

The Impact of the Earned Income Tax Credit on Economic Well-Being: A Comparison Across Household Types

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Abstract Using survey data from Earned Income Tax Credit (EITC) recipients in Madison County, New York, we evaluate the effectiveness of the EITC in improving the economic well-being of low-income households. In particular, we examine the impact of the EITC across household types. For tax years 2002 through 2004, we find that the EITC is responsible for significantly lowering the poverty rate of EITC recipients, from 57 to 49%. In fact, for households below the poverty line, the EITC fills 31% of the gap between their adjusted gross income and the poverty line. The EITC has the largest impact on single parent households, lowering their poverty rate by 11.2 percentage points and reducing their poverty gap by almost 35%. However, the EITC has negligible effects on the poorest households in the sample—childless singles. A majority (64%) of EITC recipients intends to use at least some of the refund on basic needs and almost half plan on using part of their refund for debt repayment. This suggests that the EITC helps the majority of recipients get by but does not increase their economic mobility. Somewhat surprisingly, single parent households in the sample are not that different from married parent households in terms of EITC amounts, poverty rates, use of credit, and participation in government programs, despite earning less.

Keywords EITC · Poverty · Household types · Uses of EITC

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Introduction

This paper examines the effectiveness of the Earned Income Tax Credit (EITC) in fighting poverty and improving economic status across household types in a rural county in upstate New York. Building on the work of Romich and Weisner (2000) and Smeeding et al. (2000), we also examine the intended uses of tax refunds by household type. The EITC has become the federal government's largest cash-assistance program for low-income families, making it the centerpiece of anti-poverty programs in the U.S. As a wage subsidy for low-income workers, the EITC has been successful in both helping the working poor and encouraging work. According to Holt (2006), "the EITC lifted 4.4 million people in low-income working families out of poverty in 2003" (p. 13). As a result, the EITC has enjoyed broad bipartisan support, leading to its expansion over time. Twenty-four states and the District of Columbia have implemented state earned income credits (Levitis and Koulisch 2008). Low-income households in New York, for example, are eligible for an additional 30% in state EITC. These tax credits are nontrivial; for households with two or more children earning between \$11,000 and \$14,370 in tax year 2005, the maximum federal credit was \$4,400 and the maximum New York state credit was \$1,320. Approximately 15% of households nationwide qualify for the EITC, based on estimates from Hoffman and Seidman (2003). However, approximately one-quarter of households who are eligible for the EITC do not claim it (U.S. General Accounting Office, 2001).

The data used in this study are collected through the Madison County Volunteer Income Tax Assistance (VITA) program for tax years 2002, 2003, and 2004. The Internal Revenue Service sponsors the VITA program nationwide by training volunteers to prepare tax returns at no charge for low-income workers.¹ The Madison County VITA program, launched in 2002, is a partnership between the Internal Revenue Service, Colgate University, the Madison County Department of Social Services, and the Community Action Partnership for Madison County. Using trained volunteers, taxes are electronically filed between January and April for low-income residents at three different sites. It has resulted in over \$1 million refunded to households in Madison County over the three-year period, with approximately 60% of that amount coming from federal and state EITC. The average income in our sample is \$13,564 and the poverty rate is an astounding 57%; these figures compare to an average income of \$40,089 in Madison County in 2003 and a county poverty rate of approximately 10%. The average EITC recipient in our sample receives \$2,108, or 15.5% of their income, in federal and state EITC. Thus, our sample consists of relatively poor households who heavily rely on the EITC.

Given the richness of the dataset, we are able to examine the effectiveness of the EITC, and, in particular, its impact on different household types (single parents, married parents, and singles and married couples without children). First, we explore the EITC as a poverty reduction mechanism in Madison County. We find that the EITC reduces the poverty rate of our sample by 8 percentage points, from

¹ Go to www.irs.gov to find more details on the VITA program. The IRS is not involved with the data collection.

57 to 49%, with the largest effects being documented in households with children. For these households, the EITC reduces the gap between gross income and the poverty line by more than one-third. Then, we evaluate how households plan to spend their EITC; do they use it to meet basic needs, repay debt or purchase durable goods? Almost two-thirds of Madison County EITC recipients intend to use at least part of their refunds to meet basic needs, while half plan on repaying debts. However, a significant proportion (18%) plan on purchasing a car with their refund, particularly interesting in a rural county where public transportation is minimal.

Our work complements several studies that examine the impact of the EITC on economic well-being and poverty. Hotz and Scholz (2000) find that, compared to other poverty-reduction programs, the EITC is effective in raising the standard of living for low-income households, while keeping administrative costs relatively low. Neumark and Wascher (2001) and Ziliak (2005) provide evidence that the combined federal and state EITC helps families rise above the poverty line. Ziliak (2004) provides a comprehensive analysis of how tax credits (among other factors) affected the poverty gap between 1979 and 2001. Grogger (2004) shows that the EITC is partly responsible for the rapid decline in the welfare caseload during the 1990s. Our analysis extends this line of research by comparing the impact of the EITC across household types, namely single parent households, married parent households and childless households. In addition, we build on work by Smeeding et al. (2000), Porter and Dupree (2001), Hoffman and Seidman (2003), Ziliak (2004), and others, who compare the EITC across various sub-samples of the population.

The EITC plays a unique role in rural communities, as it “not only provides a much-needed wage supplement for rural ... workers, but it represents an important investment in the low-income communities in which they live” (Kneebone 2008, p. 10). In fact, more than 20% of income tax filers in rural areas receive the EITC (Kneebone 2008); this compares to 17% nationally. In addition, low-income rural families experience higher poverty rates and lower incomes than urban families (Mammen et al. 2009). Our analysis of rural households in central New York state adds to the relatively small literature that focuses on the effects of the EITC in rural communities (Berube and Thacher 2004; Mammen and Lawrence 2006; Mammen et al. 2009).

