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# Education Tax Credits: A Different Trajectory for Federal Funding of Higher Education and Remediation for Effectual Policymaking

By: Anna C. Bartel

*Education tax credits provide federal financial aid to a wide expanse of American taxpayers; however, little research or analysis has been done on these costly programs. There has been little evidence of its link to college enrollment growth. This descriptive paper outlines the establishment of education tax credits, their original intent, and the lack of evidence of effectual federal policy over the past two decades. Thus, the purpose of this article is to assess how the federal government has reached an \$18.9 billion annual expenditure for education tax credits with little to show in returns on investment. Further, this paper will provide recommendations needed to increase education tax policy efficacy. Since tax rewards reach more recipients than other forms of federal aid programs, they have the potential to increase college enrollment and educational attainment while providing liquidity-constrained individuals with greater incentive to enroll, persist, and graduate. If evaluated and remediated, education tax credits could positively affect the diversity of college populations, providing additional opportunities for desiring, potential students.*

**Keywords:** *education tax credits, tax-based aid, remediation*

*A*t the turn of the century, the progressives made it the law of the land for every child to be in school. Before then there was no such requirement. After World War II, we said 10 years are not enough, public schools should extend to 12 years. And then, as I said, the G.I. Bill and college loans threw open the doors of college to the sons and daughters of farmers and factory workers. And they have powered our economy ever since. – President Bill Clinton at Princeton’s 250<sup>th</sup> Commencement Exercises

Federal tax expenditures have long been a part of U.S. government spending since the birth of the federal income tax in 1913 (Congressional Budget Office [CBO], 2008). However, federal education tax credits are a relatively recent phenomenon, originating with President Bill Clinton’s Tax Relief Act of 1997. Thereafter, the federal government expanded its role towards higher education, accelerating a pathway for federal financial aid to benefit middle and upper-middle income families, implementing policies more towards *affordability* instead of its original *access* intent. In opposition to President Lyndon B. Johnson’s Higher Education Act of 1965 that centered on the investment in human capital for lower income families, President Clinton’s Tax Relief Act of 1997 solidified the trajectory of federal higher education funding towards more widespread applicability on the income spectrum.

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President Jimmy Carter's Middle Income Student Assistance Act of 1978 foreshadowed this change in trajectory before the creation of the Tax Relief Act as it widened eligibility for Pell Grants and removed income caps for subsidized loans, creating more universal benefits for federal education aid programs (St. John, Daun-Barnett, & Moronski-Chapman, 2013). As college tuition became increasingly unaffordable to many, the Clinton administration responded to mounting pressure from middle class voters, "[making] tuition tax credits a centerpiece of his 1996 re-election campaign" (Conklin, 1998, p. 1). Prior social progressive initiatives sponsored lower income families – providing college access to underrepresented groups, but early '90s, neoliberal voters responded to more universal education aid initiatives that expanded eligibility to middle- and upper-income families. These initiatives included education tax credits in the form of the Hope Tax Credit (HTC), its replacement, the American Opportunity Tax Credit (AOTC), and the Lifetime Learning Tax Credit (LLTC).

President Clinton made it clear in his commencement speech to Princeton, a year before the passing of the Taxpayer Relief Act, that the bill's intentions were to increase access to higher education as much as, or more so than, the GI Bill after World War II or the federal student loan program in the 1960s (Clinton, 1996). With college tuition skyrocketing, college access and affordability declined, preventing more and more Americans from enrolling in college. The Clinton Administration endeavored to combat this decline by including within the bill provisions for increased Pell Grant awards for low income households, education tax credits for middle income households, and college savings plans for those ineligible for any other aid program. Therefore, the main intent of the policies related to education in the Taxpayer Relief Act of 1997 was to increase college enrollment for all income levels, resulting in increased national postsecondary attainment and economic prosperity.

### Statement of the Problem

The cost of acquiring an educational credential above a high school diploma has risen at rates higher than both the average growth of wages and the average rate of inflation. To illustrate, over the past thirty years (1988-89 to 2018-19), the average net cost of attendance for four years of postsecondary education (including tuition, fees, room, and board) has increased from \$47,973 to \$109,600 (in real 2018 dollars), an average growth of 2.6% a year. However, the average growth of wages per year during the same timeframe has been 0.3%, and the average rate of inflation over the same time period has only increased 1.8% per year (Bureau of Labor Statistics [BLS], 2019; College Board, 2018a). Therefore, net cost of attendance (including average grant aid) has increased eight times over the average wage growth in the nation – making the issue of educational attainment both a college access and affordability problem.

Additionally, a college credential is now a basic requirement for acquiring a middle to upper income lifestyle with approximately 65% of all jobs requiring more than a high school diploma by 2020 (Carnevale, Smith, & Strohl, 2013). Furthermore, the Bureau of Labor Statistics (2019) predicts jobs that require a bachelor's degree to increase by 10.1% by 2026, yet a high school diploma will only account for 5.1% of growth. Gaining this credential for lower income families is consistently challenging as the *maximum* Pell Grant covers less and less of published cost of attendance, providing 50% coverage at public, two-year schools, 29% at public, four-year schools, and only 13% at private, four-year schools in 2018-19 (College Board, 2018a). Although more income levels aside from the middle class now reap the benefits from education tax credits - providing more opportunities to combat tuition inflation, the return on investment from this high-cost program has yet to be realized. Empirical analyses on federal education tax credit effects on college enrollment, persistence, retention, and graduation have yet to indicate positive results.

