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THE IMPACT OF THE EARNED INCOME TAX CREDIT ON INCENTIVES AND INCOME DISTRIBUTION

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EXECUTIVE SUMMARY

For more than three decades, economists have advocated the use of the tax system as a means of transferring income to low-income families. Studying the Earned Income Tax Credit (EITC) offers the opportunity to learn how well the tax system functions in roles traditionally handled by the welfare system. There are two features of the EITC that distinguish it from other U.S. income transfer programs. First, the EITC budget constraint is unusual—in particular, only taxpayers who work are eligible for the EITC. The shape of the constraint influences who receives the credit, what incentives recipients face, and how much the program costs. Second, the credit is administered through the tax system rather than through the welfare system, and is usually received as part of a taxpayer's annual tax refund. This administrative structure has important implications for EITC participation and compliance rates, for administrative costs, and for the ways in which recipients perceive its incentives. This paper discusses these features of the EITC, and presents evidence that the EITC has increased labor force participation among

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single women with children, and has offset a significant share of recent increases in income inequality. The limited evidence available suggests that the labor supply impact of the phaseout of the credit is minimal. Rates of noncompliance are falling, and are now similar to the overall rate of noncompliance for the individual income tax.

1. INTRODUCTION

The United States has entered a period in which large changes in income transfer policies are likely to occur. As responsibility for the welfare system devolves from the federal government to the states, policymakers will have the opportunity to re-examine fundamental issues about the design of programs that assist low-income families.

For more than three decades, economists have advocated the use of the tax system as a means of transferring income to low-income families. Friedman (1962) and Tobin (1968) argued that replacing the welfare system with a negative income tax would provide greater incentives for work because the marginal tax rates they proposed were lower than the benefit reduction rate of Aid to Families with Dependent Children (AFDC). In addition, they argued that the tax system was an administratively more efficient method of transferring income than the welfare system. Studying the Earned Income Tax Credit (EITC) offers the opportunity to learn how well the tax system functions in roles traditionally handled by the welfare system.

There are two features of the EITC that distinguish it from other U.S. income transfer programs. First, the EITC budget constraint is unusual—in particular, only taxpayers who work are eligible for the EITC. The shape of the constraint influences who receives the credit, what incentives recipients face, and how much the program costs. Second, the credit is administered through the tax system rather than through the welfare system, and usually is received as part of a taxpayer's annual tax refund. This administrative structure has important implications for EITC participation and compliance rates, for administrative costs, and for ways in which recipients perceive its incentives. Examining these two features of the EITC clarifies the trade-offs that must be made in designing transfer programs.

In recent years, the EITC has been offered as a policy solution to many of the most pressing economic problems facing the U.S., and the credit has grown rapidly. In tax year 1997, 18.1 million tax filers are expected to receive the EITC, at a total cost to the federal government of $26.0 billion.[1]

[1] In comparison, federal spending on Aid to Families with Dependent Children (recently replaced by Temporary Assistance for Needy Families) is forecast to be $13.6 billion, and states are expected to spend $11.6 billion on AFDC (Committee on Ways and Means, 1996).

After briefly describing the EITC, I begin this paper by evaluating the contribution that the EITC has made to reducing poverty among families with children and to offsetting the 20-year trend of rising income inequality. Next, I discuss the impact of the EITC budget constraint on labor supply. I focus on whether the EITC causes taxpayers to choose work over welfare and on whether the high marginal tax rates in the phaseout region of the credit reduce labor supply. Then, I analyze the effect on takeup and compliance rates and on administrative costs of using the tax system rather than the welfare system to transfer income. I conclude by discussing the broader lessons that the EITC experience offers for the design of transfer programs.

2. AN ALTERNATIVE TO NIXON'S FAMILY ASSISTANCE PLAN

The Earned Income Tax Credit originated in the debate over President Nixon's Family Assistance Plan (FAP). However, the EITC is not a descendent of this plan. Rather, the EITC descends from Senator Russell Long's work bonus plan, which was instrumental in preventing passage of the FAP negative income tax.[2]

In 1972, the third year of debate over the FAP, the Senate Finance Committee, chaired by Senator Long, sent a welfare bill to the Senate floor that included a wage bonus equal to 10 percent of wages.[3] Long was a leading opponent of the FAP, arguing that a guaranteed income scheme would encourage indolence and increase the welfare rolls. His alternative was to require welfare recipients with school-age children to work (at a government-provided job if necessary) and to provide a wage bonus to low-wage workers in order to offset the burden of the social security payroll tax. With senators divided among the Nixon FAP, the Long workfare and wage subsidy proposal, and an alternative minimum-income plan championed by Senator Ribicoff, the 92nd Congress adjourned without passing a welfare reform bill.[4] Three years later, Long

[2] The discussion that follows is based on accounts in the *Congressional Record*, Congressional hearing reports, *Congressional Quarterly*, and the New York *Times*, and in Mann (1992), Burke and Burke (1974), Lenkowsky (1986), and Moynihan (1973).

[3] The proposed bonus applied to the first $4000 of wages and was to be phased out between $4,000 and $5,600. Only taxpayers with children were to be eligible for the bonus.

[4] The 92th Congress did establish the Supplemental Security Income program, providing federal means-tested income assistance for the aged, blind, and disabled. In addition, the 92nd Congress increased social security taxes and benefits.

finally managed to attach his wage bonus plan, renamed the Earned Income Tax Credit, to a tax bill that was destined to be enacted.

When the EITC was introduced in 1975, it was for reasons having little to do with welfare reform, and some of its most distinctive features arose as last-minute compromises in a tax bill of which the EITC was a minor part. In January 1975, the U.S. economy was in a recession. The unemployment rate was at its highest level since World War II. On the afternoon of January 13, the House Democratic Study Group released a vaguely worded report calling for large tax cuts to stimulate the economy. Unwilling to wait two days until his State of the Union address to lay out his own proposal, President Ford went on national television on the evening of January 13 to propose economic stimulus in the form of a $12 billion (1975 dollars) rebate of 1974 taxes and a $16.5 billion reduction in individual income taxes for 1975.[5] Since the tax rebates favored those with higher incomes, Ford also proposed a payment of $80 to each low-income adult, phased out at a 16-percent rate on incomes above $2,250. All adults, including those without income and those without children, were to be eligible for the payment.

As Congress raced to enact a stimulus bill, Senator Long's wage subsidy was substituted for President Ford's $80 payment and implemented as a refundable credit based on taxpayers' earnings. The House version was a 5-percent credit on the first $4,000 of earnings, phased out over the next $4,000 of earnings (a maximum credit of $200). Taxpayers with and without children were to be eligible for the credit. The Senate version was a 10-percent credit over the same income ranges (a maximum credit of $400). However, only taxpayers with children were eligible, so the Senate plan was less costly than the House plan. In late March, on the last day of the conference committee meetings, the Senate version was adopted, giving the EITC one of its most important features—its focus on families with children.[6]

The cost of the EITC represented only 7 percent of the $21 billion stimulus bill signed by President Ford in 1975. Nonetheless, news accounts throughout the three month period that the tax bill was being discussed consistently noted that with the EITC, the U.S. was taking a historic step by adopting a negative income tax.

The EITC continued as a minor program until the mid-1980s. Small expansions of the credit in 1979 and 1985 were insufficient for the credit

[5] The plan also included tax increases on petroleum to encourage conservation.

[6] Senator Long dominated the 1975 tax-bill conference committee, in part because his House counterpart, Representative Ullman, had only recently taken over as chairman of the House Ways and Means Committee after Wilbur Mills stepped down.

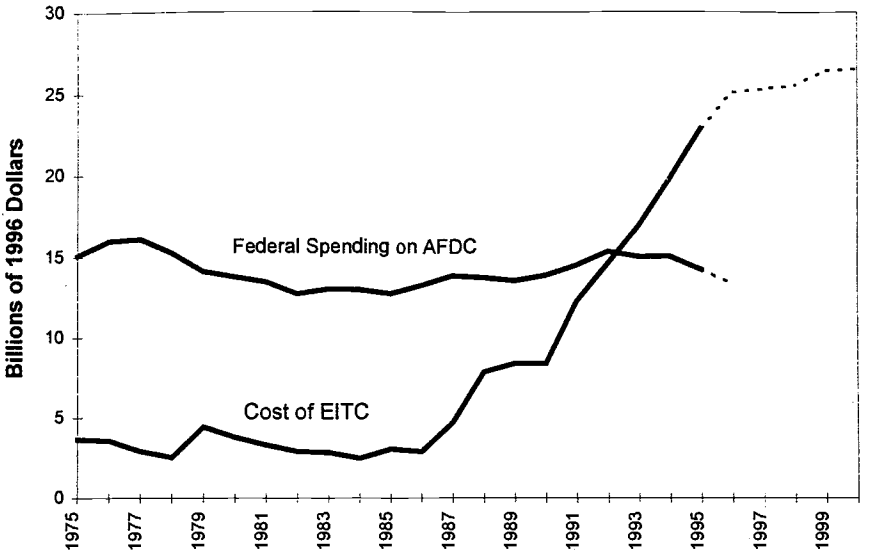

FIGURE 1. ***Federal Cost of AFDC and the EITC, 1975–2000***

Source: Committee on Ways and Means (1996).
Notes: Cost of EITC includes outlays and tax expenditures. Data for 1996 and after are projections.

to maintain pace with inflation. The 1979 expansion made the credit constant at its maximum level over a range of incomes, giving the credit its current shape. Figure 1 shows that in this period the federal cost of the EITC (including both outlays and tax expenditures) was substantially below federal spending on the main cash welfare program for families with children, AFDC.

Over the past decade, three major expansions of the EITC have occurred. As part of the Tax Reform Act of 1986, the credit amounts were increased and indexed to inflation. In the budget act of 1990 (OBRA 1990), credit amounts were increased over several years, taxpayers with more than one child began receiving a slightly larger credit than taxpayers with one child, and supplemental credits were introduced for taxpayers with young children and for the purchase of health insurance for uninsured children. In addition, OBRA 1990 changed the rules for EITC eligibility, largely in response to concerns that many ineligible taxpayers were receiving the credit and that the existing rules were unenforceable.[7]

[7] These rule changes are described in section 7 as part of the discussion of EITC compliance problems.

