The Effects of the EITC and Recent Reforms

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ABSTRACT

In this paper, I first summarize how the U.S. Earned Income Tax Credit (EITC) operates and describe the characteristics of recipients. I then discuss empirical work on the effects of the EITC on poverty and the income distribution, and its effects on labor supply. Next, I discuss a few policy concerns about the EITC: possible negative effects on hours of work and marriage, and problems of compliance with the tax system. I then simulate the effects of the recent expansion of the credit for families with three or more children that were part of the American Recovery and Reinvestment Act of 2009. I also re-examine the key assumptions of past work on the labor supply effects of the EITC. Finally, I briefly discuss the likely effects of further expanding the credit to non-custodial parents, as has been recently done in two jurisdictions.

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INTRODUCTION

Since its inception in 1975, the federal Earned Income Tax Credit (EITC) has grown dramatically in size and is now the largest anti-poverty program for the non-aged in the United States. In 2007, 25 million families received EITC payments totaling $49.7 billion.[1] As a result, the EITC lifted at least 4.0 million individuals above the poverty line. In addition to directly raising incomes, the EITC has sharply changed work incentives, currently increasing the after-tax wage by up to forty-five percent for those with low earnings. The EITC is part of the tax system and does not require people to have a tax liability that the credit offsets. A person without a net tax liability receives it as a payment that, by 2009, could be as large as $5,657. The fundamental problem in designing tax and transfer programs to those with few resources is that such programs undermine work effort. The goal of the EITC has been to transfer income while encouraging work. This feature led to the political support for its initial adoption and for its subsequent expansions (Liebman 1998, Ventry 2001). The program has taken on increased prominence in recent years as policy makers have sought to reduce the dependence encouraged by welfare programs.

In this paper, I first summarize how the U.S. Earned Income Tax Credit (EITC) operates and describe the characteristics of recipients. I then discuss empirical work on the effects of the EITC on poverty and income distribution, and its effects on labor supply. Next, I discuss a few policy concerns about the EITC: possible negative effects on hours of work and marriage, and problems of compliance with the tax system. I then simulate the effects of the recent expansion of the credit for families with three or more

[1] Seventeen percent of those filing tax returns received the EITC.

children that were part of the American Recovery and Reinvestment Act (ARRA) of 2009. I also re-examine the key assumptions of past work on the labor supply effects of the EITC. Finally, I briefly discuss the likely effects of further expanding the credit to non-custodial parents, as has been recently done in two jurisdictions.

HOW THE EITC WORKS

The EITC provides an earnings subsidy to family members who satisfy three criteria. First, a family must have a wage earner, since only those who work are eligible. Second, the family must have low income. In 2007, a family with one child could receive the EITC if its income was below $33,241, while a family with two children could earn up to $37,783 and receive a credit.[2] Third, while a small EITC (up to $428 in 2007) is available to the childless, to receive a significant EITC, a family has to have resident children. The maximum credit for a family with one child was $2,853 in 2007, while that for a family with two or more children was $4,716. Since the EITC is refundable, a family can receive the credit even if they do not have an income tax liability. In the vast majority of cases, the credit is received as a lump sum as part of a tax refund early the following year. The tax filer must fill out a one page form with information on the qualifying child or children that is submitted with the rest of the tax return. In summary, the credit subsidizes work by poor parents as it transfers income to them.

The EITC schedule for families with children for 2007 is shown in Figure 1. The

[2] Beginning in 2002, a married couple could have income $1,000 higher and still receive a tax credit. This was changed to $2,000 starting with tax year 2005, $3,000 in 2008, and $5,000 in 2009.

top schedule, for families with two or more children, provides a larger credit at all income levels than that for one-child families, shown underneath. Both schedules provide a large earnings subsidy initially as the credit is phased in: forty cents for each dollar earned for the first $11,790 in earnings for those with two or more children. For example, a single mother with two children who earned $10,000 would receive a credit of $4,000. In the flat, or plateau part of the schedule, the total credit received does not change with earnings. With additional earnings beyond the plateau, however, the credit is decreased in the phase-out region, resulting in an implicit tax on earnings at a rate just over 21 percent for those with two or more children. For those with one child there are somewhat lower earnings subsidies, credits and implicit taxes.

RECENT REFORMS

As part of the ARRA, the EITC was temporarily expanded for three child families and those filing joint returns. The ARRA created a new higher schedule for those with three or more children by increasing the phase-in subsidy rate to 45 percent and raising the maximum credit to $5,657 for 2009. The plateau portion of the schedule was also extended for joint filers to be $5,000 more than that for single filers, regardless of the number of qualifying dependents. Previously, it had been $3,000 more. These changes allowed couples with three children to receive the maximum credit with earnings between $12,550 and $21,399 and to receive some credit with earnings below $48,279.

Two jurisdictions, New York State and the District of Columbia, have introduced EITCs for noncustodial parents who are paying child support. These reforms are

described in detail below.

WHO RECEIVES THE EITC

While eligibility for the EITC does not explicitly select single mothers, the income ranges and the dependence on children leads the credit to implicitly target single mothers. To paint a statistical portrait of recipients, I examine their characteristics from several angles and with two data sets. The two sources of data do not perfectly agree, but they lead to roughly similar conclusions. Table 1 is calculated from the Current Population Survey (CPS), the largest in-depth survey of the economic status of American households. Based on data for 2007, the table suggests that nearly 50 percent of EITC dollars go to single mothers. Adding in single fathers, one can see that over half (57 percent) of EITC dollars go to single parents, even though they represent just over 10 percent of U.S. households. Since poor families with children are disproportionately headed by single parents, such families receive a large share of EITC payments. The vast majority of remaining dollars go to married couples with children, who receive 38 percent of the credit dollars. While a substantial number of recipient couples or individuals are childless (26 percent), they only receive 5 percent of the credit dollars even though they are 77 percent of households. This concentration of 95 percent of EITC dollars in families with children reflects the program design that provides larger credits to these families.

Table 2 reports demographic characteristics of EITC recipients with children, by marital status. The characteristics of non-recipients with children are reported for

comparison. Single recipients with children are fairly similar to single non-recipients with children: they have the same number of children on average, but are slightly older, less educated (particularly less likely to have a college degree) and have slightly younger children. Married recipients are much less educated and are somewhat younger than married non-recipients with children. Both single and married recipients are more likely to be black than non-recipients; nevertheless, the vast majority of EITC recipients are white. Married recipients are older and have more children than single recipients.

The CPS is the best source of detailed information on the characteristics of families receiving the EITC. However, credit information is not reported by recipients in the CPS; it is imputed by the Census Bureau from demographic characteristics. Data from the Internal Revenue Service (IRS) provide better information on numbers of recipients and credit amounts. Table 3 provides a less detailed breakdown of the characteristics of EITC recipients and compares CPS and IRS data. The IRS data indicate that an even larger share of EITC dollars go to single parents (those with a head of household filing status): 73 percent of all payments in 2003. This compares to the 49 percent figure that is obtained from the CPS for the same year. Almost all of the remaining dollars go to married couples as they receive 25 percent of all payments.

The EITC is also targeted toward large families. The bottom panel of Table 3 reports total benefits received and the number of recipient families by number of children. IRS data indicate that families with more than one child receive most of the credit dollars, over 61 percent of total payments. CPS data indicate a slightly higher share of payments go to families with two or more children. Overall, one can see from Table 3 that the IRS paid out $44.4 billion dollars under the EITC in 2006.

In the last column of Table 3, I report the ratio of dollars or recipients imputed in the CPS to the comparable numbers from IRS data. In the case of heads of household, the CPS captures less than half of dollars. Overall, less than two-thirds of the dollars paid out are captured by the CPS. The discrepancy between the IRS and CPS figures is a major unresolved puzzle. Possible explanations include IRS payments to ineligible recipients, CPS sample weights that are possibly too low for EITC recipients, or possibly under-reporting of earnings in the CPS. There seems to be a large and systematic under-representation of those with low taxable income in the CPS (O'Hara 2004), with IRS published data for 2002 indicating that 29.3 percent of taxpayers had Adjusted Gross Income (AGI) under $15,000, while CPS data indicate that only 23.1 percent of taxpayers did. It is unclear how much of this difference is due to individuals not reporting income or not being sampled by the CPS, or people reporting to the CPS that they earn more income than they report to the IRS.

