

STATE OF RHODE ISLAND
Governor Gina M. Raimondo



Economic Development Tax Incentives Evaluation Act:

Evaluation of
**“Stay Invested in
RI Wavemaker Fellowship”**

(R.I. Gen. Laws § 42-64.26)
Tax Years 2016 through 2018

Office of Revenue Analysis

June 30, 2020

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Foreword

The evaluation of the “Stay Invested in RI Wavemaker Fellowship” program, *Tax Years 2016 through 2018* was prepared at the request of Paul L. Dion, Ph.D., Chief of the Rhode Island Department of Revenue, Office of Revenue Analysis in accordance with Rhode Island General Laws § 44-48.2-4. Madiha Zaffou, Principal Economic and Policy Analyst in the Office of Revenue Analysis was project leader for the production and writing of this report, under the guidance of Mr. Dion. Ms. Zaffou was assisted by Emily Fazio, Senior Economic and Policy Analyst in the Office of Revenue Analysis.

Much of the information needed to complete the analysis contained in this report was provided by the Rhode Island Department of Revenue, Division of Taxation, under the direction of Neena Sinha Savage, State Tax Administrator. The compilation of the data that was provided to the Office of Revenue Analysis was due to the tremendous efforts of Tracy Wunder, Data Analyst III in the Division of Taxation. Tracy was assisted in this task by Donna Dube, Chief Revenue Agent, Forms, Credits and Incentives.

In addition, Jillian Butler, Wavemaker Fellowship Director, Rhode Island Commerce Corporation, was instrumental in providing specific information pertaining to the Wavemaker Fellowship program. Production of this report would not have been possible without Ms. Butler’s help.

The Office of Revenue Analysis is appreciative of the efforts made by the Division of Taxation and the Rhode Island Commerce Corporation to provide us with the best information available at the time this report was written.

Executive Summary

This report is an evaluation of the “Stay Invested in RI Wavemaker Fellowship” program conducted by the Office of Revenue Analysis (ORA) in accordance with Rhode Island General Laws Chapter 44-48.2. The report provides an estimate of the economic and fiscal impacts of this tax incentive. ORA relied primarily on data provided by the Department of Revenue, Division of Taxation and the Rhode Island Commerce Corporation to conduct the analysis. The following is a summary of this evaluation:

The Tax Incentive Provision:

The “Stay Invested in RI Wavemaker Fellowship” tax incentive provides college graduates who are working in science, technology, engineering, mathematics and some design fields with a refundable tax credit that covers eligible beneficiaries’ student loan payments for up to four years. The amount of tax credit that an eligible beneficiary receives depends on the level of education attained by the beneficiary. In particular, an eligible beneficiary with an associate’s degree receives up to \$1,000 annually in refundable tax credits; an eligible beneficiary with a bachelor’s degree receives up to \$4,000 annually in refundable tax credits; and an eligible beneficiary with at least a master’s degree receives up to \$6,000 annually in refundable tax credits. An eligible beneficiary need not be a Rhode Island resident, but they must work for a Rhode Island based company.

The Main Goals and Objectives of the Tax Incentive:

The stated goals and objectives of the “Stay Invested in Rhode Island Wavemaker Fellowship” program are to:

- Attract high-skilled and high paying jobs to create opportunities and retain young people in the state.
- Help lower the student loan burden for college graduates to ensure access to lucrative employment opportunities.

The Report’s Key Findings:

- A total of 395 individuals received the “Stay Invested in RI Wavemaker Fellowship” tax incentive over tax years 2017 through 2018, totaling \$1.5 million in tax credits issued.
- Out of the \$1.5 million, \$1.3 million was received by fellows as a tax refund and \$169,724 was received as a tax credit that could be applied against the fellows’ personal income tax liability.
- The current analysis was conducted using the TY 2018 “Stay Invested in RI Wavemaker Fellowship” tax credit amount of \$902,393 with the assumption that this amount will more accurately reflect the full year cost of the program.
- Regional Economic Model Incorporated’s (REMI) Tax PI model was used to analyze the “Stay Invested in RI Wavemaker Fellowship” program, the first time this version of the REMI PI+ model has been used in Rhode Island for this purpose.

