

To: Virginia Assembly
From: Dan Hiller and Rob Loomis
Re: A Refundable State EITC in Virginia

Executive Summary

The Earned Income Tax Credit (EITC) is one of the most important social insurance programs offered to high needs people. By burnishing the wages of low income people with children, the EITC transfers money to people who are willing and able to work. For this reason, the program has historically enjoyed bipartisan support. Virginia supplements the federal EITC with their own state program, which gives an additional proportion of the federal EITC to eligible participants. However, Virginia's EITC is more restrictive in that it is not refundable. Families who would be eligible to receive additional money back from Virginia beyond their tax bill are unable to collect that credit.

We recommend that Virginia make its credit refundable. We calculate that the vast majority of the benefits would accrue to those with incomes below \$50,000 a year. Expanding the EITC should alleviate poverty for a number of reasons. Transferring additional funds to low income people obviously should alleviate poverty. Additionally, the EITC incentivizes work, which can further help to raise people's incomes. Finally, we expect the EITC to bring more money into Virginia. Increasing the generosity of the state EITC may incentivize more people to use it, which would bring money into the state from the Federal EITC. On net, we think that making the credit refundable is a good use of taxpayers' money.

Background

State of the Current EITC

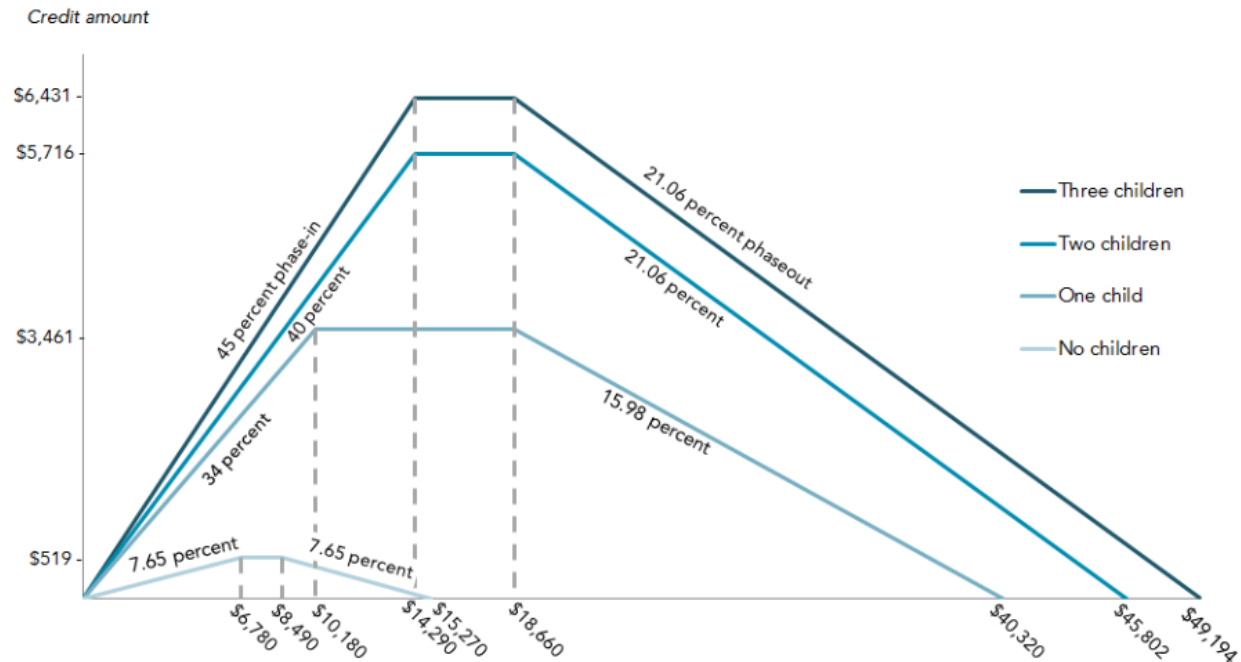
The EITC is a social insurance program aimed at keeping families out of poverty by rewarding work. At the federal level, the EITC awards working parents additional money for each child they have, up to three. As such, the EITC gives relatively little assistance to low wage workers without children. As shown in Figure 1, the program graphed is a trapezoid. The EITC phases in quickly.¹ That is, at a very low income, one gets a large subsidy from the government for each additional dollar earned. For example, with three children, for every additional dollar one earns, one receives an additional 45 cents from the government. It then has constant returns, and gradually phases out. The EITC is doubly effective at alleviating poverty. Not only does it provide money to working families, but as we explore later, it increases incentives for parents to join the labor force, further reducing poverty. The Federal EITC, and that of 23 states and Washington, DC., are refundable. A refundable credit will pay out the value of the credit to the taxpayer, even if the value of the credit exceeds that persons' tax bill. If a person owes \$500 in taxes, and is eligible for a \$1,000 refundable credit, that person would receive a \$500 check from the government.