Perhaps our most important contribution relates to the uses of the EITC by households. To date, only a few studies have analyzed this aspect of the EITC. Romich and Weisner (2000) examine an ethnographic sample of 42 families in Milwaukee, WI, and find that two-thirds of respondents spend their refund on children-related expenses and large goods such as furniture. Alternatively, Smeeding et al. (2000) analyze EITC uses for a large sample of central city Chicago households; they find that almost 70% of respondents plan to use the refund for economic or social mobility. However, the highest priority use of the EITC is to pay bills (for 83% of their sample), followed by commodity purchases (74%). Using data from New York City, Rhine et al. (2005) report that a majority of EITC recipients plan to use their refund to pay off debts or for immediate needs (such as paying bills and rent). When analyzing the Consumer Expenditure Survey, Barrow and McGranahan (2001) show that at least some EITC-recipient households are

putting part of their EITC towards durables purchases. Mammen and Lawrence (2006) analyze EITC usage among rural working mothers in 13 states, and found that the EITC was predominately used to pay bills and loans.

Our study contributes to this line of research by analyzing a large sample of rural households regarding their uses of the EITC. Our usage data is highly disaggregated which allows us to compare differences in EITC usage across different household types. Following Smeeding et al. (2000), we categorize EITC uses into major categories (basic needs, debt repayment, and durable good purchases); however, different from their study, our sample represents a rural area and includes households without children. Our results indicate some important differences in EITC usage for households with and without children.

Overview of the EITC

Starting from a small credit embedded in the tax code, the EITC has grown to one of America's most important benefits for low-income families. The EITC was initiated as a modest program as part of the Tax Reduction Act of 1975. The program was unique among tax credits as it was refundable so that poor families could utilize its benefits even if they owed little or no taxes. Unlike welfare programs such as Aid to Families with Dependent Children (AFDC), single parents as well as married couples were eligible for the program. The EITC went through minor changes in subsequent years, the most important being when it became a permanent provision of the Internal Revenue Code in 1978.

The Tax Reform Act of 1986 indexed the EITC to inflation and liberalized the EITC, helping to remove over 6 million Americans from poverty (Ventry 2000). The largest expansion of the EITC occurred in 1990, when the credit amount was almost doubled. In 1993, the EITC was increased by an additional 25%. Both the size of the credit and the eligible population has grown over time, and was fueled by the passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996, which replaced AFDC with Temporary Assistance for Needy Families (TANF). In 2004, the EITC was claimed by 16 million families, who received almost \$35 billion in benefits. Families with household income between \$10,000 and \$20,000 receive credits averaging 25% of their income, the equivalent of a two dollar an hour wage increase (McIntyre 2004).

Today, the EITC acts as an after-tax wage subsidy for low-income workers and depends only on earnings, number of children and marital status.² An overview of the EITC structure for head of household single filers in 2005 is depicted in Fig. 1. Table 1 presents the details of the EITC structure—maximum credits and earnings limitations—for tax years 2002 through 2004. The EITC is structured in three phases: in the phase-in period, the credit increases with earnings; in the plateau period, the credit reaches a maximum and levels off; and in the phase-out period, the credit falls as the claimant's earnings rise. At the breakeven point, or earnings limit, the household earns no EITC. The maximum EITC is separated into different levels

² Many of the poorest families are ineligible for the EITC, as discussed in Hoffman and Seidman (2003).

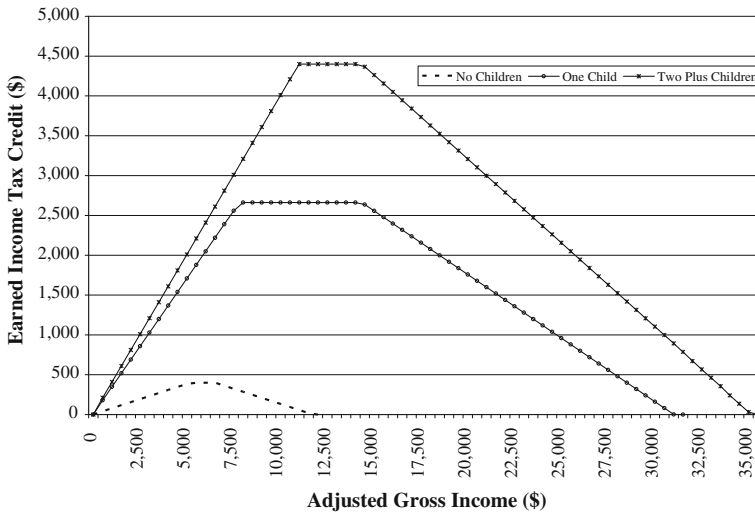


Fig. 1 Federal EITC structure for head of household single filers, tax year 2005

for claimants with no children, those with one child, and those with two or more children. There are also different tax credits for different types of filers; married couples filing jointly are eligible for slightly higher credit amounts in the phase-out period than single filers.

Consider a family with two children and combined adjusted gross earnings of \$10,000 in 2005. Because the family's earnings are in the phase-in region, as their income increases by \$1.00, the amount of the credit goes up \$0.40. If the family has an income between \$11,000 and \$14,370, it is eligible for the maximum credit amount of \$4,400. Finally, if earnings increase past \$14,370, the family enters the phase-out range; in this range, the tax credit is reduced as earnings rise. If earnings go above \$35,263 (the breakeven point for households with two children in 2005), the household earns no EITC.

The success of the federal EITC has led to the development of similar programs in 23 U.S. states and Washington D.C. As documented in Johnson (2000), the majority of the income tax credits put into place since the 1980s have been state EITCs.³ To continue with the example above, suppose the family with two children in New York is currently in the plateau region, receiving \$4,400 in federal EITC. The family would also receive a New York State credit of \$1,320 (30% of the federal credit).

Hoffman and Seidman (2003) use the 1996 Panel Study of Income Dynamics to estimate that one in seven households in the U.S. is eligible for the EITC. They find that the majority of the credits go to single parent households, with 50% of single fathers and 60% of single mothers receiving the credit. One-fifth of married couples with children claim the EITC, compared to 2.5% of childless couples and 5% of childless individuals. Nearly two-thirds of eligible families are in the phase-out

³ See Levitis and Koulisch (2008) for a list of state EITCs.