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- ORA selected the Professional, Scientific and Technical Services sector (North American Industry Classification System code 54) as representative of the types of jobs in which eligible beneficiaries of the “Stay Invested in RI Wavemaker Fellowship” program are employed.
- ORA modeled the “Stay Invested in RI Wavemaker Fellowship” program as a combination of an increase in employment in the Professional, Scientific and Technical Services industry, under the assumption that without the program the jobs occupied by Wavemaker fellows would not exist in Rhode Island, and an increase in after tax personal income, under the assumption that the program merely subsidizes Wavemaker fellows in existing jobs in the state.
- ORA employed a break-even analysis to estimate the minimum percentage of the jobs occupied by Wavemaker Fellows that would have to be new to the Rhode Island economy, and thus, would not exist without the tax incentive, in order for the program to pay for itself on a net general revenue, gross domestic product, and total employment basis.
 - With respect to Rhode Island net general revenues, the “Stay Invested in RI Wavemaker Fellowship” program breaks even if 60.5 percent of the Wavemaker fellowship recipients work in Rhode Island in new jobs that exist because of this tax incentive and 39.5 percent of Wavemaker fellows work in jobs already embedded in the state economy but benefited from the decrease in personal income taxes associated with the program.
 - With respect to Rhode Island Gross Domestic Product, the “Stay Invested in RI Wavemaker Fellowship” program breaks even if only 1.9 percent of the Wavemaker fellowship recipients were assumed to work in Rhode Island in new jobs that exist because of this tax incentive and 98.1 percent of Wavemaker Fellows work in existing jobs in the Rhode Island economy but benefited from the decrease in personal income taxes associated with the program.
 - With respect to Rhode Island employment the “Stay Invested in RI Wavemaker Fellowship” program breaks even if only 1.8 percent of the Wavemaker fellowship recipients were assumed to work in Rhode Island in new jobs that exist because of this tax incentive and 98.2 percent of Wavemaker Fellows work in existing jobs in the Rhode Island economy but benefited from the decrease in personal income taxes associated with the program.

The “Stay Invested in RI Wavemaker Fellowship” program as it is currently constituted conflicts with the good tax policy principles of horizontal and vertical equity in the treatment of taxpayers:

- Vertical equity is compromised by the program as it reduces the student loan burden of Fellowship recipients without regard to the income earned by them. For example, a Wavemaker Fellow who earns \$150,000 per year receives the same tax benefit as one who earns \$50,000 per year in spite of the fact that the higher earning Fellow has a greater financial capability to make student loan payments..

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- Horizontal equity is compromised by the program as it treats similarly situated workers differently depending on whether a given worker is a program participant. For example, two workers who work at the same company, with the same title, the same student loan debt and earn the same income bear different tax burdens based on whether they are a Wavemaker Fellow or not.

Of the two principles of good tax policy that the Wavemaker program conflicts with, it is likely the case that the conflict with vertical equity can be addressed more easily within the program's design than the conflict with horizontal equity.

Part I: Introduction

Pursuant to Rhode Island General Laws § 44-48.2-4, titled *Rhode Island Economic Development Tax Incentives Evaluation Act of 2013*, the Chief of the Office of Revenue Analysis (ORA) in the Rhode Island Department of Revenue is required to produce, in consultation with the Chief Executive Officer of the Rhode Island Commerce Corporation, the Director of the Office of Management and Budget in the Rhode Island Department of Administration, and the Director of the Rhode Island Department of Labor and Training, a report that contains analyses of economic development tax incentives as listed in R.I. Gen. Laws § 44-48.2-3(1). According to R.I. Gen. Laws § 44-48.2-4(1), the report “[s]hall be completed at least once between July 1, 2014, and June 30, 2017, and no less than once every three (3) years thereafter”.