Virginia is one of 29 states that has its own EITC layered on top of the federal program.² Virginia grants an additional 20 percent of the federal EITC to beneficiaries of the program in the state. Unlike the federal EITC and that of most other states, Virginia's EITC is not refundable. Families may have their state tax liability reduced to zero, but they cannot receive any additional money back from the State. The current state EITC tax expenditure costs Virginia about \$130 million per year, and benefits about 350,000 families.³ The Center on Budget and Policy Priorities estimates that a fully refundable state EITC, at the current rate of 20 percent, would cost Virginia \$283 million a year. The Commonwealth Institute puts the cost at "over \$200 million".⁴ Using these estimates, and a conservative estimate that 400,000 additional Virginians would benefit from refundability, households would receive a credit of \$500 to \$750 on average through the state refundable credit.⁵

Figure 1: Wage Income and Credits for a Married Couple with Two Children, at Various Income Levels

FIGURE 1

Earned Income Tax Credit 2018



Source: Urban-Brookings Tax Policy Center (2018). Internal Revenue Procedure 2018-18, Internal Revenue Service.

Notes: 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 \$5,690 higher than shown.

Political History and Public Opinion

In 2006, Governor Mark Warner, a moderate Democrat, championed and signed Virginia's state EITC. The state EITC has not changed as a percentage of the federal EITC since it was enacted in 2006. Federal tax changes under the 2017 Tax Cuts and Jobs Act (TCJA) started a debate about Virginia state taxes. Generally, state definitions of income must conform to federal definitions of income so the two layers of tax code work well together. But Virginia failed to immediately adjust its state tax code to correspond to the changes included in the TCJA. As a result of this conformity issue, some Virginians could have seen a state tax increase. For example, the Virginia tax code requires that those who take the federal standard deduction also take the state standard deduction. Those who wished to take the higher standard deduction at the federal level but wished to itemize at the state level could have been harmed. Generally, those who benefit from the EITC do not itemize and would not have been affected by this conformity issue.⁶

The debate during the 2019 legislative session generally occurred along party lines. Republicans hoped to provide tax relief to the middle class, while Democrats focused on tax credit programs for low-income residents.

Governor Ralph Northam (D) proposed during the 2019 legislative session to use the increase in state revenue caused by the TCJA to make the state EITC refundable. He claimed the change would help 600,000 Virginians at a cost of \$250 million, slightly below the estimate produced by CBPP. During his 2019 Governor’s address to the Assembly, he stated the following:

“I’ve put a proposal on the table to respond to the federal tax changes by making our existing Earned Income Tax Credit refundable. This credit already exists in our law, and it benefits middle-class workers – our teachers and law enforcement officers, our veterans, the folks working at restaurants and department stores and small businesses. Republicans and Democrats alike have supported this credit, because it works.”⁷

The Commonwealth Institute, a progressive state think-tank, supported the proposal by arguing that it would: (1) boost the stagnant wages of lower-income workers, and (2) provide long-term educational attainment and income benefits to children of families that would receive the refundable credit.⁸

Conversely, Republicans in the state Assembly preferred to return this unexpected increase in revenue to residents in the form of itemized state tax breaks or a higher state standard deduction. For example, House Speaker Kirk Cox (R) suggested that Virginia taxpayers should be able to take itemize deductions on their state taxes that were functionally lost when the TCJA was passed, because middle-class families were most affected by the conformity issues caused by the TCJA. His contingent also argued that a refundable state EITC would diminish the amount that Virginia could spend on programs that helped the middle class, like college affordability programs.⁹

A free market state policy analysis organization, the Thomas Jefferson Institute, also opposed a refundable credit, because it “would only benefit individuals or families who owe zero state income tax under current law.” Instead, the organization implied that a higher standard deduction would incentivize low earners to grow their income past the phase-out ranges of the EITC.¹⁰

The public was also divided on the issue. A 2018 poll indicated that public opinion largely followed voting patterns; Republican districts supported a broad tax cut, while Democratic districts supported a refundable state EITC. Public opinion appears to be in conflict with short term economic self-interest. Many of the districts that would benefit the most from the refundable EITC were in favor of broader tax cuts.¹¹

In February 2019, the state legislature passed a compromise tax measure which granted a credit of \$110 to taxpayers filing as single and \$220 to married couples. The bill also increased the state standard deduction by 50 percent, and provided direct relief from some of the conformity issues caused by the TCJA. Members of both parties touted the fair and progressive nature of the law.¹²