HOW THE EITC AFFECTS THE DISTRIBUTION OF INCOME

The effect of the EITC on the income distribution is among the most important effects of the tax credit. A convenient way to gauge the distributional effects of the EITC is to ask how many people it raises above the poverty line or its multiples.[3] As shown in Table 4, in 2007 the EITC lifted just over 1.1 million families and over 2.1 million children above the poverty line. Overall, relying on these Census Bureau calculations, the credit lifted just under 4.0 million people above the poverty line, reducing the overall poverty rate by 10 percent, and the poverty rate among children by 16 percent. Because

[3] This approach accounts for differences across family size using the Census Bureau equivalence scale.

the Census Bureau imputes many fewer EITC dollars than are paid out as can be seen in Table 3, the likely effects of the EITC are much larger, as we discuss below. If we believe investments in children are especially productive (Heckman and Masterov 2007), then the EITC is well targeted.

While no other anti-poverty program reduces the poverty rate as much as the EITC, one caution is that the effects of the EITC are concentrated around the poverty line (as noted by others such as Liebman 1998). Table 4 shows that the number of families or children below other target levels such as 50 percent of the poverty line or 200 percent of the poverty line are also sharply reduced by the EITC. However, the largest effects occur at levels just under the poverty line: the largest percentage changes tend to be at 75 percent of the poverty line.

An interesting question is how the EITC compares to other policies that transfer income to the poor such as our main cash welfare program for single parents, Temporary Assistance for Needy Families (TANF), and our main broad-based program (similar to a negative income tax) that provides food assistance, the Food Stamp Program. In Table 5 I compare the analyses of Table 4 for the EITC to the corresponding ones for TANF and food stamps. As expected, these programs are more targeted at those with the very lowest incomes. Nevertheless, in part because it has shrunk in size since welfare reform, TANF has a smaller effect at all income cutoffs than the EITC. Even at half the poverty line, it only raises 4 percent of people over the line compared to 9 percent for the EITC. TANF has little effect at the poverty line, raising 1 percent of people out of poverty compared to 10 percent for the EITC.

Interestingly, the Food Stamp Program raises above 50 percent of the poverty line

16 percent of the people who would otherwise have incomes below that mark. It also raises 24 percent of children past 50 percent of the poverty line. The corresponding figures for the EITC are 9 percent for all people and 13 percent for children. However, food stamps only raises 5 percent of all people and 6 percent of children above the poverty line itself.

All of the reported effects of the EITC, TANF and Food Stamps understate their true effects given the pronounced under-reporting of all of these programs in the CPS (Meyer, Mok and Sullivan 2009). A rough adjustment to the numbers reported in the tables would scale up the number of people raised above various multiples of the poverty line by the ratio of true dollars received to dollars reported. One set of assumptions that would make such an adjustment exactly correct is that non-reporting recipients have the same characteristics as reporting recipients, and that all of the dollar under-reporting is due to a failure to report any receipt. Such an adjustment would increase all of the effects on the numbers above various ratios to the poverty line by 1.21 for the EITC, 2.05 for TANF, and 1.86 for the Food Stamp Program.[4] Such an adjustment would mean that the EITC lifts 4.8 million people above the poverty line, and would sharply raise both the absolute impact of TANF and FSP, and their impact relative to that of the EITC.

The minimum wage is a policy alternative to the EITC that has often been promoted as helping low wage workers. The minimum wage is much less well targeted than these transfer programs, with a large share going to children and secondary workers in well-off families (Burkhauser et al. 1996; Neumark and Wascher 2001; Hoffman and Seidman 2003; MaCurdy and McIntyre 2004).

[4] These adjustment factors rely on 2006 under-reporting data for the EITC and the FSP, and 2004 data for TANF.

In interpreting changes in poverty due to the EITC and transfer programs, one must keep in mind that changes in taxes and transfers may alter pre-tax and transfer incomes. A full analysis of the behavioral effects of these programs is beyond the scope of this paper. However, one would expect that the mechanical effects of the EITC on poverty indicated here understate the effects of the tax changes on incomes, given the evidence in the literature (summarized below) of mostly positive labor supply effects. On the other hand, transfer programs such as TANF and food stamps likely reduce pre-transfer earnings, suggesting that any direct poverty reducing effects of these programs overstate the effects once incorporating behavioral responses. Thus, this consideration would lead the figures in Tables 4 and 5 to understate the true effects of the EITC, but overstate the effects of the other programs.

Researchers have examined whether the increase in income for recipients and the form of the payment has effects on several outcomes. In contrast to social programs that pay benefits evenly over the year, the vast majority of EITC recipients receive their benefits in a single check averaging over $1,500. Barrow and McGranahan (2001) ask whether the lumpy nature of EITC payments induces changes in expenditure patterns among recipients. Barrow and McGranahan find that consumption rises, particularly for durable goods, in the months in which EITC refunds are received. Thus, the evidence suggests that the EITC facilitates the purchase of big-ticket items by low-income families. Smeeding, Phillips and O'Connor (2001) examine a large sample of individuals filing 1997 income tax returns in Chicago. These recipients tend to report plans to use their credit for purposes that extend beyond current consumption, including saving, car purchases, tuition payments, residential moves and other uses that lead to economic and

social mobility. Dahl and Lochner (2008) find that EITC payments appear to increase child test scores, but only in the short run.

THE EITC AND EMPLOYMENT

I summarize the effects of the EITC on work, with a particular emphasis on single mothers.[5] The EITC encourages work by making it more attractive to single parents. If a single parent is thinking about whether or not to participate in the labor market at all over a year, the EITC unequivocally makes work more attractive. Whatever hours level a person would choose if he or she worked, the gain at that hours level from working rather than not working has increased. Given that for many single mothers the net return to working is so low (weighing what is gained by work compared to what is lost in welfare and other benefits), a few thousand dollars can dramatically change the calculation in favor of working. Meyer and Rosenbaum (2000) calculate that the average net return to working, defined as after tax earnings plus the cash value of benefits received if a woman worked minus the cash value of benefits received if she did not work (averaged over the earnings distribution of single women), was $7,270 in 1984. Tax changes, primarily the EITC, raised that net return to work by an average of $1,442 by 1996 (in 1996 dollars). The increase in incentives was especially high for the lowest-skilled single mothers, those likely to receive welfare benefits and who, if they worked, were likely to be on the phase-in or plateau portions of the EITC schedule.

Meyer and Rosenbaum (2001) examine the effect of the EITC on the employment

[5] Excellent summaries of the labor supply effects of the EITC can be found in Hotz and Scholz (2003) and Eissa and Hoynes (2006).

of single mothers using a very simple structural model. They find that the employment of single mothers in 1996 was 7 percentage points higher because of the EITC. Much of the identification of labor supply effects in this study comes from the contrast between employment changes for single mothers and single women without children. For identification, the study also relies on differences across women by number of children, the state taxes they face, and the real value of the credit relative to state living costs. Other studies have found results that imply similar or larger estimates, exploiting mostly the same sources of variation. For identification, Eissa and Liebman (1996) also rely on the single mother constrast with single childless women. Hotz, Mullin and Scholz (2005), and Grogger (2003) rely on relative changes over time in the EITC credit for those with two children relative to those with one. Dickert, Hauser and Scholz (1995) and others have used estimates for a single mother population to simulate the effects of the EITC.

Table 6 reports employment rates of single mothers and single childless women with different levels of education between 1986 and 2007. We see the largest change in employment for single mothers without a high school degree. I report these numbers to show the variation driving the estimates of employment effects described above, though the analyses previously cited are much more sophisticated than the simple comparisons presented here. The largest EITC expansions began in 1990 and would be expected to have completed their effects by 1997. The last significant expansion was in 1996, but a slightly lagged effect might be expected if it takes recipients until after they or their friends receive a refund to learn about EITC changes (see Eissa and Liebman 1996; Meyer and Rosenbaum 2001). There are large increases in employment over this period

for single mothers relative to single women without children. The relative changes fall sharply as education rises. Welfare reform accelerated in the middle of the 1990s, so more sophisticated methods are needed to estimate credible effects in the later years.

Since identification in several of the papers relies on the contrast in EITC schedules by family size, I also report employment by number of children. The employment of those with two or more children changes little prior to 1994. Starting then, the employment of those with two or more children rises relative to those with one child. At this same time, the EITC schedule for those with two or more children was increased sharply relative to that for those with one child. Again, this pattern suggests EITC effects on employment.

These patterns in Table 6 suggest that the comparison groups used in past studies were reasonable. Since 1999, the employment of single mothers has declined. It is unclear what is behind this pattern. However, an encouraging feature of this trend for past research is that the employment of those with and without children appears to have moved in a roughly parallel fashion. Similarly, the employment of single mothers with two or more children has fallen at about the same rate as single mothers of one child. These patterns support the idea that single childless women are a sensible comparison group for single mothers and that single mothers with different numbers of children are comparable.