In 1993, another large expansion of the credit was enacted; it was phased in between 1994 and 1996. This expansion increased the maximum credit for families with one child by 9 percent and increased the maximum credit for families with two children by 69 percent.[8] The larger increase for taxpayers with two or more children was necessary to meet President Clinton's 1992 campaign promise that no family with a full-time worker would be poor. Childless taxpayers with incomes below $9,500 became eligible for a small credit (up to $323), and the supplemental credits for young children and health insurance were repealed.[9] Figure 1 shows that now that this last expansion has been fully phased in, the federal cost of the EITC is substantially larger than federal spending on AFDC. Table 1 contains EITC parameters for 1975 through 1997.

Figure 2 depicts the 1997 EITC amounts as a function of a taxpayer's income. The credit for a family with two or more children is phased in at a 40-percent rate over the first $9,140 of earned income, resulting in a maximum credit of $3,656. As earnings rise from $9,140 to $11,930, the credit remains at $3,656. Then the credit is phased out at a 21.06-percent rate on income starting at $11,930 (the maximum of AGI and earnings governs the phaseout), so that by $29,290, the taxpayer is no longer eligible for the credit.

Because tax return data contain extremely limited information about taxpayers beyond their income, researchers studying the EITC have become temporary Census Bureau employees in order to use special data sets that match census data to the tax returns of census respondents. In Liebman (1995b), I show that 75 percent of 1990 EITC recipients worked at least 1000 hours per year, while 60 percent worked more than 1500 hours per year. Only 16 percent had welfare income in the same year in which they received the EITC, and 25 percent received food stamps during the year. The share of EITC recipients working a substantial number of hours is likely to have increased since 1990, and the share receiving welfare is likely to have decreased, as taxpayers further up the income distribution have become eligible for the credit. 40 percent of EITC recipients in 1990 were Non-Hispanic White, 39 percent were Non-Hispanic Black, and 19.5 percent were Hispanic. 41 percent did not have a high-school degree, while 37 percent had completed high school but had not received further schooling.

[8] These increases are measured relative to the provisions of the 1990 EITC expansion as if they had been fully phased in. In fact, the OBRA 1990 provisions were only partially phased in when the 1993 act supplanted them.

[9] The supplemental credits had low participation rates and complicated the EITC tax form (U.S. General Accounting Office, 1994).

TABLE 1
Earned Income Tax Credit Parameters: 1975–1997

Year	Phase-in rate (%)	Phase-in range ($)	Maximum credit ($)	Phaseout rate (%)	Phaseout range (%)
1975–1978	10.0	0–4,000	400	10.0	4,000–8,000
1979–1984	10.0	0–5,000	500	12.5	6,000–10,000
1985–1986	11.0	0–5,000	550	12.22	6,500–11,000
1987	14.0	0–6,080	851	10.0	6,920–15,432
1988	14.0	0–6,240	874	10.0	9,840–18,576
1989	14.0	0–6,500	910	10.0	10,240–19,340
1990	14.0	0–6,810	953	10.0	10,730–20,264
1991[a]	16.7[b] 17.3[c]	0–7,140	1,192 1,235	11.93 12.36	11,250–21,250
1992[a]	17.6[b] 18.4[c]	0–7,520	1,324 1,384	12.57 13.14	11,840–22,370
1993[a]	18.5[b] 19.5[c]	0–7,750	1,434 1,511	13.21 13.93	12,200–23,050
1994	26.3[b] 30.0[c] 7.65[d]	0–7,750 0–8,425 0–4,000	2,038 2,528 306	15.98 17.68 7.65	11,000–23,755 11,000–25,299 5,000–9,000
1995	34.0[b] 36.0[c] 7.65[d]	0–6,160 0–8,640 0–4,100	2,094 3,110 314	15.98 20.22 7.65	11,290–24,396 11,290–26,673 5,130–9,230
1996	34.0[b] 40.0[c] 7.65[d]	0–6,330 0–8,890 0–4,220	2,152 3,556 323	15.98 21.06 7.65	11,610–25,078 11,610–28,495 5,280–9,500
1997	34.0[b] 40.0[c] 7.65[d]	0–6,500 0–9,140 0–4,340	2,210 3,656 332	15.98 21.06 7.65	11,930–25,760 11,930–29,290 5,430–9,770

[a]Basic credit only. Does not include supplemental young child credit or health insurance credit.

[b]Families with one qualifying child.

[c]Families with two or more qualifying children.

[d]Taxpayers with no qualifying child.

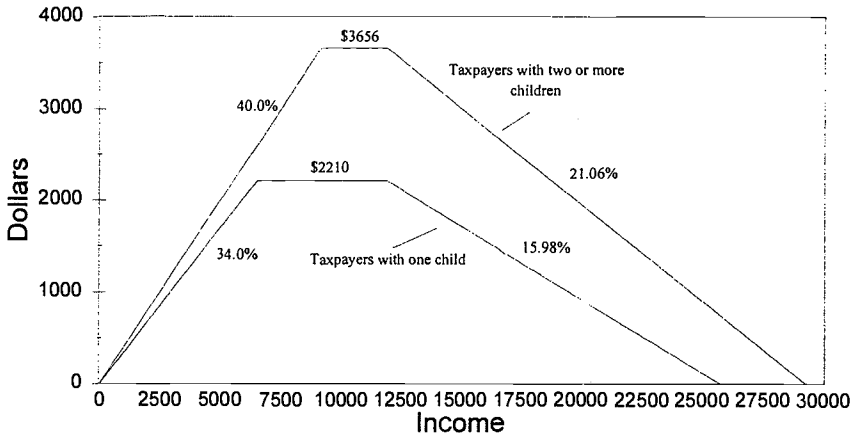

FIGURE 2. *1997 Earned Income Tax Credit*

3. THE EITC AND CHILD POVERTY

Between 1969 and 1996 the official poverty rate among children rose from 14.0 to 20.5 percent.[10] Over this period, the poverty rate for elderly persons fell from 25.3 to 10.8 percent, largely due to increases in the generosity of social security. Census Bureau estimates indicate that the EITC played a moderate role in reducing child poverty in 1996; it reduced the post-tax poverty rate from 22.3 to 19.1 percent. Scholz (1994) estimates that under 1996 rules, 36 percent of EITC payments go to reduce the poverty gap (the difference between the poverty line and household income for families below the poverty line), while the remaining 64 percent is received by taxpayers above the poverty line.[11] Since 17 percent of EITC-eligible taxpayers do not receive the credit (Scholz, 1994), 35 percent of poor households have no earnings, and the EITC raises some recipient households only part way up to the poverty level, I estimate that the EITC offsets only 12 percent of the total poverty gap for households with children.[12]

[10] Jencks and Mayer (1996) argue that official poverty measures do not accurately reflect improvements in the well-being of children that have occurred over the past 25 years.

[11] Scholz's estimates include the childless EITC recipients.

[12] My estimates use the March 1993 CPS because that is the last CPS before the change in interviewing techniques. I form tax-filing units according to the methodology described in Eissa and Liebman (1996). Then I apply the 1996 EITC rules (deflated into 1992 dollars) and examine the effect of the EITC on 1992 poverty rates, assuming that the EITC does not

The relatively minor effect of the EITC on the poverty gap is a direct result of the program's focus on the working poor. The current EITC parameters were chosen to ensure that families with a full-time minimum-wage worker would not be poor. However, many poor children are in households that do not contain a full-time worker.

Figure 3 presents estimates of the effect of the EITC on taxpayers at different levels of household money income. Income is expressed as a percentage of the poverty level in order to account for variation in household size. Figure 3 (top) shows the percentage of households with children that receive the EITC at different percentages of the poverty line.[13] Only about 40 percent of these households with incomes below 50 percent of the poverty line receive the EITC, because many of them have no earnings and because some EITC eligible families do not file tax returns. Roughly 80 percent of households with children and incomes between 100 percent and 150 percent of the poverty line receive the EITC, and the percentage falls off sharply at higher incomes (some high-income households with multiple tax-filing units contain a tax-filing unit with income low enough to qualify for the EITC). Figure 3 (middle) displays the average amount of the EITC received by households at different percentages of the poverty line. At low income levels, the EITC amount is similar to the shape of Figure 2; for many of these households, earnings are the only source of income. On average, higher-income households that receive the EITC receive amounts close to the average value of the credit. Figure 3 (bottom) displays the distribution of EITC dollars at different percentages of the poverty line. This graph incorporates information from Figure 3 (top and bottom) as well as on the number of households at each income level. Figure 3 (bottom) reveals that most EITC dollars are received by households with incomes between 50 and 150 percent of the poverty line and that very few dollars go to taxpayers with incomes above 200 percent of the poverty line. For comparison, Figure 4 displays similar distributions for the sum of AFDC and food stamps. For these two programs, participation rates, transfer amounts, and dollars spent all peak for households

cause any behavioral responses. The total dollars that I predict will be received by EITC recipients is well below actual program spending even though some of the people whom I predict will claim the credit will not claim it. This is because many ineligible taxpayers claim the EITC. In addition, it is possible that my CPS-based simulations of tax-filing units undercounts low-income taxpayers. [These issues are discussed further in Liebman (1995b).]

[13] The top two panels are estimated with kernel regressions, and the bottom panel is a kernel density estimate.