Equity and Distribution

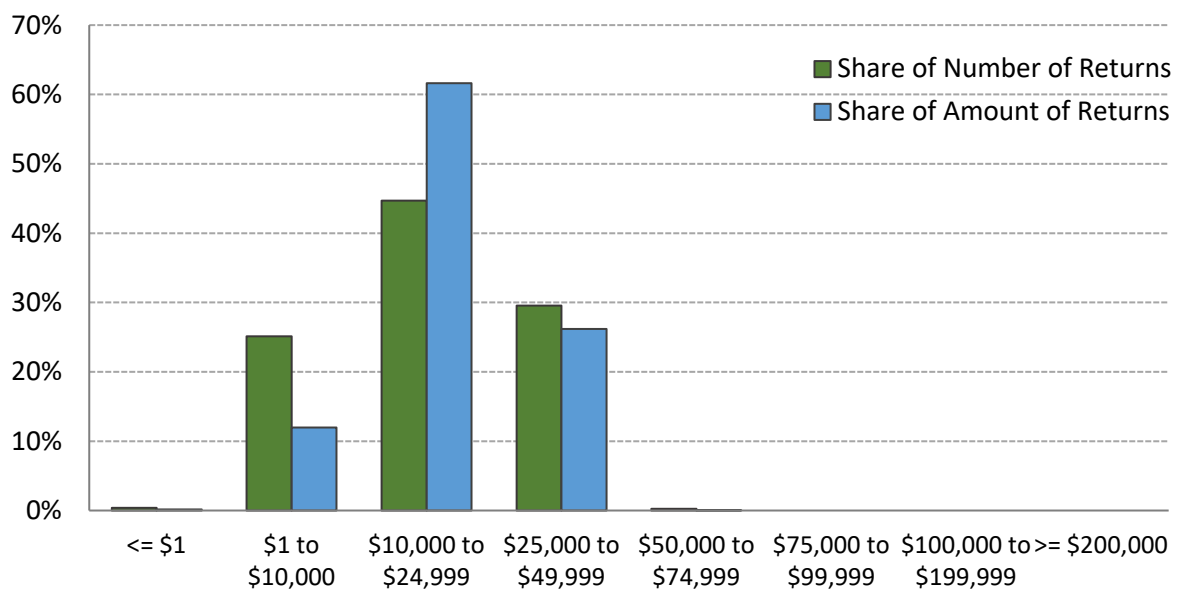
Poverty Reduction and Equity

A refundable EITC would likely affect poverty and equity in Virginia. 10.6 percent of Virginia’s residents have incomes below the federal poverty line (about \$25,000 for a family of four). 13.7 percent of Virginia’s children are poor by the same measure. Still, Virginia has the 11th lowest poverty rate among states; its child poverty ranking is 15th. Poverty is not equally distributed among different groups in Virginia. The poverty rate among whites is 7 percent, while the rate among blacks is 16 percent. More

women than men are in poverty in Virginia.¹³ Virginia's unemployment rate ranks 19th among states at 3.8 percent; its gender wage gap and income inequality ratio rank 29th.¹⁴

Figure 2 illustrates that the refundable portion of the federal EITC primarily benefits the working poor. For federal EITC returns in 2016, Virginians with adjusted gross income between \$10,000 and \$25,000 had the largest share of refundable federal EITC returns, both in terms of number of returns and total amount of returns. The distribution of state refundable credits would look similar, and would further help Virginia's working poor.

Figure 2: Distribution of Federal Refundable EITC by Income Category in Virginia, 2016



Source: Authors' calculations; IRS SOI Tax Stats, Individual Income Tax Returns: Selected Income and Tax Items by State, County, and Size of Adjusted Gross Income, Tax Year 2016, Virginia.

While the magnitude of the effect is difficult to measure, expanding the state EITC to make it refundable would reduce race and gender differences in the short term, as people of color tend to be served in larger proportion by the EITC and single mothers are encouraged to work by the EITC's design.¹⁵ In the long term, a refundable credit would boost family income. The increase in income that the EITC provides has been linked to improved educational attainment and higher wages for children in recipient families. The effect may be especially important for children of color.

A number of peer-reviewed studies find that EITC expansions benefit children in the long term by boosting test scores, college completion rates, high school completion rates, employment, and wages. Chetty, Friedman, and Rockoff (2011) as well as Dahl and Lochner (2011) find that a \$1,000 increase in tax credits raises students' test scores by 6 percent of a standard deviation and improves the probability of college attendance, increases future earnings, and reduces teenage birth rates. They find that these effects are larger for historically disadvantaged groups.¹⁶ Finally, Bastian and Michelmore found that a \$1,000 increase in the EITC increases the likelihood of college completion by 1.3 percent, college completion by 4.2 percent, employment by one percent, and earnings by 2.2 percent.¹⁷