To examine more rigorously the comparability of single women with and without children, and single mothers with different numbers of children, I estimate the following regression equation:

$$(1) \quad E_{it} = \alpha X_{it} + \beta_t (YEAR_t * NO\_CHILDREN_{it}) + \delta_t (YEAR_t * ONE\_CHILD_{it}) + \gamma_t (YEAR_t * TWO\_CHILDREN_{it}) + \eta_t (YEAR_t * THREE\_OR\_MORE\_CHILDREN_{it}) + \varepsilon_{it},$$

where E_{it} is an indicator for working during the year, i indexes individuals, and t indexes years (which run from 1986 to 2007).[6] The data are the 22 years of CPS information on single women ages 19-44 behind Table 6. The set of control variables X_{it} includes education, age, marital status (divorced, widowed, never married), and race. I leave out a constant so that I can estimate a full set of year interactions with the number of children.

I plot the coefficient estimates for β_t, δ_t, γ_t and η_t in Figure 2. The plot shows a striking pattern. The four lines are roughly parallel through 1992, then they narrow considerably through 1999. Afterwards they are roughly parallel again until 2007 when there appears to be some convergence at the end. The period 1990 through 1997 was the period of greatest EITC expansion and welfare reform as was mentioned above. While welfare reform was largely completed by 1997, one might expect that it would take a while for the effects to work their way through welfare caseloads. If welfare reform discourages or prevents entry onto the welfare rolls, given the distribution of times on welfare, it will take a while for the full effect of the change in entry to affect the stock of welfare recipients.

We also formally test for a constant difference between the various lines in Figure 2 beginning in 1999. This test corresponds to examining whether there is a constant employment rate difference between single mothers with a given number of children and single childless women. I estimate the following specification, which is identical to (1) above except it includes indicators for all years rather than year indicators interacted with

[6] The equation is very similar to those in Table III (p. 1087) of Meyer and Rosenbaum (2001).

an indicator for no children.

$$(2)\quad E_{it} = \tilde{\alpha} X_{it} + \tilde{\beta}_t YEAR_t + \tilde{\delta}_t (YEAR_t * ONE\_CHILD_{it}) + \tilde{\gamma}_t (YEAR_t * TWO\_CHILDREN_{it}) + \tilde{\eta}_t (YEAR_t * THREE\_OR\_MORE\_CHILDREN_{it}) + \tilde{\varepsilon}_{it}.$$

In this specification, a test of whether there is a constant difference between single mothers with a given number of children and single childless women has a simple form. One tests whether $\tilde{\delta}_t = \delta$ for all t an element of {1999, 2007}, $\tilde{\gamma}_t = \gamma$ for all t an element of {1999, 2007}, and $\tilde{\eta}_t = \eta$ for all t an element of {1999, 2007}

The test statistic for equality over time of the three sets of coefficients over the 1999 to 2007 period has p-value of 0.0194, meaning equality is rejected at the 5 percent level. This rejection seems to be driven by the last year. The p-value for the test of equality over the 1999 to 2006 period is 0.24, i.e. does not even weakly reject equality. In an important sense it is quite striking that there is not strong evidence against equality given that the sample I use has over 220,000 observations. It is likely that small deviations from equality will be rejected.

It is also useful to know how supportive the recent data are for the idea that single mothers with different numbers of children would have had similar changes in employment over time in the absence of the EITC. The validity of this condition is a key requirement for the consistency of studies that estimate EITC effects by comparing single mothers with different numbers of children. To test this hypothesis, I estimate the specification

$$(3)\quad E_{it} = \alpha' X_{it} + \beta_t' YEAR_t + \gamma_t' (YEAR_t * TWO\_CHILDREN_{it}) + \eta_t' (YEAR_t * THREE\_OR\_MORE\_CHILDREN_{it}) + \varepsilon_{it}'$$

using the sample of single mothers. In this specification, a test of whether there is a constant difference between single mothers with different numbers of children has a simple form. One tests whether $\gamma_t' = \gamma$ for all t an element of {1999, 2007}, and $\eta_t' = \eta$ for all t an element of {1999, 2007}. The data provide little evidence to reject this hypothesis. For the 1999-2007 time period, the p-value is 0.84, while for 1999-2006 it is 0.94.

Overall, the results are fairly supportive of the comparison group methods that have been used in the literature, especially in the case of comparisons of single mothers with different numbers of children. There is also support for comparisons of single mothers to single childless women, but the deterioration of comparability in our last year of data indicates that we should bear in mind that comparison is likely not without some bias.

THE EITC AND HOURS OF WORK

The expected effects of the EITC on hours of work for single parents are complicated. Most recipients are on the plateau or phase-out section of the credit schedule reported in Figure 1.[7] On the plateau section, there is a negative income effect and no substitution effect since marginal rates are unaffected. On the phase-out portion,

[7] 1994 IRS data indicate that 26.6 percent of recipients with children are on the phase-in portion of the schedule, 13.9 are on the plateau, while 59.5 are on the phase-out portion (U.S. General Accounting Office, 1996).

income and substitution effects are both negative. Thus, most people should be encouraged to reduce their hours under the EITC. However, this theoretical prediction has not been borne out in the data analyzed to date. This lack of an "hours effect" is one of the more puzzling, yet robust findings in the literature (Eissa and Liebman 1996; Meyer and Rosenbaum 1999; Meyer 2002; Eissa and Hoynes 2006).

Various explanations have been offered for this surprising finding. The most common explanations are: 1) an inability of workers to freely vary their hours because of employer preferences for certain hours, 2) measurement error in hours reported, and 3) imperfect perception of marginal tax rates (Meyer 2002; Eissa and Hoynes 2006). I think the most plausible explanation is imperfect perception of marginal rates. It would not be surprising if recipients do not fully understand the tax schedule given the complexity of eligibility rules and instructions.[8] In recent years, the instructions for the EITC have been a very dense 13 or 14 pages. The marginal rates are not reported on the tax forms anywhere. This situation is unlike the base income tax rates for which marginal rates are reported quite clearly on the tax rate schedules. Most recipients do not fill out the tax forms themselves[9] and those who prepare tax returns for them do not routinely explain marginal rates to clients. Thus, a lack of a response to the incentive to reduce hours may not be too surprising.

The expected effects of the EITC on work and hours among couples are even more complicated. Since it is very likely at least one parent is working, the effects have some similarities to the hours effects for single current recipients. The income effect always discourages work, and it is likely recipients will be on the plateau or phase-out

[8] See Romich and Weisner (2000) for a discussion of worker perceptions of EITC provisions.
[9] See General Accounting Office (1996).

regions where the substitution effect reinforces this tendency. With couples, overall hours can be reduced by one of the partners leaving the work force, as well as a reduction in hours by one or more workers. The main evidence on this occurrence comes from Eissa and Hoynes (2004) and Heim (2006). While Eissa and Hoynes find that the main effect is a reduction in participation by wives, Heim finds mainly a change on the intensive (hours) margin. Both papers find a small reduction in overall hours.

A caveat on the labor supply effects of the EITC is in order. It is likely that the increase in labor supply of EITC recipients has pushed down somewhat wages in low-skilled labor markets in general. This wage reduction decreases the earnings and employment of others. While estimates of this effect are dependent on stronger identification assumptions than the labor supply estimates (Leigh forthcoming, Rothstein forthcoming), it is likely that the overall EITC labor supply effects are somewhat overstated by the estimated effect on recipients alone.

THE EITC AND WELFARE CASELOADS

The EITC reduces welfare receipt by making work more attractive than welfare for a substantial fraction of single mothers. In response to the welfare reforms of the mid-1990s and the EITC expansions, welfare caseloads fell from over 5 million families in 1994 to just over 2 million by 2001. Caseloads have been roughly steady since 2001. In his study of welfare receipt among female-headed families, Grogger (2003, 2004) identifies EITC effects in his regressions through differences in EITC maximum benefit amounts by the number of children. He concludes that the EITC was responsible for

about 15 percent of the very large decline in welfare receipt in the 1990s. He argues that most of the reduction in welfare cases seems to be through a reduction in welfare entry.