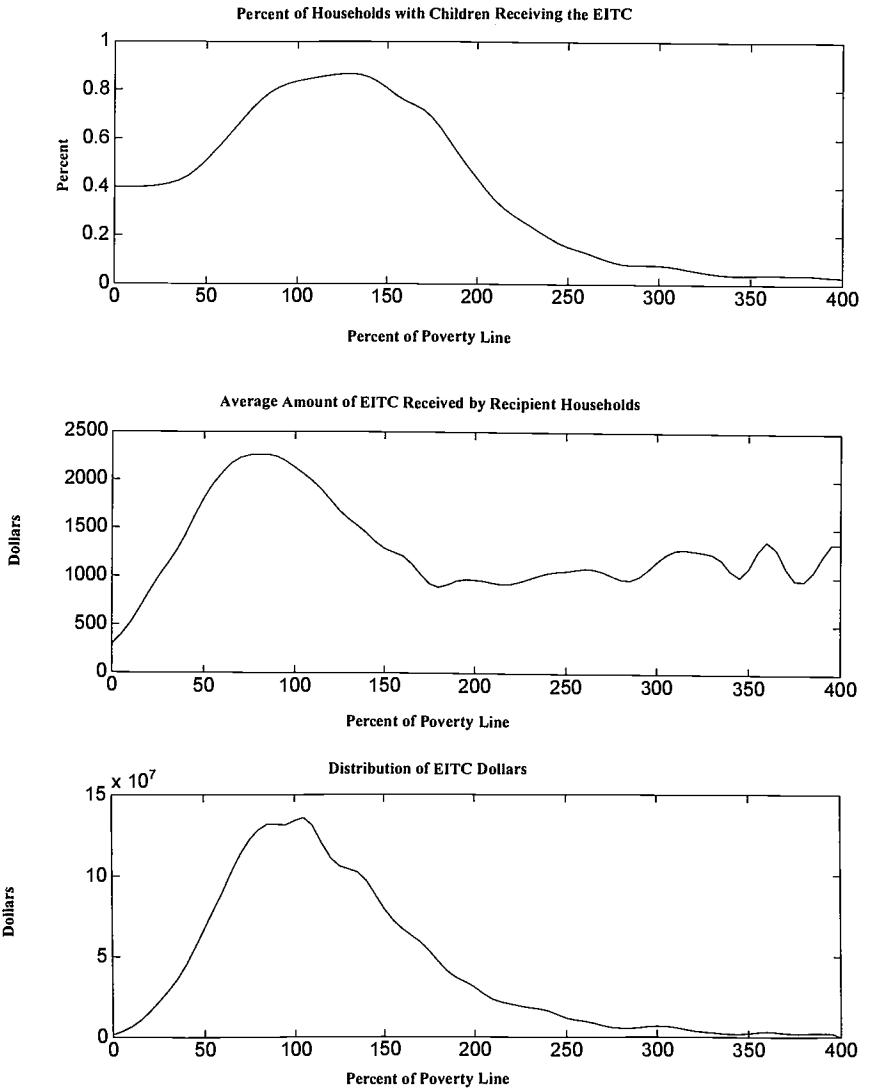

FIGURE 3. *EITC Receipts by Percentage of Poverty Line*

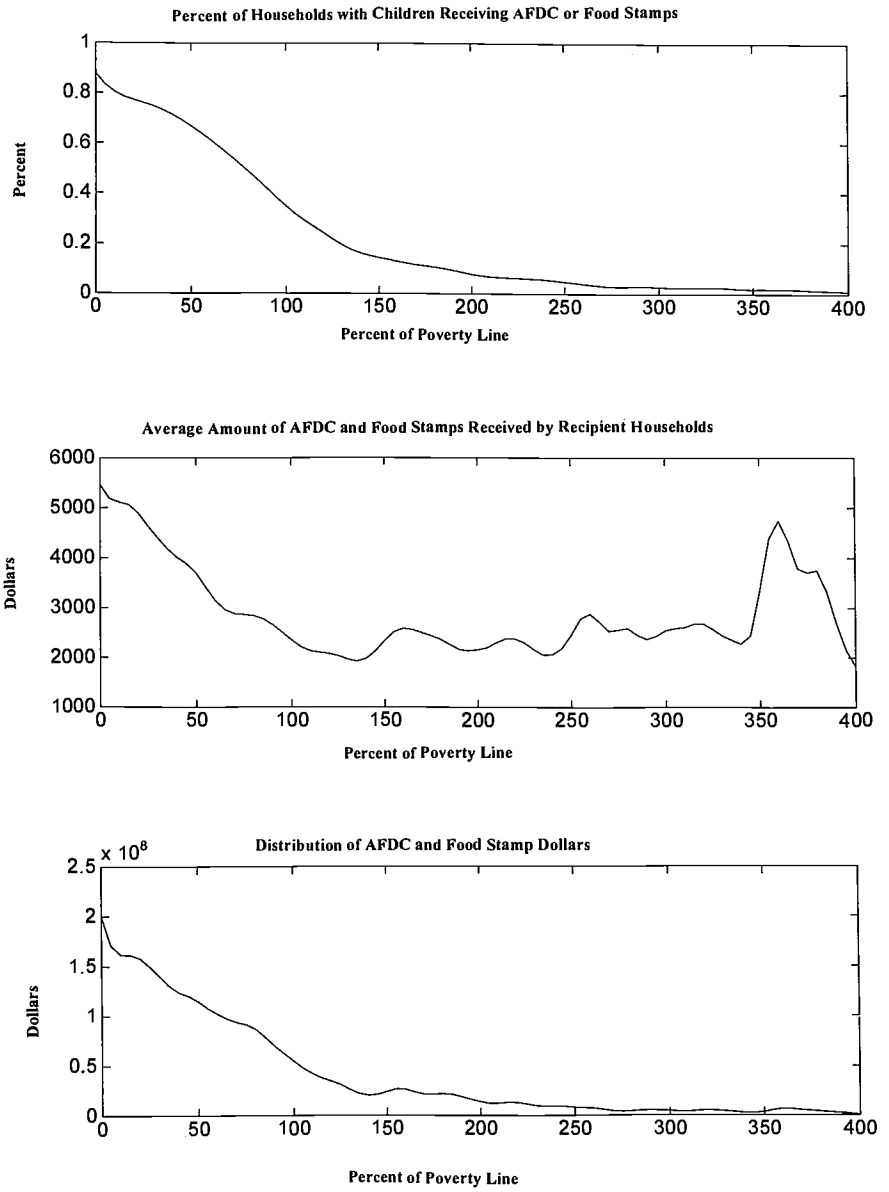

FIGURE 4. *Welfare Receipts by Percentage of Poverty Line*

with no other income, and very few dollars go to households above the poverty line.[14]

4. THE EITC AND INCOME INEQUALITY

Since 1976, the share of total income received by households at the bottom of the income distribution has been falling while the share received by those at the top has increased. For example, census estimates show that between 1976 and 1996 the share of income received by the lowest fifth of the population fell from 4.4 to 3.7 percent. At the same time, the share received by the top 5 percent rose from 16.0 to 21.4 percent (Bureau of the Census 1997). The increase in inequality has been particularly large for male earners. Levy and Murnane (1992) find that the proportion of men earning more than $40,000 (1988 dollars) and the proportion of men earning less than $20,000 both increased, and that less educated men earn less today than similarly educated men earned in the 1960s. Since the EITC targets low-income workers with children and has expanded over the period in which income inequality has risen, it is possible that the EITC now offsets a sizable fraction of the rise in inequality.[15]

Table 2 displays the share of income accruing to each quintile of the

[14] For Figure 4, I redefine census household money income by subtracting AFDC and food stamps. This is to make it comparable to the EITC figures, which depict the effect of the EITC on household income not including the EITC. While one could make a case for including the EITC in household income when looking at the effect of AFDC and food stamps (since AFDC and food stamps are included in the measure of household income used for the EITC figures), I think it is more common to think of the EITC as a supplement to the basic safety net than as an alternative to it. Since relatively few families receive both the EITC and welfare in the same year, this decision about how to measure household income is unlikely to affect the results very much.

[15] It is theoretically possible that increases in the EITC cause employers to lower the gross wage offered to low-wage employees. If so, then the EITC could be part of the cause of the increased (pre-tax) earnings inequality. This consideration has led Bluestone and Ghilarducci (1996) to argue that the EITC and the minimum wage should be raised in tandem. However, there are three reasons to believe that the impact of the EITC on the pre-tax income distribution has been minor. First, casual inspection of the timing of increases in the EITC and increases in earnings inequality suggest that the timing of the two do not coincide. Second, low-income labor markets are often made up of workers both with and without children, and in the short term it is presumably not possible to pay different wages to taxpayers with children. In the long term, it would be possible to switch the composition of a firm's work force so that a higher fraction of the work force are workers with children and the remaining workers without children are those with the lowest reservation wages. Third, it is traditional to assume that the full incidence of payroll taxes is on the worker. This implies that a subsidy such as the EITC raises the worker's net-of-tax wage.

TABLE 2
Rising Income Inequality and the EITC

Distribution of annual household income, all households

	1976 (1)	1996 (2)	1996 plus EITC (3)
Lowest fifth	4.21	3.64	3.77
Second fifth	10.41	8.95	9.09
Third fifth	17.17	15.06	15.05
Fourth fifth	24.97	23.33	23.26
Highest fifth	43.24	49.02	48.83

Distribution of annual earnings, all full-time, full-year males

	1976 (1)	1996 (2)	1996 plus EITC (3)
Lowest fifth	8.30	6.54	6.76
Second fifth	14.26	11.50	11.50
Third fifth	18.25	15.73	15.69
Fourth fifth	22.78	21.15	21.09
Highest fifth	36.41	45.09	44.96

Distribution of annual income, households with children

	1976 (1)	1996 (2)	1996 plus EITC (3)
Lowest fifth	5.48	3.91	4.37
Second fifth	12.47	9.98	10.21
Third fifth	18.13	15.92	15.85
Fourth fifth	24.25	23.15	22.97
Highest fifth	39.67	47.04	46.60

Distribution of annual earnings, full-time, full-year males in households with children

	1976 (1)	1996 (2)	1996 plus EITC (3)
Lowest fifth	8.54	6.54	6.90
Second fifth	14.37	11.39	11.39
Third fifth	18.25	15.55	15.49
Fourth fifth	22.64	21.10	20.92
Highest fifth	36.12	45.51	45.31

Source: Author's calculations from the 1977 and 1997 March Current Population Surveys.

income distribution in 1976 and 1996.[16] Table 2a presents the distribution of annual household income for all households. Columns 1 and 2 show that between 1976 and 1996 the share of aggregate income received by the bottom 20 percent of households fell by nearly 14 percent, from 4.21 to 3.64 percent. The share received by the second quintile fell by 14 percent, the share received by the third quintile by 12 percent, and the share received by the fourth quintile by about 7 percent. Meanwhile, the top quintile's share of income increased by 13 percent, from 43.24 to 49.02 percent. The standard Census Bureau measure of household money income does not include the EITC. Therefore, I predict how much EITC each household received in 1996, and recalculate the share of income including the EITC that was received by each quintile. Column 3 shows that the share of income received by households in the lower two quintiles increases when EITC benefits are included, and the share received by the top three quintiles falls.[17] The EITC offsets 23 percent of the decline in income between 1976 and 1996 for households in the lowest fifth of the income distribution, and offsets 10 percent of the decline for households in the second fifth.