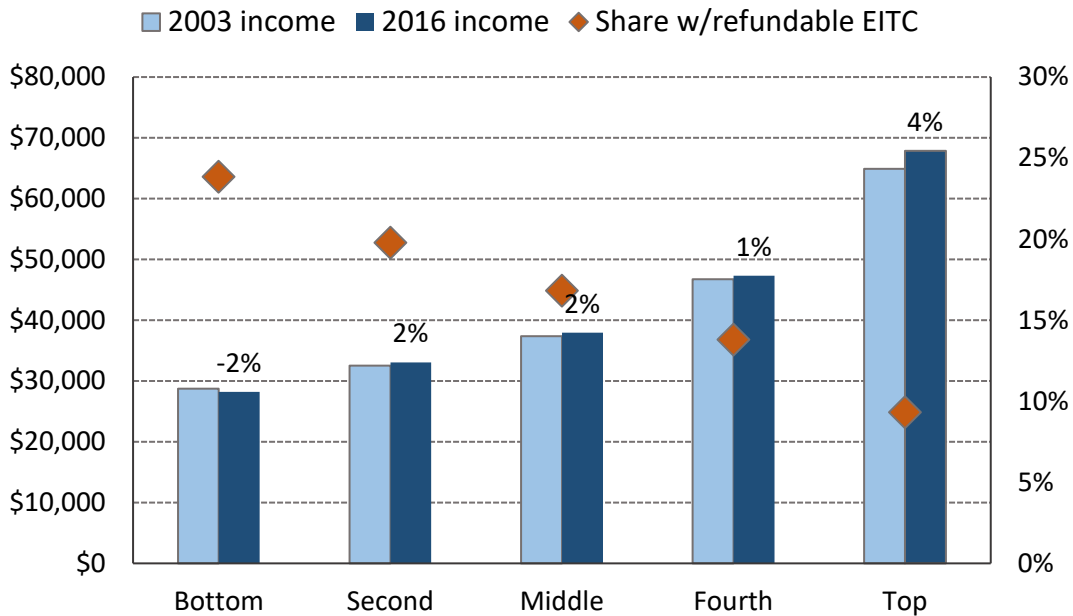
Distribution of Benefits

Every county in Virginia has residents who would benefit from a refundable state EITC (See Appendix Figures). However, lower-income counties would benefit proportionally more than higher income counties.

As Figure 3 illustrates, in the 27 counties with the lowest quintile of median household income, nearly 25 percent of tax filers received an EITC payment in excess of their federal tax liability in 2016. On average, those counties had a median household income below \$40,000. Conversely, the richest 25 counties had an average median household income of nearly \$90,000, and only nine percent of tax filers in those counties received a refund associated with the federal EITC.

Expanding the EITC would also help counties and cities in the state that are struggling to grow. Figure 3 shows that the bottom quintile of cities and counties saw their real median household incomes shrink by two percent on average, while the top quintile of cities and counties saw their real income grow by four percent on average. Voters in these struggling counties and cities are both Democrats and Republicans; there is no correlation between the percentage of filers receiving the EITC in 2016 and the percentage of voters casting a vote for Donald Trump in the 2016 election (See Appendix Figures).

Figure 3: Average Real Median Household Income Growth by City/County Income Quintile 2003-2016 versus Share of County/City Receiving Federal Refundable EITC in 2016



Note: 133 Counties and cities are sorted into deciles based on 2003 median household income. Income for 2003 and 2017 are in 2003 dollars using the CPI-U-RS deflator. Percentages above bars represent average quintile growth in real median household income between 2003 and 2016.

Source: Authors' calculations; IRS, Statistics of Income Division, Individual Master File System, August 2018; U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates; Bureau of Labor Statistics, CPI Research Series Using Current Methods (CPI-U-RS); US Census Bureau, SAIPE State and County Estimates for 2003-2017.

Again, we expect that a refundable state EITC would have similar distributional results, although the state results will differ somewhat because the state income tax structure does not directly mirror the federal income tax structure. Assuming the distribution of household incomes in counties is relatively normal, the data indicates that a refundable state EITC in Virginia would predominantly benefit both counties and households with the lowest incomes and the lowest rates of real income growth. This would improve the progressivity of Virginia's tax system, as households making less than \$22,000 a year pay, on average, 9.8 percent of their income in state and local taxes while households that earn at least \$587,200 a year pay only 7.0 percent of their income in state and local taxes.¹⁸

Economic Effects

While the labor market effects of expanding the EITC are not perfectly understood, analyses tend to focus on a few interrelated questions: (1) Does the workforce expand or contract when the EITC is expanded? (2) What happens to wages when the EITC is expanded - in other words, who captures the benefits of the EITC? And, (3) Do these effects differ in different contexts or for different groups of people?

Most research indicates that, overall, more people would work if the EITC were expanded. But the effects among different populations differ due to the structure of the EITC. In a survey of recent literature on the subject, Nichols and Rothstein find some consensus that expanding the credit causes more single mothers to work, but fewer married mothers to work, with a negligible effect on men.¹⁹ Recent evidence has attempted to measure the size of these effects. Hoynes and Patel found that a \$1,000 increase in the EITC will "lead to a 7.3 percentage point increase in employment and a 9.4 percentage point reduction in the share of families with after-tax and transfer income below 100% poverty"²⁰

The effect of EITC expansion on wages is more complicated. All else held equal, one would expect an increase in the labor supply to reduce wages. Wages would be most impacted at the lower end of the income distribution, where workers who make decisions to work based on the EITC are closer substitutes to the current lower-income workforce. Because this effect is difficult to measure, researchers have not been able to determine its magnitude with any precision. Some estimates suggest that workers' wages drop by about 36 cents for every dollar spent on the EITC, while others suggest that a 10 percent increase in the state EITC leads to a decline in wages of 2 percent to 5 percent for low-skilled workers.²¹

These effects combined suggest that EITC expansions expand labor force participation, but may have more negative effects on average wages – implying that employers capture some of the benefit of the EITC. State EITC expansion likely has different effects on different groups, with those who benefit the most from the EITC design (families) as beneficiaries, and those who compete for low-skilled jobs but benefit the least from the EITC design (childless workers) being the losers.

Fiscal Effects and Policy Tradeoffs

The current size of Virginia's budget is about \$28 billion. Estimates of making the state EITC refundable range from \$250 million estimated by the Governor to \$283 million estimated by CBPP.

