

Economic Consequences of the Earned Income Tax Credit in Arkansas:
An Analysis

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In the United States, earned income tax credits are part of the social welfare system. Refundable earned income tax credits are a cash transfer income maintenance tool designed to supplement the working poor's incomes. The design of these policies are purposely directed at those that work and have children. The transfers adjust to family size, and once income reaches an income threshold the transfers stop. Currently, Arkansas does not have an earned income tax credit. Although, there have been attempts to enact such a policy in the past; they have failed. Proponents of an earned income tax credit are again considering such legislation for Arkansas. This study is in response to a request by Entergy Arkansas to evaluate the economic consequences and economic impacts of an earned income tax credit in Arkansas similar to the one proposed in Working Families Opportunity Act (HB 1344) in 2015.¹

The primary purpose of this study is educational, and it strives to make readers aware of the facts, the costs, and the consequences of this type of income maintenance program for Arkansas. The first part of the study reviews the federal earned income tax credit policy focusing on the history of the policy and eligibility requirements. The study then reviews the State's earned income tax credit policies. The first part of the study closes with a discussion of the pros and cons of an earned income tax credit policy. The second part of the study evaluates the earned income tax credit policy proposed in Working Families Opportunity Act (HB 1344). The study evaluates the economic consequences of this Act in terms of estimating the expected cash flow, the costs, and its economic impacts. The section ends with a discussion of the potential fiscal impact of the Act.

¹ Entergy Arkansas, 425 West Capitol Avenue, Little Rock, AR 72201.

Part 1: Background

The Earned Income Tax Credit (ETIC) is one of the largest cash-transfer programs for low-income families in the federal budget.² The ETIC sprouted out of the 1960s War on Poverty. It was an answer to the concerns over the increasing number of welfare programs of that era. The EITC program (program) evolved from an initial modest tax credit into a significant tool for reducing poverty. Earned income tax credits have grown over time. In 1975, their initial share of the federal income maintenance budget was 5%. By 2015, their share of the federal maintenance budget was 25%.³ This brief background section describes ETIC's history at federal and state levels, the program's eligibility requirements, and reviews the major discussion points about the effectiveness of the program.

History

Senator Russell Long enacted ETIC in 1975. Senator Long worked to create a program that would counter the increasingly popular Negative Income Tax (NIT). The NIT was a "universal" anti-poverty program that guaranteed a minimum standard of living to all. However, Senator Long worried that the NIT provided the largest benefits to those who did not work. A NIT would cause an increase in the numbers of nonworking poor by causing a reduction in the numbers of working poor. Consequently, the ETIC was set up to provide a tax credit to the working poor and not to those outside the labor force. ETIC has expanded beyond its modest origins as subsidies were increased in 1986, 1990, 1993, 2001, and 2009. Many states have also adopted the Earned Income Tax Credit. Currently, 26 states and the District of Columbia provide a state-level supplement to the federal EITC.⁴

Eligibility for Federal EITC

For the 2014 tax year, the federal EITC covered 27.5 million taxpayers and awarded \$66.7 billion in income credits.⁵ ETIC benefit amounts are dependent on a recipient's family situation and income level.⁶ A qualifying child must meet relationship, age, and shared residency requirement. Table 1 reviews the EITC parameters for tax year 2015 breaking down income thresholds for both

² Eaiss, Nada and Hilary Hoynes. *Behavioral Responses to Taxes; Lessons from the EITC and Labor Supply*. Working Paper 11729, National Bureau of Economic Research, November 2005.

³ Bureau of Economic Analysis, U.S. Economic Accounts, U.S. Department of Commerce from <https://www.bea.gov/iTable/iTable.cfm?reqid=70&step=1&isuri=1&acrdn=7#reqid=70&step=1&isuri=1>

⁴ Policy Basics: State Earned Income Tax Credits. (2016, June 17). Retrieved December 13, 2016, from <http://www.cbpp.org/research/state-budget-and-tax/policy-basics-state-earned-income-tax-credits>

⁵ EITC Fast Facts. (2016, January 14). Retrieved January 03, 2017, from <https://www.eitc.irs.gov/Partner-Toolkit/basicmaterials/ff>

⁶ There are also secondary requirements that affect credit amounts. For example, families unearned income (capital gains) are ineligible for ETIC if these earnings are above \$3,400 (Internal Revenue Services, <https://www.irs.gov/credits-deductions/individuals/earned-income-tax-credit/eitc-income-limits-maximum-credit-amounts-1-year>).

Table 1
Earned Income Tax Credits Parameters 2015

EITC Schedule 2015 for Single Filers						
Single or Head of Household	Phased-In Rate	Max Credit	Income for Maximum Credit	Income Credits Start Phasing Out	Phased-Out Rate	Income Credit Phased-Out
No Children	7.65%	\$ 503	\$ 6,550	\$8,250	7.68%	\$14,800
One Child	34%	\$ 3,359	\$ 9,850	\$18,150	16.03%	\$39,100
Two Children	40%	\$ 5,548	\$ 13,850	\$18,150	21.10%	\$44,450
Three Children	45%	\$ 6,242	\$ 13,850	\$18,150	21.09%	\$47,747
EITC Schedule 2015 for Married Filers						
Joint Filer	Phase-In Rate	Max Credit	Income for Maximum Credit	Income Credits Start Phasing Out	Phased-Out Rate	Income Credit Phased-Out
No Children	7.68%	\$503	\$6,550	\$13,750	5.25%	\$23,330
One Child	34.10%	\$3,359	\$9,850	\$23,650	16.00%	\$44,650
Two Children	40.06%	\$5,548	\$13,850	\$23,650	21.08%	\$49,974
Three Children	45.07%	\$6,242	\$13,850	\$23,650	21.08%	\$53,268
Source: Title 26-Internal Revenue Code/ Subtitle A / Chapter 1/ Part IV / Subpart C / 32. Earned Income, Office of Law Revision Counsel. United States Code, U.S. House Representatives.						
http://uscode.house.gov						

single and joint filers. The EITC parameters are the credit rates and earning levels that determine the amounts of credits awarded and the range of earnings eligible for credits. Earned income must reach a certain threshold before receiving the maximum credit. This maximum credit threshold is the amount of earnings necessary to qualify for the maximum credit. The phase-in rate is the percentage of earnings that qualifies as credits up to the maximum credit. It depends on a filer's marital status and number of children in the household. When a filer's earnings qualify for the maximum tax credit, they receive this maximum credit until their earnings reach the initial phase-out amount. After they reach this initial phase-out amount, the earned income credit decreases as their income rises at a rate determined by the phased-out rate. When earnings reach the phased-out income level, earned income credits are phased-out completely. Appendix 1 contains several charts demonstrating the drift of the Federal EITC program for single filers over selected years.

State EITC Programs

Many states have extended the benefits of the federal EITC program to their residents. As shown in Table 2, there are currently 26 states and the District of Columbia providing a state-level supplement to the federal EITC.⁷ The structure of state EITC programs follows along the lines of their federal counterpart. The state programs match a percentage of their tax credit rates to the federal tax credit rates for a given tax year.⁸ Refundable EITCs allow taxpayers to receive a refund for a portion of the tax credit that exceeds their income tax bill. As shown in Table 2, out of the 26 states, 22 states and the District of Columbia's credits are fully refundable if the amount is greater than taxes owed. Delaware, Ohio, Oklahoma and Virginia's EITC programs only reduce a worker's tax liability. All of the states with income tax credits allow childless workers to be eligible except for Wisconsin.⁹

State EITC programs help offset some of the regressive nature of state taxes that cause low-and moderate-income families to pay a larger percentage of their incomes as taxes as compared to high income taxpayers. According to a report from the Institute of Taxation and Economic Policy, "the poorest 20 percent of Americans pay 10.9 percent of their incomes in state and local taxes. By contrast, middle-income taxpayers pay 9.4 percent and the wealthiest one percent of taxpayers pay just 5.4 percent of their incomes in state and local taxes"¹⁰. The regressive nature of state taxes and the burden placed on low-income families can be partially, offset by a well-chosen EITC program.