Rising inequality in the earnings of males has been particularly pronounced over the past 20 years. Table 2b examines the contribution of the EITC to offsetting this rise in inequality for males who work full time (at least 35 hours per week) all year (at least 50 weeks per year).[18] My calculations indicate that the EITC has offset 12.5 percent of the decline in earnings for males in the bottom quintile. It is not surprising that the EITC had a smaller effect on this population, since many full-time all-

[16] Top coding of income in the CPS hinders intertemporal comparisons of income inequality in two ways. First, changes in the total amount of income above the top-coded level cannot be observed. Second, the level of income at which the top coding occurs has changed over time. In these calculations, I do not impute income above the top codes. I simply use the top-coded values. Therefore, if incomes have risen particularly rapidly at the top of the distribution, my estimates underestimate the rise in inequality over this period and overestimate the impact of the EITC in offsetting this rise in inequality. I have experimented with reducing the incomes of people at the 1996 top-coded values to be equal to the real value of the 1976 top codes. This adjustment has a very minor effect on my results; it increases the income shares of the bottom four quintiles by about 3 percent (e.g., the bottom quintile's share increases from 3.64 to 3.74 percent).

[17] I do not take account of the increased taxes higher-income taxpayers and taxpayers without children must pay to finance the EITC.

[18] Most of the males who are eligible for the EITC are married, since relatively few single males have children living with them. For married couples in which the husband works full time, I assign all of the EITC to the male, even though his spouse may also have earnings. Since most full-time workers have earnings in the EITC phaseout range, the spouse's earnings will generally reduce the amount of the EITC the married couple receives.

year males have earnings beyond the EITC maximum or do not have children.

The third and fourth panels restrict the samples to households with children—the population at which the EITC is targeted. The EITC offsets a larger fraction of the rise in inequality in these two samples. For all households with children, the EITC offsets 29 percent of the decline that occurred between 1976 and 1996 in the share of income received by the first quintile, and 9 percent of the decline for the second quintile. For full-time male earners with children, the EITC offsets 18 percent of the decline in income received by the first quintile.

5. THE EITC BUDGET CONSTRAINT

5.1 Labor Force Participation

In addition to determining the distribution of EITC dollars by income, the EITC budget constraint alters the incentives faced by taxpayers in deciding how many hours to work. The EITC is unusual in that it unambiguously encourages annual labor force participation among single workers. Most welfare programs, such as AFDC, food stamps, and supplemental security income, provide the maximum benefit to a family with no earnings. The classic negative income tax works this way as well. In contrast, the EITC gives nothing to a taxpayer without earnings. Since it provides either a positive amount or zero to all taxpayers with earnings, the EITC can only increase the probability that an unmarried taxpayer will decide to work during the year. In particular, the EITC is predicted to cause some welfare recipients to leave welfare and start working.

The percentage of single women with children who work at some point during the year has risen dramatically since the mid-1980s. The annual labor-force participation rate among single women with children rose from 72.7 percent in 1984 to 82.1 percent in 1996.[19] The increase in participation has been particularly pronounced among less-educated women. Between 1984 and 1996, the annual participation rate of single women with children and less than a high-school education rose from 46.8 to 58.8 percent.

The increase in labor force participation among women with children reflects a decline in the number of people who receive welfare without

[19] These rates are calculated from March Current Population Surveys for widowed, divorced, and never married women ages 16 to 44 who are neither disabled nor in school. The sample extends the sample in Eissa and Liebman (1996). Meyer and Rosenbaum (1997) was the first paper I am aware of to document the magnitude of the post-1992 increase in labor-force participation among single women with children.

TABLE 3
Labor Market and Welfare Participation of Single Women with Children, 1984–1996

Year	Percentage of single women aged 16–45 with children who: Work and receive no welfare during the year	Work and receive welfare during the year	Receive welfare and do not work during the year	Neither work nor receive welfare during the year
1984	62.9	9.7	20.8	6.6
1985	61.9	11.5	20.1	6.6
1986	61.0	11.8	20.4	6.9
1987	61.6	12.2	18.9	7.3
1988	62.7	11.6	19.4	6.4
1989	65.3	10.5	17.7	6.4
1990	62.8	13.1	17.9	6.3
1991	61.4	12.6	19.4	6.6
1992	60.9	12.8	19.3	6.9
1993	61.2	14.2	18.0	6.6
1994	64.5	14.6	14.3	6.6
1995	67.2	13.3	12.4	7.1
1996	68.6	13.5	10.8	7.1

Source: Author's calculations from March Current Population Surveys, 1985–1997.

working. Table 3 shows that the percentage of single women with children who receive welfare and do no work during the year has fallen from 20.8 percent in 1984 to 10.8 percent in 1996. The 10-percentage-point decline in non-working welfare recipients has resulted in a 9.5-percentage-point increase in the share of single women with children who work for at least part of the year, and only a 0.5-percentage-point increase in the share of single women who neither work nor receive public assistance.

The increase in labor-market activity by single women with children is not simply the result of general labor-market trends or strong economic growth. Figure 5 shows that while labor force participation among single women with children has been rising sharply, participation among single women without children has fallen. Indeed, among low-educated single women without children the participation rate has fallen from 78.3 to 72.3 percent since 1984.

The important question is whether the major expansions of the EITC that occurred over this time period were responsible for the rise in labor-force participation by single mothers. Eissa and Liebman (1996) test whether the EITC increases annual labor force participation among single

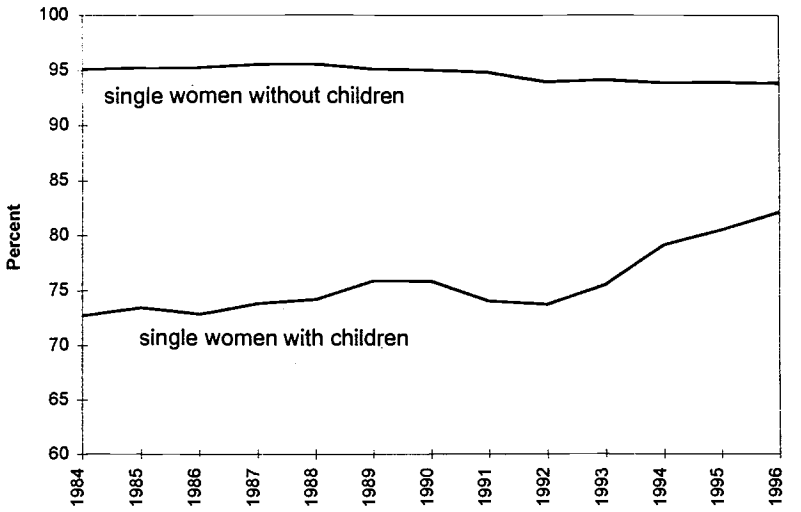

FIGURE 5. ***Annual Labor Force Participation Rates for Single Women With and Without Children***

Note: Sample includes women who are widowed, divorced, or never married, ages 16–45, who are not disabled or in school.

women with children. We estimate the effect of the Tax Reform Act of 1986 (TRA86) expansion of the Earned Income Tax Credit by comparing the labor-force behavior of single women with children (who were eligible for the credit) with the labor-force behavior of single women without children (who were ineligible), before and after the expansion. Since other aspects of TRA86, such as the increase in the value of dependent exemptions and of the standard deduction, reinforced the effects of the EITC expansion by increasing the return to work for single women with children more than it did for single women without children, the total size of this "natural experiment" was equivalent to a $1,331 (1996 dollars) increase in the maximum EITC. The paper carefully controls for other factors that might have caused the trends and concludes that the TRA86 expansion increased labor-force participation among single women with children by 2.8 percentage points, from 73.0 to 75.8 percent. This implies that an extra 164,000 women entered the labor force.[20] We estimate a larger effect for women who are more likely to have been affected by the

[20] This estimate assumes that only single women with children between 16 and 44 years of age respond to the EITC incentive [this was the population studied in Eissa and Liebman (1996)]. Extrapolating to the entire population of single women with children would increase the number to 250,000.

EITC increase: those with less than high school education; their labor force participation increased by 6.1 percentage points from a base of 47.9 percent. Thus, TRA86 caused approximately 10 percent of the non-participants in each group to start working. The average of the two maximum credit amounts (for families with one and more than one child) is now slightly more than twice as large as the TRA86 expansion. If we make the unlikely assumption that there is a constant relationship between the dollar value of the maximum EITC and the percentage of single women with children who work at some point during the year, then there are currently 405,000 taxpayers who are working because of the EITC who would have been non-working welfare recipients in its absence (in 1996, the average monthly number of families receiving AFDC/TANF was 4.5 million). In addition, these results imply that the EITC was responsible for 59 percent of the increase in labor force participation that occurred between 1984 and 1996.[21]

Because there have been two further EITC expansions since TRA86, it would be valuable to replicate the Eissa and Liebman (1996) study for the other expansions. Figure 6 shows that the gap in annual labor force participation rates between single women with and without children tracks the maximum EITC quite closely (the correlation between the two series is .94). However, there are two reasons why the more recent EITC expansions do not provide as clean a test of the impact of the EITC on labor force participation as the TRA86 expansion does. First, the 1990 and 1993 expansions were phased in slowly, so that the EITC has become more generous in every year since 1991. Therefore, separating the impact of the EITC from longer-term trends is difficult. Second, many other policies have been adopted since the late 1980s to encourage welfare recipients to start working. Separating the impact of the EITC from the impact of Medicaid expansions, welfare reforms, and concerns among welfare recipients that time limits are imminent is very difficult. In addition, as in the 1980s, the EITC expansion occurred as unemployment rates were falling. Thus, it is important to control for local labor-market conditions in isolating the impact of the EITC.