One of the issues that might concern us about the EITC is the disincentive effects on working more that occur as the program phases out. As one earns more, one loses their subsidy. This loss of subsidy is effectively an additional implicit income tax. The additional tax is a potential problem because it weakens the incentive of people to earn more. We should be especially concerned about disincentivizing the work of low income people, who need the extra money the most.

Ideally, when comparing social support services, we would look at the marginal impact of each program to determine which would do the most good. For example, we might want to compare the marginal effect of Virginia spending an additional \$10,000,000 on education, versus an additional \$10,000,000 on TANF, versus an additional \$10,000,000 on the EITC. We were unable to find good estimates of the marginal impact of each of these programs on various outcomes. There are estimates of the average impacts, but that would not be useful to our analysis. The average impact is not necessarily the same as the marginal impact of additional spending. These meta comparisons would likely be a fruitful area of future research.

Because the appropriate quantitative measures are not available, we consider the different broad pros and cons of each of the major social welfare programs. While the EITC is more expensive to the government than a minimum wage increase, a minimum wage hike could increase the cost of labor, leading to job loss.²² Compared to TANF and SNAP, the EITC is easier to administer and has less stigma. These two things go hand in hand. The more hoops one has to jump through to receive a program, the more difficult to administer, and the more stigma that is attached to the recipient.²³

About 20 percent of eligible households in Virginia do not take advantage of the EITC. Making the state credit refundable would improve incentives to file for the credit. Virginians who would be incentivized to file would receive both the federal and state EITC. On the margin, for each additional person who files, Virginia pays \$20 for every additional \$100 brought into the state. Making the EITC refundable may be a cost-efficient way to bring more federal money into the state.²⁴

Recommendation and Conclusion

We recommend that the Virginia Assembly make the state earned income tax credit fully refundable. Doing so has numerous certain benefits, with few well-defined drawbacks.

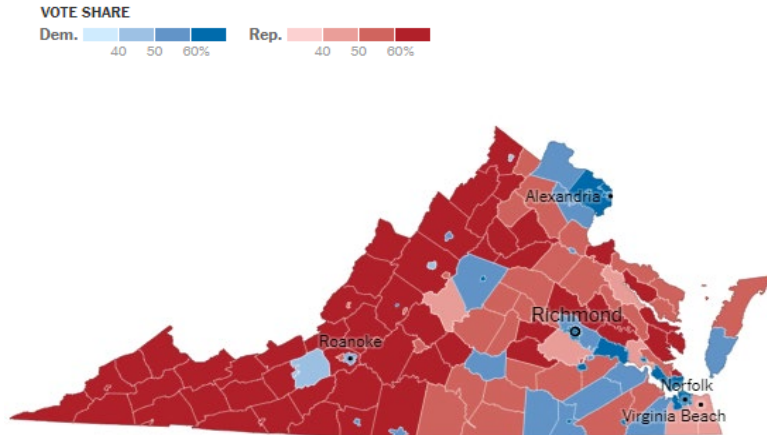
- First, earned income tax credits in general encourage work and an expansion of such a credit will help to grow Virginia's economy in the short run. The long-term benefits to children of families that receive EITC are well-documented, so the credit will act as an investment in Virginia's future.
- Second, a refundable state credit promotes equity, despite creating some winners and losers. The credit will predominantly benefit low-income families and low-income counties. It will reduce the regressivity of other state and local taxes. It will also tend to benefit working women with children and historically marginalized communities, as well as counties and cities that have not shared in the state's growth.
- Finally, the design of the EITC is efficient when compared to other policy options, and enables Virginia to draw upon federal funding. Virginia can administer a refundable EITC with relative ease, and the program does not stigmatize beneficiaries. Virginians greatly benefit from national tax expenditures to the extent that state refundability increases federal EITC uptake.

Despite becoming a partisan issue in most recent legislative session, a refundable state EITC is also politically feasible. State legislators have demonstrated the ability to compromise on tax policy, and foundation of the EITC appeals to the tenets of both party platforms.

Appendix Figures

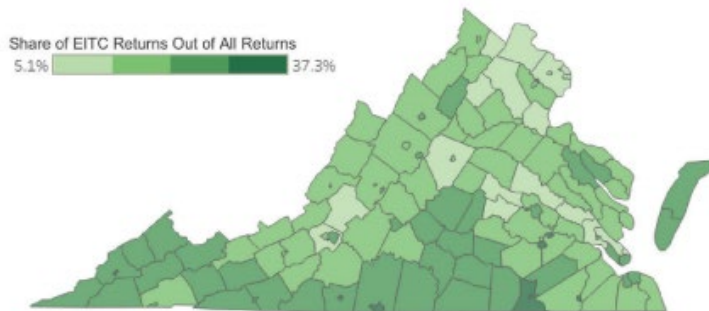
Note that the correlation between the share of city/county residents receiving the federal EITC and real income growth over the past 15 years is -0.5 , while there is no correlation between percent voting for Trump and share receiving the federal EITC.

