across all the credits that we are concerned with in this article, the total size of these government transfer programs has grown by about 70 percent, from \$60 billion in 2000 to \$103 billion in 2006. In the long run, these costs are likely to increase at rates driven by population and inflation growth rates. In the short run, however, we may see a spike in these costs as economic conditions push individuals into lower income groups and increase the base of eligible individuals.

### C. Credits and the Marginal Tax Schedule

To estimate the impact of these programs on marginal tax rates, we used the AEI individual tax calculator, similar to the NBER TAXSIM calculator.<sup>1</sup> The tax calculator estimates the total tax after exemptions, deductions, and credits for a typical family, which can depend on myriad parameters. For information on credits, we relied on the IRS data and description of each program, as well as information provided by the Tax Policy Center. We used 2009 values to calculate the credits.

Our analysis centers on two stylized families. The first is a married couple with two children, one of whom is in college while the other is under 13. Both parents work. They spend 5 percent of their income on child-care expenses and \$4,000 on college costs (for families earning

less than \$20,000, we assume that college expenses are 25 percent of total income). We further assume that 20 percent of the family's income can be taken as itemized deductions and that the family will itemize when doing so reduces the tax burden over taking the standard deduction (this occurs when income reaches \$57,000). The sample family does not claim the savers credit, and we assume that there is no income from capital gains or dividends. The second family is the same as the first except there is only one parent. For our marginal tax rate calculations for the married couple, we consider the change in tax burden associated with a \$100 increase in income (we use a \$50 increment for the single parent).

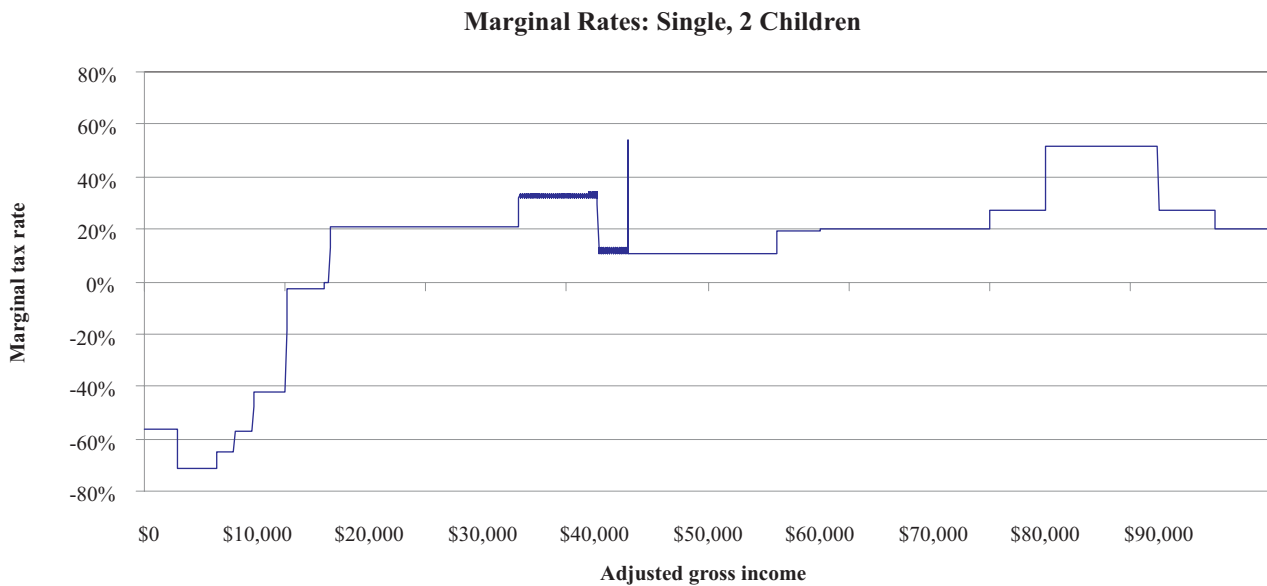
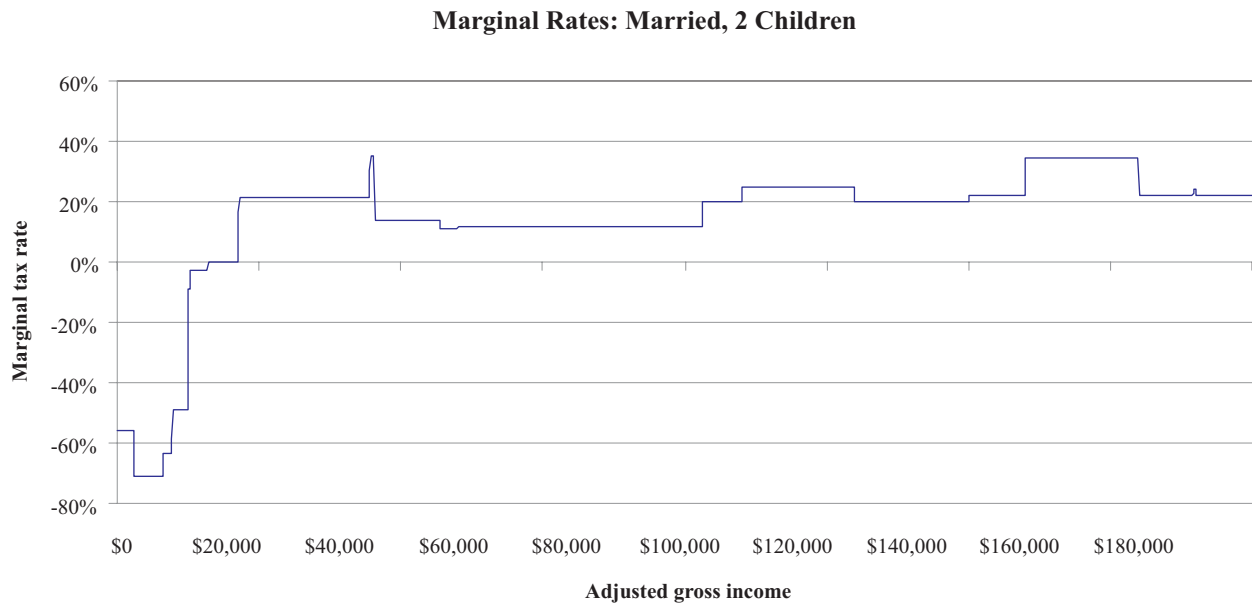
Figure 1 shows the marginal tax schedule for all income earners starting from a low income of zero to a high of \$200,000 for the married couple, and \$100,000 for the single parent. It is of course possible to tabulate the tax rates for even higher-income groups. However, because our focus is on lower-income tax credits, we provide a partial view of the overall tax skyline. The two charts look marginally different because the credits apply differently to married families and single filers. In general, for married filers the amount of the credit is close to double what it is for single filers.