Meyer and Rosenbaum (1997) carefully model state welfare policies and labor-market conditions as well as the level of the EITC in an attempt to determine the relative importance of these various factors. They find that state welfare policies and labor-market conditions can account for only a modest share of the relative increase in labor force participa-

[21] Dickert, Hauser, and Scholz (1995) estimate a joint model of labor-market and welfare participation on a single cross section and find results that are similar in magnitude to those found by Eissa and Liebman (1996).

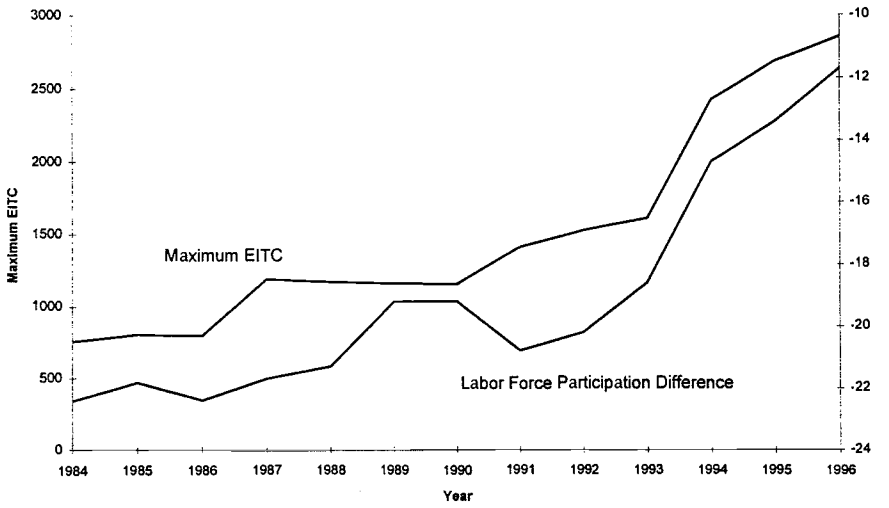

FIGURE 6. ***The EITC and Annual Labor Force Participation Rates***

Notes: Maximum EITC is in 1996 dollars. After 1990, it is the average of the maximums for taxpayers with one child and with more than one child. Labor force participation difference is the difference between the annual labor force participation rate of single women with children and the rate of single women without children.

tion among single women with children, and that the timing of the increase corresponds closely with increases in the EITC. They conclude that the EITC is likely to be responsible for much of the increase in labor force participation.[22]

An important question in estimating the impact of the EITC on labor force participation is whether is it plausible to expect EITC recipients to respond to the contemporaneous level of the credit. Since nearly all EITC recipients receive the credit as part of their tax refund in the year following the year in which they do the work entitling them to the credit, it is likely to be at least a year after an expansion before EITC recipients become aware of and respond to an increase in the credit. Therefore, it is unlikely that the large increase in the EITC between 1993 and 1994 can explain the large jump in labor force participation that occurred between the two years.

[22] Other national trends are an alternative explanation for their finding. To build a completely credible case that the EITC is responsible for the increase in participation will require finding a source of variation in the credit besides time. There are two promising possibilities. The first is that recent EITC increases differentially affected taxpayers with one and more than one child, creating a useful control group. The second is that since state wage and price levels vary, the EITC is likely to be a bigger factor in some states than in others.

Labor supply theory suggests that the EITC will cause some secondary earners in married couples to leave the labor force. There is no little evidence on the magnitude of this effect, although the more general labor-supply literature suggests that participation effects can be large for married women (see Mroz, 1987, and Eissa, 1995).[23] However, even if the EITC were causing a large decrease in participation by secondary earners, the decrease might not be a reason for concern. If families respond to the additional income from the EITC by deciding that the secondary earner should consume more leisure, then there is no deadweight loss from the reduction in participation. There is deadweight loss only if the reduction in the net wage due to the phase out of the credit (the substitution effect) causes the secondary earner to leave the labor force.

This point is illustrated in Figure 7. The top diagram illustrates the case with deadweight loss, while the bottom diagram illustrates the case without deadweight loss. Consider the standard (male chauvinist) model of labor supply in which the wife takes her husband's earnings as exogenous. In the depicted example, the husband has earnings in the phaseout region of the EITC. His income after payroll and income taxes is *AO*. *AB* is the wife's budget constraint in the absence of the EITC. The wife is assumed to earn a gross wage of $10 an hour (net of the employer portion of the OASDHI payroll tax). Because she must pay federal and state income taxes and the employee share of the payroll tax, for every additional hour she works, she takes home $7.25. Therefore, the slope of *AB* is −7.25. In this example, she chooses to work a positive number of hours, and her indifference curve is tangent to the budget constraint at *C*.

When the EITC is introduced, the budget constraint shifts up to *DB* because the EITC provides the family with additional income. If the wife does not work at all, the family's income is now *DO* rather than *AO*. The slope of the new budget constraint is flatter because the 21.06-percent EITC phaseout rate reduces the wife's net-of-tax wage to $5.13.[24] With this new budget constraint, the wife might choose to stop working and locate at point *D*.

Whether or not there is deadweight loss from the wife leaving the labor force depends on whether the indifference curve at *D* is steeper or flatter than the original (pre-EITC) budget constraint. In the top figure, the indifference curve is flatter than the original budget line. In this case,

[23] Eissa and Hoynes (1997) explore this issue using quasi-experimental and instrumental variable strategies, and come up with inconclusive results. They conclude that a structural model is needed to make more progress on this question.

[24] I am assuming that the family has two children.

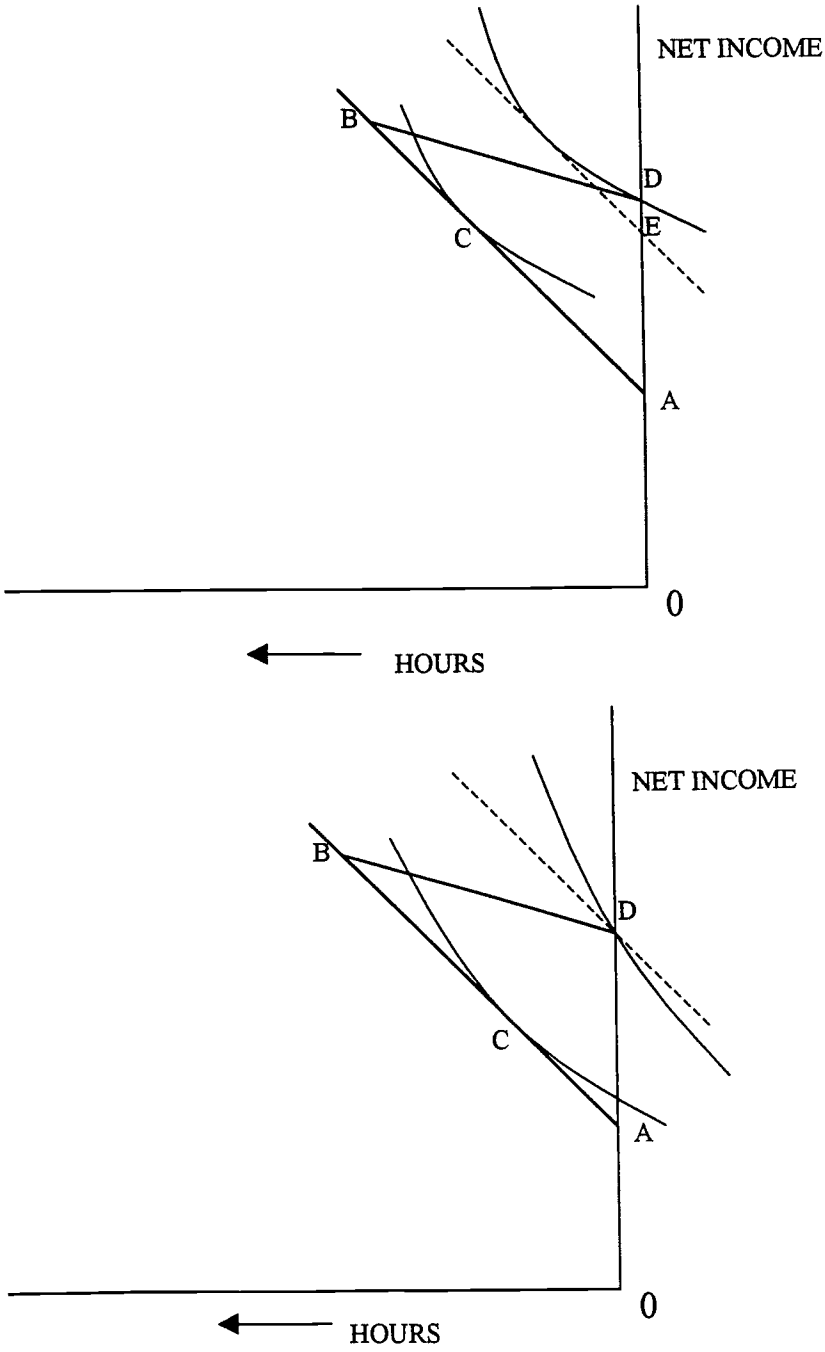

FIGURE 7. *Deadweight Loss from Secondary Earners Leaving the Labor Force: Two Cases*

there is a deadweight loss of *DE* because a lump sum transfer of *AE* (which is less than *AD*) would achieve the same level of utility as at *D*.[25] In the bottom figure, the indifference curve at *D* is steeper than the original budget line. In this example, it is the initial lump-sum transfer that the EITC provides, and not the higher marginal tax rate, that is inducing the wife to leave the labor force. Even if the net wage were increased to the pre-EITC level, she would not participate. Therefore, there is no incremental deadweight loss when the EITC causes the wife to stop working.[26]

5.2 The Impact of the Phaseout of the EITC on Hours of Work

While the EITC differs from other transfer programs in that it encourages annual labor force participation among single parents, the EITC is similar to other programs in that its benefits must be phased out. The phaseout of the EITC occurs over much higher income levels and affects a much larger percentage of its recipients than does the phaseout of U.S. welfare programs.