## Purpose

This descriptive paper outlines the establishment of education tax credits, their original intent, and the lack of evidence of effectual federal policy over the past two decades. This overview is necessary in order to promote scholarly interest on a topic that is little studied and rarely assessed. With such a large taxpayer investment, it is essential that policymakers evaluate the effectiveness of education tax credits. Thus, the purpose of this paper is to assess how the federal government has reached an \$18.9 billion annual expenditure for education tax credits with little to show in returns on investment. Further, this paper will provide recommendations needed to increase education tax policy efficacy. Since tax rewards reach more recipients than other forms of federal aid programs, they have the potential to increase college enrollment and educational attainment while providing liquidity-constrained individuals with greater incentive to enroll, persist, and graduate.

## Tax Policy Key Terms

In the study of tax policy, it is customary to see key terms that are not universally known or are commonly misinterpreted. To provide clarity and consistency, the following terms have been defined:

**Tax expenditures.** As defined by the Congressional Budget and Impoundment Act of 1974, tax expenditures are “those revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of tax liability” (2 U.S.C. § 622). Tax expenditures are subsidies in the same vein as grant funding. They are a form of federal spending; however, grant funding is allocated during the annual budget process whereas tax expenditures are estimated and considered revenue lost (Hungerford, 2008).

**Tax credits.** Tax credits decrease the amount of money taxpayers owe to the federal government (liability), decreasing dollar for dollar one’s tax liability (IRS, 2018). Tax credits can be nonrefundable or refundable. Tax credits that are nonrefundable do not provide tax refunds if tax liability drops below \$0. However, when a tax credit is refundable, the federal government is required to provide payment to taxpayers when annual tax payments are greater than their total tax liability (IRS, 2018).

**Tax deductions.** Before a taxpayer’s tax liability is determined annually, *tax deductions* are subtracted until liability equals \$0. Deductions do not decrease one’s tax liability dollar for dollar, rather they are subtracted from gross income, resulting in less income subject to tax.

**Tax Year (TY).** A tax year for individual income tax returns refers to the calendar year (January 1 to December 31) in which income taxes are withheld. When taxes are prepared and filed, the tax year is the prior year. For example, all income taxes withheld for TY2019 occurs between January 1 and December 31, 2019, and the return is filed the following year by April 2020 (IRS, 2019). Tax credits are awarded after the tax year, during the year filed.

**Award Year (AY).** The U.S. Department of Education defines an award year as a 12-month period beginning on July 1 and ending on June 30 the following year (U.S. Department of Education [USDoE], 2019a). Pell grants are awarded during this timeframe, prior to the academic school year in which a student enrolls.

**Fiscal Year (FY).** Accounting for federal appropriations occurs between October 1 and September 30 of the following year. For example, FY2019 begins on October 1, 2018 and ends on September 30, 2019 (U.S. Senate, 2019). Appropriation bills are passed before the beginning of a fiscal year.

***Need-based aid.*** In this article, need-based aid refers solely to the Pell Grant as it is the largest source of federal grant funding, determined by an index number (Expected Family Contribution) that takes into account a family's income, assets, and benefits among other familial components.

***Tax-based aid.*** Any tax credit, deduction, and saving plan that helps American taxpayers pay for expenses related to higher education is considered tax-based aid. However, unless otherwise stated, this article refers to the main education tax credit programs, the Hope Tax Credit, the Lifetime Learning Tax Credit, and the American Opportunity Tax Credit. This federal aid is determined by income, which has expanded to include upper income households.

***Income level classifications.*** In this article, income level classifications are defined by the Pew Research Center as there is no federal definition for low, middle, and upper-class income levels. Middle income households are defined as “those with an income that is 67% to 200% of the overall median household income, after incomes have been adjusted for household size” (Pew Research Center, 2015, para. 10). Median household income is provided by the U.S. Census Bureau every year, and stands at \$61,372 (Fontenot, Semega, & Kollar, 2018). Therefore, middle income households range from \$41,119 to \$122,744, dependent on household size. Lower income households fall below two-thirds of the median household income, and upper income households make more than double the median household income.

Table 1

*Parameters of Education Tax Credit Programs*

	<b>Hope Tax Credit (HTC) <i>Phased Out in 2008</i></b>	<b>Lifetime Learning Tax Credit (LLTC)</b>	<b>American Opportunity Tax Credit (AOTC) <i>Implemented in 2009</i></b>
<b>Maximum Award</b>	\$1,800	\$2,000	\$2,500
<b>Funding Formula</b>	100% of the first \$1,200 in QE and 50% of the subsequent \$1,200 in QE	20% of up to \$10,000 in QE	100% of the first \$2,000 in QE and 25% of the subsequent \$2,000 in QE
<b>Income Maximum</b>	\$48,000-\$58,000 (single filers) \$96,000-\$116,000 (married filers)	\$57,000-\$67,000 <sup>a</sup> (single filers) \$114,000-\$134,000 <sup>a</sup> (married filers)	\$80,000-\$90,000 (single filers) \$160,000-\$180,000 (married filers)
<b>Refundable</b>	Nonrefundable	Nonrefundable	40% refundable; max. \$1,000
<b>Term Limit</b>	First two years of college	Unlimited; as long as enrolled	First four years of college
<b>Enrollment Requirements</b>	Enrolled half-time	Enrolled in at least one course	Enrolled half-time
<b>Qualified Expenses (QE)</b>	Tuition and fees	Tuition and fees	Tuition, fees, textbooks, course materials

<sup>a</sup> The Lifetime Learning Tax Credit income thresholds are adjusted for inflation each year. The American Opportunity Tax Credit is not.