PROBLEMS WITH THE EITC: HOURS, MARRIAGE, COMPLIANCE

Three important problems with the EITC are its predicted negative effects on hours, its potential to discourage marriage among low income workers, and the potential for ineligibles to receive benefits. The first issue, hours of work, has already been discussed above. A concern is that even if we cannot see in the data a reduction in hours among single mother recipients, the theoretical prediction is sufficiently clear that we think it is likely to happen. If the reason that we currently do not see an hours response is that recipients do not currently understand the marginal incentives, then if the understanding of recipients improved, the situation might change and an hours reduction may emerge. Chetty and Saez (2009) field test a novel program using tax preparers to increase recipients' knowledge of the marginal incentives to work under the EITC. Somewhat surprisingly, they find that providing additional information on EITC incentives has no effect on average earnings. This surprising result may be due to the difficulty they find in getting tax preparers to successfully convey information about the phase-out range marginal tax rates.

A second concern is marriage incentives. The EITC as currently designed has complicated incentives for marriage. The schedule is almost the same for singles and couples, with the maximum benefit available to someone who earns slightly more than full-time work at the minimum wage (see Figure 1). Because of this structure, the EITC

encourages marriage for some: those who have children, but with little or no earnings. The EITC discourages marriage for others: those with children who are working full-time, but remain poor. On net, there are more couples and potential couples who decrease their EITC payments by divorcing or staying unmarried than who would increase them by marrying or staying married. Thus, the EITC discourages marriage somewhat overall. Of the two most detailed studies that estimate the effects on marriage (Ellwood 2000; Eissa and Hoynes 2000), one finds no effect, the other little or no effect on marriage. Ellwood conducts two analyses: 1) he examines changes in marriage rates of women at different wage quartiles, with the lowest quartile expected to be affected by the EITC and 2) he examines whether cohabitating couples marry, comparing those whose EITC amount would rise with marriage to those whose credit would fall with marriage. Eissa and Hoynes identify marriage effects by comparing marriage rates for a sample of couples that are either married or cohabitating but differ in how tax and welfare provisions affect their marriage incentives because their earnings differ (and provisions change over time).

The final major concern about the EITC, and the one that is most in the popular press, is the issue of noncompliance. Noncompliance means not paying the taxes that are due, either intentionally or unintentionally. The IRS estimates that in 1999, about 30 percent of credit dollars were claimed in error. The most common source of error is a claim where a child is not eligible, most often because the child does not reside with the claimant. While it is not clear that this noncompliance rate is higher than for other tax provisions, a disproportionate share of tax enforcement effort has been devoted to making sure those who receive the EITC are in fact eligible. EITC recipients have been subject

to a very large share of audits relative to the potential lost revenue. In Fiscal Year 2004, the EITC accounted for 48 percent of individual income tax return audits, despite the EITC being only 3-4 percent of the tax gap (taxes due that were not collected). Even this share is probably overstated given the IRS methodology, because even if the filer in question is not eligible for the EITC, another person in the household or outside often is. In addition, a large share of cases where payments are denied are overturned when assistance is provided to filers to help them understand the required documentation. Much of noncompliance is probably driven by needless complexity—14 pages of instructions in the overall tax guide, and 56 pages in the EITC instruction booklet.

OPTIMALITY

Standard models of optimal income taxation such as Mirrlees (1971) assume that people continuously vary their hours. In such models, tax rates are always positive so that an EITC would not be optimal. However, much of labor supply is the decision to work or not to work such as the participation of women, retirement decisions, and responses to disability. Diamond (1980) shows that negative taxes may be optimal in a model where the only decision is to work or not to work. Saez (2002) considers a situation where individuals have both participation and hours responses. When people discontinuously vary their hours, i.e. the participation decision is important, then negative tax rates like those with an EITC may be optimal.

Liebman (2001) analyzes the incentive and income distribution effects of changing the many parameters of the EITC for single taxpayers. He finds that a schedule

close to the current one is optimal for plausible relative weights put on efficiency and equity concerns. These analyses by Saez and Liebman suggest that there is a significant theoretical justification for a policy like the current U.S. EITC. I should mention, though, that studies of alternative policies that assume that policy makers can collect information on hours (and wages) suggest that such policies are better targeted and have fewer distortions than an EITC (see MaCurdy and McIntyre, 2004 for example).

PREDICTED EFFECTS OF RECENT EITC REFORMS

In an earlier paper (Meyer 2007) I discussed four types of EITC reforms: 1) providing a more generous EITC for 3-child families, 2) modifications to the tax schedule to reduce marriage penalties, 3) simplifying eligibility criteria for the credit, and 4) providing a more generous credit for single childless individuals or non-custodial fathers. 1) and 2) were adopted as part of the ARRA of 2009. I discuss the likely effects of these changes in detail. 3) I discuss briefly. 4) was proposed by President Obama when he was a Senator and was also discussed in the 2008 campaign but was not adopted. I will also discuss this idea.

The current federal EITC has a more generous schedule for families with at least two children than for families with one child. Cash welfare (TANF), food assistance (Food Stamps) and housing assistance all rise with family size beyond a second child. Currently, the state of Wisconsin has a supplement to the federal EITC that increases with each child up to three. Several authors (including Hoffman and Seidman 2003; Meyer 2007) have argued for a higher schedule for families with three or more children.

Larger families need greater resources to have the same standard of living, yet larger families tend to have fewer resources. The ARRA of 2009 expanded the EITC for three-child families.

A second area for reform that politicians and academics have discussed is the reduction of marriage penalties. There are several ways one can reduce marriage penalties. One could change the married credit to be always twice the credit for single parents, but that would be very expensive. Other alternatives that balance increased costs and penalty reductions have been considered by Holtzblatt and Rebelein (2001). One can extend the plateau of the schedule or lower phase-out tax rates and thus extend the phase-out range for couples. Alternatively, one can add a second earner deduction, which would reduce the amount of income subject to income tax for families with two earners in the phase-out range of the credit, thus flattening and extending the phase-out. This last option is inexpensive relative to the alternatives as nearly all of the lost revenue goes toward reducing marriage penalties, but it would require another worksheet to be added to the tax forms (Holtzblatt and Rebelein 2001). The approach adopted in the ARRA was to extend the plateau of the EITC schedule for joint filers.

EFFECTS OF THE ARRA ON INCOME DISTRIBUTION

Table 7 reports percentiles of the income distribution for single mother headed families with different numbers of children. Single mothers with three or more children tend to have lower incomes than those with only two children, but have higher incomes than those with one child. At all reported percentiles, families with three or more

children have lower incomes than families with two children. Typically those with three children have about 10 to 20 percent higher incomes than those with one child, hardly enough to compensate for the higher costs of at least two additional children. This pattern suggests that targeting larger families could have a substantial effect on poverty.

To determine the effects of the ARRA three-child expansion, the first step is simulating the credit amounts that various people would receive. I begin by reproducing the Census Bureau CPS imputation procedures as closely as possible. Column 2 of Table 8 provides my estimate of the income distribution accounting for the EITC under 2007 law. Comparing this column to column 2 of Table 4, indicates that I come fairly close, though I slightly overstate EITC payments at the poverty line and below relative to the Census Bureau. Focusing on the poverty line, my imputation method suggests a slightly larger effect of the EITC on the number of families above the poverty line (11 percent rather than 10 percent). I then use the calculations behind column 2 as my baseline and modify the program that produced this baseline distribution of EITC effects to reflect the EITC in the ARRA.

Column 5 of Table 8 simulates the number of people below the poverty line and its multiples under the ARRA EITC provisions. We see that the ARRA EITC expansions reduce poverty by an additional one percent for either individuals or families. This corresponds to over 427,000 fewer people below the poverty threshold. Of these people, 208,000 are children under 18. I have also done separate tabulations for those in families with three or more children. These tabulations indicated that the vast majority of those raised above the poverty threshold are in families with three or more qualifying children. Thus, it is the three child provisions, rather than the extension of the plateau for 1 and 2-

child families that has most of the effect on poverty.

EFFECTS OF THE ARRA ON THE EMPLOYMENT OF SINGLE MOTHERS

One of the most positive aspects of the EITC is that it encourages work. Here I estimate the effect of the most recent expansion on the employment of single mothers. Using the simulation program, I estimate that the ARRA EITC expansion raised the tax credit received by a working single mother with three children by just under $515 on average.[10] Meyer and Rosenbaum (2001) estimated that $1000 in tax credits (in 1996 dollars) would increase the employment of single mothers by 4.3 percentage points. Adjusting the $515 for inflation (a 2007 dollar was worth 76 cents back in 1996, adjusted using the CPI-U-RS), one obtains an average change of $391 in 1996 dollars. Thus, the ARRA EITC expansion is predicted to increase the employment of single mothers with three or more children by 1.7 percentage points (on a base of 45 percent). While not a huge increase, this represents over a 3.7 percent increase in employment for this group.

