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Hannah Acheson-Field
hachesonfield@gmail.com

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Applying Lessons from Maine's Educational Opportunity Tax Credit to the Student Loan Repayment Tax Credit

by Hannah Acheson-Field

Abstract

In 2008, Maine implemented the Educational Opportunity Tax Credit (EOTC), a tax credit available to eligible recent college graduates with student debt. The share of eligible filers who apply for and receive the EOTC has been relatively low, however, likely driven by a lack of awareness about the program and its complicated application processes and eligibility criteria. In April 2022, the legislature created the Student Loan Repayment Tax Credit (SLRTC), which simplifies some of these processes. Meeting the legislature's goals for this program, however, may require expanding awareness of the SLRTC and ensuring that the application process is simple. This article provides information and analysis about implementation of the EOTC with comparisons to the SLRTC.

Credit (EOTC), was designed and implemented. This article is based on a report I wrote in response to a legislative request,¹ and parts of the study served as the first comprehensive evaluation of the EOTC. While this article primarily focuses on the EOTC, I compare the EOTC to Maine's new Student Loan Repayment Tax Credit (SLRTC) throughout and end with several considerations for the future of the SLRTC.

Beginning as a ballot initiative by a student-led group, the EOTC was passed by the legislature in 2007 (before going to voters) (Harkavy 2006; Zezima 2007). The EOTC allowed Maine residents who graduated with an eligible degree and student

INTRODUCTION

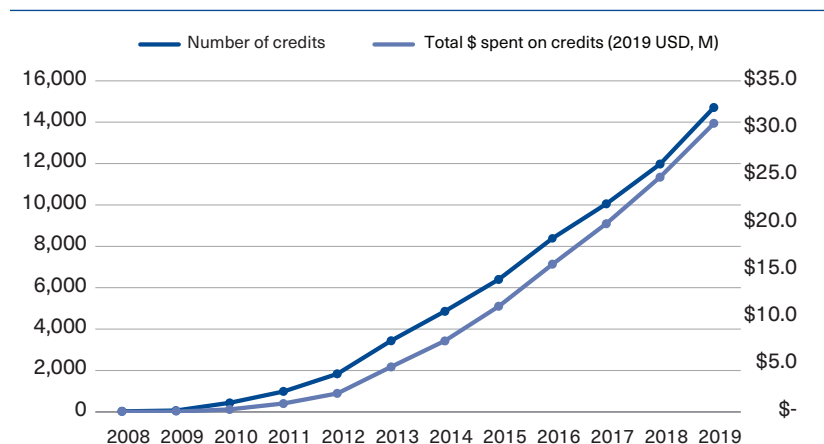
Policymakers often use tax credits to encourage or reward behavior by reducing the amount of income tax an individual pays. For example, if a filer would ordinarily owe \$2,000 in taxes but earned a \$500 tax credit, they would owe \$1,500 instead. Some tax credits are refundable, meaning that the government may owe a tax filer instead of the other way around. For example, if a filer would ordinarily owe \$2,000 in taxes, but receives a refundable tax credit for \$3,000, they would receive a \$1,000 tax refund. The federal government uses tax credits for a variety of purposes, including creating incentives for employment among low-income filers through the Earned Income Tax Credit, encouraging enrolling in postsecondary education through the American Opportunity Tax Credit, and helping families pay for dependent care through the Child and Dependent Care Tax Credit. Tax credits are different from tax deductions, which reduce a filer's taxable income.

States also use tax credits to create incentives for certain behaviors and to support residents. This article examines how one such credit, Maine's Educational Opportunity Tax

loans to claim a tax credit based, in part, on the amount of student debt they paid that tax year. Take-up—the share of eligible filers who apply for and receive the EOTC—has been relatively low, however. Between 2008 and 2019, about 27,000 filers had received the EOTC for at least one year.² The EOTC is a relatively large program in Maine. In 2019, Maine Revenue Services administered approximately 14,000 educational tax credits to 19,000 filers, amounting to about \$30 million (Figure 1). For context, in the 2020–2021 fiscal year, state appropriations for the University of Maine System (UMS) and Maine Community College System (MCCS) were \$229 million and \$76 million, respectively, so the EOTC represented about 10 percent of funding for public universities in Maine (MSLOFPR 2019).

In 2022, there were considerable changes made (or proposed) to the EOTC and federal student loan repayment in general. In April 2022, the Maine State Legislature amended the EOTC to create Student Loan Repayment Tax Credit (SLRTC) to simplify eligibility requirements and the application process. The new program eliminates most eligibility criteria and caps the credit at \$2,500 each year and

FIGURE 1: Number of EOTC Credits and Total Amount Spent on Credits, by Tax Year



Source: Author analysis of Maine tax data provided by Maine Revenue Services.

Note: This figure only shows data through 2019 because of the federal pause on student loan repayment, which reduced the number of people paying debt and filing the EOTC. In 2020, there were 13,211 filers with \$24 million spent on credits, and in 2021, there were 9,200 filers with \$22 million spent on credits.