As is clear from the charts, the current system leads to spikes, plateaus, and steps in the skyline. Initially, as the credits, especially ones like the EITC, are phased in, the marginal tax rates are negative. The negative rates are a consequence of the fact that while taxpayers in this group have zero tax liability, they are still entitled to the refundable credits. Hence the effective average tax paid is also negative. In the phaseout region of the credits, the marginal tax rates start to rise, leading to the steep upward shift in the schedule. In fact, at about \$22,000 the marginal tax rate jumps up to 21 percent from being negative at \$21,000. Again, after the phaseout of the EITC, the marginal rate jumps down from about 40 percent to about 28 percent as taxpayers get onto the regular income tax schedule. Similar marginal rate schedules were computed by Brill and Viard (2008).

The kinks and spikes at the higher end of the income distribution are a consequence of the phasing out of the

<sup>1</sup>See Brill and Viard (2008) for a brief description of the calculator.

**Figure 1. Marginal Tax Rates: Married and Single Taxpayers, With 2 Children**



other benefits such as the CTC, as well as the education credits and the higher marginal tax rates applied to these income levels.

**D. Literature Review**

**1. Literature review.** Recently there has been a tremendous amount of interest in the optimal design of income transfer programs and the incentives they generate. Here we present a brief overview of the literature to provide a framework for proposed reforms to be discussed in the next section.

Eissa and Hoynes (2006) review the literature on the labor supply effects of the EITC. An unusual feature of

the EITC is its explicit goal of encouraging and supporting those who choose to work. Several articles have estimated the impact of the EITC on employment decisions of single women (Dickert, Hauser, and Scholz (1995); Eissa and Liebman (1996); Ellwood (2000); Grogger (2003); Hotz, Mullin, and Scholz (2002); Keane and Moffitt (1998); Meyer and Rosenbaum (2000; 2001); Rothstein (2005)), and all have consistently found that the EITC increased their labor force participation. Several articles estimate difference-in-difference models applied to a single expansion or multiple expansions of the EITC. In these models, the change in the employment rate of the

treatment or eligible group (single women with children) is compared with the change in the employment rate of a control or unaffected group. This approach is used by Eissa and Liebman (1996); Ellwood (2000); Hotz, Mullin, and Scholz (2002); Meyer and Rosenbaum (2000); and Rothstein (2005). The most common control group is childless single women (Eissa and Liebman (1996); Meyer and Rosenbaum (2000); Rothstein (2005)).<sup>2</sup> Other comparisons target different features of the design of the EITC. Ellwood (2000) and Rothstein (2005) use the fact that the shape of the credit implies different incentives at different hourly wages, and they compare single mothers at different wage or skill levels. Eissa and Liebman (1996); Hotz, Mullin, and Scholz (2002); and Meyer and Rosenbaum (2000) examine the second child marginal credit and compare single women with one child versus those with two or more children.

Overall these studies suggest a strong positive relationship between the EITC and employment rates of single women with children. The results are also remarkably consistent across different policy expansions, different control groups, and different methods. The estimated size of the labor supply effect differs depending on the expansion considered. Eissa and Liebman (1996) find that the 1986 expansion of the EITC led to a 2.8 percentage point increase in participation (from a base of 74.2 percent) for single mothers. Meyer and Rosenbaum (2001) find that 60 percent of the 8.7 percentage point increase in annual employment of single mothers between 1984 and 1996 is due to the EITC. They find that a smaller amount — 35 percent of the increase in participation between 1992 and 1996 — is due to the EITC (with the remainder due to welfare reform and other changes). The range of the implied labor force participation elasticity with respect to net income across all studies is narrow — between 0.69 and 1.16 (Hotz and Scholz (2003)).

Only a few articles have examined the impact of the EITC on the hours worked by single mothers, in part because estimating *workers'* hours-worked response to the EITC budget constraint is a harder empirical problem. In particular, one has to deal with the selection of individuals into the labor force. Eissa and Liebman (1996) apply their difference-in-difference model to annual hours worked (conditional on working) and find a small positive, and marginally significant, impact on all single mothers and a zero impact on low-educated single mothers. Meyer and Rosenbaum (2001) find mixed (positive and negative) but insignificant impacts of the EITC on hours worked (conditional on working). Rothstein (2005) finds no difference between single mothers and childless single women in weekly hours worked (conditional on working) across the wage distribution. Keane and Moffitt (1998) estimate a structural model of labor supply choice and simulate the effect of the EITC on total hours but do not present a separate estimate for those already working.

<sup>2</sup>Note that this does not mean the EITC is unavailable to childless filers. It is available to a narrow range of low-income filers without children.