Table 1 Federal EITC schedule for head of household single filers, tax years 2002–2004

Type of return	2002 (in \$)		2003 (in \$)		2004 (in \$)	
	Maximum credit	Qualifying income	Maximum credit	Qualifying income	Maximum credit	Qualifying income
Childless	376	11,060	382	11,230	390	11,490
One child	2,506	29,201	2547	29,666	2,604	30,388
Two or more children	4,140	33,178	4204	33,692	4,300	34,458

Source: IRS, <http://www.irs.gov/individuals/article/0,,id=150513,00.html>

range. Approximately 35% of households below the poverty line, 35% of households between 100 and 150% of the poverty line, and 25% of families between 150 and 200% of the poverty line are eligible for the EITC.

Data

The data for this paper were collected through surveys completed by individuals who participated in the Madison County VITA program between tax years 2002 and 2004. VITA participants are recruited by the Madison County Department of Social Services and the Community Action Partnership of Madison County. However, VITA participants are not necessarily clients of either agency. For example, some participants hear about the VITA program through various media outlets. Criteria for VITA participation is set by the IRS, based on the guidelines for EITC eligibility. In tax year 2004, a taxpayer must have had an adjusted gross income of less than \$34,458 (\$35,438 married filing jointly, MFJ) and two or more children; \$30,088 (\$31,088 MFJ) and one child; or \$11,490 (\$12,490 MFJ) with no children. If the taxpayer met these guidelines and lived in Madison County, they were eligible for VITA participation. There is no limit to the number of clients the program can serve in a given year. Certainly, the program does not reach all eligible clients, and the sample is likely overrepresented with households that use other social services.

Between tax years 2002 and 2004, the Madison County VITA program filed a total of 541 tax returns. As part of the program, each household is asked to fill out an anonymous survey.⁴ The survey captures household characteristics, participation in other government assistance programs, household savings and debts levels, and the intended uses of the tax refund. The survey is voluntary, and a small percentage of the clients (approximately 2%) choose not to complete it. The dataset used for this study contains information for 432 households who filed their tax returns in the 2002, 2003, or 2004 tax year. The difference between the number of tax returns completed (541) and the final sample (432) is largely accounted for by multiple tax returns being filed from the same household, such as an unmarried couple living together but filing separately.

⁴ The survey can be found at: <http://www.colgate.edu/desktopdefault1.aspx?tabid=1990>.

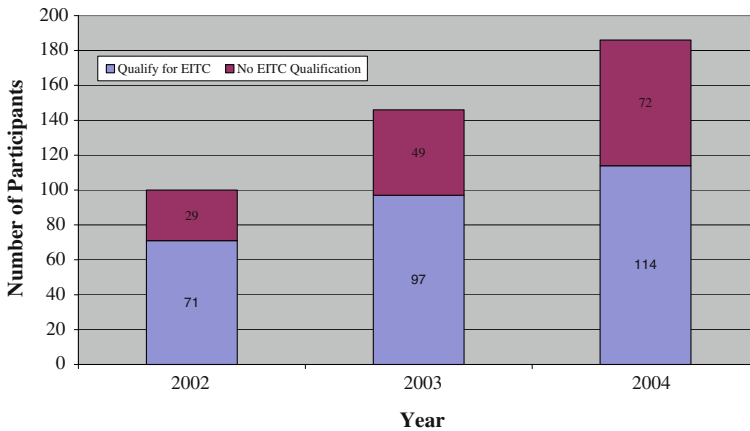


Fig. 2 Number of VITA participants by year

The number of participants in the Madison County VITA program has increased each year (see Fig. 2). Approximately 35% of the VITA participants do not qualify for the EITC. Since the goal of the paper is to analyze the effectiveness of the EITC, we restrict our sample to EITC recipients, leaving us with 282 observations for the descriptive analysis presented below.⁵ It is important to note that some of the clients are likely to be repeat customers⁶; therefore, the data set does not represent 282 unique households. In addition, because filers are given the option to not respond to some of the questions, the sample is unbalanced.

Madison County is an upstate rural county located in the center of New York State. Since its beginning, Madison County's economy has been lead by agriculture; however, the employment in this sector has declined over the past 30 years and the service, wholesale and retail trade sectors have grown in importance. The proximity to the cities of Oneida and Utica provides employment opportunities to many Madison County residents. The New York State Department of Labor reports that private sector employment in Herkimer, Madison and Oneida counties remained relatively stable in recent years, decreasing slightly from 102,900 in 2002 to 100,000 in 2003 and then increasing to 100,100 in 2004.⁷ At the same time, the unemployment rate in the region declined slightly over the time period from 5.4% in 2002 to 5.3% in 2004.⁸

Madison County contains one city (Oneida), 15 towns and 10 villages. Between 1970 and 2000, the population grew by 10.5%. Although population has actually declined in much of the upstate region in recent years, the population of Madison

⁵ If the goal of the paper would be to analyze the effectiveness of the VITA program instead of the EITC, we could use the entire sample. We leave that for future work.

⁶ Unfortunately, due to the anonymous nature of the survey, we are unable to track participants over time.

⁷ New York State Department of Labor (www.labor.state.ny.us/workforceindustrydata), Current Employment Statistics Survey.

⁸ New York State Department of Labor (www.labor.state.ny.us/workforceindustrydata), Local Area Unemployment Statistics Program.

Table 2 Demographic and employment statistics (at time of survey)

Means	EIC recipients	Std dev.	N
Age	36.6	10.4	272
% Female	69%	46%	278
% Caucasian	98%	15%	265
% Married	29%	45%	282
% Employed	76%	43%	250
Hours worked	33.3	12.7	81
% Of partners employed	52%	50%	62
Hours Worked by Partner	34.8	8.0	12
Income (2004 \$)	\$13,564	\$10,155	279

County has continued to grow, albeit very slowly, at about 1%; it increased from 69,453 in 2000 to 70,392 in 2004.⁹

The median household income for Madison County was \$41,358 in 2004, compared to the New York State average of \$45,343. The county poverty rate increased from 9.7% in 2002 to 10.6% in 2004; the poverty rate for New York State in 2004 was 14.5%.¹⁰

Descriptive Statistics

Demographics

Table 2 shows the breakdown of demographic characteristics for Madison County EITC recipients who used the VITA program over the three-year period. Approximately 69% of survey respondents are female. The average participant is almost 37 years old and the sample is 98% Caucasian, which compares to 96.5% for the county.