### Federal Education Tax Credit History

#### Higher Education Act of 1965

On May 22, 1964, President Lyndon B. Johnson put forth his “Great Society” speech to the University of Michigan’s graduating class. Within this speech, he spoke of education as a way to “enrich and elevate our national life, and to advance the quality of our American civilization”, insisting that a Great Society cannot be achieved unless “every young mind is set free to scan the farthest reaches of thought and imagination” (Johnson, 1964, p. 231). This speech formed the foundation for the Higher Education Act (HEA), signed by President Johnson on November 8, 1965. The purpose of this Act was to acknowledge that higher education was necessary for economic prosperity, a means to eliminate poverty and inequality. To do so, the Act sought “to strengthen the educational resources of our colleges and universities and to provide financial assistance for students in postsecondary and higher education” (Higher Education Act of 1965). Key components of the Act included the Educational Opportunity Grant program (EOG), providing direct funding to institutions to recruit exceptionally needy students and the Guaranteed Student Loan (GSL) program, providing loans to

both low- and middle-income students (Gladieux, 1995). The GSL was included in the HEA to appease members of both the House and Senate, who were proponents of tuition tax credits. However, the Johnson administration believed tax credits would pivot funding from those most needy, deflect funding for future aid programs, and simultaneously do nothing for college enrollment numbers (Silliman, 2002).

### **Middle Income Student Assistance Act of 1978**

As the nation faced rising inflation, costly wars, and high unemployment, federal financial aid programs began their trajectory towards universalism as middle income families struggled to afford college tuition yet couldn't participate in many of these "Great Society" programs. During the 95<sup>th</sup> Congress, both the House and Senate wrote legislation for tuition tax credits, but it was President Jimmy Carter who prevented the final push as he assured Congress he would veto any legislation that included tax credits (Silliman, 2002). Carter believed tax credits were hard to regulate and would escalate faster than federal grant spending (Silliman, 2002). In opposition, the Carter administration wrote the Middle-Income Student Assistance Act, signed on November 1, 1978, that increased eligibility for EOGs/Pell Grant to the middle class and eliminated income requirements for the GSL program, thus appeasing the growing national sentiment for universalism.

### **Taxpayer Relief Act of 1997**

In 1996, with growing congressional and public support for aid distributed through the Tax Code, the Clinton administration established tax-exempt college tuition savings plans, with states quickly agreeing to federal partnerships (Fuller, 2014). Following the forward trajectory of education tax expenditure discussions in Congress, President Clinton signed the Taxpayer Relief Act on August 5, 1997, providing an anticipated \$40 billion in tax breaks to middle class families over five years and \$76 billion over ten years (Fleenor, 1997). As a result of this Act, the federal government changed its overall mission towards higher education, making college more affordable to a wider income spectrum through "a significant expansion in the use of tax policy to encourage enrollment and to help families and communities pay for schools" (Lyke, 2001, p. 1).

The formation of the Act stemmed from a reconciliatory measure from President Clinton, who had – two years earlier – vetoed the tax-cutting "Contract with America" legislation, which in Clinton's perspective, only benefitted upper income households (Brumbaugh, 1997). The 1997 legislation incorporated many of the tax cuts supported by the Republicans but also incorporated the Clinton Administration's slate of education tax benefits for the middle class. Unlike the following Acts that follow, the Taxpayer Relief Act's purpose was to balance the budget, not spur economic recovery. The national economy and employment rates of the late '90s showed continuous growth, and the strategic tax cuts were projected to spur even more economic growth, culminating in a projected balanced budget by 2002 (Bartlett, 1998; Brumbaugh, 1997).

Although the purpose of the Act was to balance the budget, main beneficiaries of the tax cuts spanned all income levels, with an emphasis on middle class families, which led to an almost unanimous vote from Congress – only 43 legislators opposed the bill (Johnston, 1998). The main education tax credits created by this Act were also specified for the truly middle class, to promote enrollment of increasingly liquidity-constrained individuals not accustomed to prior aid programs. The second costliest program provided by the Act was the education tax incentives, comprised mostly of the Hope Tax Credit and the Lifetime Learning Credit, accounting for approximately 18.9 percent of the Act's total federal revenue reductions over ten years, second to only the Child Tax Credits (Fleenor, 1997). The basis of the Hope Tax Credit (HTC) stemmed from Governor Zell Miller's HOPE Scholarship in Georgia, and its intent was to reward students who earned a "B" average in high school with a subsidy to help pay for the first two years of community college.

The original tax credit provided a deduction of 100% of the first \$1,000 of qualified expenses and 50% for the next \$1,000, capping out at \$1,500 for taxpayers with incomes below \$40,000-\$50,000 (single filers) and

\$80,000-\$100,000 (married filers) to help pay for the first two years of higher education (Dynarski, Scott-Clayton, & Wiederspan, 2013); however, by 2008, the maximum award increased to \$1,800 and income level cutoffs increased to \$48,000-\$58,000 (single filers) or \$96,000-\$116,000 (married filers), due to inflation indexation. As income increased, the maximum award phased out. The grade requirement was disregarded during congressional deliberations, allowing any taxpayer who fell within the income requirements to receive the benefit as long as enrolled at least half-time for an academic period beginning in the respective tax year. A key aspect to this policy was that the tax credits were non-refundable. For a taxpayer to benefit from the credit, they must have enough income to owe taxes because “tax credits reduce tax liability dollar for dollar of the value of the credit, but by definition cannot reduce tax liability below zero” (Crandall-Hollick, 2018, p. 10). The HTC was terminated in 2008, replaced by the more expansive American Opportunity Tax Credit.