While the literature on married women and the EITC is limited, the results are consistent with theoretical expectations. Eissa and Hoynes (2004) estimate a difference-in-difference model comparing married mothers to married women without children and find that the 1993 EITC expansion led to a 1 percentage point reduction in the participation rate of married mothers. Eissa and Hoynes (2006) find that expansions in the EITC are also associated with reductions in hours worked for married women who are working. They estimate hours of work as a function of after-tax wages and unearned income, again assuming women are secondary earners. They find that expansions in the EITC from 1984 to 1996 led to a 1 percent to 4 percent decrease in annual hours for married women with children. Heim (2005) estimates a structural model of family labor supply and finds similar effects of the EITC on hours worked by married women but no effect on employment of married women. Eissa (2009) summarizes much of this literature.

**2. Optimal design of tax transfer programs.** The finding that labor force participation responses are more significant than hours-worked responses has several important implications for the design of tax transfer programs and the welfare evaluation of taxation. The modern setup for analyzing the equity-efficiency tradeoffs inherent in tax transfer programs was pioneered by Mirlees (1971). More recent papers by Saez (2001), Roberts (2000), Piketty (1997), and Diamond (1998) have considerably extended the reach of this type of analysis. That work has shown that with sufficiently high participation elasticities, the optimal tax transfer scheme can be similar to the EITC — with negative marginal tax rates at the bottom of the earnings distribution. An EITC would, on the other hand, be inefficient in a standard model with only intensive (hours-worked) responses. Liebman (2002) extends this work by examining more closely the optimal design of the EITC. He uses a microsimulation model calibrated to the Census Bureau's 1999 Current Population Survey data to illustrate the trade-offs in the design of an EITC — including the optimal maximum credit and phase-in and phaseout rates — with fixed costs and participation effects. Liebman finds that the efficiency cost of transferring income through the EITC is substantially lower than previous studies have found, in large part because of the participation response of single mothers and the associated reduced welfare spending. His simulations suggest a cost of less than \$2 to provide a transfer worth \$1 to EITC recipients.

Liebman (2002) offers a concrete design for the optimal tax transfer program based on an analysis of the behavioral impact of the EITC. His study concludes that for reasonable social welfare weights, the optimal EITC would be one with a very high phaseout rate. This would create something like a cliff in which the entire EITC is eliminated immediately at the end of the plateau. This is optimal because the distribution of married taxpayers is thick at the end of the current phaseout region. Increasing the phaseout rate therefore saves a significant amount of money that would go to individuals with relatively high incomes and, accordingly, low social welfare weights. Second, rapid phase-in rates may also be part of the optimal EITC, especially for married couples.

	Total credits paid (in millions of dollars)	Married returns (in millions)	Single returns (in millions)	Total returns (in millions)	Average credit paid per filer (in dollars)
<b>All returns, total</b>	102,887	53	85	138	743
No adjusted gross income	523	1	2	3	196
\$1-\$5,000	1,874	1	11	12	161
\$5,000-\$10,000	7,753	1	11	12	658
\$10,000-\$15,000	13,725	2	10	12	1,172
\$15,000-\$20,000	13,577	2	9	11	1,241
\$20,000-\$25,000	11,030	2	8	10	1,213
\$25,000-\$30,000	8,753	2	7	9	1,000
\$30,000-\$40,000	9,936	4	10	14	702
\$40,000-\$50,000	6,792	4	6	11	635
\$50,000-\$75,000	13,445	11	8	19	713
\$75,000-\$100,000	9,240	9	3	11	829
More than \$100,000	5,239	14	3	16	495

The results for the rapid phaseout rate are corroborated by at least two other papers. Moffitt (2002) and Sheiner (1994) show that while the “notch” or the cliff will essentially lead to workers refusing jobs that pay less than what they would receive with the credits at the cliff, there would be less of an incentive for higher-income workers to reduce their work effort to get the advantage of the credits. Also, the government would save money by not having to provide credits to individuals with incomes at the higher end of the income range.

The obvious disadvantage of cliff-type schedules, however, is that the households move from receiving the maximum credit to receiving no credit — effectively losing 100 percent of the credit amount on the next dollar earned. The marginal tax rates in this region are, of course, higher than 100 percent for filers moving off the cliff to the no-credit budget line. Therefore, cliff-type schedules are likely to work best (solely in terms of work incentives) when individuals possess all the information they need to be able to claim credits correctly and make informed decisions about their location on the labor supply curve vis-à-vis the kink at the cliff. They also must be able to freely adjust their labor supply in terms of hours worked. Without complete information, it is extremely likely that those policies will harm households that are unaware of the shape of the credit schedule and are unaware that beyond the cliff region, they will suddenly lose all the credits and face a steep marginal tax increase. This is not unrealistic because even under the current system, it is clear that individuals do not have all the information they need to claim, for instance, the EITC.

While work incentives are important, they should not be viewed as the sole objective of tax policy. That is particularly true when one considers that the efficiency gains from a cliff-type approach arise from the affected population’s relative ignorance of the rules. These individuals are, after all, the ones policy is designed to assist, and a cliff-type proposal that takes advantage of their ignorance seems inappropriate on ethical grounds.

**3. Some prior reform proposals.** Before we discuss our own alternatives, we discuss three prior proposals. Where possible and available, we also provide an estimate of the total costs and a distributional analysis.

The President’s Advisory Panel on Federal Tax Reform proposed consolidating existing family, child, and work-related tax benefits into two credits: a family credit and a work credit. The family credit would combine the benefits of the personal exemption, standard deduction, head of household filing status, and the CTC into a single credit that would be available to all taxpayers. Similarly, the work credit would result from consolidating the EITC and the refundable portion of the CTC. The credit amount would be determined by a credit base, which would depend on the household type and would increase with each additional child. The family credit would apply to all income levels and would work in conjunction with the work credit to provide refundability to low-income workers. Computation of the allowable credit would also be simplified for taxpayers because eligibility rules would be streamlined, and both credits would remain available to all taxpayers whether or not they claim deductions or other tax benefits. These changes, combined with the other provisions put forth by the panel, would have an overall neutral effect on revenues. As stated in the panel report, the objective of the panel was not to fundamentally change the amount or availability of the benefits, but to ensure that these provisions would serve their intended purposes as efficiently as possible. As such, we can assume that under the panel’s proposal, the distribution and amount of credits would look similar to what we observe today. As we have already shown, this distribution extends up until a high income level of almost \$500,000. Therefore, our proposals substantially differ from the panel’s proposals in that they provide the same total credits but only to the lower-income groups, thereby implying that the credits per low-income family are higher.