Like the federal EITC program, there are both positive and negative aspects of state-level EITC programs. State level EITC supplements build upon the benefits offered by federal income credits. They encourage work, supplement working families' resources, help fill gaps in federal EITC, and reduce state tax burdens for low-income families. However, state EITC programs carry the same drawbacks as the federal. There are concerns over fraud, the disparity of benefits between workers with and without children, and the high costs associated with, what is in essence, a spending program where the government spends more in terms of foregone tax revenues than the amount of revenue raised by the income tax credit.¹¹ There are also issues

⁷ Policy Basics: State Earned Income Tax Credits. (2016, June 17). Retrieved December 13, 2016, from <http://www.cbpp.org/research/state-budget-and-tax/policy-basics-state-earned-income-tax-credits>

⁸ Berube, A., & Holmes, N. (2016, July 29). U.S. Concentrated poverty in the wake of the great recession. Retrieved December 14, 2016, from Brookings Institute, <https://www.brookings.edu/blog/the-avenue/2015/07/29/states-adopt-and-adapt-the-eitc-to-address-local-need/>

⁹ <http://www.ncsl.org/research/labor-and-employment/earned-income-tax-credits-for-working-families.aspx>

¹⁰ Institute on Taxation and Economic Policy, Rewarding Work Through State Earned Income Tax Credits, 2016, September 14. Retrieved December 14, 2016, from Institute of Taxation and Economic Policy, http://itep.org/itep_reports/2016/09/rewarding-work-through-state-earned-income-tax-credits-2.php#.WFFbtpWQzWM. Institute on Taxation and Economic Policy, *Who Pays? A Distributional Analysis of the Tax System in All Fifty States*, 5th Edition, January 2015. www.whopays.org

¹¹ Edwards, C., & de Rugy, V. (2015, October 14). Earned income tax credit: Small benefits, large costs. Retrieved December 14, 2016, from CATO Institute, <https://www.cato.org/publications/tax-budget-bulletin/earned-income-tax-credit-small-benefits-large-costs> In-line Citation:

Table 2
State Earned Income Tax Programs

State Based Earned Income Tax Credits			
State	Year Enacted	Refundable	% of Federal EITC
California	2015	yes	85 percent for up to half of the federal phase-in range.
Colorado	1999, 2013	yes	10 percent
Connecticut	2011	yes	27.5 percent
Deleware	2005	no	20 percent
District of Columbia	2000	yes	40 percent
Illinois	2000	yes	10 percent
Indiana	1999	yes	9 percent
Iowa	1989	yes	15 percent
Kansas	1998	yes	17 percent
Lousiana	2007	yes	3.5 percent
Maine	2000	yes	5 percent
Maryland	1987	yes	Refundable EITC- 26 percent
			Non-refundable - 50 percent
Massachusetts	1997	yes	23 percent
Michigan	2006	yes	6 percent
Minnesota	1991	yes	Calculated as a percentage of income (ranges from 25 to 45 percent of federal income)
Nebraska	2006	yes	10 percent
New Jersey	2000	yes	30 percent
New Mexico	2007	yes	10 percent
New York	1994	yes	30 percent
Ohio	2013	no	10 percent, limited to 50 percent of liability for taxable income above \$20,000
Oklahoma	2002	yes	5 percent
Oregon	1997	yes	8 percent
Rhode Island	1986	yes	15 percent
Vermont	1988	yes	32 percent
Virginia	2004	no	20 percent
Wisconsin	1989	yes	One Child - 4 percent
			Two Children - 11 percent
			Three Children - 34 percent

over making citizens aware that they can apply for state tax credits if they are eligible for federal credit.

Pros

The EITC helped lift 10.1 million people, including 5.3 million children, above the poverty line.¹² One reason that the EITC has been effective is because the tax credit incentivizes labor participation. Research has shown that the EITC creates incentives for those who are working and those who are not. The additional after-tax income is beneficial to those who work by letting their incomes go farther and acts as an employment incentive for unemployed persons to enter the labor force due to the additional after-tax income.¹³

The biggest benefactors of the income tax credit are single mothers. During the EITC expansions of the 1990s employment rates for women with children increased by 16% whereas the employment rates for women without children did not see a significant employment increase.¹⁴ The impact on mothers is also passed along to their children. The EITC is very effective in improving outcomes amongst America's poorest families by allowing families to spend more on their children. According to one academic study, an increase of \$1,000 in income helps raise a child's reading, math scores, and graduation rates.¹⁵

Another area where the EITC is effective is in income mobility. Research has found that during the EITC increases of the 1990s most recipients only received the tax credit for a short period of time, and most of the recipients, in the study sample, moved out of the third income bracket covered by the tax credit. Additionally, the likelihood that families reclaim EITC decreases the longer they go without claim credits. Although, after the 1992-2000 expansion period more people did reclaim EITC, but this could have been because of increased eligibility.¹⁶

A myriad of government, academic, and private research has extolled the benefits of the EITC. The linkages between the tax credits, income growth, poverty alleviation, and children's educational outcomes are established and understood. However, the EITC does have its problems.

¹² United States, Executive Office of the President and U.S. Treasury Department. (2014). *The President's Proposal to Expand the Earned Income Tax Credit*. Washington, DC: White House.

¹³ Eissa, Nada & Hoynes, Hilary, 2011. "[Redistribution And Tax Expenditures: The Earned Income Tax Credit](#)," National Tax Journal, National Tax Association, vol. 64(2), pages 689-729.

¹⁴ Ibid

¹⁵ Dahl, G. B., & Lochner, L. (2012). The impact of family income on child achievement: Evidence from the earned income tax credit. *American Economic Review*, 102(5), 1927–1956. doi:10.1257/aer.102.5.1927

¹⁶ Dowd, T., & Horowitz, J. B. (2011). Income mobility and the earned income tax credit: Short-term safety net or long-term income support. *Public Finance Review*, 39(5), 619–652. doi:10.1177/1091142111401008

CONS

The EITC is an expensive program. According to the Cato institute, it is the third costliest federal social welfare program with a price tag of \$56 billion. The federal government also spends more on EITC than is returned from income taxes.¹⁷ The program also faces large amounts of fraud. That, in many cases, the IRS is not prepared to deal with compliance problems. The agency investigations focus on stopping people from hiding income not from stopping people from creating income to qualify for a tax credit. Miss-claiming children and creating income from “self-employment” are a large part of the \$15 billion in misappropriations.¹⁸ Unfortunately, cases of fraud and a high cost are only some of the problems facing the tax credit.

There are also questions raised about how effective the EITC is at poverty alleviation. Although, EITC assists single mothers and multi-child families, the program does not greatly benefit those without children. Since eligibility requirements are more restrictive, the maximum credit and phase-out income are less, those without children have less incentive to either enter the labor force or work for income mobility to gain higher rebates.¹⁹ A second issue is for two earner households. One earner, usually the wife, is more likely to drop out of the labor force if their combined income puts them above the EITC threshold.²⁰ A wife may decide to leave the labor force or decrease working hours so the family can stay within eligibility.