Sixty-five percent of EITC recipients have incomes above $11,930, and are therefore in the phaseout region of the credit. Phaseout-region taxpayers with two children lose 21.06 cents of the EITC for every additional dollar they earn, and taxpayers with one child lose 15.98 cents per dollar. Since these taxpayers pay a 15.3-percent OASDHI payroll tax on earnings and many of them are liable for federal and state income taxes, the cumulative marginal tax rates faced by phaseout-rate taxpayers often exceed 50 percent. These marginal tax rates are among the highest in the current U.S. tax system. For these taxpayers the EITC creates negative income and substitution effects, and is predicted to reduce their hours of work.

These effects could potentially be large. Table 4 shows that for a full-time worker with two children earning $10 per hour, eliminating the EITC would raise the taxpayer's net of tax hourly wage by 42 percent and reduce the taxpayer's net-of-tax income by $1,705 (11 percent).

While there is only limited evidence on this issue so far, the evidence that does exist suggests that the phaseout of the EITC has little or no impact on hours of work. Eissa and Liebman (1996) examined taxpayers who were already participating in the labor force when the 1987 expansion extended the EITC phaseout to additional workers. We observed no

[25] This is the money-metric equivalent variation measure of deadweight loss. See King (1987) and McKenzie (1983) for discussions of this concept.

[26] Since there are other taxes besides the EITC, there will still be deadweight loss at *F* relative to a no-tax world so long as the absolute value of the slope of the indifference curve at *F* is less than 10 (the gross wage).

TABLE 4
1996 Marginal Tax Rate for Phaseout-Region Taxpayer with Two Children

Marginal revenue product	$10.77
Firm pays:	
OASDHI Payroll Tax	0.765
Gross hourly pay	10.00
Employee pays:	
Federal income tax	1.50
State income tax	0.60
OASDHI payroll tax	0.765
Take-home pay	7.14
Lost EITC in phaseout region	2.106
Net-of-tax hourly wage	5.03

Note: Eliminating the EITC would increase this worker's net of tax hourly wage by 42 percent and *reduce* his/her net-of-tax income by $1,705 (11 percent).

decline in hours, although our confidence intervals were such that we cannot rule out a small one.

Additional evidence comes from examining the distribution of tax returns by income. Economic theory predicts that is taxpayers respond to the EITC phaseout, we should observe bunching of taxpayers at the beginning of the EITC phaseout, and a deficit of taxpayers at the end. Figure 8 shows the distribution of tax returns by income from the IRS Statistics of Income public use sample of 1992 tax returns. There is little if any bunching at the kink at the beginning of the EITC phaseout range, and no evidence of the predicted deficit of taxpayers at the EITC breakeven point.

Finally, there is qualitative evidence that taxpayers do not perceive and respond to the incentives created by the EITC in a way that is similar to how they respond to other tax incentives. Nearly all EITC recipients receive the credit in a single payment as part of their annual tax refund check in the year following the year in which they earned the income entitling them to the credit.[27] In contrast, most other features of the tax

[27] In 1993, the most recent year for which data are available, less than 0.3 percent of EITC recipients took advantage of the early payment option and received the credit throughout the year in their paychecks. Thus most EITC recipients essentially make an interest-free loan to the government. While it is possible that taxpayers are unaware of the early-payment option or decide that the cost of filling out the form requesting early payment exceeds the benefit, interviews I have conducted with low-income taxpayers suggest that many value the forced savings that occurs with the EITC. In particular, respondents told me that they used the refunds to pay off credit card debts, purchase appliances, and take vacations. [See chapter 7 of Liebman (1996) for details.]

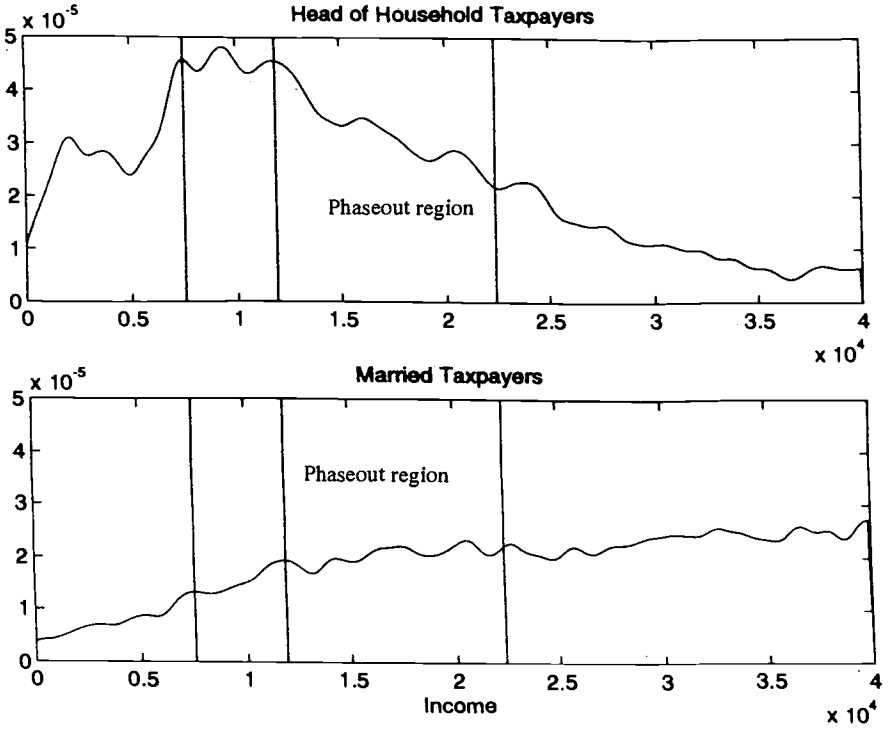

FIGURE 8. *1992 Distribution of Tax Returns for Taxpayers with Children*

system affecting low-income taxpayers, such as the federal income tax and the OASDHI payroll tax, are withheld from each paycheck, and welfare benefits are received monthly. It is therefore possible that taxpayers perceive the incentives from the EITC, particularly the marginal tax rates from the phaseout of the credit, differently from how they perceive other incentives in the tax and welfare systems.

If taxpayers know about the EITC, can understand tax rules, and can calculate their expected adjusted gross income and earned income, then they can determine how the EITC affects their budget constraints. In that case, the form of the EITC payment does not matter. However, evidence from interviews with potential and actual EITC recipients suggests that even many past recipients have not heard of the EITC (54 percent of EITC recipients use a tax preparer) and that those who have heard of it generally have no idea how it is related to their earnings.[28]

[28] Interviews Nada Eissa and I conducted during August 1993 in Cambridge, Massachusetts among potential recipients suggested low awareness of the credit [see Liebman (1996)

Taxpayers and potential taxpayers who do not know about or do not understand the EITC could still respond to its incentives. Taxpayers on the margin between working and not working might try working for one year and discover that they were $3,600 better off than they expected, and therefore decide to stay in the labor force. Even if they had no idea where the large tax refund came from, the taxpayers could realize that it is associated with working. Furthermore, non-working neighbors of the working taxpayer might realize that the working taxpayer was better off than they were, and decide to start working.

It is harder for taxpayers who are unaware of the EITC to perceive the marginal incentives from the phaseout of the credit. In theory, a taxpayer could work half-time one year with earnings in the constant region of the credit and full-time the following year (thereby losing some of the EITC), and realize that the benefit from moving from part-time to full-time work was not worth the lost leisure. This requires the taxpayer to receive the EITC twice before adjusting behavior in the third year. If the taxpayer's wage or family structure changed over the three years, it still might be impossible for the taxpayer to determine the net return to working additional hours. In 1988, only 38 percent of EITC recipients had filed tax returns claiming the EITC in the previous two years. 33 percent of EITC recipients were receiving it for the first time in that year. Therefore, the majority of EITC recipients in that year had not had the opportunity to learn about its marginal incentives from previous experience with the credit.[29] It is important to emphasize that this lack of opportunity to learn about EITC incentives stands in sharp contrast to the frequent opportunities to learn about incentives in the welfare system and in the parts of the income-tax system that affect regular paychecks. Taxpayers who increase the number of hours they work can see, as often as weekly, the change in their take-home pay from the increase in their labor. Similarly, a taxpayer who receives Section 8 housing assistance and who switches from part-time to full-time work

for details]. My experience filling out tax returns as an IRS VITA volunteer in March and April 1994 revealed that even past recipients were often unaware of the credit. More extensive interviews conducted in Chicago and described in Olson and Davis (1994) similarly found low awareness and understanding of the credit. While it is possible that recent publicity and outreach efforts (as well as the increased size of the credit) have increased awareness, interviews I conducted in 1996 with housing-project residents and recipients of Section 8 housing assistance show that while almost all housing-subsidy recipients understand exactly the relationship between their income and their rent, the few who are working and say that they receive the EITC have no idea whether their tax refund would go up or down if their income increased.

[29] Unfortunately, the IRS has stopped releasing additional years of the Michigan tax panel data set, so there is no evidence on EITC dynamics after the recent expansions.

will see exactly how much her monthly rent increases when her income goes up.

Perhaps the most important question about labor-supply effects of the EITC is one we know very little about: how does the EITC affect the human capital accumulation and long-term earnings potential of its recipients? Do former welfare recipients come into the labor force in low-wage jobs and then build the skills they need to move to higher-wage jobs? Or does the EITC phaseout tax rate trap workers at the low end of the earnings distribution with little incentive to work harder or take risks that would lead to higher-paying jobs?

5.3 *Choosing a Phaseout Tax Rate*

During the past few years, there have been Congressional proposals to increase the EITC phaseout tax rate in order to reduce the budgeted cost of the EITC. On *a priori* grounds, it is not possible to tell whether a higher or a lower phaseout rate would be preferable to current rates.[30] A more rapid phaseout reduces the utility of EITC recipients (because for any level of earnings they receive a smaller credit) and causes some taxpayers to leave the labor force and return to welfare. Nonetheless, such a policy could be desirable if it make possible a tax cut for higher-income taxpayers that raised their economic welfare by more than the loss for the low-income EITC recipients.[31]

Whether this is the case depends on the answers to three questions on which there is little consensus. First, how much does society value a dollar's worth of utility for EITC recipients relative to a dollar's worth of utility for other taxpayers? Second, when using the EITC to transfer a dollar to an EITC recipient, how much less utility does the recipient gain than if he or she had received the dollar in a lump-sum transfer (i.e., how much excess burden does the phaseout of the EITC create)? Third, what is the marginal excess burden of raising a dollar of revenue from higher-income taxpayers and taxpayers without children?