\$25,000 over the course of an individual's life. The change also made all credits refundable, so a filer's credit amount is no longer capped at their tax liability (Collins 2022).³ In August 2022, President Biden announced that \$10,000 of student debt would be forgiven for individuals with incomes under \$125,000, with an additional \$10,000 of forgiveness for students who received a Pell grant in college (The White House 2022). The plan has yet to take effect because of legal challenges, and the Supreme Court is set to hold hearings in February 2023 to decide whether the plan can be implemented (Liptak 2022). Additionally, President Biden announced other changes to student repayment plans. The plans include halving the monthly repayment on undergraduate loans (from 10 percent to 5 percent of discretionary income) through income-driven repayment plans and ensuring borrowers earning less than 225% of the federal poverty line (about \$30,000 for a family of one) will not have to repay their loans (The White House 2022). The changes to the repayment plan and debt forgiveness—if it takes effect—will decrease the number of filers who repay their loans at all and the amount that many filers are repaying. These changes will substantially decrease the size of the SLRTC that filers may claim, thereby decreasing the overall costs of the program.

Another change that will affect the costs of the SLRTC involves tuition at Maine's community colleges. Beginning in 2022–2023, students in Maine who graduated high school between 2020 and 2023 will be eligible for a full tuition scholarship at Maine community colleges if enrolled in a full-time degree program. This program will likely reduce student debt levels for many Maine community college students.

DATA SOURCES AND METHODS

My primary data sources for EOTC program background and implementation include stakeholder discussions and document review. I spoke with a variety of stakeholders including staff at Maine Revenue Services and current and former members of the Maine State Legislature to better understand the

history, goals, eligibility criteria, and the application process. I also conducted 30- to 60-minute-long semistructured interviews with financial aid officers at 10 out of 28 colleges and universities in Maine.⁴

My primary quantitative dataset is a rich panel dataset of all graduates of the University of Maine System (UMS) and Maine Community College System (MCCS) comprised of administrative records linked to individual-level tax records. I use simple descriptive statistics to describe various measures regarding the EOTC, including (1) the total number of EOTC credits MRS administers each year, (2) the total dollar amount of credits awarded,⁵ and (3) EOTC take-up, or the percentage of filers who apply for and receive the EOTC divided by the total number of eligible filers. The take-up estimates are limited to graduates of UMS and MCCS and to single filers, likely representing between one-third and one-half of all filers, depending on the tax year.⁶ The supplementary appendix available online (<https://digitalcommons.library.umaine.edu/mpr/vol32/iss1/1>) provides more detail about data sources, methods, and limitations, including how limiting the sample to UMS and MCCS graduates who are single filers may be an over- or underestimate.

EOTC IMPLEMENTATION FINDINGS

There were several goals of the EOTC, many of which focus on different populations and call for support in different ways. Program eligibility of the EOTC was also complex, and as a result, the administrative burden to file the EOTC was high. The new student loan repayment program differs from the EOTC in several ways, including simplified eligibility.

Program Goals

The legislation that created the EOTC explicitly stated five goals:

- A. Promote economic opportunity for people in this State by ensuring access to the training and higher education that higher-paying jobs require;
- B. Bring more and higher-paying jobs to this State by increasing the skill level of this State's workforce;
- C. Offer educational opportunity and retraining to individuals impacted by job loss, workplace injury, disability or other hardship;
- D. Keep young people in this State through incentives for educational opportunity and creation of more high-paying jobs; and
- E. Accomplish all of the goals in this subsection with as little bureaucracy as possible (MRS 20-A, §12542).⁷

Broadly, these five goals fall into two categories: (1) support residents as they pursue higher education and enter the workforce and (2) increase the number of highly skilled workers in Maine. A 2019 report written by the Maine Department of Economic and Community Development projected that Maine needs to add 75,000 new workers, driven in large part by an estimated 65,000 retirements and cited the EOTC as one of several ways to meet this goal (Maine DECD 2019).

Notably, these goals—whether explicitly stated in the legislation or not—all differ from each other and support different populations. For example, some goals specify that the EOTC should support students and other goals suggest that the EOTC should support workers. These goals remain unchanged for the SLRTC.

Program Eligibility

Program eligibility has grown more complicated since the program started in 2008. The following eligibility remained constant since the program started: tax filers must

have lived in Maine, worked in Maine, and made payments on student loans for eligible degrees. Tax filers were eligible only if they had student debt; this means that if a student financed their education through other means (e.g., family support, working, grants and scholarships), they did not qualify. They also were eligible only if they graduated, so students who accrued student debt but did not complete their degree were not eligible for the EOTC.

The definition of an eligible degree changed over time. When the program started, only graduates from Maine institutions were eligible, and all filers received a nonrefundable credit. In 2013, the EOTC changed from a nonrefundable to a refundable credit for filers who had obtained STEM bachelor's or associate's degrees. In tax year 2016, the program expanded to include two new populations: (1) graduate degree recipients from Maine colleges who graduated in 2016 or later and (2) associate's and bachelor's degree recipients who graduated in 2016 or later from institutions outside of Maine or lived outside of Maine while they were in college. In 2016, non-STEM associate's degrees also became eligible to receive a refundable credit. Almost all degrees earned in 2016 or later were eligible for the credit (except graduate degrees earned from non-Maine institutions). Additionally, a filer had to have worked in Maine at least part time for at least nine months over the year. There were no annual income requirements; the SLRTC introduces an \$11,934 income requirement, which translates to working minimum wage (\$12.75 in 2022) 18 hours per week. Table A.2 in the supplemental appendix lists all eligibility criteria by tax year.