The Lifetime Learning Credit (LLTC) provided students more opportunities to partake in tax savings, including taxpayers who enrolled less than half-time or in a certificate program or entered college mid-career. If a student qualified for both tax credits, only one could be selected each year. The LLTC allows eligible taxpayers with the same income qualifications as the HTC to claim 20% of up to \$5,000 in qualified expenses, for a maximum of \$1,000 per return, which by 2003 had increased to a maximum award of \$2,000, per specifications of the Taxpayer Relief Act of 1997. The LLTC, like the HTC, is non-refundable but only requires a student enroll in one or more courses per applicable tax year. Unlike the HTC, the LLTC is still currently operating. Notably, the HTC and LLTC only cover tuition expenses and enrollment fees. Room and board and dining expenses are not included.

### **American Recovery and Reinvestment Act of 2009**

In 2008, the nation experienced its worst economic recession since the Great Depression. The Congressional Budget Office projected that the recession would last from December 2007 to the second half of 2009, and thus required a short-term fiscal stimulus package (Congressional Research Services [CRS] R40572, 2009). The proposed bill was met with extreme partisan division; the House approved the bill in January 2009 without a single Republican vote. Republicans deemed the bill a spending bill as it comprised of “roughly two-thirds new spending and one-third tax cuts” (Calmes, 2009, para. 15). The bill was also split along party lines in the Senate with only three supporting Republican votes. President Barack Obama signed the American Recovery and Reinvestment Act (ARRA) on February 17, 2009, shortly after his inauguration. As indicated in the Act, the main purpose of the \$787.2 billion package was “to preserve and create jobs and promote economic recovery and to assist those most impacted by the recession” (American Recovery and Reinvestment Act of 2009). Within this goal, \$13.8 billion was allocated for education tax credits, designed to strengthen the economy through an assumption of increased enrollment.

The ARRA established the American Opportunity Tax Credit (AOTC) temporarily (for Tax Years 2009 and 2010), replacing and expanding the HTC to include greater representation on the income spectrum. Key differences from the HTC included (and still remain) an increase in the maximum award, inclusion of upper-middle- and upper-class families within income eligibility requirements, and the allowance of a portion of the credit to be refundable. The maximum value increased from \$1,800 to \$2,500 per return but, unlike the HTC, is not adjusted for inflation. As college tuition increased at a much higher rate than inflation, the 28% boost in the maximum tax credit was designed to restore the value of previous tax credit programs (U.S. Department of Treasury, 2010). Taxpayers with incomes that fall below \$80,000-90,000 (single filers) or \$160,000-\$180,000 (married filers) are eligible, and awards phase out as income increases. The AOTC requires half-time enrollment, but the tax credit can be claimed for the first four years of post-secondary education. An important factor in this program is that up to 40% (\$1,000) can be refunded to taxpayers with little or no tax liability, which allows more populations to reap the benefits (TIGTA, 2015). Qualified expenses for the AOTC include textbook costs and course materials.



The increased eligibility and assistance provided by the temporary AOTC more than doubled tax credits to more than \$21.5 billion, in one year alone. It also increased the amount of recipients by 2.9 million in the same timeframe, granting an average tax credit over \$1,700, an increase of 75% more than the average HOPE or LLTC tax credits. With the addition of the refundable tax credit, 4.5 million taxpayers received on average \$800 in federal payments in 2009, totaling \$3.6 billion (U.S. Department of Treasury, 2010). So that taxpayers could enjoy the tax credit benefits for the full four years as stated in the ARRA of 2009, President Obama signed an extension of the AOTC for Tax Years 2011 and 2012 under the Tax Relief, Unemployment Reauthorization and Job Creation Act of 2010. It was extended again through the American Taxpayer Relief Act of 2012 for an additional five years, expiring in 2017 (Crandall-Hollick, 2018). Such “tax extenders” are routine for temporary tax provisions and are usually added to congressional bills.

### **Protecting Americans from Tax Hikes Act of 2015**

After the passing of the ARRA in 2009, most of President Obama’s legislation was a result of party-line votes. However, the Protecting Americans from Tax Hikes Act of 2015 (PATH), which sought permanent tax relief for working families, marked the exception with bipartisan and bicameral support (Committee on Ways and Means, 2015a). Nothing in the Act was essentially new; however, it provided clarity and relief to taxpayers so that they could plan and invest in long-term ventures. Within the PATH, the “enhanced” AOTC became permanent, cementing the ARRA definitions and guidelines of the tax credit into the Internal Revenue Code.

### **Empirical Studies of Tax-Based Aid on College Enrollment**

A handful of studies have empirically examined the impact of tax-based aid on college enrollment or other measures of college success. Intuitively, an increase in disposable income that can help offset costs of college should increase college enrollment; however, the rare studies available indicate zero or negligible effects on college enrollment (Bulman & Hoxby, 2015; Crandall-Hollick, 2018; LaLumia, 2012; Long, 2004; Turner, 2011).