The additional analysis as required by R.I. Gen. Laws § 44-48.2-4(1) shall include, but not be limited to the following items as indicated in R.I. Gen. Laws § 44-48.2-5(a):

- 1) A baseline assessment of the tax incentive, including, if applicable, the number of aggregate jobs associated with the taxpayers receiving such tax incentive and the aggregate annual revenue that such taxpayers generate for the state through the direct taxes applied to them and through taxes applied to their employees;
- 2) The statutory and programmatic goals and intent of the tax incentive, if said goals and intentions are included in the incentive's enabling statute or legislation;
- 3) The number of taxpayers granted the tax incentive during the previous twelve-month (12) period;
- 4) The value of the tax incentive granted, and ultimately claimed, listed by the North American Industrial Classification System (NAICS) Code associated with the taxpayers receiving such benefit, if such NAICS Code is available;
- 5) An assessment and five-year (5) projection of the potential impact on the state's revenue stream from carry forwards allowed under such tax incentive;
- 6) An estimate of the economic impact of the tax incentive including, but not limited to:
 - i. A cost-benefit comparison of the revenue forgone by allowing the tax incentive compared to tax revenue generated by the taxpayer receiving the credit, including direct taxes applied to them and taxes applied to their employees;
 - ii. An estimate of the number of jobs that were the direct result of the incentive; and
 - iii. A statement by the Chief Executive Officer of the Commerce Corporation, as to whether, in his or her judgment, the statutory and programmatic goals of the tax benefit are being met, with obstacles to such goals identified, if possible;
- 7) The estimated cost to the state to administer the tax incentive if such information is available;
- 8) An estimate of the extent to which benefits of the tax incentive remained in state or flowed outside the state, if such information is available;
- 9) In the case of economic development tax incentives where measuring the economic impact is significantly limited due to data constraints, whether any changes in statute would facilitate data collection in a way that would allow for better analysis;

- 10) Whether the effectiveness of the tax incentive could be determined more definitively if the General Assembly were to clarify or modify the tax incentive's goals and intended purpose;
- 11) A recommendation as to whether the tax incentive should be continued, modified, or terminated; the basis for such recommendation; and the expected impact of such recommendation on the state's economy;
- 12) The methodology and assumptions used in carrying out the assessments, projections and analyses required pursuant to subdivisions (1) through (8) of this section.

The current report is one part of a series of reports for each one of the tax credits to be analyzed according to R.I. Gen. Laws § 44-48.2-3(1). This report concerns R.I. Gen. Laws § 42-64.26 entitled “Stay Invested in RI Wavemaker Fellowship” and measures the economic impact associated with the tax incentive during tax years 2016 through 2018. This analysis is performed at the micro level using information provided by the Division of Taxation. This report is divided into five sections. Section I provides a detailed description of the tax incentive and its statutory programmatic goals and intent. Section II presents some background regarding this tax incentive. Section III presents a description of the data provided and used in the analysis by ORA. Section IV assesses the economic impact generated under the Wavemaker Fellowship program. Section V discusses relevant policy recommendations that could help in the decision process as to whether the tax credit should be continued, modified, or terminated.

1. Description of the Incentive

The Stay Invested in RI Wavemaker Fellowship program offers qualifying individuals a refundable tax credit worth the value of their annual student loan burden. This program is primarily administered by Rhode Island Commerce Corporation (CommerceRI) and is designed for applicants who

- “shall have graduated from an accredited two-year, four-year or graduate post-secondary institution of higher learning with an associate's, bachelor's, graduate, or post-graduate degree and at which the applicant incurred education loan repayment expenses”;
- “is a full-time employee with a Rhode Island-based employer located in this state”; and
- “whose employment is for work in one or more of the following covered fields: life, natural or environmental sciences; computer, information or software technology; advanced mathematics or finance; engineering; industrial design or other commercially related design field; or medicine or medical device technology.”

The maximum amount of credit that can be granted to an applicant is “up to a maximum amount for each” 12 month period “of \$1,000 for an associate's degree holder, \$4,000 for a bachelor's degree holder, and \$6,000 for a graduate or post-graduate degree holder,...not to exceed the education loan repayment expenses incurred by such applicant during each 12 month period completed for up to four consecutive 12 month periods.”¹ Seventy percent of the total amount

¹ For example, an eligible applicant with an associate’s degree could receive at most \$4,000 in refundable tax credits over a four-year period provided the applicant has student loan debt payments of at least \$4,000 for the same period.

awarded in each calendar year should be reserved to applicants who are permanent residents of the state of Rhode Island or who attended an institution of higher education located in Rhode Island when they incurred the education loan expenses.