Presidential Election Results in Virginia, 2016



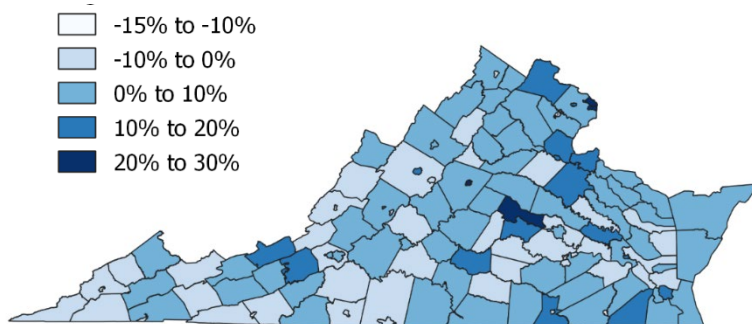
Source: *The New York Times*.

Distribution of Federal EITC in Virginia, 2016



Source: Commonwealth Institute analysis of 2016 IRS-SOI data.

Growth in Real Median Household Income in Virginia, 2003-2016



Source: Authors' calculations/QGIS; Library of Virginia; Bureau of Labor Statistics, CPI Research Series Using Current Methods (CPI-U-RS); US Census Bureau, SAIPE State and County Estimates for 2003-2016.

Annotated Endnotes

¹ “What is the Earned Income Tax Credit?” Tax Policy Center, <https://www.taxpolicycenter.org/briefing-book/what-earned-income-tax-credit>.

This briefing book provides a useful overview and summary of the federal EITC. Tax Policy Center is a trusted think tank, and does a better job filling out the context of the program and providing additional relevant information relative to the IRS website.

² Erica Williams and Samantha Waxman, “How Much Would a State Earned Income Tax Credit Cost in Fiscal Year 2020?” Center on Budget and Policy Priorities, March 7, 2019, <https://www.cbpp.org/research/state-budget-and-tax/how-much-would-a-state-earned-income-tax-credit-cost-in-fiscal-year>.

This page is useful for doing some of the EITC calculations relating directly to Virginia. CBPP is a reliable source for data calculations, although they do have a Progressive ideological viewpoint. They combine data from the IRS and JCT to tell how expensive the Virginia EITC costs at different funding levels. They also look at statute from every state to look at how many states have refundable EITCs.

³ Virginia Department of Taxation, Annual Report 2018, Table 3.1. <https://tax.virginia.gov/sites/default/files/inline-files/2018-annual-report.pdf>.

This report was put out directly by the Virginia Department of Taxation. It is a primary source for the cost of the EITC to Virginia, and for the number of families who benefit.

⁴ Chris Wodicka and Michael Cassidy, “A Refundable EITC Helps Working Families in Every District: Spring 2019 Update,” The Commonwealth Institute, <https://www.thecommonwealthinstitute.org/wp-content/uploads/2019/03/EITC-Every-Legislator-Every-District-Report-Updated-New-Maps-2019.pdf>.

We wanted to include a number of different cost estimates for EITC refundability in Virginia. The commonwealth institute is a Virginia-specific think tank so we value their input on this issue.

⁵ Internal Revenue Service, “Individual Income Tax Returns: Selected Income and Tax Items by State, County and Size of AGI, Tax Year 2016”.

The figure we provide for the average amount a Virginia tax unit would receive under a refundable EITC is a rough approximation. Virginia Governor Ralph Northam claimed that of the 600,000 Virginians who receive the EITC, only 200,000 receive the full value of the 20 percent EITC add-on in Virginia. This is within the feasible range given the distribution of federal EITC benefits in Virginia found in the IRS’s 2016 tax stats.

Gregory Schneider, “With windfall from changes to federal tax law, Northam wants rebates for low-income workers,” *The Washington Post*, August 10, 2018, https://www.washingtonpost.com/local/virginia-politics/with-windfall-from-changes-to-federal-tax-law-northam-wants-rebates-for-low-income-workers/2018/08/10/8177996e-9cb9-11e8-8d5e-c6c594024954_story.html?noredirect=on&utm_term=.cda2fe74ac00.

The quote from the Governor is found in the *Washington Post*, a reputable regional/national newspaper.

⁶ Virginia Department of Taxation, Tax Bulletin 19-1, February 15, 2019, <https://tax.virginia.gov/sites/default/files/inline-files/tb-19-1-date-irc-conformity-advanced.pdf>; Virginia Department of Taxation, Tax Bulletin 19-1, February 9, 2019, <https://tax.virginia.gov/sites/default/files/inline-files/tb-18-1-date-irc-conformity-advanced.pdf>.

These two tax bulletins come directly from the Virginia Department of Taxation and are a primary source of explanation for the details of the tax conformity issue caused by the TCJA

Gregory Schneider, “With windfall from changes to federal tax law, Northam wants rebates for low-income workers,” *The Washington Post*, August 10, 2018, https://www.washingtonpost.com/local/virginia-politics/with-windfall-from-changes-to-federal-tax-law-northam-wants-rebates-for-low-income-workers/2018/08/10/8177996e-9cb9-11e8-8d5e-c6c594024954_story.html?noredirect=on&utm_term=.cda2fe74ac00.