5.4 *EITC Marriage Incentives*

Depending on the taxpayer's situation, the EITC can provide either a marriage subsidy or a marriage tax. Both can be large. For example, if a

[30] See Triest (1993) and Browning (1995) for differing views on whether the EITC is an efficient method to transfer income.

[31] It is theoretically ambiguous whether a faster phaseout of the credit will reduce the program's costs. If labor supply were sufficiently elastic, the higher marginal tax rates from the faster phaseout could result in taxpayers' receiving a larger EITC. However, simulations presented in Liebman (1996) suggest that for reasonable labor-supply elasticities, a higher phaseout tax rate does in fact reduce the cost of the EITC.

non-working single woman with two children marries a single man who has earnings of $11,500 a year, then the EITC provides a $3,656 marriage subsidy. On the other hand, if the woman had the earnings of $11,500 too, then the combined earnings would put the couple in the phaseout region of the credit, and the EITC would produce a marriage tax of $2,337. In the worst case scenario, a married couple with four children in which each spouse earned $14,646 could divorce and each take two children. By doing so they would gain $6,176. Clearly, this last scenario is unlikely. Even for the more reasonable examples, there is little empirical evidence to suggest whether the marriage subsidy or the marriage tax is likely to be more important (or whether the impact of either is likely to be large).[32] Perhaps the most important effect of the EITC marriage tax is to discourage some married taxpayers from revealing their true marital status to the IRS. A recent IRS study of EITC noncompliance found that misreporting of filing status by married couples accounted for 31 percent of overclaimed EITC amounts (Scholz, 1997).

6. USING THE TAX SYSTEM TO TRANSFER INCOME TO THE POOR

Experience with the EITC demonstrates that there are two main benefits from using the tax system rather than the welfare system to transfer income to the poor: high participation rates and low administrative costs. However, experience with the EITC suggests that there is also a major disadvantage to using the tax system to transfer income to the poor: high rates of noncompliance.[33]

6.1 EITC Take-up Rates

Scholz (1994) has shown, using a variety of data sets and methodologies, that between 80 and 86 percent of EITC-eligible taxpayers receive the EITC. In comparison, Blank and Ruggles (1993) estimate that 66 percent of AFDC-eligible families receive AFDC, and that these families receive 75 percent of the total dollars to which AFDC-eligible families are entitled. The higher take-up rates for the EITC may be because there is no stigma to claiming the EITC and because of the low costs of claiming the

[32] See Feenberg and Rosen (1995) and Alm and Whittington (1993) for discussions of the marriage tax.

[33] Additional disadvantages of using the tax system to transfer income are that it is difficult for the U.S. tax system (based upon annual income) to respond quickly to short-term need. In addition, the definition of income used by the tax system is likely to be worse at identifying truly needy families than the combined asset and income eligibility test for AFDC. Alstott (1995) contains an interesting discussion of these issues.

credit (most EITC recipients would have filed a tax return in the absence of the EITC). In addition, the EITC population is more highly educated than the AFDC population and thus could be more aware of government programs.[34] There has been some concern in the literature that the high overall take-up rates mask much lower take-up rates among the poorest EITC recipients (Olson and Davis, 1994). However, Liebman (1996) shows that even in the phase-in region of the credit, take-up rates average 70 percent.[35] Additionally, Scholz (1994) found that highly educated EITC-eligible taxpayers were less likely to file tax returns. He speculated that this pattern occurred because the non-filers expected to have tax liabilities in other years and did not want to become visible to the tax system.

To investigate Scholz's hypothesis, I obtained tabulations from the 1988 IRS non-filer study. The IRS undertook this study in order to determine what share of persons who should have filed tax returns in 1988 did not file, and to discover what the characteristics of these non-filers were.[36] The IRS constructed a sample that was designed to be representative of all non-filing citizens by beginning with the universe of all people with social security numbers who did not file a 1988 tax return. Of these potential non-filers, 41 percent could not be located, 42 percent were not required to file a tax return, 11 percent had already filed a tax return, and 5 percent (representing 5 million individuals) should have filed a tax return. Of the 5 percent who should have filed a tax return, 38 percent were due a refund, 54 percent had tax liability, and 8 percent neither owed money nor were due a refund.

Of the 5 percent who should have filed a tax return, the IRS obtained tax returns from 80 percent. 7 percent of these non-filers who ultimately filed claimed the EITC. The median amount of EITC claimed was $500, and 75 percent of these EITC taxpayers reported self-employment income. From these delinquent taxpayers, the non-filer study sometimes collected data on their 1987 and 1989 tax returns, usually in cases in which the auditor expected the taxpayer to have unpaid taxes from those years as well. 92 percent of the non-filers who claimed the EITC were due a tax refund because the amount of the EITC exceeded the tax-

[34] On the other hand, geographic concentration of poverty may imply that individuals with low levels of education have more access to information about welfare programs than low-income workers have about the EITC.

[35] At incomes below $2,000, my estimated takeup rates fall sharply. However, the individuals failing to claim the EITC at very low levels of the EITC are eligible for only small amounts of the credit.

[36] Graeber, Nichols, and Sparrow (1992) describe this study.

payer's tax liability (net of withholding). Of these EITC taxpayers with refunds due in 1988 and from whom the auditors obtained data from additional years, 80 percent were due a refund in 1987, and 65 percent were due a refund in 1989. These results suggest that for many of these taxpayers, ignorance of the EITC is a better explanation for why they did not file than is an effort to avoid tax liability in other years. However, because the IRS did not locate 41 percent of non-filers, did not obtain returns from 20 percent of those non-filers who should have filed, and obtained 1989 and 1987 tax returns for only about 15 percent of delinquent taxpayers who claimed the EITC in 1988, these results clearly are not representative of all non-filers.

6.2 Administrative Costs

Using the tax system rather than the welfare system to transfer income has the potential to greatly reduce administrative costs. The administrative costs of AFDC in 1995 were 16 percent of benefits paid (Committee on Ways and Means, 1996), in large part because of the need to pay for caseworkers. By relying on taxpayers to self-report their eligibility on their tax returns, the EITC avoids this cost.

While there is no ideal estimate of EITC administrative costs, it is clear that these costs are much lower than administrative costs in the welfare system. The U.S. General Accounting Office (1995) has estimated that the administrative costs of the EITC are less than 1 percent of dollars transferred.[37] Recent IRS efforts to combat EITC noncompliance have probably raised these costs. However, as Scholz (1997) has pointed out, the entire IRS budget in 1995 was only $7.6 billion. Even under the unlikely assumption that 10 percent of IRS costs were due to the EITC, EITC administrative costs would be only 3 percent of benefits paid.

Neither the AFDC administrative-cost estimate nor the GAO estimate includes the cost to recipients of applying for benefits, keeping records, meeting with caseworkers, and filing tax returns. Slemrod and Sorum (1984) estimated that in 1984 U.S. taxpayers spent two billion hours filing tax returns and paid $3 billion for professional tax assistance. However, including these additional costs would make the EITC look even more efficient relative to the welfare system. Even if there were no EITC, nearly all EITC recipients would still have reason to file a return (Scholz, 1997). Thus the cost of receiving the EITC is only the additional time necessary for the taxpayer or paid preparer to fill out schedule EIC. For

[37] This estimate is not based upon a detailed analysis of the marginal cost of administering the EITC. Rather, it appears to come from applying the average cost of processing a tax return to EITC returns and adding in the costs of all refund fraud detection.

most AFDC recipients, the cost of repeated visits to the welfare office and of assembling documents such as school attendance records and letters from employers is likely to be much greater than the marginal cost to a taxpayer of applying for the EITC.

7. THE EITC COMPLIANCE PROBLEM

Experience with the EITC suggests that there is a major disadvantage from using the tax system to transfer income to the poor: high rates of non-compliance. Tabulations from the IRS's Taxpayer Compliance Measurement Program (TCMP), first presented by Holtzblatt (1991) and Scholz (1990), indicate that one-third of 1985 and 1988 recipients were ineligible for the credit, primarily because they did not have children entitling them to claim the credit. In comparison, AFDC quality-control data indicate that 4 percent of 1991 AFDC recipients were ineligible to receive benefits (U.S. Department of Health and Human Services, 1994).[38]

Since 1988, there have been changes to EITC eligibility rules designed to reduce noncompliance, and the IRS has adopted a series of measures to try to reduce erroneous EITC payments. However, the maximum EITC has more than doubled in real terms, increasing the return to fraud. In addition, the technology of tax filing has changed, with the percentage of EITC taxpayers filing electronically increasing from less than 1 percent in 1988 to 26 percent in 1994. The IRS recently released some results from a study of taxpayers who claimed the EITC in tax year 1994 (Internal Revenue Service, 1997). The study found that 26 percent of EITC dollars were overclaimed, down from 35 percent in 1988.[39]

These basic results raise three important questions. First, who are the ineligible EITC recipients? If the ineligible taxpayers are low-income taxpayers with children, and therefore similar to eligible taxpayers, then society may be more willing to tolerate high noncompliance rates. Second, are the ineligible taxpayers making inadvertent errors or are they

[38] It is unclear how to reconcile the quality-control data with the work of Edin (1993), who finds that essentially all AFDC recipients have unreported income (although not necessarily enough to make them ineligible for the program). Most likely, the quality-control auditors fail to discover much of the unreported income. A recent paper by Hill, Hotz, Mullin, and Scholz (1997) matches administrative welfare and earnings data for four California counties, and finds that at least 14 percent of AFDC recipients underreport earnings to the welfare system.

[39] The IRS estimates that if the additional EITC compliance efforts implemented since 1994 had been in place, the overpayment rate would have been 21 percent. If correct, this estimate would imply that the EITC non-compliance rate is approaching the overall individual-income-tax noncompliance rate of 17 percent [see Internal Revenue Service (1996) for 1992 tax-gap estimates].

deliberately committing fraud? Even is the ineligible taxpayers are mostly low-income families with children, society might want to assign a low or even negative social welfare weight to dollars transferred to the noncompliant taxpayers if they are committing fraud. Third, how much of an effect have IRS efforts to reduce EITC noncompliance had on noncompliance rates, and what is the prospect for further reducing EITC overpayments?