Overall, the EITC has a wide range of benefits but also a wide range of costs. On one hand, the program has helped pull many out of poverty and increased labor force participation. On the other hand, the earned income tax credit faces problems that any social welfare program faces: concerns over cost, fraud issues, and questions over its effectiveness. State level EITC programs will add onto the benefits of their federal counterparts but will also face the same concerns.

¹⁷ Edwards, C., & de Rugy, V. (2015, October 14). Earned Income Tax Credit: Small Benefits, Large Costs. Retrieved January 3, 2017, from Cato Institute, <https://www.cato.org/publications/tax-budget-bulletin/earned-income-tax-credit-small-benefits-large-costs>

¹⁸ Holt, S. (2016, July). *The Role of the IRS as a Social Benefits Administrator*. Washington DC: American Enterprise Institute.

¹⁹ Urban Institute, & Brookings Institute. (2012). What is the earned income tax credit (EITC)? Retrieved January 3, 2017, from Tax Policy Center, <http://www.taxpolicycenter.org/briefing-book/what-earned-income-tax-credit-eitc>

²⁰ Essa&Hoyes

Part 2: Estimating the Economic Impact of EITC for Arkansas

Arkansas does not currently have a state earned income tax. In 2015, the Working Families Opportunity Act (HB 1344) proposed such an EITC program for Arkansas' taxpayers. HB 1344 was unable to muster the support necessary to move out of committee. The House Bill specifies tax credits rates that were a percentage of the Federal EITC parameters. The specification provides sufficient detail to analyze the potential economic impacts of such an earned income tax credit program for Arkansas. The analysis proceeds in estimating expected earned income tax credits using the parameters specified in HB 1344. The EITC parameters were applied to Internal Revenue Service's (IRS) Statistics of Income (SOI) data for Arkansas in 2014 to derive estimates of the changes in Arkansas' disposable personal income associated with the refundable earned income tax credits. Because the SOI database lacks details on the taxpayer characteristics associated with the EITC parameters, an alternative estimate of the earned income tax credits is derived using U.S. Census PUMS database.²¹ The PUMS contains household income estimates for single and married households by household size. The estimates of earned income tax credits by income groups and the number of children per household uses the data. Refundable tax credits are computed to assess the change in taxpayer's disposable personal income because of the refundable EITC. In final section of this study, the economic impact analysis of the disposable income changes yields measures of the economic consequences of the EITCs on the state's economic activity, employment levels, and fiscal impacts.

HB1344 and SOI 2014 Estimates of Refundable EITCs

The IRS's SOI database for individuals aggregates individual income tax filings and provides summary statistics of individual tax filings by state.²² Table 3 contains Arkansas' Federal EITC statistic for most recent year 2014. According to Arkansas' SOI 2014, there were 1,223,140 Arkansans individual federal income tax returns filed. Of these filings, 310,300 returns declared earned income credits (25.4%). The number of returns that had excess earned income tax credits over tax liabilities (refundable credits) was 275,060 returns (88.6% of the filing with earned income tax credits). For Arkansas tax filers in 2014, there were \$794.5 million earned income tax credits awarded by the IRS, and of these, \$702.5 million were refundable (88.4% refund rate).²³ (See Appendix 2 for Arkansas' SOI EITC data for 2007-2014)

²¹ The American Community Survey (ACS) Public Use Microdata Sample (PUMS) files are a set of untabulated records about individual people or housing units. The Census Bureau produces the PUMS files so that data users can create custom tables, <http://www.census.gov/programs-surveys/acs/technical-documentation/pums.html>

²² The IRS SOI state database is available at <https://www.irs.gov/uac/soi-tax-stats-historic-table-2>. At the current time the most recent state data is for tax year is 2014.

²³ In Appendix 2, statistics on ratio of EITC to the personal income by county for selected years is shown. The data source for the series is the Bureau of Economic Analysis, Regional Income Accounts at: <https://www.bea.gov/regional>

Table 3
Federal Earned Income Tax Credits for Arkansas Tax payers for Tax Year 2014*

Size of Adjusted Gross Income	Number of returns with earned income credit	Earned income credit amount [1] (Thousands of \$)	Number of returns with excess earned income credit	Excess earned income credit (refundable) amount [2] (Thousands of \$)	Refund Rate
Under \$1	1,750	\$2,143	1,110	\$1,373	64.1%
\$1 under \$10,000	76,630	\$105,083	69,280	\$92,166	87.7%
\$10,000 under \$25,000	145,360	\$506,009	132,640	\$455,779	90.1%
\$25,000 under \$50,000	85,680	\$181,047	71,400	\$153,023	84.5%
\$50,000 under \$75,000	880	\$225	650	\$157	69.8%
\$75,000 under \$100,000	-	\$0	-	\$0	
\$100,000 under \$200,000	-	\$0	-	\$0	
\$200,000 under \$500,000	-	\$0	-	\$0	
\$500,000 under \$1,000,000	-	\$0	-	\$0	
\$1,000,000 or more	-	\$0	-	\$0	
Totals	310,300	\$794,507	275,080	\$702,498	88.4%

[1] Earned income credit includes both the refundable and non-refundable portions. The non-refundable portion could reduce income tax and certain related taxes to zero. The earned income credit amounts in excess of total tax liability, or amounts when there was no tax

[2] The refundable portion of the earned income credit equals total income tax minus the earned income credit. If the result is negative, this amount is considered the refundable portion. No other refundable credits were taken into account for this calculation.

Source: Tax Year 2014: Historic Table 2, Statistics of Income (SOI), Internal Revenue Service (IRS), <https://www.irs.gov/uac/soi-tax-stats-historic-table-2>.

*State data is based on administrative records of individual income tax returns (Forms 1040) from the Internal Revenue Service (IRS) Individual Master File (IMF) system. Included in these data are returns filed during the 12-month period, January 1, 2015 to December 31, 2015. While the bulk of returns filed during the 12-month period are primarily for Tax Year 2014, the IRS received a limited number of returns for tax years before 2014 and these have been included within the state data. (Source: Documentation Guide State Data, SOI, IRS.)

Table 4
Estimates of EITC for HB 1344

Federal Earned Income Credits (\$000)		Federal Refundable EITC (\$000)	
	\$794,507		\$702,498
AR Credit Rates Percent of Federal Rates		Estimate of Total EITC for Arkansas (\$000)	Estimate of Refundable EITC for Arkansas (\$000)
\$2,016	1.3%	\$9,931	\$8,781
\$2,017	2.5%	\$19,863	\$17,562
\$2,018	5.0%	\$39,725	\$35,125
Data Source; IRS SOI 2014.			

Since EITC rates in HB 1344 were a percentage of the federal EITC rates, it is possible to estimate Arkansas EITCs by applying those rates to the federal refundable credit. Table 4 shows the results of these calculations. As demonstrated in this table and depending on Arkansas' proposed in disposable personal income if the parameters in HB 1344 were enacted and based on the 2014 federal EITC parameters. Note that for Arkansas to award the refundable tax credits it must forego the tax revenues associated with the total EITC awarded. For example in 2018, the state must forego \$39.7 million in forgone tax revenue to refund \$35.1 million credits.

Estimate of Refundable EITC Using PUMS Household Income Data for 2015.

The Public Use Microdata Sample (PUMS) contains the responses of individual to the American Community Survey. The responses are organized as single housing units. This study presumes the households represent tax filers and their household characteristics specify the characteristics of the tax filer's with respect to the EITC parameters.²⁴ Table 5 shows Arkansas' household data broken into the EITC income groupings by marital status and family size. There are slightly larger number of single head of households but married household have a substantial greater number of children. The study assumed married household filed as joint tax payers while single, head of households, and qualified widowers filed as individual tax taxpayers.