One might want to consider whether the coefficients estimated for single mothers in the 1980s and 1990s are applicable to the current expansion affecting three-child single mothers. The earlier EITC expansions likely had such a substantial effect on single mothers' employment because the net return to work (after accounting for lost welfare benefits) was so low for single mothers at the time. Thus, I have investigated the present net return to work for single mothers with three or more children. The return to work is

[10] The simulated change in the average tax credit among single mothers with three or more children is $231.7. This figure is then divided by the average employment rate in recent years (Table 6) of single mothers with three or more children (0.45) to obtain the average credit for a working single mother with three children ($514.9).

very low, as it was for all single mothers on average in the earlier period. Single mothers with three children are very likely to be on food stamps and TANF. They are roughly twice as likely to be on each program as a typical single mother. The high implicit tax rates of these programs mean that the net return to work is often very low. In this situation, it is plausible that an extra $515 on average for working could have a substantial effect.

EITC SIMPLIFICATION

There are many ways the EITC could be simplified. While also true of other income tax provisions besides the EITC, the rules and instructions are extraordinarily complicated. As already mentioned, the main instruction booklet includes 14 very dense pages on the EITC and the dedicated booklet on the EITC is 56 pages long. Much of the complication with the EITC is the determination of who is a child for EITC purposes. Current tax law has several definitions of a child that apply to different tax credits. A clear simplification proposed by the President's Advisory Panel on Federal Tax Reform (2005) would use the same definition of a child for the EITC, the Child Tax Credit, and the determination of dependents (per child deduction from income). One could also consider combining these three tax reductions for those with children. Such a proposal is a much greater change in the overall shape of the tax schedule and is a more expensive change but has been proposed by others (Ellwood and Liebman, 2001).

NONCUSTODIAL PARENT EITCs

Finally, recent proposals have circulated to provide an expanded EITC for the childless. Such an approach necessarily increases marriage penalties somewhat since it increases credits for the non-married. Variants on this idea were recently implemented in New York State and the District of Columbia. These jurisdictions now provide a supplement to the federal EITC for noncustodial parents who have paid all child support that accrued during the tax year. President Obama proposed a national noncustodial parent (NCP) EITC when he was a U.S. Senator. An excellent description of NCP EITCs can be found in Wheaton and Sorenson (2009). The New York and D.C. NCP EITCs have very different age restrictions, with all those 18 and over eligible in New York, but only those 18-30 eligible in D.C. The New York credit is currently two-thirds of the state EITC for a single taxpayer with one child, while the D.C. credit is forty percent of the federal credit for families with resident children (which depends on the number of children).

These NCP EITCs are not likely to not have as big an effect on labor supply per dollar transferred as the current single mother focused EITC, given that most men work, even those likely to be targeted by a NCP EITC. I analyzed the characteristics of noncustodial fathers using data from the Survey of Income and Program Participation (SIPP). I use the 1996 and 2001 panels of the SIPP that provide information on child support. Just over 4 percent of men 18-64 have a child living elsewhere with a guardian or parent and have no child under 18 in their own family (so would not be eligible for the

resident child EITC). About two-thirds of these fathers are required to pay child support. Most of these fathers are already working, with only 4.7 percent of such parents not working in the past 12 months. If we confine ourselves to those earning less than $21,000 (in 2003 dollars), i.e. with earnings such that they are likely to be NCP EITC recipients, 14.5 percent of these fathers did not work in the past 12 months. Given these high rates of work, the inducement to enter the labor force that is so important in the EITC effects for single mothers is likely to be of much less importance. It seems unlikely that a NCP EITC would have appreciable positive labor supply effects. Given that marginal tax rates are likely to increase for most recipients who will be on the phase-out portion of the schedule, and that the additional income from the credit may make recipients feel less of a need to work as hard, the labor supply effects may even be negative. An expanded EITC for the childless would, however, provide a way to transfer income to another segment of the poor without significantly discouraging work.

CONCLUSIONS

In summary, the evidence indicates that the income distribution features of the EITC are quite good. The credit targets resources at those below the poverty line, particularly families with children. It raises more than 4.0 million people above the poverty line. While it is especially aimed at people around the poverty line, it also raises 1.4 million people above half the poverty line. The expansions to the EITC under the American Recovery and Reinvestment Act of 2009 were targeted at large families that are especially likely to be low income. I estimate that the ARRA will raise over 400,000

additional individuals above the poverty line.

The empirical evidence on labor supply and marriage indicates that the incentives of the EITC are remarkably favorable given the resources transferred. Studies of the effects of the EITC on employment imply that the credit has sharply increased the fraction of single mothers that work. These studies have mainly compared single mothers to single childless women or compared single mothers with different numbers of children. The main assumption used to estimate this employment effect is that single women with different numbers of children react similarly to changes in the economy besides the EITC. This assumption seems to have been borne out in recent data, though the most recent year of data breaks from this pattern in the case of single mothers compared to the childless.

President Obama and others have proposed to expand the credit for non-custodial parents. Two jurisdictions, New York and the District of Columbia, have such credits. While they will transfer income to those with few resources, non-custodial EITCs are unlikely to stimulate employment as successfully as the current EITC because the vast majority of non-custodial parents already work.

REFERENCES

Barrow, Lisa and Leslie McGranahan (2001): "The Effects of the Earned Income Tax Credit on the Seasonality of Household Expenditures" in Bruce D. Meyer and Douglas Holtz-Eakin, eds., *Making Work Pay: The Earned Income Tax Credit and its Impact on America's Families*. New York: Russell Sage Foundation Press, 2001, pp. 329-365.

Burkhauser, Richard V., Kenneth A. Couch and Andrew J. Glenn. 1996. "Public Policies for the Working Poor: The Earned Income Tax Credit Versus Minimum Wage Legislation." Research in Labor Economics, 15: 65-109.

Chetty, Raj, and Emmanuel Saez. 2009. "Teaching the Tax Code: Earnings Responses to an Experiment with EITC Recipients," NBER Working Paper No. 14836.

Dahl, Gordon and Lance Lochner. 2008. "The Impact of Family Income on Child Achievement: Evidence from the Earned Income Tax Credit," Working Paper, University of California, San Diego.

Diamond, Peter (1980): "Income Taxation with Fixed Hours of Work," *Journal of Public Economics* 13, pp. 101-110.

Dickert, Stacy, Scott Houser, and John Karl Scholz (1995): "The Earned Income Tax Credit and Transfer Programs: A Study of Labor Market and Program Participation," in *Tax Policy and the Economy* 9, edited by James M. Poterba. Cambridge, MA: MIT Press.

Eissa, Nada and Jeffrey B. Liebman (1996): "Labor Supply Response to the Earned Income Tax Credit," *Quarterly Journal of Economics*, May 1996, 112(2), 605-637.

Eissa, Nada and Hilary Hoynes (2006): "Behavioral Responses to Taxes: Lessons from the EITC and Labor Supply," in *Tax Policy and the Economy*, 20, ed. by James M. Poterba, pp. 163-192.

Eissa, Nada and Hilary Hoynes (2004): "Taxes and the Labor Market Participation of Married Couples: The Earned Income Tax Credit," *Journal of Public Economics* 88, pp. 1931-1958.

Eissa, Nada and Hilary Hoynes (2000): "Tax and Transfer Policy, and Family Formation: Marriage and Cohabitation" Working Paper, University of California at Davis. http://www.econ.ucdavis.edu/faculty/hoynes/working_papers.html

Ellwood, David (2000): "The Impact of the Earned Income Tax Credit And Other Social Policy Changes On Work and Marriage in the United States," *National Tax Journal* 53, 1063-1106.

Ellwood, David T. and Jeffrey B. Liebman (2001): "The Middle Class Parent Penalty: Child Benefits in the U.S. Tax Code," *Tax Policy and the Economy*, MIT Press, 15.

Grogger, Jeffrey (2003): "The Effects of Time Limits, the EITC, and Other Policy Changes on Welfare Use, Work, and Income Among Female-Headed Families." *Review of Economics and Statistics*, 85(2) 394-408.

Grogger, Jeffrey (2004): "Welfare Transitions in the 1990s: The Economy, Welfare Policy, and the EITC" *Journal of Policy Analysis and Management*, 23(4) 671-695.

Heckman, James J. and Dimitriy V. Masterov (2007): "The Productivity Argument for Investing in Young Children" NBER Working Paper 13016, April.