*Application Process*⁸

EOTC recipients completed the “Educational Opportunity Tax Credit Worksheet for Maine Resident & Part-year Resident Individuals,” as part of their Maine state tax return. The form was five pages (three of which were instructions) and collected information on type of degree, degree discipline, college or university, and state of college or university. Filers entered the amount of loan payments due and paid for each month and information about whether their loans are consolidated with other educational loans. The SLRTC application is simpler: it is three pages (two of which are instructions) and does not require information about degree discipline or the amount paid each month.⁹

The maximum amount of the EOTC was based on the average amount of in-state tuition and mandatory fees in

UMS or MCCS (multiplied by four for bachelor's and graduate degrees and two for associate's degrees) with the federal interest rate set each year for subsidized Stafford loans on a 10-year repayment plan. The maximum credit for associate's degrees was far lower than for bachelor's and graduate degrees; it has always been under \$1,000 for associate's degree recipients, whereas it has been around \$4,000 for bachelor's and graduate degree recipients. The maximum amount of the SLRTC is \$2,500 for all filers (STEM filers can receive a credit up to \$3,500 for one year).¹⁰

According to the instructions for the EOTC, the first year an individual claimed the credit, they also had to submit a complete copy of their university transcript, documentation of eligible educational loans, and documentation of their monthly payments. Additionally, any portion of non-refundable credits that were not claimed can be carried forward on future tax returns for up to 10 years. The application process was administratively burdensome, especially in the earliest years of the program when only paper returns were accepted.

Awareness Efforts

Filers learned about the EOTC in several ways. One way people may have learned about the program is through marketing efforts. The Finance Authority of Maine (FAME) administers a small marketing grant to Live and Work in Maine, a nonprofit founded in 2015 and which first received

state funds to market the program in 2016. Another way is through news media: the EOTC has garnered press attention from out of state; it has been featured on National Public Radio's Planet Money and PBS News Hour (Gonzalez and Malone 2019; Sreenivasan 2018). Additionally some students likely learned about it from their colleges and universities. Most financial aid officers interviewed for this study described promoting the EOTC in exit materials or trainings, on their websites (either internal or external), in email communications, or in informal discussions with students. Yet other students likely learned about it when they filed their taxes, either through accountants or through tax preparation software such as H&R Block and TurboTax. Finally, filers may have heard about it through word of mouth, which likely increased as the number of filers receiving credits increased.

Implementation Changes for the SLRTC

Beginning in the 2022 tax year, the SLRTC will replace the EOTC. While the goals of the SLRTC are the same as the EOTC, the legislation creating the new credit specifies several key differences. The credit simplifies eligibility criteria: all filers who graduated with an associate's, bachelor's, or graduate degree after 2007 will be eligible, regardless of whether they graduated from a Maine institution. Additionally, all filers will receive a \$2,500 refundable credit. Table 1 summarizes these differences.

TABLE 1: Differences between the EOTC and the SLRTC

Type of difference	Educational Opportunity Tax Credit (EOTC)	Student Loan Repayment Tax Credit (SLRTC)
Degree eligibility criteria	Eligibility varies based on tax and graduation years, with large changes in 2016, when filers became eligible regardless of their institution's location	All associate's, bachelor's, or graduate degree recipients after 2007 from any accredited institution are eligible
Work and income eligibility criteria	No income requirement. Must work have worked in Maine for at least part time for at least 9 months out of the year.	Must earn at least \$11,934, which corresponds working 18 hours per week earning minimum wage, \$12.75, per hour
Credit type	STEM degrees and associate's degrees received a refundable credit after 2015; all other filers receive a nonrefundable credit	All filers receive a refundable credit
Award amount	Award amount is based off the amount a filer pays in student debt each year	The credit amount is \$2,500 for all filers
Application process	Tax filing worksheet required information on degree discipline, degree type, and monthly loan payment information. Transcript required.	Tax filing worksheet is simpler: does not require information on degree discipline and monthly information on loan payments. Transcript still required.

Source: <https://www.mainelegislature.org/legis/bills/getPDF.asp?paper=HP1482&item=3&snum=130>; https://www.maine.gov/revenue/sites/maine.gov/revenue/files/inline-files/22_slrtc_wksh_t_ff.pdf; https://www.maine.gov/revenue/sites/maine.gov/revenue/files/inline-files/21_eotc_indv_pmts_by_indv_dwntdff.pdf. Documents provided by Maine Revenue Services.

EOTC COST, POPULATION, AND TAKE-UP FINDINGS

Number and Costs of Credits

Table 2 shows the number of EOTC credits, total amount spent on EOTC credits, and the average amount spent on credits from 2008 to 2019. The state awarded very few credits in the early years of the program. From tax years 2008 to 2011, there were fewer than 1,000 EOTC credits provided each year. In 2008 and 2009, when the EOTC was new and few people likely knew about the program, MRS provided 26 and 61 credits, respectively. Starting in 2012, the EOTC started to expand, and by 2019, MRS provided 14,613 EOTC credits. In any given year, a new cohort of graduates becomes eligible, expanding the eligible pool of applicants.

In Table 2 and Figure 2, the total amount spent on credits is the sum of all EOTC credits filers received—it is not the full cost to administer or market the program. Prior to 2012, the total amount spent on credits was less than \$1M, but after that year, the total started to increase significantly. In 2019, the state spent about \$30 million on the credit. These changes were likely because of yearly increases

KEY FINDINGS

1. Since 2012, the number of EOTC credits administered each year, the total amount spent on credits, and the average credit amount have all increased substantially.
2. Despite substantial increases since the early years, take-up remains low.
3. The average amount of refundable EOTC credits is higher than nonrefundable EOTC credits, and since 2015, the majority of EOTC credits administered have been refundable credits.
4. There are large differences between associate's and bachelor's degree recipients in terms of average credit amount and take-up, suggesting filers with higher incomes may be more likely to receive the EOTC.

in the number of credits and the average credit amount claimed.