Table 6 shows the federal EITC parameters for 2015. The parameters incorporate the phase-in, maximum credit, and phase-out income ranges for single and married filers. The EITC were computed based upon the federal EITC parameters for 2015 by number of children, income groups, and filing status. The summary findings from this computation are shown in Table 7.

To estimate Arkansas federal EITC using the PUMS data, the analysis worked within the framework of the federal EITC parameters for 2015 and the PUMS 2015 data for Arkansas. In so doing, PUMS household incomes, marital status of the residences, and housing counts formed the bases of the EITC computations. The analysis computed the tax credits for each household in the PUMS sample by applying the appropriate EITC parameters to reflect different filing statuses, income levels, and number of children. Multiplying the PUMS housing counts across the income levels yielded the estimates of EITC for Arkansas by income level, filing status, and number of children. Table 7 shows the summary results of these computations.

²⁴ Group quarters are not included in the PUMS data used in this study. The Census Bureau defines group quarters, as places where people do not live in housing units that includes houses, apartments, mobile homes, and rented rooms. Group quarters include places like residential care facilities, dorms, and prisons for example.

Table 5
Arkansas Household Counts by EITC Parameters 2015

Adjusted Gross Income	# of Children				
	0	1	2	3 or more	Total
Married					
\$0	2,170				2,170
\$1 under \$6550	3,523				3,523
\$6550 under \$13750	8,742				8,742
\$13750 under \$23330	24,960				24,960
\$23330 or more	315,448				315,448
Total	354,843				354,843
Married With Children					
\$0			65	157	222
\$1 under \$9850		1,502	1,016	329	2,847
\$9850 under \$23650		5,495	4,095	3,096	12,686
\$23650 under \$44650		11,843	12,981	12,245	37,069
\$44650 under \$49974		4,430	4,039	1,588	10,057
\$49974 under \$53268		2,879	2,497	2,152	7,528
\$53268 or more		53,411	53,927	26,071	133,409
Total	354,843	79,560	78,620	45,638	558,661
Single or Head of Household					
	0	1	2	3 or more	Total
\$0	14,932				14,932
\$1 under \$6550	23,257				23,257
\$6550 under \$8250	9,954				9,954
\$8250 under \$14800	84,875				84,875
\$14800 or more	343,250				343,250
Total	476,268				476,268
Single or Head of Household with Children					
\$0		1,768	838	204	2,810
\$1 under \$9850		6,140	4,691	3,255	14,086
\$9850 under \$18150		10,213	4,534	3,772	18,519
\$18150 under \$39100		20,305	12,859	6,205	39,369
\$39100 under \$44450		1,848	2,042	1,239	5,129
\$44450 under \$47747		1,001	1,430	-	2,431
\$47747 or more		15,058	8,920	3,279	27,257
Total	476,268	56,333	35,314	17,954	585,869
Grand Total	831,111	135,893	113,934	63,592	1,144,530
Source: Public Use Microdata Sample (PUMS), American Community Survey, US Census					
https://www.census.gov/programssurveys/acs/data/pums.html					

**Table 6
Federal EITC Parameters 2015***

Single, Head of Household, and Qualified Widow(er)						
Individual with:	Phased-In Rate	Phased-Out Rate	Minimum ADI for Maximum Credit	ADI were Credit Begins to be Phased-Out	Maximum Credit	ADI were Credit Phased-out
0 Children	7.65%	7.65%	\$6,550	\$8,250	\$503	\$14,800
1 Child	34%	16%	\$9,850	\$18,150	\$3,359	\$39,100
2 Children	40%	21%	\$13,850	\$18,150	\$5,548	\$44,400
3 or more Children	45%	21%	\$13,850	\$18,150	\$6,242	\$44,450
Married Filing Jointly						
0 Children	7.65%	7.68%	\$6,550	\$13,750	\$503	\$20,330
1 Child	34%	15.98%	\$9,850	\$23,650	\$3,359	\$44,650
2 Children	40%	21.06%	\$13,850	\$23,650	\$5,548	\$49,974
3 or more Children	45%	21.06%	\$13,850	\$23,650	\$6,242	\$53,268

Source: Earned Income Credit (EIC) 2015 Returns, IRS-Publication 596

*The PUMS' household income data was assumed to measure the earnings of the households in the analysis. In terms of IRS terminology, household earnings are equivalent to adjusted income (ADI) for computation of the EITC.

**Table 7
Federal Estimated EITC for Arkansas 2015**

Single, Head of Household, of Qualified Widow(er)				
# of Children in Household	Total Credits Phase In	Total Credits Maximum Credit Phase	Total Credits Phase Out	Single Filers Total Credits
0 Children	\$5,960,424	\$5,006,862	\$23,375,555	\$34,342,841
1 Child	\$11,713,401	\$34,305,467	\$34,595,557	\$80,614,425
2 Children	\$24,511,124	\$7,966,928	\$44,191,565	\$76,669,617
3 or more Children	\$20,766,771	\$8,963,512	\$30,690,880	\$60,421,163
Single, Total EITC	\$62,951,720	\$56,242,769	\$132,853,557	\$252,048,047
Married Filing Jointly				
# of Children in Household	Total Credits Phase In	Total Credits Maximum Credit Phase	Total Credits Phase Out	Married Filers Total Credits
0 Children	\$612,849	\$4,397,226	\$3,596,972	\$8,607,048
1 Child	\$2,511,830	\$104,165,949	\$122,100,762	\$228,778,541
2 Children	\$3,289,864	\$28,940,259	\$43,471,864	\$75,701,987
3 or more Children	\$3,613,419	\$21,924,401	\$60,495,632	\$86,033,452
Married, Total EITC	\$10,027,962	\$159,427,835	\$229,665,230	\$399,121,027
Estimate of Total Federal Earned Income Tax Credits				\$651,169,074
Income Data for Estimate from U.S. Census, PUMS 2015.				

From Table 7, the \$252 million of earn tax credits estimated for single filers are approximately 39% of the total estimated credits. Single filers received the majority of estimated credits in the phase-in income ranges. Married filers received \$399 million in credits with the majority of these credits (61%) being received by married couples with adjusted gross income in the phase-out region of earnings. Total estimated federal credits using the 2015 PUMS data for Arkansas approaches \$651.2 million credits.

The next step in the analysis is to apply the HB1344 rates to the federal EITC rates to derive an estimate of the state level earned income tax credits. Table 8 contains the results from this application. The refundable credit rate estimate was from the IRS SOI data for 2014. In a comparison of EITC estimates in Table 4 and Table 8, the PUMS data are 17% lower than those derived using the SOI data. One explanation for this difference is an undercount of the number of households. The US Census Bureau's American Community Survey (ACS) reports 1,347,598 households in Arkansas for 2015 in instead of the 1,114,530 observation that were usable in PUMS database.²⁵ Adjusting the PUMS credit estimate for this undercount results in a new estimate of federal credits of \$766 million which is within 4% of the 2014 IRS SOI estimate. Applying the refundable tax credit rate to the adjusted estimates of EITC yields a new estimate of refundable credits of \$678 million. The last step is to recalculate the annual estimates of refundable EITC for 2016-2018 using the proposed HB 1344. These new annual estimates are very close to those derived from IRS SOI database for 2014.

The estimates of Arkansas' EITC are also estimates of the direct fiscal impacts on state tax revenues. Awarding EITC is equivalent to foregoing tax revenues. Hence, EITC not only represent cash transfers but also foregone tax revenues. Refunded EITC to taxpayers add to their disposable personal incomes. When taxpayers spend this additional income, the spending generates additional tax revenues. That is, there are indirect tax revenues created by the spending associated with awarding refundable EITC.