The credit is allowed against the personal income tax imposed by Rhode Island General Laws Chapter 44-30. The fellowship recipient may also request a refund of his/her credits in whole or in part, for 100% of the credit amount. No incentives or credits under the program can be authorized after December 31, 2020.

A copy of the 2019 Wavemaker Fellowship Program application can be found in Appendix A.

2. Statutory and Programmatic Goals and Intent of the Tax Incentive

According to R.I. Gen. Laws § 42-64.26-2, the general assembly finds and declares that:

- 1) A well-educated citizenry is critical to this state's ability to compete in the national and global economies.
- 2) Higher education both benefits individual students and is a public good benefiting the state as a whole.
- 3) Excessive student loan debt is impeding economic growth in this state. Faced with excessive repayment burdens, many individuals are unable to start business, invest or buy homes, and may be forced to leave the state in search of higher paying jobs elsewhere.
- 4) Relieving student loan debt would give these individuals greater control over their earnings, would increase entrepreneurship and demand for goods and services, and would enable employers in this state to recruit and retain graduates in the fields of science, technology, engineering and mathematics.
- 5) The Stay Invested in RI Wavemaker Fellowship is designed to achieve the following goals:
 - i. Promote economic opportunity for people in this state by ensuring access to the training and higher education that higher-paying jobs require;
 - ii. Bring more and higher-paying jobs to this state by increasing the skill level of this state's workforce;
 - iii. Offer educational opportunity and retraining to individuals impacted by job loss, workplace injury, disability or other hardship;
 - iv. Keep young people in the state through incentives for educational opportunity and creation of more high-paying jobs;
 - v. Encourage an entrepreneurial economy in Rhode Island;
 - vi. Accomplish all of the goals in this chapter with as little bureaucracy as possible.

Part II: Benchmarking and Background

This benchmarking and background section presents information useful for understanding how the "Stay Invested in RI Wavemaker Fellowship" program functions and the economic environment in which it operates. This section provides some information on the availability of similar tax incentives in neighboring states, as well as discussion of local economic factors that may be related

The comparable figures are \$16,000 and \$24,000 for an eligible bachelor's degree holder and an eligible graduate or post-graduate degree holder respectively.

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to the program. Where appropriate, this section provides data on Rhode Island, other New England states, and nationwide. Data generally are compiled from public sources such as the U.S. Department of Labor, Bureau of Labor Statistics, U.S. Department of Commerce, Census Bureau and the U.S. Department of Treasury, Internal Revenue Service.

The federal government offers different tax incentive programs that are designed to lower the burden of student loan debts, ranging from tax credits that can be directly applied to a taxpayer's tax liability to deductions that help lower the amount of income subject to federal tax. For purposes of this benchmarking analysis, ORA will only focus on the first type of federal tax benefit. As of now, there are two federal tax credit programs that help offset the cost of higher education through a direct reduction in a taxpayer's tax liability: the American Opportunity Credit and the Lifetime Learning Credit. However, taxpayers cannot claim more than one tax credit for the same students and the same expenses. The following table provides a detailed description of these tax credits.