Long (2004) was the first to empirically study the effects of tax credits from a national perspective. She used publicly available IRS aggregate tax return data from 1998 to 2000 and the 1999-2000 National Postsecondary Student Aid Survey (NPSAS) to identify descriptive statistics on the potential distribution of tax credits. She reported 43% of undergraduate students and over half of graduate students at predominantly four-year colleges and proprietary schools were eligible for some amount of either the HTC or LLTC. Between 1998 and 2000, she also identified a 44-45% increase in tax credit take-up, with tax credit usage concentrating towards higher incomes. She also analyzed enrollment behavior using data from the 1990-2000 October Current Population Survey (CPS) to identify indicators of potential tax credit eligibility. With longitudinal data before and after-tax credit implementation, she performed difference-in-differences estimation to causally infer zero enrollment response based on tax credit eligibility.

Turner (2011) built upon Long’s (2004) research by analyzing education tax credits from 1996-2003 using the U.S. Census Bureau’s Survey of Income and Program Participation (SIPP). Also using difference-in-differences estimation, he determined that the SIPP had less errors in measurement, which would provide a better tool for analysis. The results from this study indicated that tax-based aid did encourage enrollment by 2.2 percentage points during the first two years of college, a very different outcome from Long’s (2004) prior study. This outcome may be due to the different instrument used or the increased time period of the study (five years after implementation). Though, he confirmed that if all eligible youth took advantage of the tax-based credit, the 7% increase in enrollment would mean that 93% would have enrolled in college regardless of the subsidy (Turner, 2011). His findings are similar to Dynarski’s findings on the Georgia HOPE merit scholarship where “about 80% of HOPE funds flow to those who would have gone to college in the absence of the subsidy” (Dynarski, 2000, p. 4).

LaLumia (2012) broke from tradition and measured the effect of tax credits on non-traditional students using the National Longitudinal Survey of Youth (NLSY) 1979 (sample comprised of 33- to 41-year-old individuals). Instead of difference-in-differences estimation, she used fixed effects modeling with an instrumental variable (the assumption of tax eligibility). Her results correspond with Long's (2004) study, indicating tax credits do not incentivize non-traditional adults to enroll in college or even towards finishing a degree (LaLumia, 2012).

The Bulman & Hoxby (2015) study is the most recent and exhaustive attempt at quantifying tax credit effects on college enrollment. Unlike the studies mentioned above, the authors gained IRS access to individual tax forms for richer data analysis. Bulman & Hoxby (2015) found the AOTC's increased generosity and refundability led to a distribution of more tax credits to higher and lower incomes than ever before, but incidentally, also increased the middle-income credits more so than any other income group. Another strength of the Bulman & Hoxby (2015) study is the research design. As prior studies used instrumental variable or difference-in-differences designs to identify an effect of tax credits on enrollment, this study used a form of regression discontinuity - specifically the regression kink design - to analyze data up to 2011. The authors concluded that education tax credits do not lead to any discernable increases in college enrollment, similar to the studies from Long (2004) and LaLumia (2012).

Although future research may identify causal positive effects of tax credits, the available research points to ineffectual policy with very little or no returns on investment.

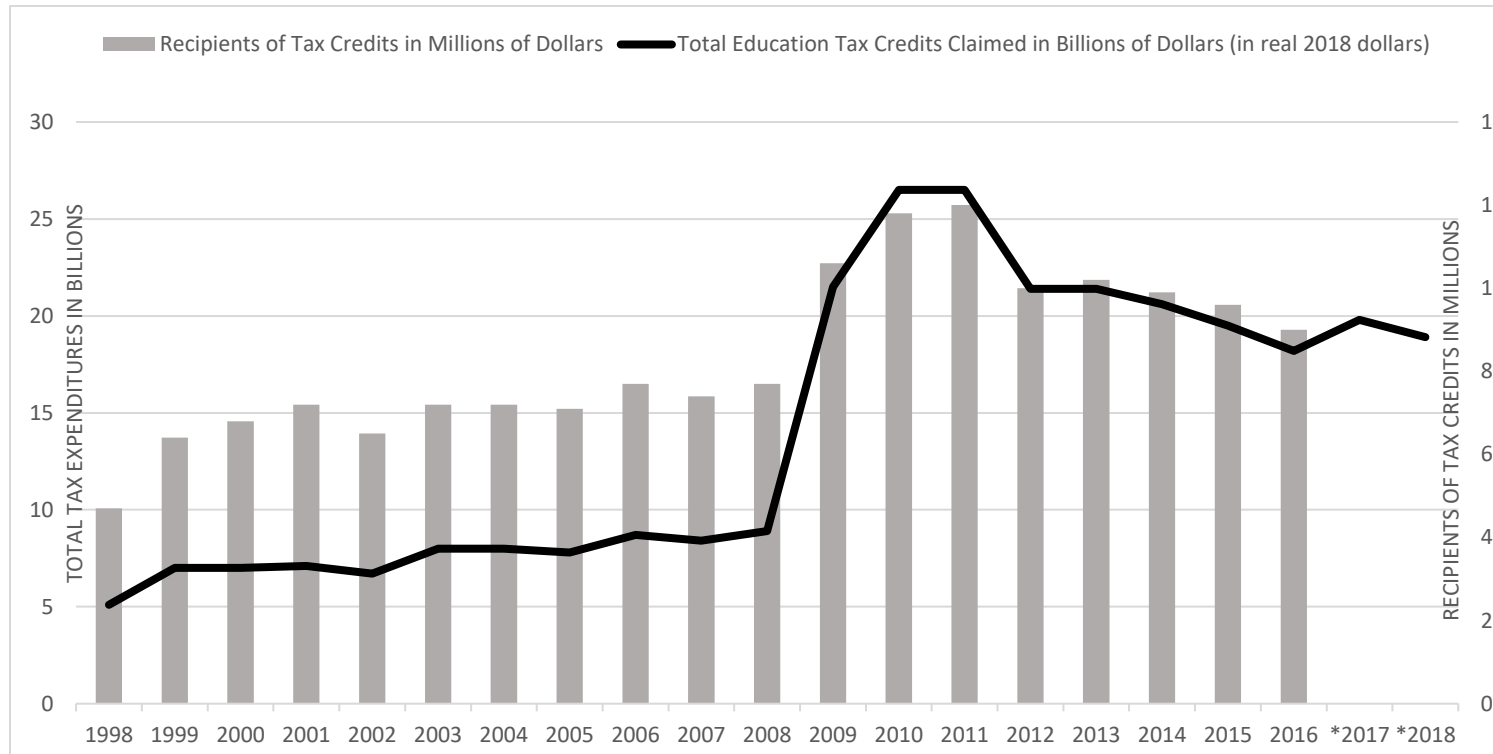
### **Implications of the Current State of Federal Education Tax Credit Policy**