The marital status and household structure of the participants is presented in Fig. 3. Most filers (71%) are single, including the 42% who are single mothers, 4% who are single fathers, and 25% childless singles. Of the remaining 29% of the sample that is married, most (94%) have children. In fact, more than 73% of all participants have at least one child (see Fig. 4). Whereas a quarter of the recipients have no children, another quarter has one child, and almost half of the sample households have two or more children. Less than 2% of our sample is childless married couples.

Approximately three-quarters of the respondents are employed at the time of survey, working, on average, 33 h per week (Table 2). For those who have spouses or domestic partners, 52% are employed, working, on average, 35 h per week. The

⁹ US Census Bureau, Population Division (www.census.gov). Table 1: Annual Estimates of the Population for Counties of New York: April 1, 2000 to July 1, 2005.

¹⁰ US Census Bureau (2006), Small Area Estimates Branch (www.census.gov).

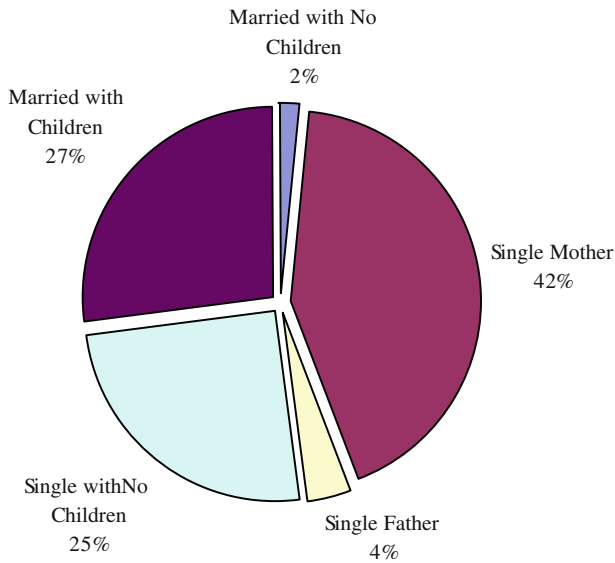


Fig. 3 Household structure

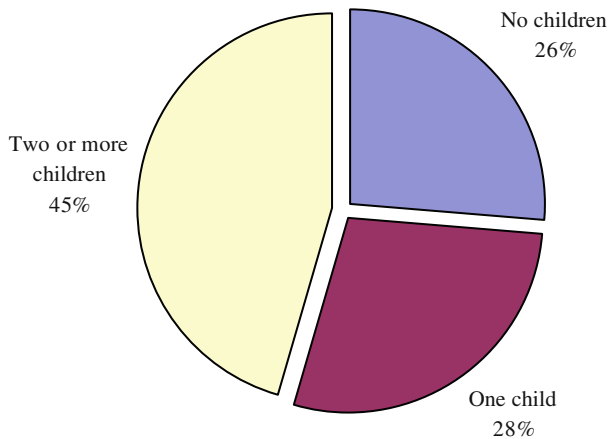


Fig. 4 Children

average annual household pre-tax income is \$13,564 and median income is \$11,806, both in 2004 dollars.¹¹ This is significantly below the 2003 median household income of \$40,089 in Madison County. Not surprisingly, the poverty rate of this sample is dramatically higher at 57% than that of the county overall, which is estimated at approximately 10% during this period.

The average educational attainment of the sample is slightly more than a high school degree, at 12.8 years of completed schooling (see Table 3). More than 70%

¹¹ The CPI-U was used to adjust for inflation since poverty lines are adjusted using this index.

Table 3 Education

	Mean	Std dev.	N
Years of education	12.8	2.1	269
% No high school diploma	12%	33%	282
% High school graduate	71%	46%	282
% College graduate	10%	29%	282
% Post-college education	3%	17%	282

Table 4 Government assistance

Variable	Mean (%)	Std dev. (%)	N
% That receive government assistance	69	46	282
% That receive TANF	2	14	282
% That receive food stamps	40	49	282
% That receive Medicaid	51	50	282
% That receive SSI/SSD	18	38	282
% That receive other welfare	15	36	282

of the recipients are high school graduates, while only 10% are college graduates. These numbers are lower than those for all county residents. In Madison County, 83% of adults have high school degrees and approximately 22% of adults have college degrees.

Almost 70% of the sample receives some form of government assistance besides the EITC (see Table 4). As mentioned above, the sample may be overrepresented with households who use social services since VITA participants in Madison County are recruited by the Department of Social Services and Community Action Partnership. Medicaid is the most common form of government assistance received in our sample; the survey lists Child Health Plus with Medicaid, which is a popular and highly-utilized supplemental health insurance program in New York for children from low- and moderate-income families.¹² The Food Stamp Program (FSP) is utilized by 40% of the EITC recipients while TANF participation is almost non-existent, with a reported usage rate of only 2%. This is likely because of the earned income requirement of the EITC; many households on TANF do not earn income and are, therefore, ineligible for the EITC.

Table 5 shows the breakdown of use of transaction accounts (checking or savings account) and use of credit, which is defined as having a credit card or some other type of loan (mortgage, car loan, personal loan, etc.).¹³ Approximately 57% of the participants have at least one form of credit. The most common is a credit card, with

¹² For more details on this program, go to: <http://www.health.state.ny.us/nysdoh/chplus/index.htm>.

¹³ It is important to note that changes were made to the 2004 tax year survey to include detailed questions about households' savings, debt, etc. Thus, the sample sizes of some variables are much smaller since tax years 2002 and 2003 are not included.