Heim, Bradley T. 2006. "The Impact of the Earned Income Tax Credit on the labor Supply of Married Couples: Structural Estimation and Business Cycle Interactions," Working Paper, U.S. Department of the Treasury.

Hoffman, Saul D. and Laurence S. Seidman. 1990. *The Earned Income Tax Credit: Antipoverty Effectiveness and Labor Market Effects*. Kalamazoo, MI: Upjohn Institute for Employment Research.

Hoffman, Saul D. and Laurence S. Seidman. 2003. *Helping Working Families: The Earned Income Tax Credit*. Kalamazoo, MI: Upjohn Institute for Employment Research.

Holtzblatt, Janet and Robert Rebelein (2001): "Measuring the Effect of the Earned Income Tax Credit on Marriage Penalties and Bonuses" in Bruce D. Meyer and Douglas Holtz-Eakin, eds., *Making Work Pay: The Earned Income Tax Credit and its Impact on America's Families*. New York: Russell Sage Foundation Press, 2001, pp.166-195.

Hotz, V. Joseph; Mullin, Charles H. and John Karl Scholz (2005): "The Earned Income Tax Credit and the Labor Market Participation of Families on Welfare." Mimeo, University of Wisconsin, 2005.

Hotz, V. Joseph, and John Karl Scholz (2003): "The Earned Income Tax Credit," in *Means-Tested Transfer Programs in the United States*, edited by Robert A. Moffitt, University of Chicago Press.

Leigh, Andrew (forthcoming): "Who Benefits from the Earned Income Tax Credit? Incidence Among Recipients, Coworkers and Firms," *B.E. Journal of Economic Analysis & Policy*, forthcoming.

Liebman, Jeffrey B. (1998): "The Impact of the Earned Income Tax Credit on Incentives and Income Distribution." In *Tax Policy and the Economy 12*, James M. Poterba, ed. Cambridge, MA: MIT Press, 1998

Liebman, Jeffrey B. (2001): "The Optimal Design of the Earned Income Tax Credit," in Bruce D. Meyer and Douglas Holtz-Eakin, eds., *Making Work Pay: The Earned Income Tax Credit and its Impact on America's Families*. New York: Russell Sage Foundation Press, 2001, pp.196-233.

MaCurdy, Thomas, and Frank McIntryre (2004): "Helping Working-Poor Familes: Advantages of Wage-Based Tax Credits Over the EITC and Minimum Wages," Employment Policies Institute.

Meyer, Bruce D., Wallace K.C. Mok, and James X. Sullivan (2009). "The Under-Reporting of Transfers in Household Surveys: Its Nature and Consequences." NBER Working Paper No. 15181.

Meyer, Bruce D. (2007): "The U.S. Earned Income Tax Credit: Its Effects and Possible Reforms," *Swedish Economic Policy Review* 14(2) Fall 2007, 55-80.

Meyer, Bruce D. (2002): "Labor Supply at the Extensive and Intensive Margins: The EITC, Welfare and Hours Worked" *American Economic Review*, 92 (May): 373-379.

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

Meyer, Bruce D. and Dan T. Rosenbaum (2000): "Making Single Mothers Work: Recent Tax and Welfare Policy and its Effects," *National Tax Journal* 53, 1027-1062.

Meyer, Bruce D. and Dan T. Rosenbaum (1999): "Welfare, the Earned Income Tax Credit, and the Labor Supply of Single Mothers." National Bureau of Economic Research (Cambridge, MA) Working Paper Number 7363, 1999.

Mirrlees, James A. (1971): "An Exploration in the Theory of Optimum Income Taxation, Review of Economic Studies 38(114), pp. 175-208.

Neumark, David and William Wascher (2001): "Using the EITC to Help Poor Families: New Evidence and a Comparison with the Minimum Wage," *National Tax Journal* 54, pp. 281-317.

O'Hara, Amy. (2004): "New Methods for Simulating CPS Taxes," Modeling and Outreach Branch, U.S. Census Bureau.

President's Advisory Panel on Federal Tax Reform (2005): Simple, Fair, and Pro-Growth: Proposals to Fix America's Tax System, U.S. Government Printing Office, Washington, DC.

Romich, Jennifer L. and Thomas Weisner (2000): "How Families View and Use the EITC: Advance Payment versus Lump Sum Delivery," *National Tax Journal* 53, 1245-1264.

Rothstein, Jesse (forthcoming): "Is the EITC as Good as an NIT? Conditional Cash Transfers and Tax Incidence," *American Economic Journal: Economic Policy* 53, 1245-1264.

Saez, Emmanuel (2002): "Optimal Income Transfer Programs: Intensive Versus Extensive Labor Supply Responses," Quarterly Journal of Economics, 117, 1039-1074.

Scholz, John Karl (1994): "The Earned Income Tax Credit: Participation, Compliance, and Anti-Poverty Effectiveness," *National Tax Journal*, 59-81.

Smeeding, Timothy M., Katherin Ross Phillips, and Michael A. O'Connor (2001): "The Earned Income Tax Credit: Expectation, Knowledge, Use and Economic and Social Mobility," in Bruce D. Meyer and Douglas Holtz-Eakin, eds., *Making Work Pay: The Earned Income Tax Credit and its Impact on America's Families*. New York: Russell Sage Foundation Press, 2001, pp. 301-328.

U.S. Department of the Treasury. 2006. *Individual Income Tax Returns 2004*. Internal Revenue Service. Statistics of Income Bulletin, Fall 2006. Washington: Government Printing Office.

U.S. General Accounting Office. 1996. *Earned Income Credit: Profile of Tax Year 1994 Credit Recipients*, GAO/GGD-96-122BR.

U.S. House of Representatives. 2004. 2004 *Green Book: Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means*. Washington: Government Printing Office.

Ventry, Dennis J. Jr. (2001): "The Collision of Tax and Welfare Politics: The Political History of the Earned Income Tax Credit," in Bruce D. Meyer and Douglas Holtz-Eakin, eds., *Making Work Pay: The Earned Income Tax Credit and its Impact on America's Families*. New York: Russell Sage Foundation Press, 2001, pp. 15-66.

Wheaton, Laura and Elaine Sorensen (2009): "Extending the EITC to noncustodial Parents: Potential Impacts and Design Considerations." The Urban Institute.

Table 1
EITC Benefits Received and Number of Families, by Family Type, 2007

Recipient Category	EITC Credit (Millions)	Distribution of EITC (Percentage)	Average Benefit Received
Single women with children			
Total benefits	$15,253	48.30	$2,381
Number of families	6.406	36.13	
Single men with children			
Total benefits	$2,643	8.37	$1,848
Number of families	1.430	8.07	
Married couples with children			
Total benefits	$12,147	38.46	$2,284
Number of families	5.319	30.01	
Individuals without qualifying child			
Total benefits	$1,452	4.60	$352
Number of families	4.124	23.26	
Couples without qualifying child			
Total benefits	$87	0.28	$195
Number of families	0.449	2.53	
Total			
Total benefits	$31,581	100.00	$1,781
Number of families	17.728	100.00	

Source: Author's calculation using data from the CPS Annual Social and Economic Supplement 2008. All numbers are weighted.

Table 2
Demographic Characteristics of EITC Recipients, 2007

	Recipients with Children		Non Recipients with Children	
Recipient Characteristic	**Single**	**Married**	**Single**	**Married**
Average age (Years)	35.9	38.4	38.0	40.0
Educational Attainment (percentage)				
High school dropout	17.0	31.8	16.6	8.6
High school graduate	39.5	36.3	28.8	25.3
Some college	35.0	22.4	30.7	27.8
College graduate	8.5	9.6	24.0	38.3
Black (percentage)	22.6	8.6	20.7	6.0
Average number of children, by age				
Under six years old	0.529	0.724	0.471	0.598
Six to seventeen years old	1.060	1.202	1.119	1.313
Total	1.589	1.926	1.589	1.911

Source: Author's calculation using data from the CPS Annual Social and Economic Supplement 2008. All numbers are weighted.