In FY2018, total tax expenditures reduced federal income tax revenue by \$1.5 trillion, and annual discretionary spending (of which need-based aid is considered) totaled approximately \$1.3 trillion (CBO, 2019; Joint Committee on Taxation [JCT], 2019). Federal tax expenditures do not go through an annual appropriations process as do federal need-based aid expenditures, are available to all who qualify, and have no limit on funding. Total federal education tax expenditures have surpassed federal Pell Grant expenditures for the past five fiscal years - 2013 to 2017 (JCT, 2019). Due to the recent elimination of two tax expenditure programs, total education tax expenditures are slightly less than Pell expenditures for FY2018, \$28 billion and \$29.7 billion, respectively (JCT, 2019; USDoe, 2019c). Within the last two decades, both the education tax benefits, and Pell Grant reached more citizens. The Pell Grant grew from 3.7 million recipients to 7.2 million while the number of federal education tax credits awarded increased from 4.7 million to 9 million in 2016-17 (CollegeBoard, 2018b; IRS SOI, 2019).

The AOTC is the costliest program within the tax benefit umbrella, totaling \$18.9 billion in FY2018 (JCT, 2019, p. 27). With the AOTC's expansion of eligibility in 2009, along with making a portion of the program refundable, total federal spending on tax credit aid has increased dramatically. As Figure 1 shows, from TY1998 to TY2008, education tax credits claimed remained stable, peaking at \$8.9 billion (in real 2018 dollars); however, when the AOTC was implemented in TY2009, credits claimed skyrocketed to \$21.5 billion, peaking at \$26.5 billion in TY2011, and have hovered between \$18-19 billion from then on.

Figure 1

*Total Education Tax Credits Claimed in Billions of Dollars from TY1998-2018 and Number of Tax Credit Recipients.*



\* Estimated budgetary impact

Source. IRS SOI, TY1998-2016 from Table 3.3; estimated budgetary impacts for FY2017 and FY2018 data are from JCT, 2019, Retrieved from <https://www.irs.gov/statistics/soi-tax-stats-individual-statistical-tables-by-size-of-adjusted-gross-income> and <https://www.jct.gov/publications.html?func=startdown&id=5148>, Copyright 2019 by IRS and JCT.

As Figure 2 shows, from AY1998 to AY2008, Pell Grant funding slowly increased. From FY2007 to FY2011, legislation allowed annual increases in the maximum grant award, increasing from \$4,050 to \$5,550 (CBO, 2013). With greater award amounts and an uptick in grant applicants, federal funding skyrocketed to \$40.8 billion in AY2010 (in real 2018 dollars) (CollegeBoard, 2018b). Commitments to increasing maximum award amounts fell short after FY2011 as the federal government tried to fill a billion-dollar budget shortfall created by previous Pell expansions. New Pell requirements were established, ending summer term eligibility and decreasing the income threshold (Kelchen, 2015). From AY2011 to AY2017, Pell expenditures decreased an average of 6% a year. AY2018 has shown the first sign of growth since AY2011, with an increase of 3.5% from the prior Award Year (CollegeBoard, 2018b).