Table 5 Use of transaction accounts and credit

	Mean	Std dev.	N
% That have checking account	74%	44%	280
% That have savings account	48%	50%	280
% That use credit	57%	50%	282
% That have credit card	39%	49%	280
% That have bank loan	17%	37%	280
% That have car loan	31%	46%	280
% That have mortgage	28%	45%	280
Amount in savings account	\$623	\$1,927	63
Unpaid credit card debt	\$2,272	\$3,343	61

39% of participants having at least one credit card, followed by a car loan (31%) and mortgage (28%). Those with credit cards have an average balance of \$2,272. Almost three-quarters of the participants also have a checking account, but less than half have a savings account, with an average balance of \$623.

According to a comprehensive study of EITC recipients in New York City by Rhine et al. (2005), 40% of eligible EITC recipients in New York City did not have a checking or savings account (prior to the 2003 tax year). This compares with 26% of EITC recipients in our sample. Based on estimates in Bucks et al. (2006) using the 2004 Survey of Consumer Finances, 75.5% of households in the lowest income quintile in the nation (i.e., those earning less than \$18,900) held transaction accounts (defined as checking, savings or money market accounts), with an average balance of \$600. These estimates are very close to our sample of EITC recipients in rural central New York, of which approximately 70% are in the lowest national income quintile. Thus, our sample seems to be typical of low-income households in the U.S., at least with respect to their use of transaction accounts.

Effects on Poverty

Table 6 summarizes average tax refunds received by Madison County VITA participants. The average total refund is \$3,420, with \$2,720 coming from the federal government and \$700 from the state. However, there is significant variance in refunds across the sample; the highest total refund is almost \$7,300. Total refunds represent more than 25% of total household income for the sample. Participants receive \$2,108 in total EITC on average, of which \$1,649 is federal and \$460 is state. The EITC represents 61.6% of the participants' total refund and 15.5% of total household income. Additional tax refunds for our VITA clients are commonly from Child Tax credits, Dependant Care credits, Lifetime Learning and HOPE credits, retirement contribution credits, and overwithholdings.

Given that the EITC is an anti-poverty program, it is important to understand its impact on household income and poverty. Approximately 20% of recipients respond that they absolutely could not live without the refund, while the majority of others would have to delay or limit their planned expenditures without the EITC. We calculate the percentage of households living in poverty, by comparing adjusted

Table 6 Refund statistics

	Mean (in \$)	Std dev. (in \$)	<i>N</i>
Total federal refund	2,720	1,828	282
Total state refund	700	783	282
Total refund	3,420	2,374	282
Federal EITC amount	1,649	1,293	281
State EITC amount	460	386	276
Total EITC amount	2,108	1,669	276

Table 7 Poverty statistics

	Mean	Std dev.	<i>N</i>
Income (in 2004 \$)	\$13,564	\$10,155	279
% In poverty	56.8%	49.6%	273
Income after EITC	\$15,714	\$10,614	273
Income after total refund	\$16,968	\$11,590	279
% In poverty after EITC	48.7%	50.0%	273
% In poverty after total refund	44.7%	49.8%	273
Poverty gap (if in poverty)	\$6,841	\$4,990	159
EITC as % of poverty gap	30.8%	61.7%	155

gross income (as defined by the IRS without adjustments to taxes and credits) to the federal poverty line in each year.¹⁴ Table 7 shows that before receiving their tax refunds, approximately 57% of the sample lives in poverty. Clearly, in a county where the poverty rate is approximately 10%, the VITA program attracts the neediest families. If we include the tax credits in the definition of income (but do not adjust for other taxes), federal and state EITC effectively lowers the poverty rate of our sample from 57 to 49%. Total tax refunds reduce the sample poverty rate even further to 45%.¹⁵ Thus, the EITC is responsible for lowering the poverty rates by 8 percentage points in our sample, while other tax credits (children, education, retirement, etc.) have important effects on poverty as well. The percentage change in the poverty rate as a result of the EITC is -14.2% in our sample, consistent with national estimates presented in Hoynes et al. (2006), who find that the EITC lowered the national poverty rate from 13.9 to 12.2% (yielding a -12.2% change).

The effectiveness of the EITC in lowering poverty rates depends on both the size of the EITC and how close households are to the poverty line before receiving the EITC. Thus, we analyze the extent to which the EITC lowers the poverty gap. Specifically, for households below the poverty line (before any tax credits), we measure the difference between adjusted gross income and the poverty line, i.e. the gross poverty gap as defined in Ziliak (2004). We then calculate the proportion of the poverty gap that is made up by the EITC. We find that the EITC fills 30.8% of

¹⁴ Poverty lines (or thresholds) for the 3 years come from the U.S. Department of Health and Human Services website: <http://aspe.hhs.gov/poverty/figures-fed-reg.shtml>.

¹⁵ The poverty rates are significantly different at the 5% level.

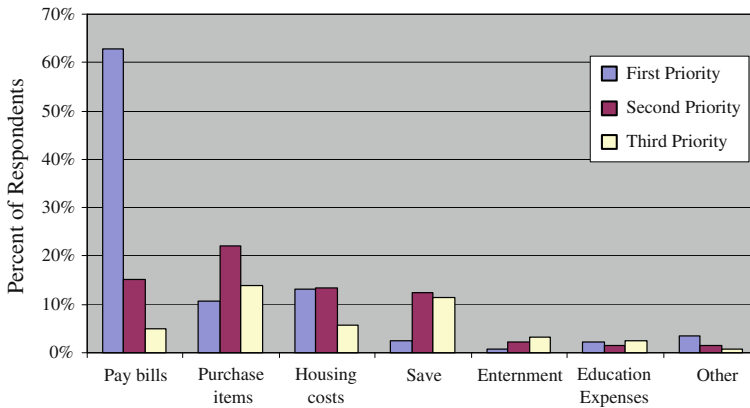


Fig. 5 Intended uses of refund

the poverty gap in our sample. The average total EITC received by households in poverty is \$2,089 and the average poverty gap is \$6,841 (in 2004 dollars). Thus, the EITC helps households in poverty get 30.8% closer to the poverty line.