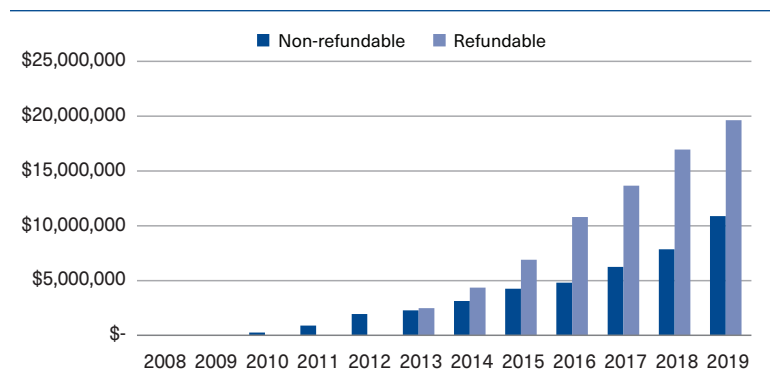
Table 2 and Figure 3 show the average amount for all tax years. The average credit is the total amount of EOTC

TABLE 2: Number of EOTC Credits and Total and Average Amounts Spent on EOTC Credits, by Tax Year

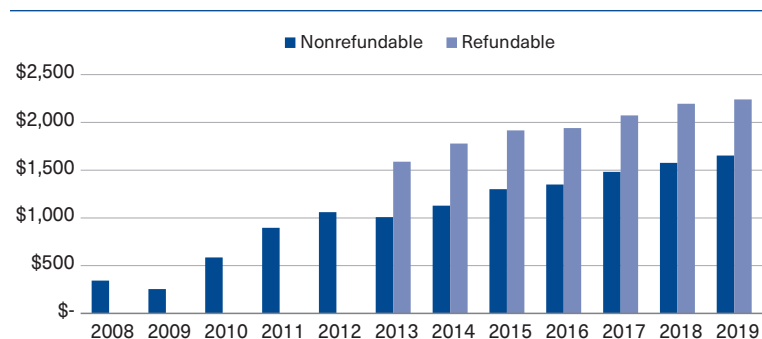
Tax Year	Nonrefundable			Refundable			Any EOTC credit		
	# credits	Total (\$000s)	Average	# credits	Total (\$000s)	Average	# credits	Total (\$000s)	Average
2008	26	\$9.0	\$344	-	-	-	26	\$9.0	\$344
2009	61	\$15.6	\$256	-	-	-	61	\$15.6	\$256
2010	437	\$256.2	\$586	-	-	-	437	\$256.2	\$586
2011	989	\$886.0	\$896	-	-	-	989	\$886.0	\$896
2012	1,838	\$1,949	\$1,061	-	-	-	1,838	\$1,949	\$1,061
2013	2,260	\$2,276	\$1,007	1,424	\$2,483	\$1,589	3,438	\$4,760	\$1,384
2014	2,787	\$3,143	\$1,128	2,270	\$4,360	\$1,778	4,859	\$7,504	\$1,544
2015	3,275	\$4,259	\$1,301	3,342	\$6,907	\$1,916	6,401	\$11,166	\$1,744
2016	3,564	\$4,807	\$1,349	5,228	\$10,803	\$1,940	8,388	\$15,611	\$1,861
2017	4,215	\$6,243	\$1,481	6,317	\$13,657	\$2,073	10,050	\$19,900	\$1,980
2018	4,989	\$7,858	\$1,575	7,589	\$16,953	\$2,194	11,912	\$24,811	\$2,083
2019	6,587	\$10,881	\$1,652	8,762	\$19,621	\$2,239	14,613	\$30,502	\$2,087

Source: Author analysis of Maine Revenue Services data.

Notes: Figures are in 2019 dollars. The number of any EOTC credits does not double count filers who may have received both a nonrefundable and refundable credit. Filers could receive both if they have two or more qualifying degrees or their spouse is also eligible for a credit.

FIGURE 2: Total Amount Spent on EOTC Credits (2019 USD), by Tax Year and Refundability

Source: Author analysis of Maine Revenue Services data.

FIGURE 3: Average Amount of EOTC Credits (2019 USD), by Tax Year and Refundability

Source: Author analysis of Maine Revenue Services data.

credits divided by the total number of EOTC credits. In earlier years, the amount that each EOTC recipient received was relatively low, even when controlling for inflation. For example, in 2008, the average credit was \$344. Until tax year 2012, the average credit was less than \$1,000. In 2019, the average credit was much larger: \$1,652 for a nonrefundable credit, \$2,239 for a refundable credit, and \$2,087 overall.

There are several possible explanations for these findings. First, awareness of the credit was low in the early years of the program. Press coverage about the EOTC and marketing efforts starting in 2015 have likely increased awareness of the EOTC, and as more filers use the EOTC, their peers may also learn more about it by word of mouth. Second, only loans with an effective date after September 1,

2007, are eligible for the EOTC. As a result, early cohorts of filers could apply for the EOTC for a portion of their loans. Third, prior to 2012, the administrative burden was higher for filers—graduates were not able to file electronically and had to mail all materials to Maine Revenue Services. Additionally in 2008 and 2009, graduates were required to complete a student opportunity contract with their university's office of financial aid, which was used to calculate the maximum EOTC credit a student could receive. Fourth, the program has no limit on the number of years individuals are eligible as long they continue to pay off student debt. Therefore, in each tax year, a new cohort of graduating students becomes eligible, partially explaining an increase in the number of credits. Fifth, the average amount of refundable EOTC credits is higher than nonrefundable EOTC credits. Refundable credits were not administered before 2013, and since 2015, the majority of EOTC credits administered have been refundable.