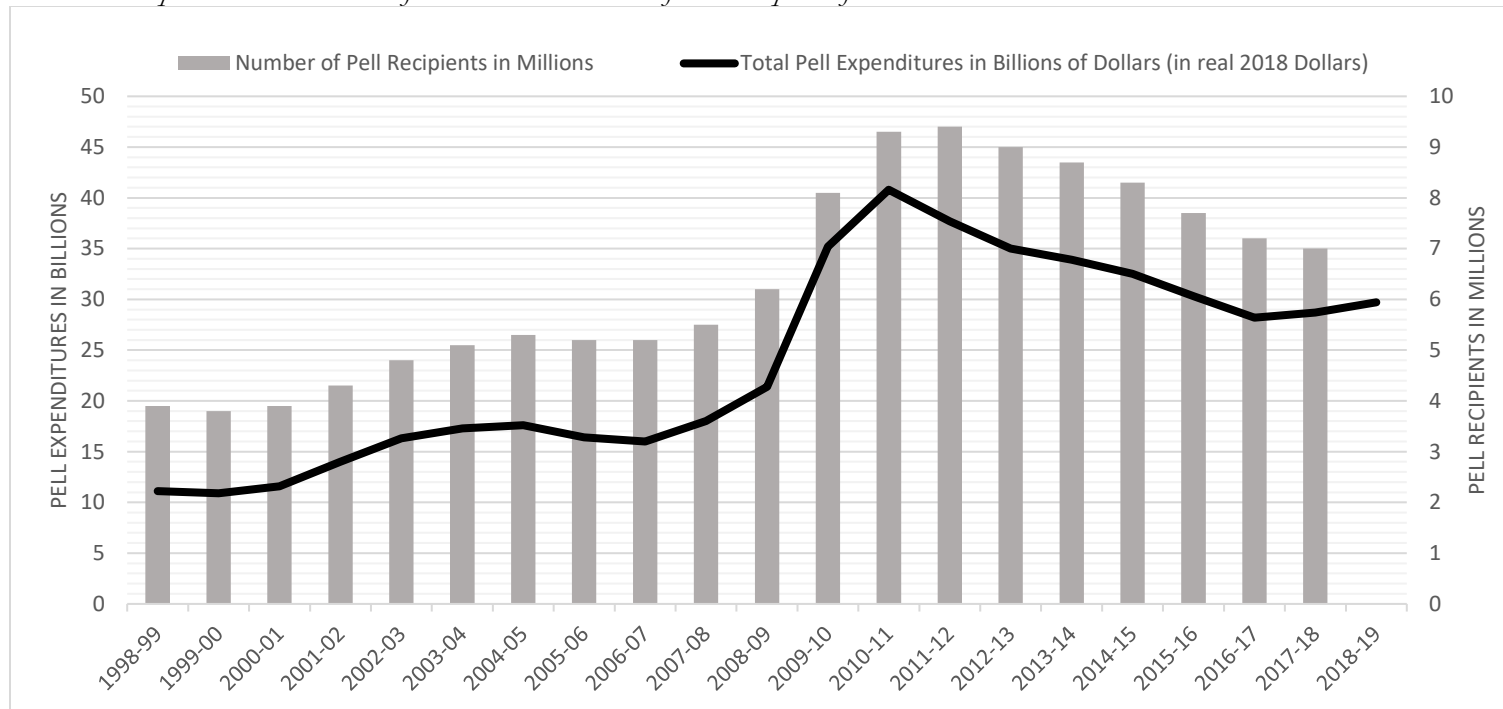
For AY2019, the maximum award is now \$6,195 (USDoe, 2019b). As much as this increase is a victory for lower income students, after adjusting for inflation, this amount is relatively the same as it was last year (CollegeBoard, 2018b). Additionally, a small percentage of students receive the full award each year – only 27% of recipients received the maximum Pell Grant in AY2016 (CollegeBoard, 2018b). As mentioned before, the purchasing power of the Pell Grant still remains low compared to the rise in average tuition and fees.

Initially, the main purpose of the federal tax credit programs was to reward taxpayers who historically received little help in the form of federal aid dollars and who simultaneously took the initiative to enroll in college. However, the ARRA expanded that purpose to include greater income eligibility as college became less affordable to a wider expanse of the population. In order to create a well-equipped labor market for the demands of the knowledge-based economy, the federal government, in the form of tax credits, sought to lower the costs of attendance at post-secondary institutions to increase global educational attainment rankings, which in turn, would lead to economic growth. However, the return on this investment has yet to yield a positive result.

Other federal tax credit programs like the Earned Income Tax Credit (EITC) and the Child Tax Credit (CTC) are quite successful in that their purpose is to alleviate the effects of poverty for working families with children. Program assessment shows positive effects (Tax Policy Center, 2018). The Center on Budget and Policy Priorities (2019) identified 29.1 million taxpayers were either lifted out of poverty or were made less poor based on both EITC and CTC eligibility. The efficacy of these two programs is related to the relative ease of meeting their objectives. Whereas to receive an education tax credit, policy states that one must be enrolled in some form of post-secondary schooling, which infers that the purpose of the program is to incentivize college enrollment and increase college success metrics. This purpose/intent is far harder to achieve than those of the EITC and CTC.

Figure 2

Total Pell Expenditures in Billions of Dollars and Number of Pell Recipients from AY1998 to AY2018.



Source. College Board Trends in Higher Education; U.S. Department of Education Student Financial Assistance: FY2019 Budget Request, Retrieved from <https://trends.collegeboard.org/student-aid/figures-tables/student-aid-nonfederal-loans-current-dollars-over-time> and <https://www2.ed.gov/about/overview/budget/budget19/justifications/o-sfa.pdf>. Copyright 2018 by College Board and 2019 USDoe.

Furthermore, the tax credit receipts seem to be falling into the pockets of those who would enroll regardless of the tax credit (Bulman & Hoxby, 2015; Lalumia, 2012; Long, 2004; Turner, 2011). High school students from the highest income quartile are 32 percentage points more likely to consecutively enroll in college than high school students from the lowest income quartile (78% and 46%, respectively) (Association of American Colleges & Universities [AAC&U], 2018). According to Crandall-Hollick (2018), an estimated 22.9% of total AOTC expenditures went to taxpayers with incomes between \$100,000 and \$180,000 in TY2015, about \$3.8 billion of the total tax credit (p. 9). And according to IRS data, this income segment now receives 21.2% of total AOTC expenditures, or \$5.4 billion (IRS SOI, 2019). In TY2006, before the AOTC, 1% of education tax expenditures went to taxpayers with incomes between \$100,000 and \$180,000, or \$72 million (IRS SOI, 2019). Inasmuch as the refundable provision does seem to reach the lowest incomes, tax credits are simultaneously subtracted per tax-free educational assistance dollars, like the Pell Grant, which is still predominantly provided to low income individuals (Crandall-Hollick, 2018). This prevents more low-income individuals to take advantage of this opportunity.