²⁵ American Fact Finder, US Census Bureau, <https://www.census.gov/acs/www/data/data-tables-and-tools/american-factfinder/>

Table 8
 Estimates of EITC for House Bill 1344 Derived From Arkansas' PUMS Data
 2015

Federal EITC Estimates			
EITC Federal (PUMS Data)	\$651,169,074		
Refund Rate (SOI 2014)	88.42%		
Federal Refundable Credits	\$575,759,524		
Arkansas HB 1344			
AR EITC Rates	2016	2017	2018
Proposed EITC Rates	1.25%	2.5%	5.0%
EITC for HB1344	\$8,139,613	\$16,279,227	\$32,558,454
Refundable AR EITC	\$7,196,994	\$14,393,988	\$28,787,976
Housing Adjustment			
American Community Survey # Housing Units AR	1,347,598		
PUMS Housing Units	1,144,530		
EITC Estimated using PUMS Data	651,169,074		
EITC Estimate Per Household	569		
Adjusted Federal EITC Estimate for Housing Undercount			
EITC per Household*ACS Housi	\$766,702,613		
Federal Refundable Tax Credits	\$677,913,539		
Adjustment Factor for Housing	17.74%		
AR EITC Estimates			
AR HB 1344 EITC	2016	2017	2018
Proposed EITC Rates	1.25%	2.5%	5.0%
EITC for HB1344	\$9,583,783	\$19,167,565	\$38,335,131
Refundable AR EITC	\$8,473,919	\$16,947,838	\$33,895,677

Economic Consequences of the Refunded EITCs

An EITC program like HB 1344 will have both short term and long-term consequences. In the short term, there are the direct economic impacts associated with the receipt of the refundable tax credits. The refunded credits represent a change in tax filers' disposable personal income. The tax filers may choose to spend this additional income or save a portion. Presumably, families and individual that receive the credits and refunds have low income, and they will opt to consume the disposable income rather than save a portion. This is the assumption made in this study.

EITC have state budgetary impacts associated with the foregone tax revenues. Due to Arkansas balanced budget rule, the lost tax revenues must be offset by some combination of either raising taxes, reducing government spending elsewhere, or issuing debt. Although in the case of refunded EITC, the spending supported by the refunded credits generates tax revenues they will not be sufficient to offset the tax revenue losses associated with awarded credits. The final section of the study quantifies the fiscal effects of the EITC program.

There are long-term behavior responses of the EITC recipients. As noted previously in this paper, empirical evidence at the federal level suggest that labor force participation of low income tax filers are enhanced, but higher income recipients appear to have a tendency to reduce work efforts. These long-term behavior responses are not addressed in this study.

Economic Impacts of the Refundable EITC

To analyze the economic impacts of the refundable EITC and to quantify their fiscal impacts, the study used an Implan Model for Arkansas in 2012.²⁶ EITC refunds were assumed to continue annually and tax filers receiving the credits used the additional disposable personal income (DPI) to support additional personal consumption expenditures (PCE).²⁷ Implan's PCE varies by income groups but the groups did not match those of the EITC parameters. This necessitated regrouping the refundable tax credit estimates into appropriate income groups. Data in Table 9 shows these regroupings of refunded EITC. The DPI data in Table 9 is incorporates the adjustments associated with the housing undercount.

²⁶ Implan, Huntersville, NC, implan.com

²⁷ Whether EITC recipients perceive EITC refunds as a temporary or permanent may affect how they spend their refunds and how they affect the economy. Tax filers who perceive refunds as a temporary boost to disposable personal income may spend the funds in ways that do not have lasting effects. In that case the influence of the EITC will be short lived. On the other hand, spending of tax filers who perceive EITC as a permanent addition to disposable personal income may have a more lasting influence in the economy, and have the full weight of the expenditures multipliers realized in the economy. This study presumed a more permanent nature to the spending allowing for the full weight of the expenditure multipliers.

Refundable EITC Estimates 2018 Implan Model Analysis	
Income Groups	Refundable EITC
\$1 under \$10000	\$3,279,537
\$10000 under \$15000	\$5,064,794
\$15000 under \$25000	\$11,881,934
\$25000 under \$35000	\$10,062,446
\$35000 under \$50000	\$3,544,001
\$50000 under \$75000	\$62,966
Total Disposable Personal Income	\$33,895,677

In this impact analysis, refunded EITC adds to DPI that in turn supports new levels of PCE for those awarded the credits. In the terminology of economic impact analysis, the additional DPI and associated PCE are the direct effects of the EITC program. In turn, this additional PCE supports indirect and induced economic impacts. The indirect impacts are those associated with spending by industries stemming from the inter-industry expenditures that are necessary to meet the new demands associated with the new levels of PCE. Induced economic impacts are associated with the spending generated from the additional income that is a consequence for the indirect spending rippling throughout the economy. As noted earlier this spending generates additional tax revenues that are part of the fiscal effects of the EITC program.

Thus, the analysis looks at the economic impact of an EITC program as a change in the tax filer's DPI. The study assumes tax filers perceive EITC as permanent and allocate the additional DPI to support additional permanent PCE. The PCE expenditures are in fact an increase in the final demand in the economy, and industries response by increasing production (indirect effects) and creating additional earnings (induced effects). An increase in the number and value of economic transactions generates induced fiscal effects that offset some of the lost tax revenues due to EITC program.²⁸

In Table 10 the findings from the economic impact analysis associated with a HB1344 in year 2018 (5% rate) are summarized. There several measures that quantified the economic impacts. The sales measure estimates the total revenue or value of all sales in Arkansas that are a

²⁸ This analysis is an unconstrained economic impact study. That is, there is no accounting for how the state obtains funding for the refundable credits. As noted previously, to refund credits (cash) the state must either raise taxes, cut expenditures, or issue debt. This analysis does not account for the consequences of these fiscal actions. Consequently, these estimates of economic impacts are maximum estimates of the consequences of the refunded credits because they are not constrained by the fiscal budgeting considerations.

consequence for the EITC. In this case and after accounting for PCE spent outside the state, the \$33 million of PCE (refunded EITC) contributes \$50 million in total sales (revenues) to the state economy. (A sales or output multiplier approaching 1.5 that means for one dollar of PCE sales in the economy increase by \$1.50).

Table 10
EITC Program HB 1344
Economic and Fiscal Impact Summary Estimates
Tax Year 2018

Impact Measures	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Sales	\$33,000,295	\$8,645,511	\$8,220,077	\$49,865,883
Additional GDP	\$17,711,098	\$4,666,265	\$4,781,443	\$27,158,806
Income	\$9,568,737	\$2,800,361	\$2,656,606	\$15,025,704
Jobs	239.1	59.8	63.2	362.2
Impact of One Dollar of PCE				
Sales	1.00	0.26	0.25	1.51
Additional GDP	0.54	0.14	0.14	0.82
Income	0.29	0.08	0.08	0.46
Jobs (\$Million of PCE)	7.25	1.81	1.92	10.98
Fiscal Impacts				
Total State and Local Tax Estimates				
Employee Compensation	\$31,693			
Business Taxes and Fees	\$2,609,795			
Household Taxes	\$373,418			
Corporation Taxes	\$112,539			
Total	\$3,127,445			

The additional GDP is the measure of new economic activity created by the EITC. It is a measure of the total earnings created by the EITC (wages, salaries, proprietor's incomes, rents, interest payment, profits and indirect business taxes). In this scenario, the PCE of \$33 million adds directly to the State's GDP \$17.7 million in new economic activity and then creates additional indirect and induced spending that adds \$27 million to the State's GDP. (One dollar of change in the PCE adds 54 cents of new economic activity directly and in total 82 cents accounting for the indirect and induced effect)

Incomes equal the sum the wages, salaries, and proprietor incomes are also impacted by the EITC program. The \$33 million in PCE supported by EITC generates \$9.5 million additional income in the state directly and overall \$15 million additional income. (For income, the one dollar of change

in the PCE adds 28 cents of new income directly and in total 46 cents accounting for the indirect and induced effect).