The simplified family credit was proposed in 2000 by Robert Cherry of Brooklyn College and Max B. Sawicky, then of the Economic Policy Institute. The proposal

Table 2B. Percent of Returns Claiming Credits, 2006

	Child care credit	Child tax credit (non-refundable)	Child tax credit (refundable)	Education credits	Earned income credit (non-refundable)	EITC (refundable)
All returns, total	5	19	11	6	2	15
No adjusted gross income	0	0	7	0	0	5
\$1-\$5,000	0	0	1	0	0	22
\$5,000-\$10,000	0	0	1	1	4	36
\$10,000-\$15,000	0	2	20	4	6	32
\$15,000-\$20,000	2	12	29	6	2	29
\$20,000-\$25,000	4	21	30	8	4	30
\$25,000-\$30,000	5	25	24	7	8	24
\$30,000-\$40,000	5	26	17	9	4	10
\$40,000-\$50,000	6	29	11	8	0	0
\$50,000-\$75,000	7	32	5	8	0	0
\$75,000-\$100,000	10	36	1	11	0	0
More than \$100,000	24	26	0	1	0	0

combines the dependent exemption with the EITC, the child credit, and the additional child credit to offer a single credit to all taxpayers. Seven phaseout schedules would apply to the credit, depending on the number of children. Rather than allowing the credit to completely expire, the proposal would allow it to settle at an amount equal to the dependent exemption and the child credit under the second-lowest statutory tax rate (then 28 percent). The plan would also lower the credit's phaseout rates and expand its phaseout range, thus reducing the marriage penalty. According to Cherry and Sawicky, the proposal would cost \$32 billion in 1999 and close to \$390 billion over 10 years.

A plan offered by the Tax Policy Center's Adam Carasso, Jeff Rohaly, and Eugene Steuerle also proposes to consolidate the EITC, the child credit, and the dependent exemption into a single unified child credit. Relative to 2003 law, the plan would increase phase-in rates, create a standard age limit, and lower the phaseout rate. According to the proposal, a universal version of the child credit that does not phase out at higher incomes would cost more than \$25 billion in 2010. However, this also involves raising the top marginal tax rate from 35 percent to 36 percent. Under different versions of the credit, which do not include increasing the top rate, the cost of the policy could be as high as \$156 billion.

## E. Moving Toward a Unified Credit

**1. The current distribution of credits.** In this section, we propose several alternatives to the current system of credits that may simplify the tax transfer system and achieve the kind of redistribution that is specifically focused on lower-income groups. Surprisingly, the distribution of credits currently extends far into the upper-income ranges. As Table 2A shows, in 2006 the government paid out about \$25 billion to those with annual incomes exceeding \$50,000, and more than \$4 billion to individuals in the \$100,000 to \$200,000 income range. These numbers are likely to be even higher today. Further, they include only the seven credits that we account for in our analysis (shown in Table 1) and do not

include the American opportunity tax credit and the MWP credit, which were enacted in 2009. There are also other credits available to businesses, such as the investment tax credit, that would raise the credit amounts at the upper end of the distribution. Table 2B shows the fraction of returns claiming the credits.

Next we project the total credits in 2009 by scaling up the 2006 number to account for the population growth rate and the inflation rate, and also for initial projections of the likely cost of the American opportunity credit and the MWP credit from the stimulus bill. For the MWP credit, the projections suggest that the total cost for 2009 and 2010 is likely to be about \$110 billion. Therefore, we include about \$55 billion as the cost for 2009. Our projections imply that the total cost of all credits in 2009 is likely to be about \$170 billion. Of course, if the new measures are not made permanent, the costs will be lower after 2010.

## 2. Proposed alternatives.

**a. Eligibility.** The first thing to do when devising a new system of credits is to determine eligibility for the credits. Under current rules, the adjustments for family size and work incentives are unnecessarily complex. For example, the maximum age for a qualifying child is 16 for the CTC, but 23 for the EITC. There are also differences in the definition of gross income, which determines eligibility. Finally, the size of the family (one child or two, single or married) also determines the amount of benefits available. In our proposals, we offer several alternatives to account for these restrictions. For instance, we initially allow credits to be provided to all low-income individuals with any type of income, including individuals with no income or no earned income. This is justified because redistributive policies could be targeted toward the groups with the least or no income rather than those with earned income only. We then offer several proposals that provide benefits only to people with earned income. Finally, we also consider the case in which we provide

	\$7,000 for married, \$3,500 for single	\$5,000 for married, \$2,500 for single	\$4,000 for married, \$2,000 for single	\$3,000 for married, \$1,500 for single
No adjusted gross income	13	9	7	5
\$1-\$5,000	45	32	26	19
\$5,000-\$10,000	47	33	27	20
\$10,000-\$15,000	48	35	28	21
\$15,000-\$20,000		34	27	20
\$20,000-\$25,000		31	25	19
\$25,000-\$30,000			23	17
\$30,000-\$40,000				29
\$40,000-\$50,000				23
Total credits	152	174	162	173

	Max credit = \$5,000 for married filers (\$2,500 for single) Initial credit = 20 percent of maximum credit and is available up until \$25,000 of income	Max credit = \$4,000 for married filers (\$2,000 for single) Initial credit = 15 percent of maximum credit and is available up until \$25,000 of income
No adjusted gross income	2	1
\$1-\$5,000	6	4
\$5,000-\$10,000	7	4
\$10,000-\$15,000	7	4
\$15,000-\$20,000	7	4
\$20,000-\$25,000	6	4
\$25,000-\$30,000	28	23
\$30,000-\$40,000	48	38
\$40,000-\$50,000	39	31
\$50,000-\$75,000		62
Total credits	150	175

benefits only to families with children.<sup>3</sup> Because these data rely on the eligibility rules for qualifying children in the current tax code, we assume that the same rules hold, but they apply uniformly to all our credits. For instance, if all children under 18 qualify for an exemption under the current system, that age restriction has to hold for any new credit involving children under our proposals.