Table 2

*Distribution of Education Tax Credits by Adjusted Gross Income over Time*

Income	TY2006		TY2011		TY2016	
	% of total	Amount in thousands	% of total	Amount in thousands	% of total	Amount in thousands
<\$25,000	17.1%	\$1,200,822	27.6%	\$6,596,036	26.8%	\$6,811,923
\$25,000- \$49,999	35.9%	\$2,518,042	26.6%	\$6,359,998	24%	\$6,127,746
\$50,000- \$74,999	24.3%	\$1,705,504	16.1%	\$3,847,745	15.3%	\$3,892,219
\$75,000- \$99,999	21.7%	\$1,526,097	12.3%	\$2,941,461	12.5%	\$3,160,689
\$100,000- \$180,000	1%	\$71,628	17.3%	\$4,138,194	21.2%	\$5,389,513

*Note:* Author's own calculations from IRS SOI, 2019 from Table 3.3. Retrieved from <https://www.irs.gov/statistics/soi-tax-stats-individual-statistical-tables-by-size-of-adjusted-gross-income>, Copyright 2019 by IRS.

### Recommendations for Remediation

Although education tax credits may be costly and ineffective for college outcomes, this may be due to programmatic effects that could be rectified by proper evaluation and remediation.

*Timing.* The timing of tax credit awards comes long after college costs are collected, which deter liquidity-constrained individuals from enrolling in the first place, up to 15 months later (Dynarski & Scott-Clayton, 2013). During subsequent enrollment years, taxpayers can usually receive the refund within 21 days; therefore, those who can afford to pay upfront costs the first year, can fully take advantage of the program for the next three years. To reach the neediest taxpayers, the timing of refunds should be remediated in order to induce college enrollment. According to the 2008 campaign booklet *Blueprint for Change: Obama and Biden's Plan for America*, presidential and vice-presidential-hopefuls, Barack Obama and Joe Biden, detailed how the American

Opportunity Tax Credit could be available at the time of enrollment “by using prior year’s tax data to deliver the credit at the time that tuition is due” (Obama & Biden, 2008, p. 5). This is a viable method of delivery that may incentivize college-going behavior.

*Income Caps.* To remove windfall payments and to cut costs, higher income eligibility for current tax savings could be removed from thresholds while maintaining the tax refund component to taxpayers with low to zero tax liability. If the eligible income capped out at \$67,000 for single filers and \$134,000 for married filers as the LLTC does (indexed for inflation), more tax credits could be funneled to those who are truly in need.

*Remove Interaction Between Pell Grant and Education Tax Credits and Combine with Pell Grant Aid.* According to the IRS instructions for tax benefits for education, *Publication 970*, a taxpayer, who receives a tax-free scholarship or grant (federal or state) must subtract the amount used for qualified education expenses such as tuition and required fees before determining the tax credit amount (IRS, 2018). Removing this interaction would increase the purchasing power of the Pell Grant if in combination with tax credit aid. This maximum tax credit (\$2,500) could increase purchasing power for the lowest incomes from 29% at public, four-year schools to 40%.

*Simplification.* The tax process must be simplified to produce optimal participation at all income levels. Until TY2019, taxpayers could choose from among twelve education tax incentives. Before the above-the-line tuition and fee deduction was eliminated, savvy taxpayers, or those who could afford a professional tax preparer, could manipulate the tax code for the most desirable return. Thus, for the average taxpayer, choosing the optimal credit is more of a guessing game.

Dynarski & Scott-Clayton (2006) identified positive results for a radically simplified aid process, where aid eligibility is entirely based on parents’ adjusted gross income. This approach is similar to the results in Bettinger, Long, Oreopoulos, & Sanbonmatsu (2012)’s FAFSA experiment, where college enrollment increased by eight percentage points after low income taxpayers received tax filing assistance and relevant information regarding college aid. Simply put, simplification (along with targeted information) can intensify the propensity for lower income populations to receive tax credit aid.

## Conclusion

As President Johnson feared in 1965, the available research indicates that education tax credits do not increase college enrollment rates across the nation. They also now reach more income levels than originally intended. Total foregone revenue has either surpassed or equaled federal grant spending – giving credence to President Carter’s beliefs in 1978. The intent of federal aid dispensed via the Tax Code has therefore failed. Furthermore, providing extra resources to families that can afford to send children to college and who intend to send their children to college regardless of the tax credit is not prudent use of federal taxpayer dollars. However, with program remediation as detailed above, education tax credits could serve the range of incomes that require supplemental aid to enroll or stay enrolled in college. Universalism may be enticing to voters concerning federal aid, but it is up to researchers, practitioners, and evaluators to determine if universal benefits are conducive to U.S. economic prosperity.

### **Nexus to Connecting Research to Practice**

- Empirical studies indicate that federal education tax credits do not increase college attainment by inducing college-going behavior, which was their original intent. However, its relative ease of acquisition via income eligibility requirements has the potential to increase enrollments of desiring, potential students.
- With assessment and remediation, these education tax credits could spur college enrollment and access for underserved populations, promoting diversity across college campuses nationwide. However, little is known on what these remediation measures are.
- Through the collaborative endeavors of additional empirical research, practitioner input, and a willingness to remediate from policymakers, education tax credits could become a viable and efficient tactic to induce college enrollment in a time of state disinvestment and prohibitively expensive college tuition.



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