Take-Up Estimates

Table 3 and Figure 4 shows take-up, or the share of eligible UMC and MCCS graduates who receive the credit, estimates for all degree types combined, and for associate's, bachelor's, and graduate degrees. Overall, take-up was low in the early years and increased steadily from 2010 to 2016. Since 2016, it has been increasing at a slower pace. In 2009 and 2010, the estimated take-up is between 0.8 percent and 5.1 percent, respectively. Since 2016, take-up has hovered between 39 percent and 45 percent for bachelor's degree recipients. For those with associate's degrees take-up has been around 26 to 30 percent since 2016 (Table 3).

Possible explanations for the increase in take-up over time include increased awareness of the EOTC and the changes in eligibility. These reasons are similar to the reasons why the overall number of EOTC credits administered have increased. Take-up likely remained low overall for three reasons: (1) eligible filers did not know about the EOTC; (2) eligibility requirements were complicated, dissuading eligible filers from applying; or (3) administrative burden was high, again dissuading eligible filers from applying. Most financial aid officers I interviewed noted that few students

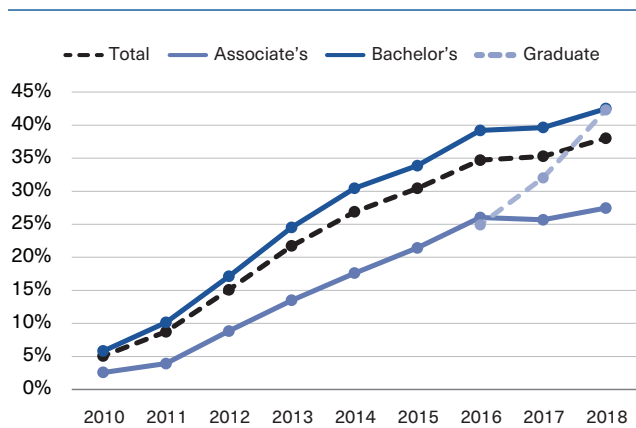
TABLE 3: Take-up Estimates, by Degree Type

Tax Year	Total		Associate's		Bachelor's		Graduate	
	Estimate 1 (%)	Estimate 2 (%)	Estimate 1 (%)	Estimate 2 (%)	Estimate 1 (%)	Estimate 2 (%)	Estimate 1 (%)	Estimate 2 (%)
2009	0.8	-	-	-	0.9	-	-	-
2010	5.1	-	2.6	-	5.8	-	-	-
2011	8.7	13.3	3.9	-	10.1	16.2	-	-
2012	15.1	21.7	8.8	10.5	17.1	25.4	-	-
2013	21.7	30.7	13.5	17.1	24.5	35.1	-	-
2014	26.9	38.2	17.6	22.7	30.4	43.5	-	-
2015	30.4	43.0	21.4	28.9	33.9	47.5	-	-
2016	34.7	38.6	26.0	27.7	39.2	42.1	24.9	32.7
2017	35.3	39.1	25.7	27.9	39.6	42.8	32.0	38.9
2018	38.0	42.1	27.5	30.0	42.5	46.2	42.3	45.3

Source: Author estimates of MRS/UMMS/MCCS data.

Notes: Eligible population includes UMS/MCCS graduates who are single filers. I estimated take-up two ways. Estimate 1 includes all UMS/MCCS graduates who are single filers. Estimate 2 adds an estimation for eligibility criterion—Maine residency during college based on whether the student was claimed as a dependent on a Maine tax return at age 17. However, these data were only available for those born after 1986, so estimate 2 limits this population to only those who graduated at age 25 or prior and were born after 1986. It also restricts eligibility prior to 2016 to only those who were claimed as a dependent in Maine at age 17 to proxy for those who were Maine residents while they were in college.

FIGURE 4: Take-up Estimates, by Degree Type



Source: Author estimates of MRS/UMMS/MCCS data.

Notes: This graph uses estimate 1. Eligible population includes UMS/MCCS graduates who are single filers. Certain years for associate's degrees are omitted because of small sizes. Graduate degrees became eligible in 2016.

mentioned the EOTC, suggesting limited awareness. Financial aid officers also noted that they hesitated to give students advice about the EOTC because they did not have accounting backgrounds so they referred students to Maine

Revenue Services. These findings are consistent with the literature. Indeed, information complexity, limited awareness of the public program, and complicated administrative or application processes have all contributed to incomplete take-up of other public programs (Bhargava and Manoli 2015; Finkelstein and Notowidigdo 2019).

Comparisons by Credit Type

As noted earlier, STEM associate's and bachelor's degree recipients became eligible for a refundable credit in 2013, and non-STEM associate's degree recipients became eligible for a refundable credit in 2016. In 2019, the average nonrefundable credit was worth \$1,652, whereas the average refundable credit was worth \$2,239. In 2013, 39 percent of EOTC credits were refundable. That share has increased, and in 2019, 57 percent of EOTC credits administered were refundable (see Table 2). Since nonrefundable credits are capped at an individual's tax liability, and refundable credits are not, it is not surprising that the average refundable credit is higher than the average nonrefundable credit. The increasing percentage of refundable EOTC credits is also likely due to the 2016 change that allowed filers with associate's degrees to be eligible for refundable credits.