Intended Uses of the EITC

Following the methodology of Smeeding et al. (2000), an important series of questions on the survey address the intended uses of the tax refund. Taxpayers are asked to rate their top three priorities for their refunds. Figure 5 shows the frequency in which each category was listed as one of the three top priorities by the participants. The most common use of their tax refund is to pay bills, with more than 60% reporting this as a first priority, consistent with Smeeding et al. (2000), who find that bill paying was the most important use for one-half of EITC recipients in Chicago. After paying bills, purchasing items and paying housing costs are also cited as high priorities in our sample.¹⁶ Savings is not deemed a top priority for most households in the sample, but it is cited by more than 10% of respondents as a second or third priority. This compares to Rhine et al. (2005) who find that only 11% of EITC recipients in New York City intend to save a majority of their refund.

In a different set of questions, we ask participants to identify what types of bills they plan to pay with their tax refunds (if they plan to use their refunds to pay bills). Respondents can check as many types of bills as they want; hence, the proportions do not add up to 100%. Table 8 shows that utility bills are most commonly reported (40%), followed by rent (31%), credit card payments (28%), car payments (22%), grocery bills (21%) and medical bills (16%). We are the first to document this level of disaggregation regarding bill payment, and to show that credit card and medical bills are among the top intended usages of the EITC.

¹⁶ In the survey, housing costs are identified as mortgage, rent, property taxes and home repairs.

Table 8 Types of bills and purchases intended to be paid with refund

	Mean (%)	Std dev. (%)	N
Bills			
Rent	31.0	46.3	282
Child care bills	5.3	22.5	282
Utility	40.4	49.2	282
Groceries	21.3	41.0	282
Car payments	22.0	41.5	282
Bank or student loan	12.8	33.4	282
Personal loan	10.6	30.9	282
Medical bills	16.3	37.0	282
Credit card bills	28.4	45.2	282
Other bills	18.1	38.6	282
Purchases			
Household furnishings	15.6	36.4	282
Household appliances	9.3	29.0	282
Clothing	26.6	44.3	282
Entertainment	6.0	23.8	282
Car purchase	18.4	38.8	282
Other purchase	7.1	25.7	282

For households that plan on using their refunds to purchase items, we ask them to specify which items they plan to purchase. Clothing was the most commonly cited item (for 27% of the participants), followed by a car purchase (18%), household furnishings (16%), household appliances/electronics (9%) and entertainment (6%).

Using the information provided by respondents on the types of bills and purchases they intend to pay or purchase, we separate refund uses into four broad categories: basic needs, debt repayment, purchase of durable goods and other bills/purchases. The following types of intended uses are categorized as basic needs: rent, utilities, groceries, medical bills and clothing. Debt repayment consists of using the refund to pay off credit card bills, make car payments and pay down bank or student loans and personal loans. Durable goods include automobiles and household appliances. The remaining category includes child care bills, household furnishings, entertainment, other bills and other purchases. The results (in Table 9) indicate that almost two-thirds of the sample plan on using their refund to meet basic needs. Approximately half, however, plan on paying off some debt and one-quarter plan on purchasing a durable good. Thus, it seems as if the EITC is most important in helping low-income households meet basic needs, similar to the findings of Smeeding et al. (2000).

Differences across Household Types

In this section, we compare refunds, poverty rates, uses of refunds, uses of credit and participation in other government programs across different household types.

Table 9 Intended uses of refund, by category

	Mean (%)	Std dev. (%)	N
Basic needs	64.2	48.0	282
Debt repayment	49.6	50.1	282
Purchase of durable good	26.6	44.2	282
Other	42.9	49.6	282

Specifically, we compare single parent households, married parent households and households with no children. Single parent households represent 46% of our sample, with most (92%) being mothers. Married households with children account for 27% of our sample. The remaining 27% of the sample consists of households without children, who are almost all single (91%). The means of all of the relevant variables and the results of the difference of mean tests across the three household types are presented in Tables 10, 11 and 12.

Refund Size

Several studies have documented that the EITC can generate sizable marriage bonuses or penalties depending on the structure and income level of the family.¹⁷ While married parents earn almost 40% more than single parents in our sample (\$19,317 compared to \$13,775 for single parents), they receive less EITC on average (\$2,325 compared to \$2,618 for single parents); however, the difference is not significant (as noted in Table 10). This is despite the fact that single parents have fewer children in the household (1.76 children in single parent households versus 2.25 in married parent households). Married parents are more likely to be in the phase-out range of the EITC, because of their higher income.

The EITC has the most significant impact on poverty rates for single parent households. In our sample, the poverty rate of single parent households falls by 11.2% points (from 54.7 to 43.5%) as a result of the EITC compared to 6.4% points for married households with children (from 46.1 to 39.7%), but again the difference is not significant due to relatively small sample size. In addition, the poverty gap for single and married parents falls by 34.6 and 33.5% points, respectively, as a result of the EITC. Consistent with the findings of Porter and Dupree (2001), we find that the EITC is having the largest impact in reducing poverty for single parent households.

We find that households without children (mostly singles) are the poorest group in our sample, earning only \$7,698 annually on average. Because the EITC's income phase-out occurs at much lower levels of income for households without children, only very poor singles qualify for the EITC and are included in our sample. In fact, more than 70% of the households without children in our sample are living in poverty. In addition, the average EITC refund is significantly lower for this group, at \$982, and is, therefore, much less effective in lowering their poverty rate.

¹⁷ See, for example, Ellwood (2000) and Ellwood and Sawhill (2000).