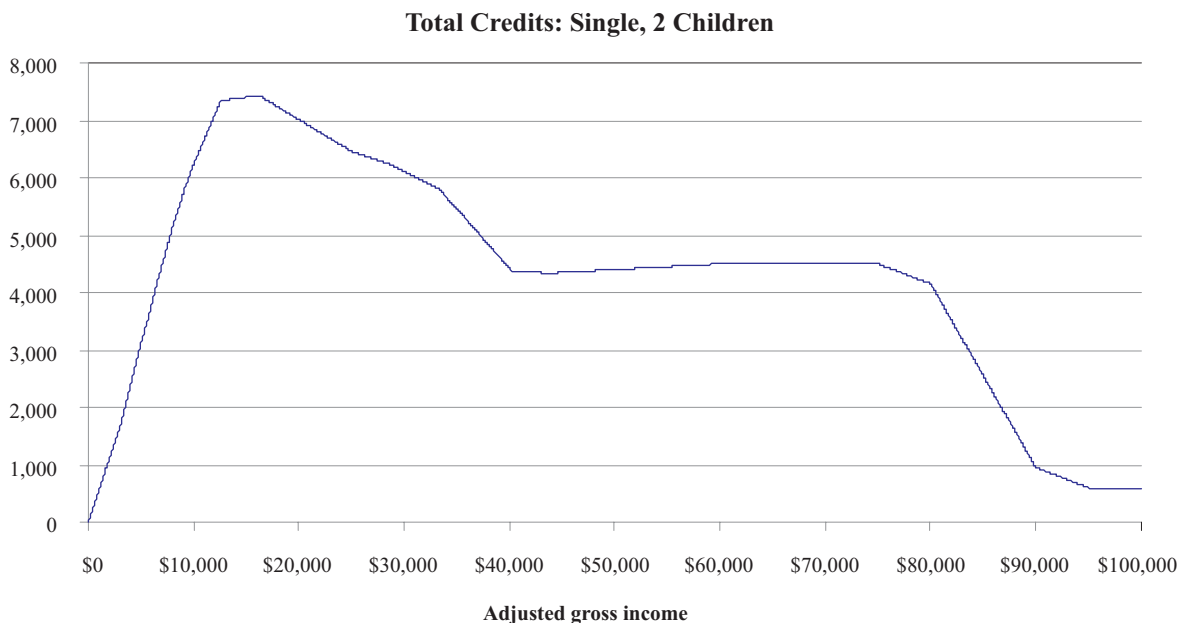
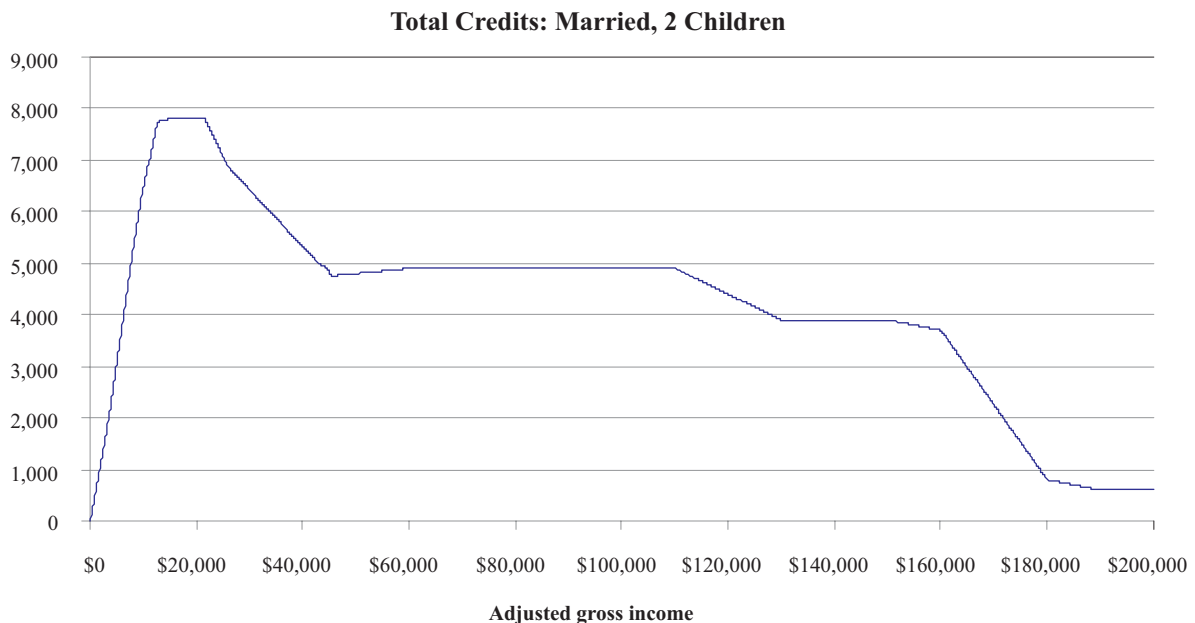
**b. Lump sum credits.** Table 3 presents the first proposal for a simplified credit. This gives all filers a lump sum credit up until a specified income level, with the credit being double for married filers. This will reduce the marriage penalty that now exists in programs like the EITC, although it will not completely eliminate it because married filers are likely to have higher incomes, possibly moving them beyond the income range at which the credit is available. As the credit chart in Figure 2 shows, the maximum credit paid out is about \$7,000 at incomes

below \$15,000. Therefore, we analyze a lump sum credit of about \$7,000 for married filers and \$3,500 for single filers. We extend the credit to all households up to an income range at which the cost of the credit is just below or close to the credits that would be paid out under the current system of about \$170 billion. Column (1) shows that the lump sum credit could be extended to all households earning less than \$15,000 in income. The total cost is about \$150 billion, suggesting that we could possibly extend the credit to people marginally above \$15,000 as well. Or the “savings” could be used to reduce the marginal tax rate on those earning more than \$15,000.