Comparisons by Degree Type

Table 4, Table 5, and Figure 5 show the number of EOTC credits, total credit amount, and average credit amount for UMS/MCCS associate's (Table 4) and bachelor's (Table 5) degrees. In 2019, the average size of a refundable credit to an associate's degree recipient in UMS/MCCS was \$1,225, whereas it was \$2,596 for a bachelor's degree recipient (Tables 4 and 5).

The difference in average credit amounts for bachelor's and associate's degrees is likely driven by two factors: (1) differences in maximum amount and (2) average debt amounts. The maximum credit for associate's degrees has ranged from \$780 to \$924 (nominal USD), whereas it has been over \$4,000 for bachelor's degree recipients. Filers with associate's degrees, on average, likely have lower student debt levels. Regarding differences in take-up, associate's degree recipients receive lower credits, so they may be less likely to file for an EOTC credit. At the same time, their incomes are typically lower than bachelor's degree recipients, so a smaller credit may be more meaningful. Additionally, filers with an associate's degree may be less informed about tax policy and less likely to hire personal accountants, who may be familiar with the EOTC. Taken together, this suggests that filers with higher incomes may be more likely to file for the EOTC.¹¹

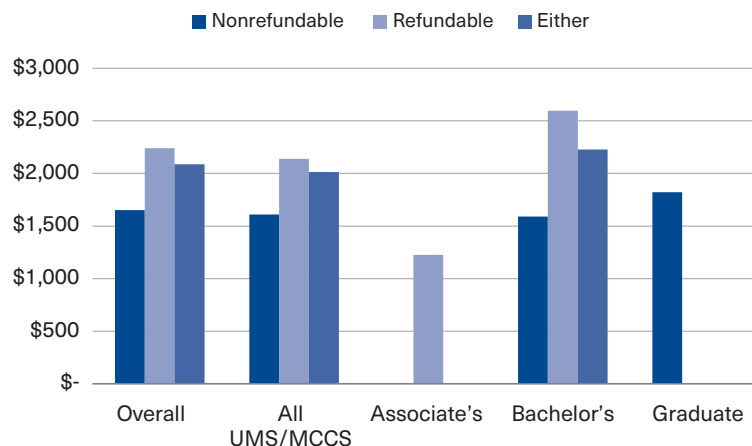
DISCUSSION

The EOTC is an expensive program for Maine, and it has expanded considerably since it was first implemented in 2008. Many eligible filers do not claim the credit, however, which may be driven by its burdensome application process and a lack of awareness about the credit. While the new SLRTC may address some of the challenges associated with the EOTC, including low take-up, several challenges will likely remain. A brief discussion of ways to address these challenges follows.

Goals of the EOTC and the SLRTC Need Clarity

Clarifying the goals of the EOTC and the SLRTC is necessary to determine whether and how to restructure the

FIGURE 5: Average Amount of EOTC Credits, by Refundability and Degree Type, 2019



Source: Author analysis of Maine Revenue Services data.

Notes: In 2019, associate's degree recipients received refundable credits and graduate degree recipients received nonrefundable credits.

tax credits in the future. There are several different program goals, some of which are explicitly stated in legislation while others are not. These goals typically fall into two main categories: (1) increasing college attainment in Maine and (2) increasing the number and share of highly skilled workers in Maine. The design of the EOTC, however, suggests that there may have been other implicit goals. Both credits limit eligibility to degrees obtained after 2007, suggesting a specific goal of recruiting younger workers to the state. If Maine also values attracting or supporting older graduates, it may make sense to expand eligibility criteria to include other graduation cohorts. The tax credits could also be modified to address other goals. Requiring that a filer must have graduated with a degree is appropriate for a goal focused on college attainment. But if the program's goal is to assist Maine residents as they pay back their student debt, it may be appropriate to also provide debt relief to filers who accrued debt but did not graduate from college.

Eligibility and Refundability Criteria Affect Take-Up

In the early years of the EOTC, evolving eligibility requirements and variation in refundability options made it complicated for individuals to understand and for the state to implement. Although the state expanded and simplified eligibility, eligibility criteria still varied based on graduation

TABLE 4: Number of EOTC Credits and Total and Average Amounts Spent on EOTC Credits for UMS/MCCS Associate's Degrees, by Tax Year

Tax Year	Nonrefundable			Refundable			Any EOTC credit		
	# Credits	Total (\$000s)	Average	# Credits	Total (\$000s)	Average	# Credits	Total (\$000s)	Average
2008	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-
2010	41	\$17.8	\$435	-	-	-	41	\$17.8	\$435
2011	86	\$46.1	\$536	-	-	-	86	\$46.1	\$536
2012	210	\$153.0	\$729	-	-	-	210	\$153.0	\$729
2013	261	\$182.0	\$450	163	\$162.5	\$997	404	\$344.5	\$853
2014	352	\$284.0	\$442	318	\$327.4	\$1,030	642	\$611.5	\$952
2015	460	\$421.6	\$469	469	\$499.7	\$1,065	899	\$921.3	\$1,025
2016	284	\$281.7	\$238	969	\$1,077	\$1,111	1,182	\$1,358	\$1,149
2017	298	\$397.1	\$287	1,156	\$1,373	\$1,188	1,385	\$1,771	\$1,278
2018	359	\$526.7	\$331	1,313	\$1,589	\$1,210	1,590	\$2,116	\$1,331
2019	445	\$680.5	\$356	1,556	\$1,905	\$1,225	1,913	\$2,586	\$1,352

Source: Author analysis of Maine Revenue Services data.