[windfall-from-changes-to-federal-tax-law-northam-wants-rebates-for-low-income-workers/2018/08/10/8177996e-9cb9-11e8-8d5e-c6c594024954_story.html?noredirect=on&utm_term=.cda2fe74ac00](https://www.washingtonpost.com/local/windfall-from-changes-to-federal-tax-law-northam-wants-rebates-for-low-income-workers/2018/08/10/8177996e-9cb9-11e8-8d5e-c6c594024954_story.html?noredirect=on&utm_term=.cda2fe74ac00).

We include the article from the *Washington Post*, a credible regional newspaper, because it includes simple examples of the conformity issues that are not directly accessible in the Department of Taxation bulletins.

⁷ Tyler Arnold, “Northam proposes spending increases during commonwealth address,” *Virginia Watchdog*, January 10, 2019, https://www.watchdog.org/virginia/northam-proposes-spending-increases-during-commonwealth-address/article_bcec3a18-1491-11e9-9a40-f7444dc764d7.html.

We did not use the content of the article, rather just the quote from Governor Northam. We expect that *Watchdog* quoted the Governor faithfully, as their organization is dedicated to accuracy and transparency in government. The quote is relevant to understand the political climate surrounding EITC expansion in Virginia.

⁸ Chris Wodicka and Michael Cassidy, “A Refundable EITC Helps Working Families in Every District: Spring 2019 Update,” The Commonwealth Institute, https://www.thecommonwealthinstitute.org/wp-content/uploads/2019/03/EITC-Every-Legislator-Every-District-Report-Updated_New_Maps-2019.pdf.

The Commonwealth Institute is a state-specific think tank that generally supports progressive policies. While the Commonwealth Institute report does not cite to specific evidence to support the claim that the EITC boosts wages and educational attainment, support for those claims is found in the literature. We include the Commonwealth Institute’s position as an illustration of the rationale progressive policy analysts use to support expansions of the state EITC.

⁹ Sara McCloskey, “Va. Gov. wants earned-income tax credit to be refundable, Republicans don’t back the move,” ABC 8 News, August 17, 2018, <https://www.wric.com/news/politics/capitol-connection/va-gov-wants-earned-income-tax-credit-to-be-refundable-republicans-dont-back-the-move/1378792946>.

Because the legislature in Virginia obviously has more members than the Governor’s office, we relied on reporting to look at an overview of Republicans’ priorities rather than just quoting one person as we did for the Governor. The source is an affiliate of ABC news, a trusted news source.

¹⁰ Stephen Haner and Michael Thompson, “Conformity Must Be Coupled With Tax Reform: Virginia Should Follow Lead of Congress: Double Standard Deduction, Cut Corporate Tax Rates,” The Center for Legislative Analysis at the Thomas Jefferson Institute for Public Policy, <https://www.thomasjeffersoninst.org/files/3/TJI%202018%20Tax%20Proposal.pdf>.

The Thomas Jefferson Institute provides useful technical suggestions while also having slightly different values than the Governor and the Commonwealth Institute. Their suggestion that we should not subsidize people who owe no income tax to the state, and that that money could better be used elsewhere, weighs into our analysis. The Thomas Jefferson Institute is a respected free market think tank.

¹¹ “Editorial: CNU poll shows curious numbers on tax cut vs. tax credit,” *The Roanoke Times*, December 19, 2018, https://www.roanoke.com/opinion/editorials/editorial-cnu-poll-shows-curious-numbers-on-tax-cut-vs/article_bad17e3d-f5ff-5181-9d66-f031035576eb.html.

Part of expanding the EITC is considering political feasibility. This article quotes a poll which indicates that there is not necessarily much political support to be gained from the people who would actually benefit from the program. The *Roanoke Times* provides an interesting analysis of this poll, which indicates to us that they understand the issue well. The paper is the primary regional news source in the southwest portion of the state.

¹² Michael Martz, “Legislative leaders reach bipartisan deal with Northam to return \$976 million to taxpayers,” *Richmond Times-Dispatch*, February 8, 2019, https://www.richmond.com/news/virginia/government-politics/general-assembly/legislative-leaders-reach-bipartisan-deal-with-northam-to-return-million/article_1aa8273c-bae4-53cb-94bd-0b6a3cb1e5f9.html.

This article provides a good outline of the recent legislative history surrounding taxes in Virginia. We generally trust newspapers to be fair and objective, especially when reporting facts without editorializing, as was done here.

¹³ “Poverty Rate by Race/Ethnicity,” Kaiser Family Foundation, 2017, <https://www.kff.org/other/state-indicator/poverty-rate-by-raceethnicity/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D> ; “Spotlight on Poverty and Opportunity: Virginia,” Spotlight on Poverty and Opportunity, <https://spotlightonpoverty.org/states/virginia/>.

Both KFF and Spotlight on Poverty are nonpartisan sources of factual information about health and poverty.

¹⁴ Talk Poverty, “Virginia Report 2018,” A Project Of: Center for American Progress. <https://talkpoverty.org/state-year-report/virginia-2018-report/>.