Table 3
EITC Benefits and Number of Recipients, Comparison of IRS Data to CPS Data

	IRS		CPS		
Recipient Characteristics	EITC (Millions)	Distribution of EITC (Percent)	EITC (Millions)	Distribution of Credit (Percent)	Ratio (CPS/IRS)
By Filing Status of Recipient (2003 data)					
Head of Household					
Total benefits	$28,149	72.82	$12,478	49.47	0.44
Number of recipients	12.46	56.55	6.250	39.11	0.50
Joint					
Total benefits	$9,567	24.75	$11,548	45.78	1.21
Number of recipients	5.18	23.51	6.010	37.61	1.16
Single					
Total benefits	$942	2.44	$1,200	4.76	1.27
Number of recipients	4.392	19.94	3.718	23.27	0.85
Total					
Total benefits	$38,658	100.00	$25,226	100.00	0.65
Number of recipients	22.02	100.00	15.978	100.00	0.73
By number of qualifying children (2006 data)					
Returns without a qualifying child					
Total benefits	$1,142	2.57	$1,437	4.75	1.26
Number of recipients	4.811	20.88	4.451	25.00	0.93
Returns with one qualifying child					
Total benefits	$16,078	36.22	$9,888	32.67	0.62
Number of recipients	8.747	37.96	5.788	32.51	0.66
Returns with more than one qualifying child					
Total benefits	$27,168	61.21	$18,940	62.58	0.70
Number of recipients	9.485	41.16	7.563	42.49	0.80
Total					
Total benefits	$44,388	100.00	$30,265	100.00	0.68
Number of recipients	23.043	100.00	17.802	100.00	0.77

Source: Author's calculation using data from the CPS Annual Social and Economic Supplement 2004 and 2007, IRS figures derived using data from SOI Bulletin Fall 2006 and Fall 2008 - Individual Tax Returns, 2004 and 2006, Figure H and the 2004 Green Book, Table 13-13.

Table 4
Number of Families, Individuals, and Children in Poverty With and Without the EITC, 2007 (in Thousands) - Census Bureau EITC Calculations

Recipient Income Level	Without EITC	With EITC	Difference (Without EITC- With EITC)	Ratio (With EITC/ Without EITC)
	(1)	(2)	(1)-(2)	(1)/(2)
Families				
Below 50% of poverty line	3,064.33	2,729.75	334.58	0.89
Below 75% of poverty line	5,137.65	4,348.76	788.90	0.85
Below the poverty line	7,620.91	6,520.89	1,100.03	0.86
Below 150% of poverty line	13,593.57	12,635.88	957.69	0.93
Below 200% of poverty line	19,632.09	19,293.73	338.37	0.98
Total Number of Families:	77,908.42			
Individuals				
Below 50% of poverty line	16,022.58	14,654.91	1,367.67	0.91
Below 75% of poverty line	25,841.63	22,761.41	3,080.22	0.88
Below the poverty line	38,076.73	34,113.96	3,962.77	0.90
Below 150% of poverty line	65,909.26	62,774.71	3,134.55	0.95
Below 200% of poverty line	91,760.55	90,659.51	1,101.04	0.99
Total Number of Individuals:	299,105.72			
Children under 18				
Below 50% of poverty line	6,169.87	5,359.69	810.18	0.87
Below 75% of poverty line	9,706.00	7,997.44	1,708.56	0.82
Below the poverty line	13,700.99	11,572.87	2,128.11	0.84
Below 150% of poverty line	22,029.86	20,594.96	1,434.90	0.93
Below 200% of poverty line	29,287.20	28,827.88	459.32	0.98
Total Number of Children:	74,402.74			

Source: Figures are the author's calculations using data from the CPS Annual Social and Economic Supplement 2008. All numbers are weighted.
Note: The poverty line refers to the standard measure reported by the U.S. Census Bureau. Calculations based on money income of families and individuals before taxes (excluding capital gains).

Table 5 Ratios of Families, Individuals, and Children in Poverty With and Without the EITC, TANF and Food Stamps, 2007

Recipient Income Level	Ratio (Without EITC/ With EITC)	Ratio (Without TANF/ With TANF)	Ratio (Without FS/ With FS)
Families			
Below 50% of poverty line	0.89	0.95	0.81
Below 75% of poverty line	0.85	0.98	0.89
Below the poverty line	0.86	0.99	0.95
Below 150% of poverty line	0.93	1.00	0.99
Below 200% of poverty line	0.98	1.00	1.00
People			
Below 50% of poverty line	0.91	0.96	0.84
Below 75% of poverty line	0.88	0.98	0.90
Below the poverty line	0.90	0.99	0.95
Below 150% of poverty line	0.95	1.00	0.99
Below 200% of poverty line	0.99	1.00	1.00
Children under 18			
Below 50% of poverty line	0.87	0.94	0.76
Below 75% of poverty line	0.82	0.98	0.87
Below the poverty line	0.84	0.99	0.94
Below 150% of poverty line	0.93	1.00	0.99
Below 200% of poverty line	0.98	1.00	1.00

Source: Figures are the author's calculations using data from the CPS Annual Social and Economic Supplement 2008. All numbers are weighted.

Note: The poverty line refers to the standard measure reported by the U.S. Census Bureau. Calculations based on money income of families and individuals before taxes (excluding capital gains).

Table 6 Employment Rates of Single Mothers and Single Childless Women, by Education and Family Size 1986-2007

Year	Less Than High School Degree		High School Grad		More than High School		All Childless	All Single Mothers	One Child Mothers	Two Children Mothers	Three Children Mothers
	Mothers	Childless	Mothers	Childless	Mothers	Childless					
1986	0.456	0.745	0.764	0.937	0.884	0.975	0.945	0.728	0.821	0.681	0.551
1987	0.442	0.743	0.783	0.935	0.892	0.981	0.947	0.736	0.812	0.732	0.537
1988	0.459	0.754	0.775	0.931	0.905	0.984	0.949	0.746	0.830	0.727	0.540
1989	0.479	0.719	0.788	0.924	0.896	0.980	0.941	0.755	0.839	0.744	0.541
1990	0.494	0.737	0.779	0.925	0.912	0.981	0.943	0.757	0.835	0.757	0.553
1991	0.464	0.720	0.752	0.920	0.907	0.980	0.942	0.741	0.817	0.748	0.536
1992	0.444	0.657	0.742	0.893	0.895	0.978	0.930	0.737	0.814	0.725	0.542
1993	0.472	0.709	0.755	0.907	0.883	0.973	0.936	0.750	0.853	0.731	0.513
1994	0.551	0.696	0.772	0.897	0.920	0.973	0.931	0.789	0.873	0.790	0.585
1995	0.558	0.718	0.799	0.895	0.924	0.977	0.934	0.806	0.870	0.811	0.631
1996	0.563	0.694	0.830	0.900	0.920	0.966	0.929	0.818	0.867	0.815	0.688
1997	0.605	0.691	0.840	0.914	0.936	0.971	0.937	0.840	0.873	0.847	0.742
1998	0.678	0.763	0.857	0.913	0.947	0.971	0.940	0.866	0.901	0.878	0.756
1999	0.741	0.739	0.899	0.924	0.949	0.977	0.945	0.895	0.924	0.899	0.805
2000	0.731	0.748	0.894	0.908	0.951	0.975	0.940	0.894	0.914	0.908	0.809
2001	0.723	0.712	0.868	0.884	0.951	0.967	0.924	0.881	0.906	0.896	0.787
2002	0.699	0.700	0.867	0.869	0.949	0.961	0.918	0.875	0.908	0.884	0.770
2003	0.677	0.677	0.853	0.886	0.921	0.960	0.918	0.856	0.880	0.870	0.764
2004	0.685	0.702	0.842	0.859	0.936	0.961	0.915	0.858	0.886	0.862	0.781
2005	0.667	0.672	0.832	0.866	0.925	0.957	0.912	0.851	0.882	0.849	0.773
2006	0.670	0.735	0.831	0.860	0.920	0.966	0.923	0.848	0.882	0.845	0.762
2007	0.646	0.721	0.823	0.863	0.931	0.965	0.925	0.847	0.867	0.851	0.790
N	15,906	11,231	32,896	38,431	35,905	86,137	135,799	84,707	41,583	27,339	15,785

Notes: From the 1987-2008 March Current Population Surveys. See table 1 for additional notes.