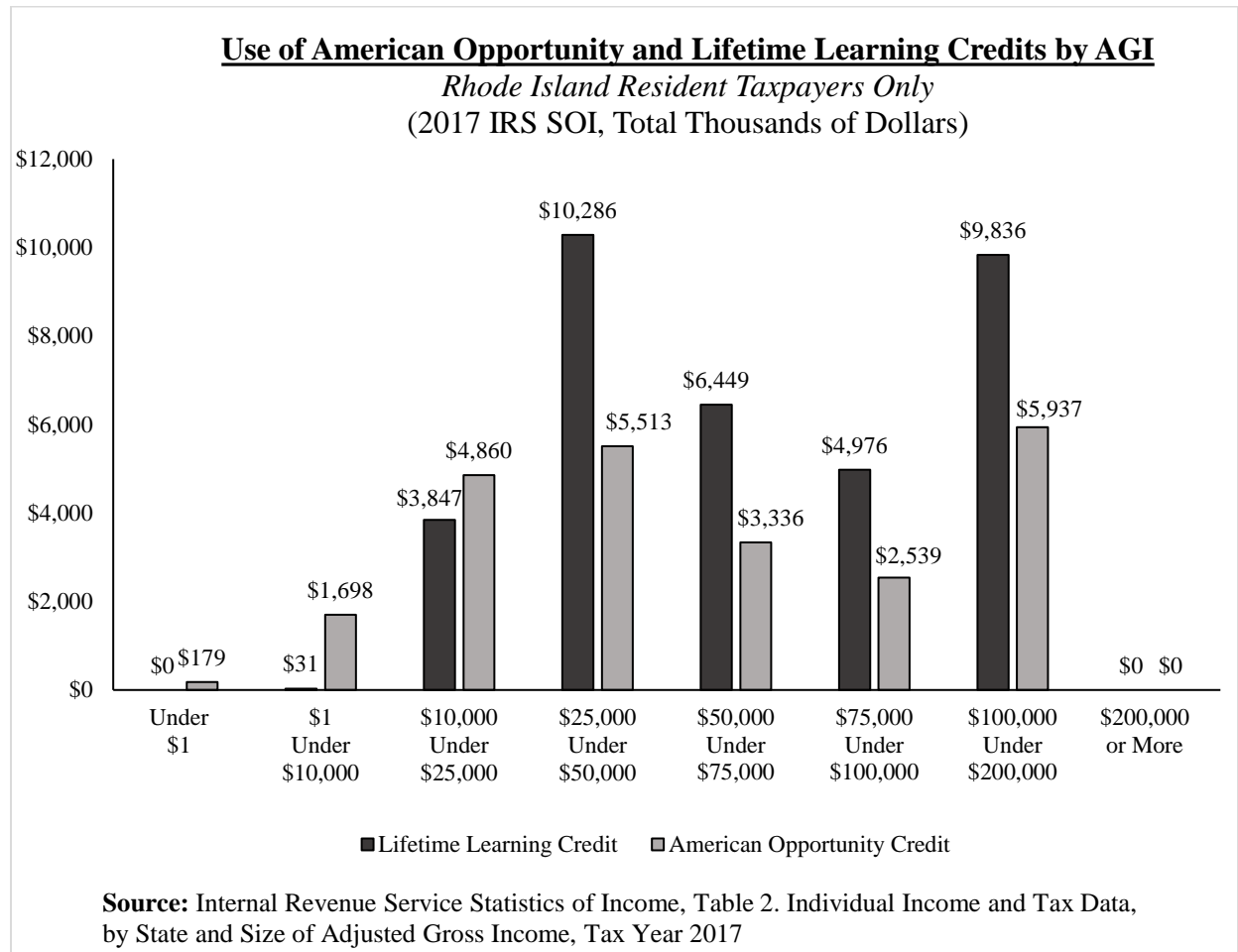
Overview of the American Opportunity Credit and the Lifetime Learning Credit

(Tax Year 2018)

	The American Opportunity Credit	The Lifetime Learning Credit
Maximum Credit	Up to \$2,500 per eligible student	Up to \$2,000 per return
Limit on Modified Adjusted Gross Income (MAGI)	\$180,000 if married filing jointly; \$90,000 if single, head of household, or qualifying widow(er)	\$134,000 if married filing jointly; \$67,000 if single, head of household, or qualifying widow(er)
Refundable	40% of credit may be refundable	Nonrefundable
Number of Years of Postsecondary Education	Available only if the student had not completed the first 4 years of postsecondary education before 2018 (generally, the freshman through senior years, determined by the eligible educational institution, not including academic credit awarded solely because of the student’s performance on proficiency examinations)	Available for all years of postsecondary education and for courses to acquire or improve job skill
Number of Tax Years Credit Available	Available only for four tax years per eligible student	Available for an unlimited number of tax years
Type of Program Required	Student must be pursuing a program leading to a degree or other recognized educational credential	Student doesn't need to be pursuing a program leading to a degree or other recognized education credential
Number of Courses	Student must be enrolled at least half-time for at least one academic period that begins during 2018	Available for one or more courses
Felony Drug Conviction	As of the end of 2018, the student had not been convicted of a felony for possessing or distributing a controlled substance	Felony drug convictions don't make the student ineligible
Qualified Expenses	Tuition required enrollment fees, and course materials that the student needs for a course of study whether or not the materials are bought at the educational institution as a condition of enrollment or attendance.	Tuition and fees required for enrollment or attendance (including amounts required to be paid to the institution for course-related books, supplies, and equipment)
Payment for Academic Periods	Payments made in 2018 for academic periods beginning in 2018 or beginning in the first 3 months of 2019	Payments made in 2018 for academic periods beginning in 2018 or beginning in the first 3 months of 2019