Table 10 Differences across household types

	Single parents	Married parents	Households without children	Significantly different?
Income	\$13,775	\$19,317	\$7,698	t1*,t2*,t3*
Total EITC	\$2,618	\$2,325	\$982	t2*,t3*
Total refund	\$3,995	\$4,273	\$1,537	t2*,t3*
% In poverty	54.7%	46.1%	70.3%	t2*,t3*
% In poverty after EITC	43.5%	39.7%	66.7%	t2*,t3*
Poverty gap (if in poverty)	\$7,582	\$9,446	\$5,003	t2*,t3*
EITC as % of poverty gap	34.6%	33.5%	13.6%	t2*,t3*
Basic needs	87.5%	82.9%	73.0%	t3*
Debt repayment	64.1%	63.2%	45.9%	t2*,t3*
Purchase of durable goods	28.1%	35.5%	16.2%	t2*,t3*
Use of credit	61.7%	67.1%	39.2%	t2*,t3*
% With savings account	51.6%	49.3%	39.7%	
Savings account balance	\$829	\$94	\$521	t1**
Government assistance	71.9%	78.9%	55.4%	t2*,t3*
Number of households	128	76	74	

Note: t1 represents a test of means between single parents and married parents; t2 represents a test of means between married parents and households without children; and t3 represents a test of means between single parents and households without children. * Denotes significance at the 5% level; ** Denotes significance at the 10%

The poverty rate for households without children drops by only 3.6% points and the poverty gap falls by 13.6% points as a result of the EITC.¹⁸

Thus, it seems that the EITC is successful at improving the economic well-being of low-income households with children—its primary target. However, the EITC has a negligible effect on the poorest households in our sample—those without children. This is not surprising given that the EITC is primarily targeted at households with children, as evidenced by the relatively small federal EITC allowances for households without children (the maximum amount is less than \$500), as shown in Fig. 1.

It is surprising how similar single parent households and married parents are in this sample of EITC recipients; we find very few significant differences across the two groups with respect to income, refund amounts, poverty rates, or use of credit, as indicated in Table 10. Nationally, single parent households have much lower household incomes and higher poverty rates than households comprised of married parents. In 2004, the median household income of single parents was 47% of that of

¹⁸ Note that the average total EITC refund for childless singles (\$982) is significantly higher than the maximum state and federal EITC for this group (\$507). This is due to a significant number of single women in our sample who have children that live with them but do not financially support them. Since the child(ren) lives with the mother, she can claim them for EITC but not as a dependant (the father can claim them as a dependant but not for EITC). Hence, these mothers show up as childless singles in our sample. Based on the data, we have roughly 20 of these women in our sample (or 27% of childless singles).

Table 11 Intended uses of refund by household types

	Single parents	Married parents	Households without children	Significantly different?
Basic needs				
Rent	34.4%	31.6%	24.7%	
Utility bills	44.5%	50.0%	24.3%	t2*,t3*
Groceries	22.7%	17.1%	23.0%	
Medical bills	15.6%	17.1%	17.6%	
Clothing	34.4%	23.7%	16.2%	t1**,t3*
Debt repayment				
Bank or student loan	12.5%	17.1%	9.5%	
Personal loan	13.3%	7.9%	9.5%	
Credit card bills	34.4%	25.0%	20.3%	t3*
Car payments	23.4%	26.3%	16.2%	
Purchase of durable goods				
Household appliances	11.0%	14.5%	1.4%	t2*,t3*
Car purchase	18.8%	22.4%	14.9%	
Other				
Child care bills	7.0%	2.6%	5.4%	
Household furnishings	16.4%	23.7%	6.8%	t2*,t3*
Entertainment	7.0%	6.6%	4.1%	
Other purchase	8.6%	3.9%	8.1%	
Other bills	18.0%	17.1%	18.9%	
Number of Households	128	76	74	

Note: Refer to note on Table 10

Table 12 Participation in government programs by household type

	Single parents	Married parents	Households without children	Significantly different?
TANF	3.9%	0.0%	1.4%	t1*
Food stamp program	46.1%	35.5%	33.8%	t3**
Medicaid	56.3%	60.5%	32.4%	t2*,t3*
SSI/SSD	10.2%	25.0%	24.3%	t1*,t3*
Other	12.5%	18.4%	16.2%	
Number of households	128	76	74	

Note: Refer to note on Table 10

married parent households.¹⁹ In our EITC sample, single parent households earn 71% of the income of married couples with children. Thus, the EITC is targeting the poorest married couple households but reaches a more typical single parent household.

¹⁹ DeNavas-Walt et al., (2006), US Census Bureau, Table 1.

Refund Uses

To our knowledge, our study is the first to compare EITC usage across different types of households: single parent households, married parent households and households without children. Table 10 also shows the categories of intended uses of refunds across household types. Households with children (both single and married) are more likely to use their refunds to meet basic needs than households without children, with single parent households reporting the highest rate at almost 88%. This compares to the 73% of households without children that plan on using their refunds on basic needs. Households with children are also more likely to use their refunds to repay debt and to buy durable goods, compared to households without children. The difference is largest for durable good purchases: only 16% of households without children intend to buy a household appliance or car, while closer to one-third of households with children intend to do so. Once again, we find no significant differences in the intended uses of the refund for single parent households and married parent households. All household types, on average, use the majority of their refunds to make ends meet. Clearly, the EITC is not generally viewed as a way to save significant amounts of money to make investments that will lead to economic mobility.

In Table 11, more details are presented on the intended uses of the refunds by household type. Several interesting findings emerge. First, with respect to meeting basic needs, households with children are twice as likely to use their refunds to pay utility bills as households without children, with the differences being significant at the 5% level. Winters in Madison County are relatively harsh and the tax filing season falls in the middle of winter, resulting in almost half of all households with children planning to use at least part of their refunds on utilities. One-third of single parent households plan to use their refunds for clothing, a significantly higher rate than the other household types. We find no significant differences in the fractions of the refund intended for rent, groceries and medical bills across household types.

With respect to repaying debt, single parent households are most likely to use their refunds to pay credit card bills, with more than two-thirds citing this category, which is significantly higher than the 20% of households without children that cite this intended use. We find no other significant differences of using tax refunds to pay off other forms of debt across the three households types.

Both single parent and married parent households report much higher rates of using their refunds on household furnishings and appliances than singles. Many of these differences arise since households without children are less likely to be homeowners and more likely to live in residences with other adults (besides domestic partners). However, there appears to be no significant difference in the frequency of using refunds to purchase cars across household types.