Columns (2), (3), and (4) of Table 3 show similar policies with the credit amount varying from \$3,000 to \$5,000. As we may expect, as the credit amount decreases, the government can target a higher base of people. So for instance, with a \$3,000 credit, the system could be extended to all those with incomes less than \$50,000. The cost of the policy in each case is close to the current system.

Table 4 also explores a system of lump sum credits, but with two different credit amounts. The idea is to have a slightly lower credit available at lower incomes and a

<sup>3</sup>In the literature, there is debate on whether the individual or the family unit should be the basis for taxation and on what the optimal tax treatment of married couples should be. For articles on these topics, see Kleven, Kreiner, and Saez (2006); Brazer (1980); and Cudmore, Piggott, and Whalley (2007).

**Figure 2. Total Credits, by Income**

marginally higher credit at higher incomes, which may preserve people's incentives to move to a higher income level through work. Note that in neither of these examples are we imposing a work requirement. The credit is provided to people with no incomes as well, suggesting that they are unemployed or retired. In column (1) of this table, we explore an initial credit of 20 percent of the maximum credit of \$5,000 (for married) up to \$25,000, and above that a maximum credit of \$5,000. In column (2), the maximum credit amount is changed to \$4,000, and the initial phase-in is at 15 percent. In the first case, the credit can be extended to \$50,000 of income, and in

the second case, up to \$75,000. The cost of the first policy is less than \$150 billion, and the cost of the second is \$174 billion. Note that another addition that we could consider to these schedules is the inclusion of a third, lower lump sum credit to ease the phaseout of the credit.

**c. Wage or income credits with phase-in and phase-out ranges.** An alternative would be to use the current EITC design, but to fold all the various credits into one simple credit. Table 5 describes a system similar to the current EITC with phase-in and phaseout ranges based as percentages of income. Note that in this table we provide credits only to families reporting nonzero income, which

**Table 5. Credits With Phase-In, Plateau and Phaseout Regions Based as Percentages of Income, 2009**  
(in billions of dollars)

	Similar to EITC: Phase-in rate = 40 percent, Phaseout rate = 20 percent, Max credit = \$6,000 at \$15,000 income	Phase-in rate = 20 percent Phaseout rate = cliff Max credit = \$6,000 at \$30,000 income	Phase-in rate = 60 percent Phaseout rate = 45 percent Max credit = \$6,000 at \$10,000 (values halved for single filers)
\$1-\$5,000	12	6	10
\$5,000-\$10,000	35	18	30
\$10,000-\$15,000	59	29	42
\$15,000-\$20,000	38	38	41
\$20,000-\$25,000	45	45	31
\$25,000-\$30,000		48	15
\$30,000-\$40,000			2
Total credits	189	184	170

**Table 6. 50 Percent Wage Credit Up Until \$15,000 of Income and 10 Percent Tax Rate Between \$15,000-\$40,000**  
(in billions of dollars)

	Current taxes paid after credits (2006)	10 percent tax rate on \$15,000-\$40,000 (and no credits)	Difference in revenue old system — 10 percent tax system	Total change
No adjusted gross income				16
\$1-\$5,000				44
\$5,000-\$10,000				73
\$10,000-\$15,000	5	5	-1	-1
\$15,000-\$20,000	8	9	-1	-1
\$20,000-\$25,000	10	11	-1	-1
\$25,000-\$30,000	27	27	1	1
Total cost of policy				131

could be from any source, including a job or investment income. In the first case, we explore a phase-in rate of 40 percent, a phaseout rate of 20 percent (both similar to the EITC), and a maximum credit of \$6,000 at \$15,000 of income. Under the second case, we propose a phase-in rate of 20 percent until \$30,000, at which point the credit would equal \$6,000, followed by a cliff where none of the credit would be available to those earning more than \$30,000. The cost of that policy is about \$180 billion,<sup>4</sup> although it could be lowered by reducing the income range to which the credit applies. In the last column, we also consider a policy with a phase-in rate of 60 percent and a phaseout rate of 45 percent, with a maximum credit of \$6,000. In this case, the credits can be made available to all individuals with a maximum income of \$40,000, and the cost of the policy is about \$165 billion. The reason we chose the 45 percent rate is that this is approximately the maximum marginal tax rate that individuals now face in the tax code and thus is the highest rate that is established to be politically feasible.

In Table 6, we use the pattern of current credits to develop a simplified system. As the shape of the credit

curve shows, the maximum credit is about \$7,500 and applies to about \$15,000 of income, and then the curve flattens out. Therefore, we consider an initial tax credit of 50 percent of income up to \$15,000 of income, and then apply a tax rate of 10 percent to all income between \$15,000 and \$40,000. In effect, this reduces the marginal tax rate for those earning between \$15,000 and \$40,000 to 10 percent from the current law of 15 percent. For this, we use IRS information on the total taxable income of households at different income ranges and information on their total taxes paid after credits. We then apply the 10 percent tax to taxable incomes above \$15,000. At \$15,000 there is a cliff where the filer loses the income-based credit. At \$40,000 the marginal tax rate will move from 10 percent to either 15 percent or 25 percent, depending on the filer's tax bracket. The table shows the total tax that would be paid under the proposed 10 percent tax rate, and it calculates the difference in tax collections under this system and the current system. Surprisingly, even though incomes in this tax bracket are essentially charged a 15 percent marginal tax rate, the total tax collections would increase under the 10 percent tax because we are eliminating the credits entirely for this range. Providing households with incomes less than \$15,000 a 50 percent tax credit and households with incomes at \$15,000 to \$40,000 a 10 percent marginal tax rate (a 5 percentage point reduction in the rate but a loss of tax credits) would cost the Treasury about \$130 billion

<sup>4</sup>For cost calculations involving phase-ins and phaseouts, we have assumed that income is distributed uniformly within each of the SOI's income ranges.