Source: Internal Revenue Service, Publication 970 “Tax Benefits for Education”, available at <https://www.irs.gov/pub/irs-pdf/p970.pdf>

To have a better understanding of Rhode Island taxpayers that benefit from the two federal education tax incentives described above, data on credit usage from Rhode Island resident tax returns is presented in the chart below²:



The American Opportunity Credit was more likely to be claimed vis-à-vis the Lifetime Learning Credit by Rhode Island tax filers with federal Adjusted Gross Incomes (AGIs) under \$25,000. However, the highest amount of American Opportunity Credit was claimed by tax filers with AGIs between \$100,000 and \$200,000. The Lifetime Learning Credit was more likely to be claimed by those with a higher AGI, with the highest amount claimed by individuals with AGI between \$25,000 and \$50,000.

In addition to the federal incentives, ORA investigated the availability of tax incentive programs like the Wavemaker Fellowship in neighboring states. Only Connecticut and Maine are found to offer some type of tax credit to college graduates. The following table which contains the name of the tax incentive of the selected comparison program in each state, a legal citation, a brief

² Data is from the Internal Revenue Service’s Statistics of Income (SOI) for TY 2017 and includes federal individual income tax returns filed from Rhode Island addresses that were finalized prior to the issuance of the report.

description of credit features, as well as information on any identified credit cap and carryforward provisions.

<u>Wavemaker Fellowship Program in Rhode Island and Selected Comparison States</u>			
	Rhode Island	Connecticut	Maine
<i>Credit Name</i>	Stay Invested in RI Wavemaker Fellowship	Credit for certain college graduates	Credit for educational opportunity
<i>Statutory Reference</i>	R.I. Gen. Laws § 42-64.26	Conn. Gen. Stat. §§ 12-704f	36 Me. Rev. Stat. Ann tit. 36, § 5217-D
<i>Credit Features</i>	Associate, bachelor's, graduate, or post-graduate degree holders working for a Rhode Island-based employer whose employment is for work in certain fields and meeting other requirements can claim this credit.	This credit is designed for bachelor's, master's or doctoral degree holders in a science, technology, engineering or math-related field meeting certain eligibility requirements.	This credit is available to associate, bachelor's and graduate degree holders who attended an accredited college or university and lives, works and pays taxes in Maine, in addition to meeting other requirements.
<i>Cap</i>	Up to \$1,000 per year for associate degree holders, up to \$4,000 for bachelor's degree holders, and up to \$6,000 for master's degree or higher.	Up to \$500 for each eligible graduate.	In 2018, up to \$888 for associate degree holders, up to \$4,524 for bachelor's degree holders, and up to \$3,936 for graduate degree holders
<i>Carryforward</i>	Up to 4 years	Up to 5 years	Up to 10 years
<i>Source</i>	http://webserver.rilin.state.ri.us/Statutes/TITLE42/42-64.26/INDEX.HTM	https://www.cga.ct.gov/current/pub/chap_229.htm#sec_12-704f	https://www.mainelegislature.org/legis/statutes/36/title36sec5217-D.html

Note: Credit characteristics reflects current policy as identified by ORA in January 2020. This table presents a single comparison credit program for each comparison state determined by ORA to be most like the Rhode Island Stay Invested in RI Wavemaker Fellowship program.

Despite these state and federal government tax provisions to make higher education more affordable, student loans continue to increase with the rising costs of college tuition. According to a study conducted by Experian, a consumer credit reporting agency, student loan debt in the U.S. reached \$1.4 trillion in the first quarter 2019, which represents a 116% increase over the first quarter of 2009, with an average of \$35,359 per borrower.³ The following table provides a snapshot of student loan debt statistics nationwide and for selected states in the first quarter of 2019.