Given that the majority of refunds will likely be used to meet basic needs, and more specifically to pay bills, it seems likely that these low-income families would benefit from receiving their refunds throughout the year rather than in a lump sum. This would help them both to meet their monthly consumption needs and avoid high interest charges. In addition, given that the EITC is often used to pay utility bills, especially by households with children, it appears that the families targeted

by the EITC would also benefit from further utility assistance. One possibility would be to expand the Home Energy Assistance Program (HEAP) in New York State or to introduce a similar federal program. In addition, the high frequency of using tax refunds to pay credit card bills suggests that credit counseling and financial literacy programs may be beneficial for EITC recipients, especially single mothers.

It appears that more needs to be done to help these families achieve economic mobility. While a significant proportion of our sample intends to use their refunds to buy a car, which is a critical step toward sustained employment and self sufficiency in a rural area such as Madison County, both the size of the average refund and the other claims on it (basic needs, bills) make the EITC insufficient in helping families achieve economic mobility. Clearly, the EITC is not sufficient on its own and in its current form to move families toward economic self-sufficiency. These families also need programs that subsidize investments in the future, such as cars, education and child care.

Use of Transaction Accounts and Credit

Comparing the use of credit across household types shows striking differences (as displayed in Table 10). Married households with children are more likely to use credit, with more than two-thirds reporting to have a credit card or loan, while households without children have less credit, with fewer than 40% reporting to have some form of credit. Interestingly, single parent households use credit almost as frequently as married parent households, with 62% having some form of credit, despite their lower average income. However, the amount of credit is directly related to income levels; households with the highest average income (married households with children) have the most credit while the poorest households (singles without children) have the least.

In comparing the fraction of households with savings accounts, we find no significant differences across household types. However, single households with children have significantly higher average savings account balances than married couples with children despite the fact that their average household income is significantly lower. Thus, single parents seem to insure themselves better against risk via their savings accounts than other types of households who are EITC recipients. However, we find little evidence that the EITC is being saved by recipient households, at least as a top priority. Less than 3% of the sample cites saving their refund as a first priority and only 25% of the sample list savings as one of the top three priorities for their refund (see Fig. 5). This suggests that perhaps it is not optimal for EITC recipients to save their refund, as it would mean incurring late fees or increased interest charges on bills or other existing debt.

Government Assistance

Are there significant differences in participation in government assistance programs such as TANF, food stamps, Medicaid, Social Security Income (SSI), or Social Security Disability (SSD) for EITC recipients across household types? The majority

of all three household types are enrolled in one of these government assistance programs. Thus, while the EITC is important in improving the economic well-being of households, it complements, rather than substitutes for, other government assistance programs. As shown in Table 10, EITC recipients with children are significantly more likely to receive another type of government assistance (72% of single parents and 79% of married parents) than those without children (55%). This is not surprising given that the majority of government programs are targeted at children. However, it is important to note that childless singles are the poorest households in our sample.

Table 12 shows government assistance by specific program use for all three household types. Almost half of all single parents receive Food Stamps, compared to approximately one-third of married parents and households without children. In addition, households with children (single or married) are twice as likely to use Medicaid as households without children. This result is not surprising given that Child Health Plus is listed under Medicaid in the survey. Single parents, however, are less likely to receive SSI, with participation rates of 10%, compared to 25% for married parents and childless singles. Given that SSI is awarded to those who face employment barriers because of a major disability, this result supports our previous findings that married parent households and especially childless singles who receive the EITC are less economically mobile than the single parent households in our sample.

Conclusion

In this paper, we analyze the impact of the EITC on low-income families from Madison County, New York for the tax years 2002–2004, a rural area in central New York State. We find that the EITC has an important economic impact on its target households. Together, the federal and New York EITC lower the poverty rate of EITC recipients in our sample from 57 to 49%. The EITC has the largest impact on moving single parent households out of poverty, lowering their poverty rate by 11.2% points, and the smallest effect on the poverty rate of households without children, who have the highest poverty rate in the sample (over 70%). For households living in poverty, the EITC reduces the gap between adjusted gross income and the poverty line by approximately 35% for families with children. The effects for childless households are significantly smaller; the EITC reduces the poverty gap by only 12.5% for this group. Thus, the EITC is having the most significant effects in reducing poverty for households with children.

The EITC is very important in fighting poverty for our sample of rural households. New York State has currently one of the most generous state earned income credits in the U.S. (Levitis and Koulis 2008); thus, the extent to which total EITC (federal plus state) reduces poverty rates is likely to be among the largest in the country. Our results may be useful to other state policymakers who are considering an adoption or expansion of their state EITC, especially in determining its effects on rural recipients.

In addition, the detailed EITC usage data from our survey provides insight into how rural households in general use their EITC. We find that the refund is critical in helping most of these families make ends meet but it is not typically used for economic mobility. Our results indicate that almost two-thirds of EITC recipients plan on using their refund to meet basic needs. In addition, approximately one-half of the sample plans on paying off some debt and one-quarter plan on purchasing a durable good. This suggests that simplifying the process so that more of these families receive their EITC benefits throughout the year, rather than in a lump sum refund, could save high interest payments and alleviate stress from overdue bills. We also document significant differences in the uses of the EITC across household types: households with children report higher rates of using their refund for basic needs, debt repayment and durable goods purchases than households without children.

The single parents in our sample appear to be more upwardly mobile than married couple and childless households. Single parent households have similar use of transaction accounts and have higher balances in their savings accounts, compared to married parent households, despite their lower incomes. They are also less likely to receive SSI, indicating that disability is less likely to be a barrier to employment in these households. Financial counseling and matched savings plans, as well as providing information on education and training programs, could support the efforts of single mothers who are working to improve their economics status and help them to use the financial tools available to insure against risk.

The VITA program in Madison County, New York continues to grow each year, and now includes neighboring Chenango County. In 2009, the program filed more than 1200 tax returns, resulting in \$1.8 million in tax dollars returned to local communities. The program is reaching more low-income households, so that fewer families are using paid tax preparation services and more EITC is being claimed in the region. Future work will analyze related issues using our survey data: to measure the macroeconomic effects of the EITC in a rural community, to analyze EITC participation and usage over the business cycle, and to track EITC recipients over time to see how changes in the EITC affects employment and consumption behavior.

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