Spending associated with an EITC program support full time and part time employment. The direct jobs estimate is 239 jobs and total job estimated is at 362 jobs. (Thus, for every million dollar of PCE supported by an EITC program, direct jobs support would approach 7.25 direct jobs and total jobs would approach 11 jobs)

The Implan model also provides estimates of the tax revenues impacts to state and local governments. Table 11 shows these estimates. The model provides estimates based on the amount of employee compensation that is essentially retirement funds, estimates of the indirect business tax and fees associated with production and imports, household, and corporate income taxes. According to the Implan Model, this EITC program would induce a \$3.1 million increase in state and local tax revenues. The foregone tax revenues estimate for HB 1344 in 2018 is \$38.3 million. Induced tax revenue of \$3.1 million will partially offset this lose. EITC of the magnitude of HB 1344 creates a short fall in the state budget approaching \$35 million.

Conclusion

An EITC program has many desirable characteristics as a means of assisting the working poor. It is administratively feasible and linked to existing state and federal tax systems. Administratively, a state EITC program adds a credit to a federal credit. From a taxpayer view, it is one more computation on the state income tax form. It is a targeted program directed at those that have earnings and varies regarding to marriage status and family size. Research suggests that an EITC may improve the labor force participation and provide low wage mothers an opportunity to afford more childcare and join the labor force.

Costs and potential fraud are two significant concerns for EITC program. Both federal and state EITC programs are spending programs. Federal and state programs forego taxes receipts reducing individual tax burdens and providing individual cash assistances. There are also concerns over compliance costs. Administrators who are responsible for finding tax fraud will have a new twist in their enforcement policy. Instead of an emphasis on people understating income, they will also have to focus on people overstating income. There are also incentives to misrepresent family relationships and the number of children to game the system. Compliance costs to tax revenue administrators are likely to rise.

APPENDICES

Appendix 1: Federal Earned Income Tax Credit Parameters: 1994-2016

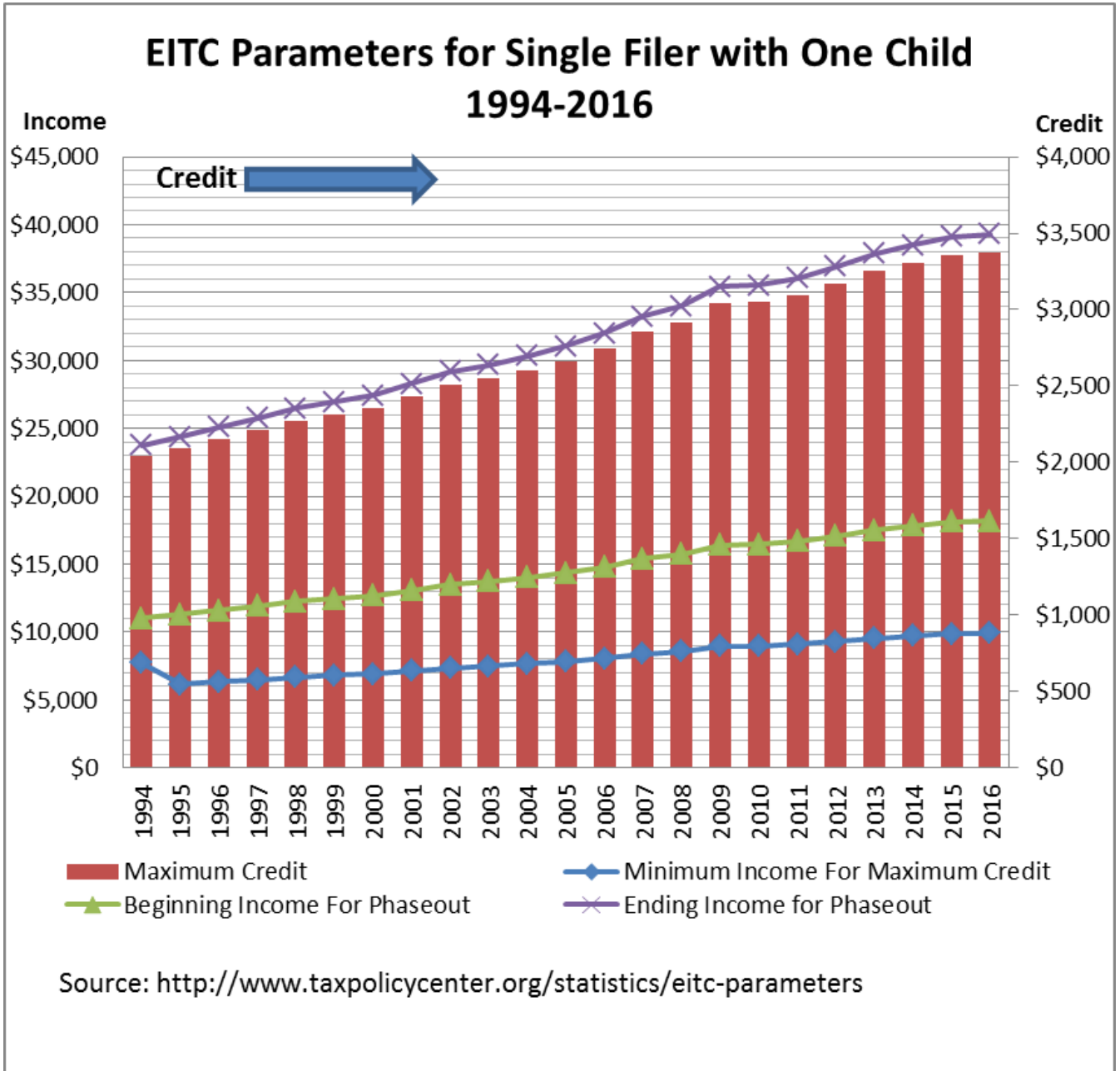
Appendix 2: Arkansas Individual Income Tax Data: Earned Income Tax Credit Number of Returns and Amount of Refundable Credits

Appendix 3: Statistics on the Ratio of Federal Earned Income Tax Credit to Personal Income in Arkansas by County: Selected Years