Notes: Figures are in 2019 dollars. The number of any EOTC credits does not double count filers that may have received both a non-refundable and refundable credit. Filers could receive both if they have two or more qualifying degrees or their spouse is also eligible for a credit. I omit tax years 2008 and 2009 because of small sizes.

TABLE 5: Number of EOTC Credits and Total and Average Amounts Spent on EOTC Credits for UMS/MCCS Bachelor's Degrees, by Tax Year

Tax Year	Nonrefundable			Refundable			Any EOTC credit		
	# credits	Total (\$000s)	Average	# credits	Total (\$000s)	Average	# credits	Total (\$000s)	Average
2008	-	-	-	-	-	-	-	-	-
2009	22	8.7	\$397	-	-	-	22	8.7	\$397
2010	220	130.8	\$594	-	-	-	220	130.8	\$594
2011	505	469.8	\$930	-	-	-	505	469.8	\$930
2012	938	1,024	\$1,092	-	-	-	938	1,024	\$1,092
2013	1,118	1,184	\$1,059	740	\$1,402	\$1,895	1,731	2,587	\$1,494
2014	1,394	1,634	\$1,172	1,131	\$2,413	\$2,134	2,434	4,047	\$1,663
2015	1,594	2,185	\$1,371	1,611	\$3,745	\$2,324	3,079	5,930	\$1,926
2016	1,887	2,530	\$1,341	2,156	\$5,161	\$2,394	3,849	7,691	\$1,998
2017	2,150	3,100	\$1,442	2,557	\$6,349	\$2,483	4,483	9,449	\$2,108
2018	2,364	3,660	\$1,548	2,988	\$7,645	\$2,558	5,079	11,304	\$2,226
2019	2,943	4,680	\$1,590	3,264	\$8,474	\$2,596	5,907	13,154	\$2,227

Source: Author analysis of Maine Revenue Services data.

Notes: Figures are in 2019 dollars. The number of any EOTC credits does not double count filers that may have received both a non-refundable and refundable credit. Filers could receive both if they have two or more qualifying degrees or their spouse is also eligible for a credit. I omit tax years 2008 because of small sizes.

date and refundability varies based on degree discipline and degree type. The SLRTC further simplified and eliminated certain criteria. Under the SLRTC, all filers who graduated with an associate's, bachelor's, or graduate degree will receive a \$2,500 tax credit, with a lifetime maximum of \$25,000. As with many public programs, take-up of the EOTC was incomplete, in part, because high transaction costs (e.g., complicated eligibility leading to a burdensome application processes) and limited awareness of the program. Take-up of the SLRTC may increase with simpler eligibility criteria.

Simpler SLRTC Application Process

There were several administratively burdensome aspects of the EOTC application process. Filers had to document the amount of student debt paid each month and their degree discipline (i.e., whether it was a STEM degree or not). The SLRTC application requires information on the annual, not monthly, student loan payments. Filers are still required to submit transcripts, but the discipline of their degree does not matter. This simpler application process may increase take-up under the SLRTC.

Marketing Effort to Increase Awareness

EOTC take-up was low, in part, because of limited awareness of the EOTC. Live and Work in Maine received \$50,000 per year for marketing, a relatively small budget that represents about 0.02 percent of the \$30 million spent on EOTC credits in 2019. Increasing the marketing budget for the SLRTC would still be a modest cost compared to the cost of credits administered, but could have a large impact. With an increased marketing budget, Live and Work in Maine could expand outreach activities, perhaps developing partnerships with student organizations and more frequent contact with high school guidance counselors and college financial aid officers. The legislation introducing the SLRTC directs Maine colleges and universities to provide information about the SLRTC to students, but ensuring financial aid officers can do this may require more funding. Specific efforts targeting filers with associate's degrees may increase take-up, as could partnerships with CASH Maine and other tax entities that serve filers with low to moderate incomes.

Costs of the SLRTC Are High and Depend on Federal Policies

The cost of the EOTC has grown substantially, from approximately \$1 million in 2011 to \$30 million in 2019, driven by increasing numbers of eligible filers and higher average tax credits.¹² Costs associated with the SLRTC are

likely to be higher: Maine Revenue Services forecasted the cost of the SLRTC to grow from \$101 million in 2022, to \$109 million in 2023, and to \$116 million in 2024 (MRS 2022). There are several explanations for the higher costs. Under the SLRTC, all credits will be refundable, likely increasing the average size of the credit for many people. Additionally, the SLRTC expands eligibility criteria, increasing the number of people eligible who to claim it. On the other hand, the SLRTC sets a lifetime maximum of \$25,000, which may decrease the cost to the state over the long term although the extent to which it may is unknown because most current filers have not yet claimed it for 10 years. Furthermore, the long-term costs of the SLRTC may be minimized based on recent federal policy changes—student debt forgiveness and income-driven repayment plans. Maine Revenue Services estimates the SLRTC costs could be up to 60 percent lower than their estimates due to changes to federal loan repayment and loan forgiveness. They attribute up to 40 percent of this decrease to changes to income-driven repayment plans over the long term. Because there are considerable uncertainty in these forecasts, monitoring them over the long term will be important.