**Table 7. Different Phase-In Credits With a 10 Percent per \$5,000 Phaseout Rate**  
(in billions of dollars)

	50 percent wage credit for incomes up until \$5,000 and then phased out	40 percent wage credit for incomes up until \$10,000 and then phased out	30 percent wage credit for incomes up until \$15,000 and then phased out
\$1-\$5,000	16	13	10
\$5,000-\$10,000	41	36	27
\$10,000-\$15,000	53	53	45
\$15,000-\$20,000	49	49	49
\$20,000-\$25,000	34	34	34
\$25,000-\$30,000	12	12	12
Total cost of policy	206	198	178

**Table 8. Credit Policies Restricted to Families With Children**

	Returns claiming exemptions for children at home (in millions)	\$5,000 lump sum credit (in billions of dollars)	\$7,500 lump sum credit (in billions of dollars)	40 percent wage credit until \$30,000 and then phased out (in billions of dollars)
<b>All returns, total</b>	48			
Under \$5,000	2	-26	9	14
\$5,000-\$10,000	3	21	13	20
\$10,000-\$15,000	4	45	18	27
\$15,000-\$20,000	4	61	18	26
\$20,000-\$25,000	3	77	17	26
\$25,000-\$30,000	3	82	15	22
\$30,000-\$35,000	3	83	13	19
\$35,000-\$40,000	2	81	11	16
\$40,000-\$45,000	2	86	10	15
\$45,000-\$50,000	2	87	9	14
\$50,000-\$55,000	2	94	9	
\$55,000-\$60,000	2	92	8	
\$60,000-\$75,000	4	288	21	
\$75,000-\$100,000	5	462	27	
Total cost of policy			198	199

— a number still substantially lower than the \$170 billion that would be incurred under the current system.

Finally, Table 7 shows the different possibilities for schedules with gradual phaseout regions. In the first policy, we consider a 50 percent wage credit available up until \$5,000 of income, which smoothly decreases by 10 percentage points for every \$5,000 of additional income.<sup>5</sup> In other words, the credit percentage itself declines by 10 percentage points as the income goes up. In this case, the credit can be extended to all households earning less than \$30,000. The total cost of this policy is approximately \$200 billion. In the second policy, we change the initial credit percentage to 40 percent, and in the third case, we change it to 30 percent. Under the second policy, the 40

percent wage credit is available to all households earning less than \$10,000, and in the third policy the 30 percent wage credit is available to all households earning less than \$15,000. Under both policies, the credits can be extended to households earning less than \$30,000, and the total cost of the policy is only marginally more than under the current system of credits. These represent an alternative to ending the credit range with a cliff because households gradually lose their benefits and are able to adjust to the increase in marginal rates as they move off the credits.

**d. Targeted credits.** In the final two tables, we restrict the target population for the credits based on social goals that seem to influence the current design of the tax code. For instance, several credits, such as the CTC and the CDCTC, are targeted toward families with children. The EITC rewards work and also families with children. Therefore, in the next set of proposals we allow for these possibilities — that is, we allow for these credits to be limited only to families with children, rather than being available to the universe of low-income people. This would enable us to extend the credit (if that were what

<sup>5</sup>This phaseout can be explained with the help of an example: A filer earning \$5,000 would receive a credit of 50 percent of wage income, which amounts to \$2,500. A person earning \$10,000 would get a 40 percent wage credit, which amounts to \$4,000, and so on.

	Returns with salary and wage income (in millions)	Estimate of married returns with wage income (in millions)	Estimate of returns with children and wage income (in millions)	Max credit = \$8,000 at \$13,333 (values halved for single filers) Phaseout begins at \$20,000 (in billions of dollars)	Restricted to filers with children: Max credit = \$12,000 at \$20,000 Phaseout begins at \$30,000 (in billions of dollars)
<b>All returns, total</b>	120	46	33		
No adjusted gross income	1	0	0		
\$1-\$5,000	9	1	1	7	2
\$5,000-\$10,000	10	1	2	24	9
\$10,000-\$15,000	9	1	3	39	21
\$15,000-\$20,000	9	2	3	44	30
\$20,000-\$25,000	9	2	3	41	36
\$25,000-\$30,000	8	2	3	31	31
\$30,000-\$40,000	13	4	2	40	25
\$40,000-\$50,000	10	4	2	17	16
\$50,000-\$75,000	17	10	2	1	8
\$75,000-\$100,000	10	8	5		2
Total credits				245	179

was needed) to a higher income range because the proportion of families in each income range receiving the credit would be far lower than under the previous proposals. Of course, one could also choose to offer a larger benefit to low-income individuals.