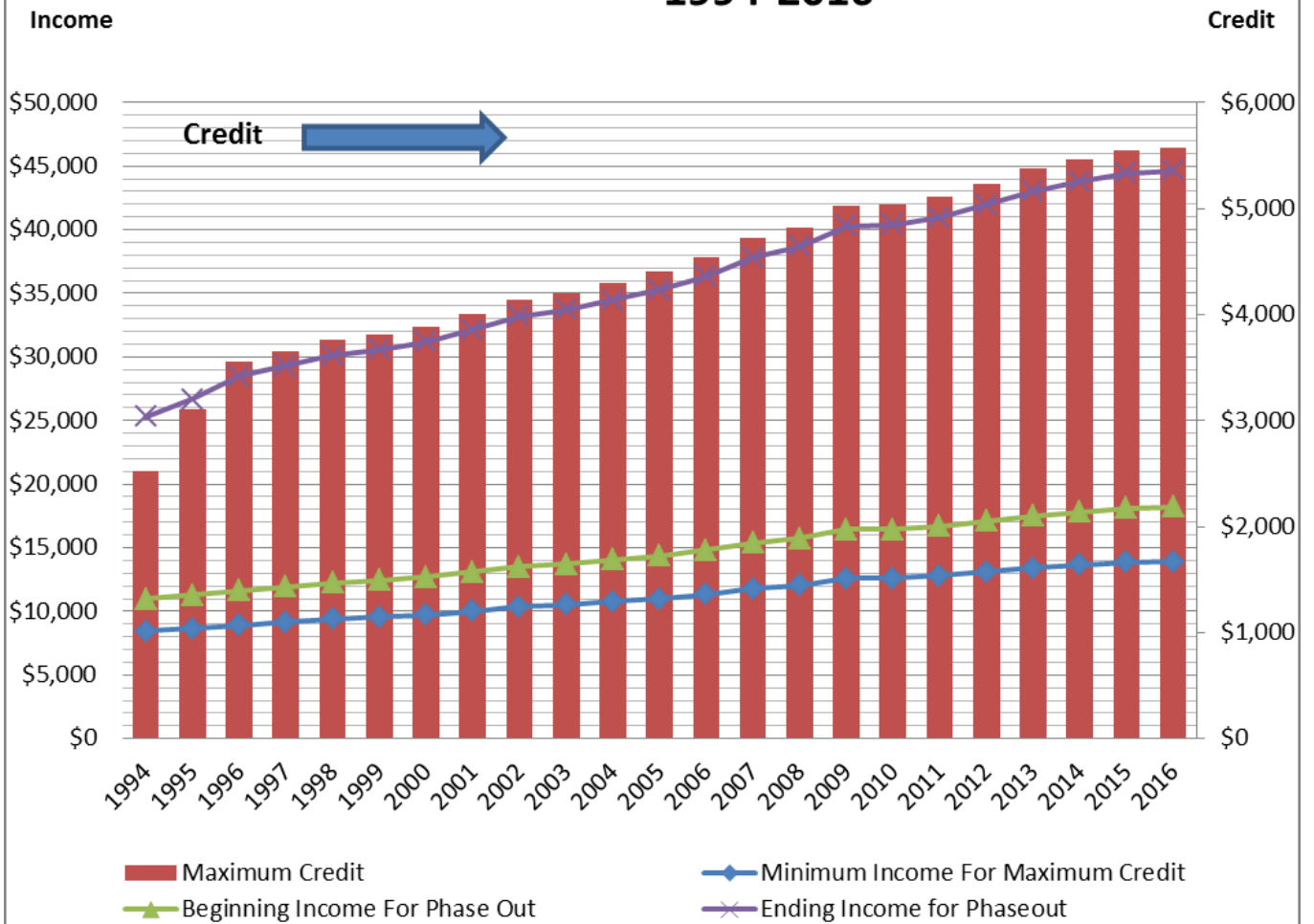
Appendix 4: Earned Income Tax Parameters 2016

Appendix 1

Federal Earned Income Tax Credit Parameters

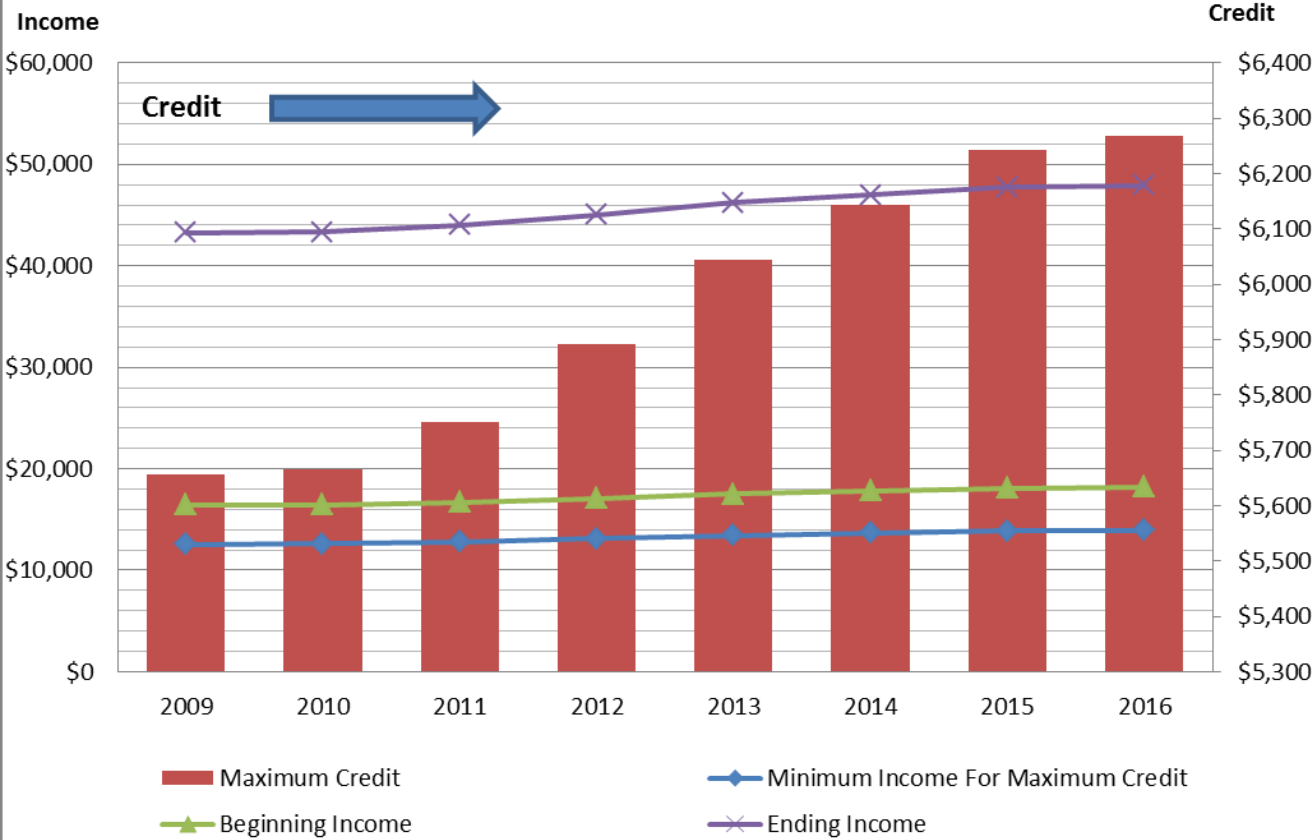


EITC Parameters for Single Filer with Two Children 1994-2016



Source:
<http://www.taxpolicycenter.org/statistics/eitc-parameters>

EITC Parameters for Single Filer with Three Children 2009-2016



Source: <http://www.taxpolicycenter.org/statistics/eitc-parameters>

Appendix 2

Arkansas Individual Income Tax Data: Earned Income Tax Credit Number of Returns and Amount of Refundable Credits