³ This study can be found at <https://www.experian.com/blogs/ask-experian/state-of-student-loan-debt/>

Student Loan Debt Overview

(Data is for Quarter 1 of 2019)

United States

Total student loan debt in the U.S.	\$1.4 Trillion
Average student loan debt per borrower in the U.S.	\$35,359
Washington D.C., had the highest average student loan debt	\$55,882
South Dakota had the lowest average student loan debt	\$28,868
Average tuition and fees for a public four-year in state college	\$10,230
Average tuition and fees for a public four-year out of state college	\$26,290
Average tuition for a private non-profit four-year college	\$35,830

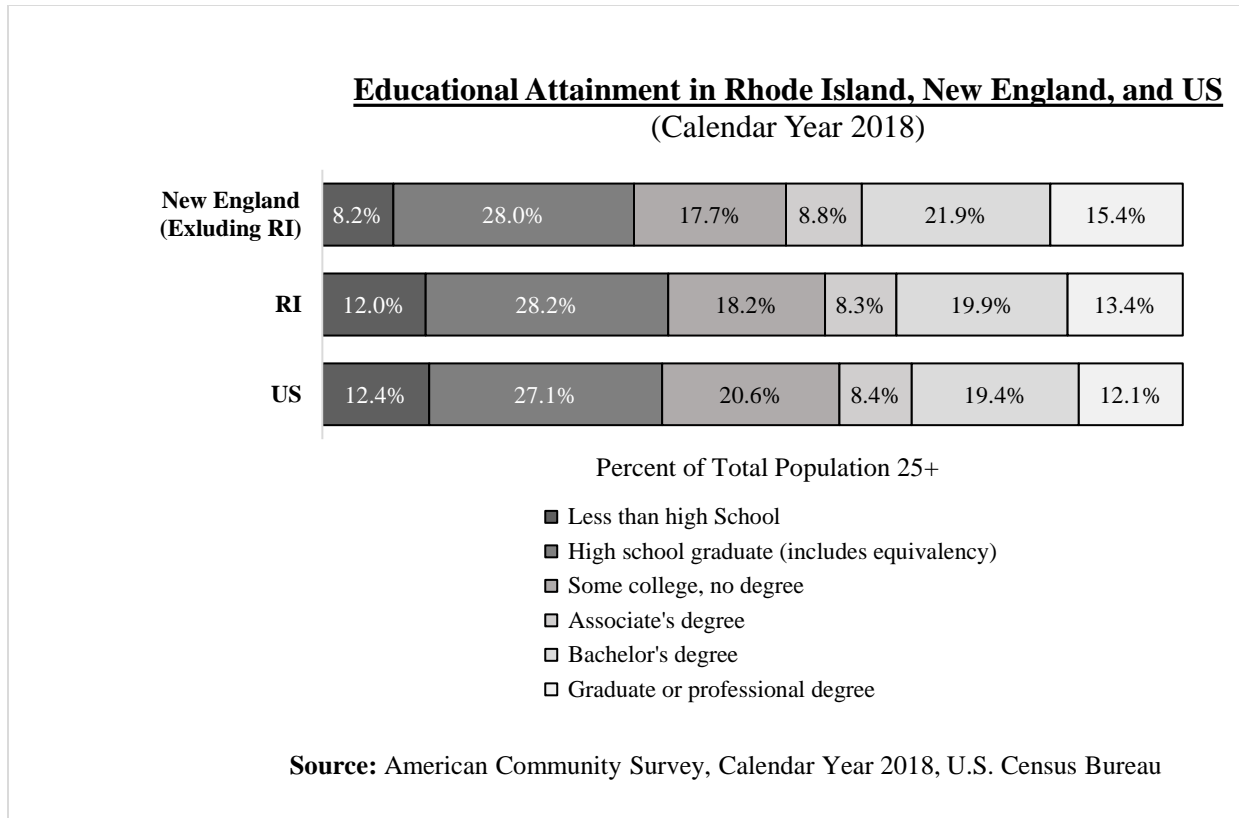
New England

Maine student loan debt average	\$32,521
Rhode Island student loan debt average	\$33,373
New Hampshire student loan debt average	\$34,072
Vermont student loan debt average	\$34,221
Connecticut student loan debt average	\$36,025
Massachusetts student loan debt average	\$36,181

Source: Experian and The College Board. The report can be found at <https://www.experian.com/blogs/ask-experian/state-of-student-loan-debt/>

The table shows how student loan debt in Rhode Island compares to the national average and the rest of the New England states. At the national level, Washington D.C., had the highest average student loan debt of \$55,882 and South Dakota had the lowest with an average of \$28,868. Rhode Island's average student loan debt of \$33,373 was below the U.S. average student loan debt of \$35,359. In New England, Rhode Island had the second lowest average student loan debt, trailing only Maine, while Massachusetts had the highest average student loan debt of \$36,181.