It is useful to have a baseline for poverty in Virginia when talking about poverty reduction. Talk Poverty provides a dashboard of statistics about Virginia. Talk Poverty is a project of the Center for American Progress, a respected think tank. They get their data from the US Census Bureau.

¹⁵ Michael Leachman, Michael Mitchell, Nicholas Johnson, Erica Williams, “Advancing Racial Equity with State Tax Policy,” Center on Budget and Policy Priorities, November 15, 2018. <https://www.cbpp.org/research/state-budget-and-tax/advancing-racial-equity-with-state-tax-policy>.

It is commonly known that women and people of color live disproportionately in poverty. We suspected that EITC would disproportionately benefit these groups, CBPP explicitly argues that the EITC is one of the best ways to help marginalized groups economically. They argue along the same lines that we do.

¹⁶ Gordon Dahl and Lance Lochner, “The Impact of Family Income on Child Achievement: Evidence from the Earned Income Tax Credit,” *American Economic Review*, August 2012, pp. 1927-1956.

This is a peer-reviewed article published in one of the premier economics journals. The authors use an instrumental variables method and significant changes in the EITC to estimate the effects of changes in the EITC on test scores and income in the short run for groups with varying characteristics. The data covers the period 1993 to 1997.

Raj Chetty, John Friedman, and Jonah Rockoff, “New Evidence on the Long-Term Impacts of Tax Credits,” 2011, Presented at the 104th Annual Conference on Taxation and funded by the NSF and Harvard.

While this paper is not peer-reviewed, we include it because it confirms and expands upon the results found in Dahl and Lochner’s earlier study. The authors are well-known in the field. The paper uses both the nonlinearity of the EITC and changes in EITC generosity to identify the impacts of the credits on test scores. It then expands on Dahl’s study to look at the long-term impact of these scores on college attendance, earnings, teenage birth rates, and neighborhood quality in adulthood. The study uses data from a longer and newer time period than Dahl’s study.

¹⁷ Bastian, J., and K. Micheltore K. 2018. “The Long-Term Impact of the Earned Income Tax Credit on Children’s Education and Employment Outcomes.” *Journal of Labor Economics* 36(4): 1127-1163.

This paper appeared in a peer-reviewed journal. The authors exploit variation in exposure to the EITC due to variance in residence and the number of children per household to estimate the impact of the EITC on educational outcomes.

¹⁸ “Virginia: Who Pays? 6th Edition,” *Institute for Taxation and Economic Policy*, <https://itep.org/whopays/virginia/>.

ITEP is a tax and economic policy analysis think tank that tends to support more progressive tax policy. The organization’s analysis is often cited in policy debate concerning tax incidence. The analysis included in the “Who Pays?” report is accompanied by a detailed note on methodology that lends credibility to the analysis: https://itep.org/wp-content/uploads/whopays-ITEP-2018_methodology.pdf.

¹⁹ Austin Nichols and Jesse Rothstein, “The Earned Income Tax Credit (EITC)”, National Bureau of Economic Research. NBER Working Papers. May 2015 Working Paper 21211.
<https://www.nber.org/papers/w21211.pdf>.

This is still a working paper, and has therefore not been peer reviewed. However, the authors thank a number of people for comments on their work, indicating that it has undergone some review. This paper is a literature review, not research itself, so we looked at the papers themselves that they mentioned. It was useful to read the authors impressions of the current state of research. For example, their impression that there is nearly a consensus that the EITC promotes work among single mother families.

²⁰ Hilary W. Hoynes and Ankur J. Patel, “Effective Policy for Reducing Inequality? The Earned Income Tax Credit and the Distribution of Income,” National Bureau of Economic Research, NBER Working Paper Series, July 2015 Working Paper 21340
<https://www.nber.org/papers/w21340.pdf>.

This is still a working paper, and has therefore not been peer reviewed. Although we would prefer peer reviewed work, we wanted recent estimates on the possible effects of the EITC on the labor market. The most recent peer reviewed studies for the group we wanted were from 2001. The authors utilize variations in the generosity of the EITC within state and overtime.

²¹ Ibid.

²² Congressional Budget Office, “The Effects of a Minimum-Wage Increase on Employment and Family Income,” February 2014.
https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/44995-MinimumWage_OneColumn.pdf.

The CBO is trusted by Congress to provide nonpartisan data analysis and policy advice. They have a strong reputation of fulfilling that goal. This resource is a meta-analysis conducted by the CBO.

²³ Jennifer Sykes, Katrin Kriz, Kathryn Edin, and Sarah Halpern-Meekin, “Dignity and Dreams: What the Earned Income Tax Credit (EITC) Means to Low-Income Families,” *American Sociological Review* (2015) Vol. 80(2) 243-267.
 This article appears in a peer-reviewed sociology journal. The authors use in-depth interviews of EITC recipients to understand their perceptions of the program. Recipients generally see the program as a just benefit for work, which the author’s tie to its relative lack of stigma.

²⁴ Internal Revenue Service, “EITC Participation Rates by States,” <https://www.eitc.irs.gov/eitc-central/participation-rate/eitc-participation-rate-by-states>.

We take the Federal EITC uptake rate in Virginia directly from the IRS.