Table 7
Percentiles of single mothers' annual income, by number of children, 2007, Current Population Survey

Income Percentiles	Single Mothers with One Child (1)	Single Mothers with Two Children (2)	Single Mothers with Three or More Children (3)
5th Percentile	4,020	5,204	4,970
10th Percentile	6,700	8,600	8,228
20th Percentile	10,720	14,000	13,590
30th Percentile	14,143	18,716	17,484
40th Percentile	17,603	21,787	19,940
50th Percentile	20,436	24,116	22,166
60th Percentile	23,040	26,903	24,568
70th Percentile	26,283	29,271	27,177
80th Percentile	29,359	32,550	30,489
90th Percentile	32,198	36,376	34,945
N	2,281	1,632	978

Table 8
Number of Families, Individuals, and Children in Poverty With and Without the EITC, 2007 (in Thousands) - Author's EITC Calculations, using 2007 Law and 2009 Law Applied to 2007 Data

	2007 Law				2009 Law		
Recipient Income Level	Without EITC	With EITC	Difference (Without EITC- With EITC)	Ratio (With EITC/ Without EITC)	With EITC	Difference (Without EITC- With EITC)	Ratio (With EITC/ Without EITC)
	(1)	**(2)**	**(3)=(1)-(2)**	**(4)=(2)/(1)**	**(5)**	**(6)=(1)-(5)**	**(7)=(5)/(1)**
Families							
Below 50% of poverty line	3,064.33	2,707.89	356.44	0.88	2,707.27	357.06	0.88
Below 75% of poverty line	5,137.65	4,266.89	870.77	0.83	4,222.90	914.76	0.82
Below the poverty line	7,620.91	6,489.73	1,131.18	0.85	6,380.66	1,240.25	0.84
Below 150% of poverty line	13,593.57	12,665.86	927.72	0.93	12,536.15	1,057.43	0.92
Below 200% of poverty line	19,632.09	19,282.49	349.60	0.98	19,199.28	432.81	0.98
Total Number of Families:	77,908.42						
Individuals							
Below 50% of poverty line	16,022.58	14,483.02	1,539.56	0.90	14,476.62	1,545.96	0.90
Below 75% of poverty line	25,841.63	22,321.07	3,520.56	0.86	22,136.47	3,705.16	0.86
Below the poverty line	38,076.73	33,911.61	4,165.12	0.89	33,484.71	4,592.02	0.88
Below 150% of poverty line	65,909.26	62,816.94	3,092.33	0.95	62,478.22	3,431.05	0.95
Below 200% of poverty line	91,760.55	90,677.53	1,083.02	0.99	90,491.48	1,269.08	0.99
Total Number of Individuals:	299,105.72						
Children under 18							
Below 50% of poverty line	6,169.87	5,306.93	862.94	0.86	5301.77	868.10	0.86
Below 75% of poverty line	9,706.00	7,858.11	1,847.89	0.81	7774.12	1931.88	0.80
Below the poverty line	13,700.99	11,524.28	2,176.70	0.84	11316.17	2384.82	0.83
Below 150% of poverty line	22,029.86	20,604.86	1,425.00	0.94	20535.55	1494.31	0.93
Below 200% of poverty line	29,287.20	28,886.11	401.09	0.99	28865.06	422.15	0.99
Total Number of Children:	74,402.74						

Source: Figures are the author's calculations using data from the CPS Annual Social and Economic Supplement 2008. All numbers are weighted.
Note: The poverty line refers to the standard measure reported by the U.S. Census Bureau. Calculations based on money income of families and individuals before taxes (excluding capital gains).

Table 9
Number of Families, Individuals, and Children in Poverty With and Without the EITC, 2007 (in Thousands) - Author's EITC Coding (2009 law)

Recipient Income Level	Without EITC	With EITC	Difference (Without EITC- With EITC)	Ratio (With EITC/ Without EITC)
	(1)	**(2)**	**(1)-(2)**	**(2)/(1)**
Families				
Below 50% of poverty line	3,064.33	2,707.27	357.06	0.88
Below 75% of poverty line	5,137.65	4,222.90	914.76	0.82
Below the poverty line	7,620.91	6,380.66	1,240.25	0.84
Below 150% of poverty line	13,593.57	12,536.15	1,057.43	0.92
Below 200% of poverty line	19,632.09	19,199.28	432.81	0.98
Total Number of Families:	77,908.42			
Individuals				
Below 50% of poverty line	16,022.58	14,476.62	1,545.96	0.90
Below 75% of poverty line	25,841.63	22,136.47	3,705.16	0.86
Below the poverty line	38,076.73	33,484.71	4,592.02	0.88
Below 150% of poverty line	65,909.26	62,478.22	3,431.05	0.95
Below 200% of poverty line	91,760.55	90,491.48	1,269.08	0.99
Total Number of Individuals:	299,105.72			
Children under 18				
Below 50% of poverty line	6,169.87	5,301.77	868.10	0.86
Below 75% of poverty line	9,706.00	7,774.12	1,931.88	0.80
Below the poverty line	13,700.99	11,316.17	2,384.82	0.83
Below 150% of poverty line	22,029.86	20,535.55	1,494.31	0.93
Below 200% of poverty line	29,287.20	28,865.06	422.15	0.99
Total Number of Children:	74,402.74			

Source: Figures are the author's calculations using data from the CPS Annual Social and Economic Supplement 2008. All numbers are weighted.
Note: The poverty line refers to the standard measure reported by the U.S. Census Bureau. Calculations based on money income of families and individuals before taxes (excluding capital gains).

Figure 1: Federal Earned Income Tax Credit Schedule for Single Parent Families With Children Tax Year 2007

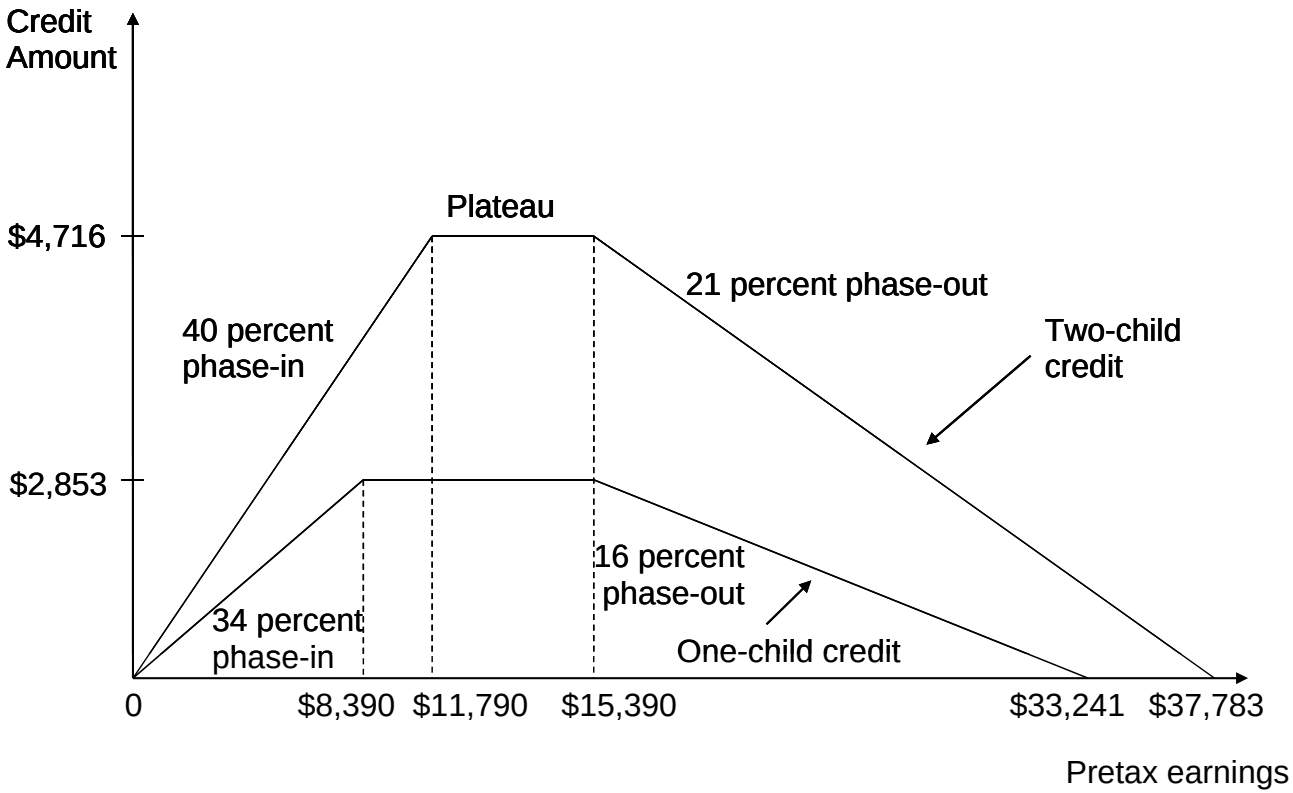

Figure 2
Year and Number of Children Interactions - 1986-2007
(Regression with Demographic Controls)