Alternative Incentives May Produce Better Outcomes

Depending on the goals of the program, alternative economic incentives may produce better outcomes. If a goal of the tax credit is to boost college attainment rates in Maine, for example, crediting tuition payments for the tax year they are paid instead of providing a credit after a student graduates based on student debt may be more effective. Federal higher education tax credits (American Opportunity Tax Credit and Lifetime Learning Credit) are structured in this way and are based on tuition and certain expenses. However, several studies have found that these tax credits do not increase higher education outcomes, in part, because students and families receive this financial support when they file taxes and not when they pay tuition and expenses (Bulman and Hoxby 2015; Hoxby and Bulman 2016).

Grant programs are an even more direct mechanism and provide students with support as they are paying expenses related to college. Grant-based mechanisms typically increase college enrolment and completion rates (Nguyen, Kramer, and Evans 2019). Notably, the Maine State Grant Program, which provides need-based scholarships to Maine residents enrolled at eligible colleges and universities in Maine, was recently increased to \$2,500. Recent Maine high school graduates will also receive fully

covered community college tuition. Both these changes may boost enrollment and completion more directly. It may be worth studying the ways both these programs interact with the SLRTC to support Maine students.

Looking Forward to the SLRTC

In their book *Administrative Burden: Policymaking by Other Means*, Pamela Herd and Donald Moynihan summarize these themes as follows (2018:13): “Citizens are better off when public programs are designed to be simple, accessible, and respectful of the citizens they encounter. Most people would agree that if the public sector provides a service, it should be one that is visible enough to be seen [and] simple enough to comply with.” Many of these themes—simple application processes, simple eligibility processes, and high levels of awareness—are important to consider with these tax credits. Additionally, implementing policies through the tax code is also administratively complex for both the agency (in this case Maine Revenue Services) and the filer. The SLRTC may increase take-up, but it is important that filers are aware of the credit and these changes. Looking to the future, continued monitoring and evaluation of the SLRTC will be important to ensure the credit is meeting its goals and serving the state.

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Notes

- 1 March 2022 (MRS Title 20-A, § 12545)
- 2 I consider that a maximum of one credit can be associated with any given tax return even though individuals may file multiple EOTC worksheets and receive a larger credits if they have multiple eligible degrees. A married couple may receive a larger credit if both spouses have eligible degrees. Similarly, there is no way to determine whether a married filer received the tax credit based on their eligibility or their spouse's. This true number is 26,978 and includes joint filers who may benefit from the credit based on their spouse's eligibility.
- 3 The full legislation is available at <https://legislature.maine.gov/LawMakerWeb/summary.asp?ID=280082904>.
- 4 <https://www.mccs.me.edu/freecollege/>
- 5 Because joint filers receive one EOTC credit each year, the number of affected filers each year differs from the number of credits administered each year. I am careful to clarify the difference. The total amount spent on EOTC credits is the sum of all EOTC credits administered each year—it does not include other costs, like marketing or staff costs to administer the EOTC.
- 6 Based on data from the Integrated Postsecondary Education Data System from the US Department of Education, in 2018, graduates of UMS and MCCS accounted for 92 percent of associate's degrees, 53 percent of bachelor's degrees, 36 percent of master's degrees, and 21 percent of doctoral degrees conferred in Maine. Additionally, in 2019, UMS/MCCS graduates accounted for 53 percent of filers who received the EOTC credits and single filers accounted for 62 percent of all filers. I estimate my take-up sample on ~33 percent of the full eligible population in 2019. This share is likely higher in earlier years. For example, I estimate the UMS/MCCS single sample to represent 42 percent of all eligible filers in 2013. UMS/MCCS represent 62 percent of all credits, and credits to single filers represent 68 percent of credits. Even though these estimates are for a relatively small share of the population, they are nevertheless useful to analyze.
- 7 The full legislation is available at <https://legislature.maine.gov/statutes/20-A/title20-Asec12542.html>.
- 8 This section and the one that follows describe the EOTC as it was until the passage of the SLRTC legislation, which takes effect with tax year 2022.
- 9 EOTC 2021 form and SLRTC 2022 form are available at <https://www.maine.gov/revenue/taxes/tax-relief-credits-programs/income-tax-credits>.
- 10 The maximum credit amounts for each year is available at https://www.maine.gov/revenue/sites/maine.gov/revenue/files/inline-files/20_eotc_indv_pmts_by_indv_downloadff.pdf.
- 11 In 2018, the mean student loan interest for UMS/MCCS associate's degree recipients was \$1,208, whereas it was \$1,937 for bachelor's degree recipients. Among graduates from UMS/MCCS from 2008 to 2019, the mean household adjusted gross income for associate's degree holders was \$56,624 compared to \$60,694 for filers with a bachelor's degrees in 2019. The median incomes were \$47,409 and \$49,036, respectively. In previous versions of this paper, I ran

a series of regressions to determine what characteristics predicted whether someone filed for the EOTC. In one model that controlled for other observable characteristics, such as sex, filing status, and age, I find that a 50 percent increase in adjusted gross income equates to a 3-percentage point increase in claiming the EOTC.

- 12 In 2020 and 2021, the costs associated with the credit were lower than in 2019 because of the federal pause on student loan repayments. Nominal costs were \$24 million in 2020 and \$22 million in 2021.

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Hannah Acheson-Field is a senior policy analyst at Abt Associates, a nonpartisan policy research organization. Prior to Abt, she worked as a policy researcher at the RAND Corporation. She has coauthored over 15 peer-reviewed research reports on a variety of social policy topics, including postsecondary education, workforce development, and military education and training.