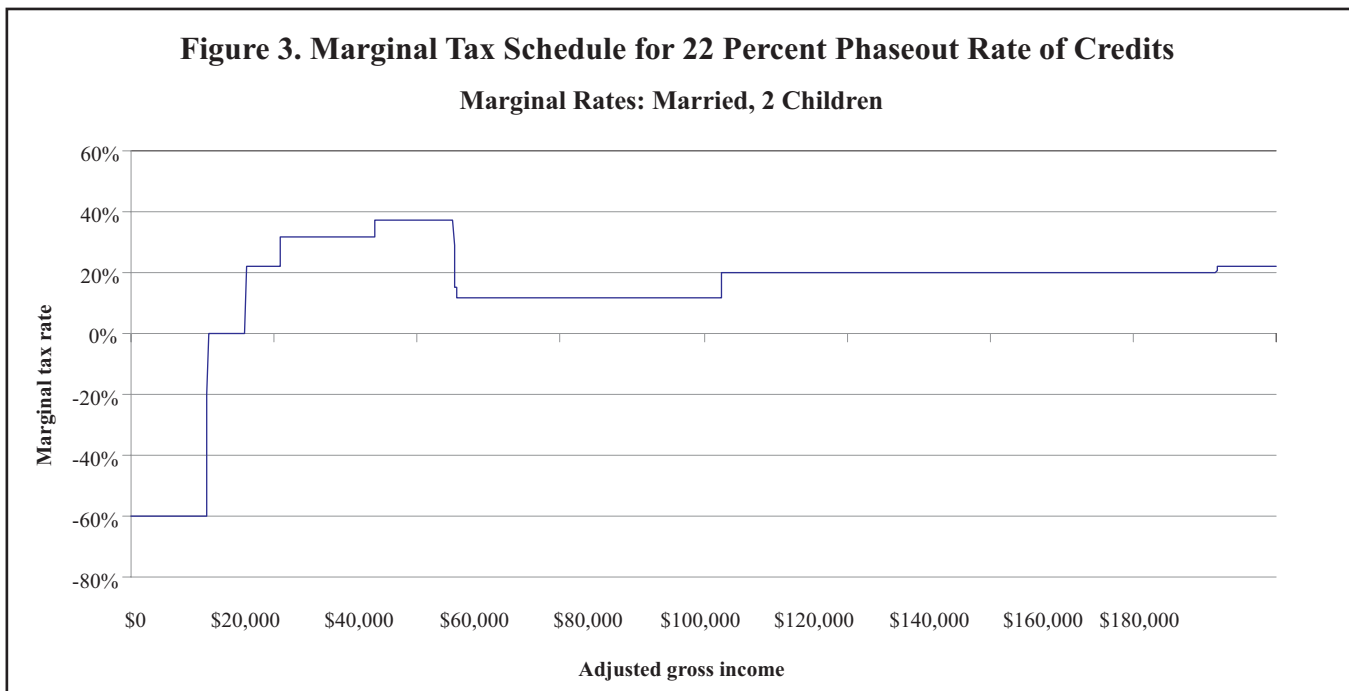
Table 8 shows two credit policies restricted to filers that claim an exemption for a child at home. As we expect, the total number of families at different income ranges that could be covered under such a policy is far higher. A lump sum credit of \$7,500 can reach up until an income level of \$50,000. An even larger credit can be given for a similar cost if it is phased in at a rate of 40 percent. Note that in the first income range, the aggregate income is negative. For purposes of the calculation, we assume that everyone earns an average income of \$2,500, which is presumably a higher number than what we would get if we knew the actual proportion of people with positive incomes.

For Table 9, we restrict the credit to people with earned income from a job. For these schemes, we phase in at a rate of 60 percent, reach a maximum level of credit, and then phase out at 22 percent. The 22 percent tax rate is chosen to match the phaseout of the EITC, the highest credit phaseout in the current tax code. The table shows the cost of the policy when the phase-in and phaseout rates are half for single filers. If we keep the rates the same for married and single filers, the cost is approximately \$232 billion. If this policy is enacted and is further restricted only to families with children, the total cost of the policy would be about \$174 billion and would extend up until an income level of \$100,000. For these tables, we assume that the distribution of returns between married and joint filers is the same as under the earlier tables. The marginal tax schedule for this final policy is shown in Figure 3.

Finally, there is also some debate that the credits should not be available to retirees who earn Social Security income and other benefits. Because of this, we also attempted to put in an age restriction in the above tables for eligibility for the credit. For instance, we estimate that in 2006, about 14 percent of all returns claimed Social Security benefits. Therefore, as an approximation, a policy that restricted credits to filers aged 65 or less would have a 14 percent lower cost relative to the estimates shown in Tables 3 through 7. (Because Tables 8 and 9 involve only wage and salary income filers and/or families with children at home, these tables are less likely to include filers aged 65 and above to begin with.) In that case, the credit could be extended up at least one more income range.

## F. Conclusion

There are several alternatives that could greatly simplify the panoply of tax credits available to low-income people. We started off with a discussion of credits that are provided lump sum to eligible individuals. Because under the current credits the maximum size of the credit is about \$7,000 to \$7,500, we used similar amounts to see how many filers could benefit from a system that does not rely on complex eligibility rules and does not have phase-in or phaseout ranges. While the advantage of such a system is its simplicity, the biggest drawback is the existence of a cliff at the point where the individual receives a dollar of income that no longer qualifies him for the credit. With limited information, individuals facing these cliffs would encounter steep marginal tax increases (in the thousands of percent) that would cause them to lose all their benefits on the next dollar they earn. Therefore, for practical reasons, such a policy is unlikely to be adopted. The only reason we consider this here is that some academic literature suggests that cliffs are



better at preserving work incentives than gradual phase-out ranges. At the very least, a rapid phaseout range has been shown to be a part of the optimal design of programs like the EITC (Liebman (2002)).

If we had to choose among the several alternatives, we believe that the most practical policy is one that phases in at a rapid rate, and phases out at a rate of about 22 percent for every additional dollar earned, the maximum tax increase low-income individuals face under the current tax code. By further restricting the availability of this credit to families with children and work-related income and ensuring that the total cost of the credit does not exceed the costs of the current system, we could ensure to some extent that the proposed new credit achieves the twin goals of distributional and revenue neutrality.

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