7.1 Who Are the Ineligible EITC Recipients?

In 1988, 86 percent of the ineligible taxpayers had incomes low enough to quality for the EITC if they had been otherwise eligible. Most were ineligible because they did not have a child entitling them to claim the credit.

Under pre-1991 rules, a child qualified a taxpayer for the EITC if the child lived with the taxpayer for more than half of the year and if the taxpayer provided at least half the cost of supporting the child. Therefore, a non-custodial parent was not eligible to claim the EITC, and a taxpayer would be ineligible for the EITC if the taxpayer claimed a relative or neighbor who did not live with the taxpayer or if the taxpayer invented a fictitious child. In addition, even a low-income taxpayer with one or more children could have been ineligible for the EITC if the taxpayer did not meet the support test. The support test implied, for example, that a taxpayer who received $4,000 in AFDC benefits and $3,000 in earnings would not have been eligible to receive the EITC.

Largely in response to complaints that the support test was difficult to enforce, OBRA 1990 eliminated the support test as an eligibility requirement for the EITC.[40] By defining previously ineligible taxpayers as eligible for the EITC, this reform had the potential to reduce the EITC noncompliance rate. It is impossible to determine from the TCMP data file how many of the 1988 EITC returns that were disallowed failed the support test, but would otherwise have been eligible for the EITC. However, U.S. General Accounting Office (1993) examined a small sample of audit sheets from the 1988 TCMP. The results of this study imply that removing the support test reduced the EITC overpayment rate from 35 percent to 21 percent.[41]

[40] Since tax returns do not include information on non-taxable sources of support, there was no way for the IRS to tell from a taxpayer's return whether or not the taxpayer met the test.

[41] The GAO sample represents only 4 million of the 6.21 million tax returns with disallowed dependent exemptions. The sample does not represent the entire tax-filing population, because some audit sheets could not be found, and because discrepancies were found between some of the audit sheets and the TCMP computer file. Therefore, the results of the GAO sample could be biased.

In order to learn more about the characteristics of ineligible EITC recipients, I became a special sworn Census Bureau employee and used a data set which matched the March 1991 Current Population Survey to the tax returns of CPS respondents [see Liebman (1995b) for the full details].[42] I estimated the percentage of 1990 EITC recipients who told the CPS interviewer that there were no children living in their household.

I found that between 10 and 21 percent of all EITC recipients lacked children qualifying them for the EITC. Male taxpayers filing as household heads were particularly likely to be ineligible—between 25 and 53 percent lacked children, depending on the exact measure of eligibility used.[43] In addition to providing an alternative measure of dependent-child-related EITC noncompliance, my work with the CPS–IRS match demonstrated that in 1990, 87 percent of EITC recipients had children living in their households at the time that they received the EITC.

While the IRS has not released sufficient information from the 1994 EITC compliance study to make it possible to fully characterize current ineligible EITC recipients, recent Congressional testimony by a Treasury Department official indicates that improper claiming of children continues to be the largest source of erroneous EITC claims (Scholz, 1997). In particular, 39 percent of overclaimed EITC amounts are due to taxpayers claiming children who did not reside with them for over half of the year.

7.2 Taxpayer Error or Taxpayer Fraud?

Most ineligible EITC recipients have low incomes, and many children residing in their households. If the ineligible taxpayers are making inadvertent errors in claiming the EITC, then society may still attach a high value to the dollars that are transferred to them. On the other hand, if the ineligible taxpayers are fraudulently evading taxes, then society might want to assign a low or even negative value to the dollars transferred to these ineligible taxpayers.

Liebman (1995a) estimates the share of EITC noncompliance that is due to inadvertent error and the share that is due to tax evasion. The basic insight motivating the estimation is that the amount of inadvertent

[42] In order to protect census respondents, U.S. law does not permit the Census Bureau to share with the IRS micro data in which individuals can be identified. Therefore, research matching census micro data with tax-return data can only be done by Census Bureau personnel.

[43] The lower estimates come from defining taxpayers as ineligible only if there were no children in both their March 1990 and March 1991 CPS households. The higher estimates come from defining taxpayers as ineligible if there were no children in their 1991 CPS household or if the total number of dependents claimed on tax returns filed by household members exceeded the number of children living in the household.

error should not respond to the size of the tax credit available to a taxpayer who claims the EITC. In contrast, tax evasion should increase when the return to such behavior grows. My data for this study were 1985 and 1988 cross sections from the IRS's Taxpayer Compliance Measurement Program. In these data, I can observe the number of children that each taxpayer claimed on his or her tax return and the number of children that the auditor determined the taxpayer was entitled to claim. I test whether the probability that a childless taxpayer claims a child on his or her tax return depends on the reduction in tax liability from making such a claim. Since the Tax Reform Act of 1986 (TRA86) increased the return to claiming children by different amounts at different levels of income, I am able to separate the effect of the EITC from any underlying relationship between income and compliance behavior that happens to be correlated with the EITC in the cross section.

I find that the EITC is positively correlated with the probability of noncompliance and estimate that the TRA86 expansion of the EITC caused between 246,000 and 369,000 additional ineligible taxpayers to claim the EITC. My results imply that of every additional dollar spent on the EITC, 24 cents go to ineligible taxpayers—11 cents to taxpayers who are responding to the EITC incentive to wrongly claim children (and therefore potentially committing fraud), and 13 cents to taxpayers who would wrongly claim children even in the absence of the EITC (some of these taxpayers may be deliberately overclaiming children in order to benefit from personal exemptions and the head-of-household filing status).

7.3 Is Noncompliance Declining?

During the 1990s, the IRS has taken a number of important steps to reduce EITC noncompliance. For example, before sending out tax refunds, the IRS now verifies the social security numbers of children claimed on tax returns.[44] In addition, the IRS has introduced sophisticated new computer algorithms for spotting unusual patterns of EITC filings. I presented results above that suggest that elimination of the support test should by itself have reduced noncompliance rates to levels similar to those reported in the 1994 EITC noncompliance study. Therefore, it is worth asking whether these more recent compliance efforts have had any effect.

While it is impossible to be certain, it seems likely that the reforms have had a substantial impact. The results of my study of the noncompliance response to the 1987 expansion of the EITC indicate that a

[44] Because it is rarely cost-effective to pursue a low-income taxpayer after a tax refund has been mailed, it is important to determine eligibility before sending out the refund check.

45-percent increase in the maximum EITC increased the noncompliance rate by 14 percent. It is highly speculative to extrapolate from these results to more recent EITC expansions. In particular, the nature of EITC noncompliance has changed with the elimination of the support test and the expansion of the EITC to higher-income taxpayers, and extrapolations from reduced-form regressions can be misleading. Nonetheless, between 1990 and 1994 the value of the EITC slightly more than doubled, so we might have predicted an increase in noncompliance of 33 percent from the 21-percent post-support test level to 28 percent. Thus if recent reforms have reduced the rate of noncompliance to 21 percent, then they have eliminated one-quarter of EITC non-compliance.

At the Treasury Department's request, Congress recently passed six new reforms that are likely to further reduce EITC noncompliance. In addition, Congress provided the IRS with additional funding to expand EITC compliance efforts. Among these reforms are two provisions that will enable the IRS to better identify erroneous EITC claims during processing. One reform will allow the IRS to use information from the national registry of child-support awards that is being constructed as part of welfare reform. These data will help the IRS spot cases in which non-custodial parents are claiming their children even though the children do not live with them. A second reform is that the Social Security Administration will soon begin recording the identities of parents when they issue a social security number for a child. Using these data, the IRS will be able to identify taxpayers who claim children who are not their own.

8. IMPLICATIONS FOR THE DESIGN OF TRANSFER PROGRAMS

This study of the Earned Income Tax Credit has highlighted a series of fundamental trade-offs that need to be faced in designing transfer programs. The first set of trade-offs involves the choice of a budget constraint. The EITC is an inefficient way to combat poverty in that it transfers the majority of its dollars to taxpayers at or above the poverty level. In contrast, programs which use the standard welfare budget constraint transfer most of their dollars to households with little other income. However, the families that receive the EITC receive few other transfers and usually include individuals who work a large number of hours at low wages. If society wants to reward work, especially in light of widening earnings inequality, the EITC appears to be an effective way to target low-wage workers.

In addition to determining the distribution of dollars by income, the choice of a budget constraint affects taxpayer behavior. Research on the EITC demonstrates that it is possible to design a budget constraint using the tax system that will encourage welfare recipients to start working. However, since the EITC accomplishes this by increasing the return to full-time low-wage work, it requires phasing out the credit over a fairly thick part of the income distribution. If the moderate-income taxpayers in the phaseout range of the credit have relatively low social-welfare-function weights and if the phaseout tax rate causes substantial dead-weight loss, then the benefits of the program may be outweighed by the costs of raising the revenue that is transferred to phaseout-region recipients. These costs and benefits are heavily influenced by the choice of a phaseout tax rate. Higher phaseout tax rates lower the utilities of EITC recipients, but increase the average social welfare weight of recipients while reducing the revenue cost of the program and raising the utilities of non-recipient taxpayers.

The second set of tradeoffs involves the choice of a system to use for administering the chosen budget constraint. Using the tax system, it is possible to reduce administrative costs and increase program participation rates by eliminating welfare caseworkers. However, without caseworkers it becomes difficult to verify recipient eligibility. In the case of the EITC, we have seen that very high rates of non-compliance can occur when recipients are permitted to self-determine eligibility status. The tradeoffs between administrative costs and participation rates on the one hand and compliance rates on the other occur within a given transfer systems as well as across different systems. In the past few years, the IRS has devoted considerable additional resources to verifying taxpayer eligibility for the EITC and to recognizing emerging patterns of fraud. While non-compliance rates have fallen, it is clear that the IRS actions have raised administrative expenditures and have discouraged some eligible taxpayers from receiving the credit.

Finally, I have presented evidence that there are important interactions between the two sets of trade-offs. In particular, the form in which the budget constraint is administered affects the ways in which program recipients perceive and respond to it. Thus in evaluating a transfer program, it is important to use models that are flexible enough to explore different assumptions about how taxpayers respond to the program's incentives.

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