All Returns	2007	2008	2009	2010	2011	2012	2013	2014
Earned income credit: [7] Number	303,618	301,909	320,832	318,275	318,547	312,090	314,740	310,300
Amount (\$000)	\$637,797	\$655,575	\$746,384	\$741,234	\$759,930	\$764,025	\$789,317	\$794,507
Excess earned income credit (refundable): [8] Number	271,945	271,092	288,131	284,491	285,907	279,420	281,030	275,070
Amount	\$572,311	\$589,003	\$670,646	\$662,060	\$683,962	\$687,646	\$703,293	\$702,498
Under \$50,000								
Earned income credit: [7] (%)	303,618	301,909	320,832	318,275	318,547	312,010	314,130	309,420
Amount	\$637,797	\$655,575	\$746,384	\$741,234	\$759,930	\$764,023	\$789,215	\$794,282
Excess earned income credit (refundable): [8] (%)	271,945	271,092	288,131	284,491	285,907	279,370	280,560	274,420
Amount (\$000)	\$572,311.0	\$589,003.0	\$670,646.0	\$662,060.0	\$683,962.0	\$687,644.0	\$703,216.0	\$702,341.0
\$50,000 under \$75,000								
Earned income credit: [7] Number	0	0	0	0	0	80	610	880
Amount	0	0	0	0	0	2	102	225
Excess earned income credit (refundable): [8] Number	0	0	0	0	0	50	470	650
Amount (\$000)	0	0	0	0	0	2	77	157
All Returns: Annual Percentge Change	2007	2008	2009	2010	2011	2012	2013	2014
Earned income credit: [7] (%)		-0.56%	6.27%	-0.80%	0.09%	-2.03%	0.85%	-1.41%
Amount (%)		2.79%	13.85%	-0.69%	2.52%	0.54%	3.31%	0.66%
Excess earned income credit (refundable): [8] (%)		-0.31%	6.29%	-1.26%	0.50%	-2.27%	0.58%	-2.12%
Amount (%)		2.92%	13.86%	-1.28%	3.31%	0.54%	2.28%	-0.11%
[7] "Total statutory adjustments" represents the summation of the individual adjustments to income reported on Form 1040.								
[8] The components are overstated in relation to the total because in prior years (2009 and earlier) there was a statutory limitation on the total of itemized deductions that could be claimed by certain high-income taxpayers. This limitation did not affect the component deductions, the sum of which therefore exceeded the total used in computing income tax.								
Data Source: Statistic on Income, IRS, https://www.irs.gov/uac/soi-tax-stats-individual-income-tax-return-form-1040-statistics								

Appendix 3

Federal Earned Income Tax Credit in Arkansas by County Selected Years

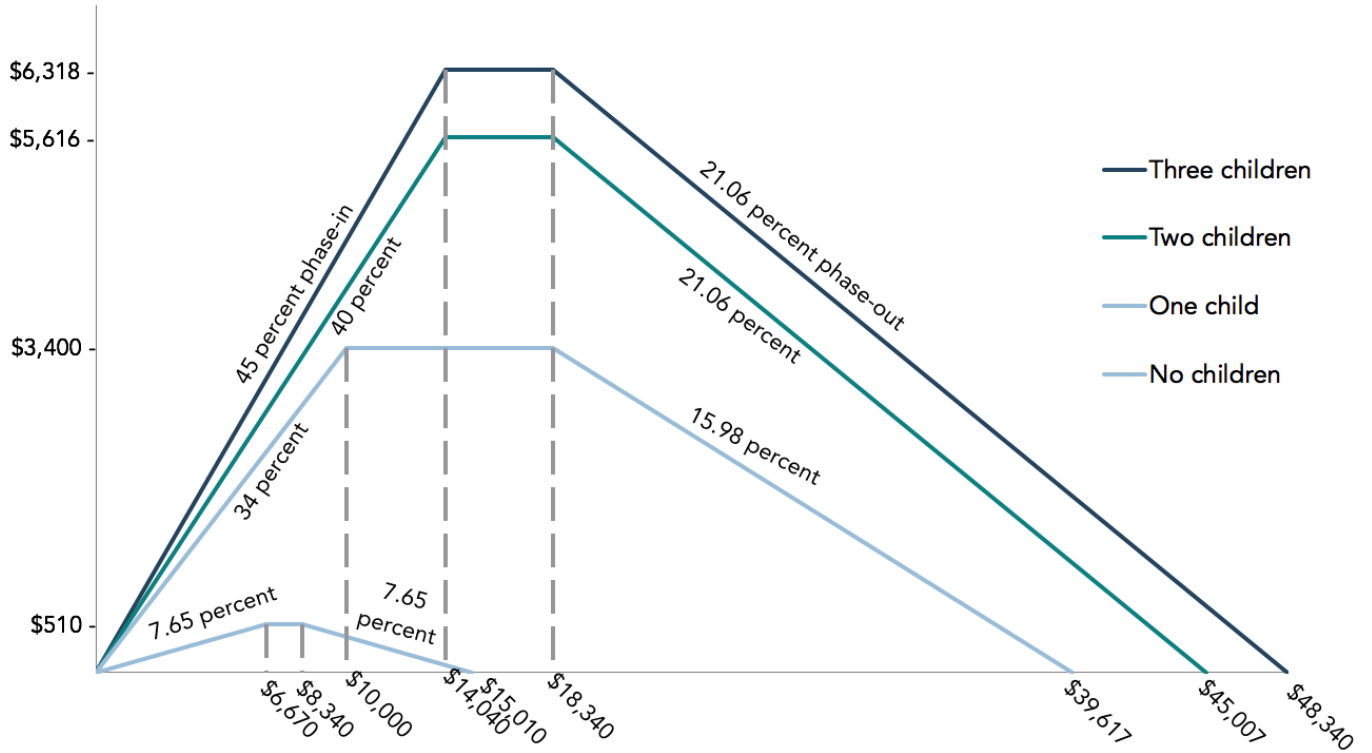
Characteristics of the Ratio of Earned Income Tax Credit to Personal Income (%) for Counties in Arkansas Selected Years												
	1980	1985	1990	1995	2000	2005	2010	2011	2012	2013	2014	
Average of County's Ratio of EITC to PI (%)	0.24%	0.13%	0.37%	0.75%	0.87%	0.88%	1.03%	0.97%	0.93%	0.92%	0.93%	
Median of County Ratio of EITC to PI (%)	0.23%	0.12%	0.34%	0.73%	0.83%	0.84%	0.99%	0.94%	0.89%	0.88%	0.88%	
Range of County's Ratios of EITC to PI (%)	0.59%	0.30%	0.77%	1.30%	1.61%	1.52%	1.54%	1.54%	1.52%	1.39%	1.50%	
Maximum Average County Ratio	0.67%	0.34%	0.91%	1.62%	1.94%	1.81%	1.91%	1.86%	1.80%	1.68%	1.79%	
Minimum Average County Ratio	0.07%	0.04%	0.13%	0.32%	0.33%	0.29%	0.38%	0.32%	0.28%	0.29%	0.29%	
County with Maximum Ratio	Lee	Lee	Lee	Phillips	Phillips	Phillips	Phillips	Phillips	St. Francis	St. Francis	St. Francis	
County with Minimum Ratio	Saline	Saline	Saline	Saline	Benton	Benton	Benton	Benton	Benton	Benton	Benton	
All Years												
Average County Ratio Over this Time Period	0.73%											
Median County Ratio of EITC to PI (%)	0.69%											
Range County Averages	1.18%											
Maximum Average County Ratio	1.43%	Phillips										
Minimum Average County Ratio	0.25%	Benton										
Data Source: Bureau of Economic Analysis, U.S. Department of Commerce												

This table shows several statistics describing the ratio of earned income credit to personal income levels for Arkansas counties. This ratio indicates how much of a county's personal income can be attributed to a cash transfer tied to the federal EITC. Although the cash transfer is a small part of a county's personal income, its share has growing as the federal program has expanded. There has been a steady increase in the average county ratio since 1985, and it is now approaching 1%. Phillips County had the maximum average county ratio whereas Benton County had the lowest over this period. The average ratio for all counties over the 24-year period was 0.73%, and the median ratio was 0.69%.

Appendix 4

Earned Income Tax Parameters 2016

Credit amount



Source: Tax Policy Center.

Note: Assumes all income comes from earnings. Amounts are for taxpayers filing a single or head-of-household tax return. For married couples filing a joint tax return, the credit begins to phase out at income \$5,590 higher than shown.

Image Source: Tax Policy Center: <http://www.taxpolicycenter.org/briefing-book/what-earned-income-tax-credit-eitc>