Besides having student loan debt to pay for, applicants for the Wavemaker Fellowship program must complete a two-year, four-year or graduate degree from an accredited institution. To give some education background, the following chart provides comparison data on Rhode Islanders' levels of formal educational attainment compared with the rest of New England, and the nation in 2018:



Formal educational attainment is generally defined in terms of the highest formal educational credential earned by an individual – for example, less than a high school diploma, high school diploma, some college, associate’s degree, bachelor’s degree, and graduate degree. Compared with other New England states, Rhode Island has a greater portion of the population that holds a high school diploma or less and lower proportion holding an associate’s degree or higher. When compared with national averages, it is notable that Rhode Island has a greater proportion of individuals at both the upper and lower extremes of the educational spectrum. Rhode Island has a lower proportion of individuals with less than a high school diploma than the national average and has a greater proportion of individuals possessing at least an associate’s degree.

The Wavemaker Fellowship program is designed to target specific work areas. When evaluating the program applications, the Wavemaker Fellowship Committee at CommerceRI gives priority to applicants whose employment is in one or more of the science, technology, engineering, and mathematics (STEM) fields.

According to the U.S. Bureau of Labor Statistics (BLS), STEM jobs are defined to consist of 100 occupations, including computer and mathematical, architecture and engineering, and life and physical science occupations, as well as managerial and postsecondary teaching occupations related to these functional areas and sales occupations requiring scientific or technical knowledge at the postsecondary level. Using the list of STEM-related occupations available at www.bls.gov/oes/stem_list.xlsx, ORA compiled employment and wage data for these targeted occupations in Rhode Island.

Rhode Island Employment and Wages by Occupations

(May 2018)

SOC Code	Occupations	Count of Sub-Occupations	Total Employees	Average Entry Wage	Average Experienced Wage
<u>All Rhode Island Occupations</u>					
00-0000	Total Occupations	566	482,030	\$11.02	\$32.65
<u>Rhode Island STEM-Related Occupations</u>					
11-0000	Management Occupations	3	1,820	\$45.54	\$78.74
15-0000	Computer and Mathematical Occupations	16	13,600	\$27.06	\$52.85
17-0000	Architecture and Engineering Occupations	21	8,320	\$23.63	\$44.72
19-0000	Life, Physical, and Social Science Occupations	13	1,270	\$22.79	\$43.95
25-0000	Education, Training, and Library Occupations*	7	1,120	\$28.45	\$69.26
41-0000	Sales and Related Occupations	2	720	\$23.02	\$50.14
Total/ Weighted Average		62	26,850	\$27.00	\$52.28

Source: U.S. Bureau of Labor Statistics, May 2018.

Note:

* Only annual salaries were reported for these occupations; no wage estimates are available. For simplicity, annual salaries were divided by 52 weeks then by 40 hours to calculate an hourly rate.

The entry and experienced wage rates presented in the table above are defined as the 10th and 75th percentiles of the wage distribution, respectively. The percentiles are determined by arranging all reported wage rates for each occupation in order from highest to lowest. The rate at which 10 percent of the reported wage rates falls below is the 10th percentile. The rate at which 75 percent of the reported wage rates falls below is the 75th percentile. In Rhode Island, BLS reported a total of 566 occupations comprising 482,030 employees, with an average entry wage of \$11.02 (an annual full time equivalent (FTE) salary of \$22,962) and an average experienced wage of \$32.65 (an annual FTE salary of \$67,912). Out of the 482,030 total employees, 26,850 workers had STEM jobs as of May 2018, representing 5.6% of the total state employment. Computer and mathematical occupations were the largest group constituting 50.7% of STEM employment with 16 different sub-occupations. Sales and related occupations comprised only two STEM sub-occupations and were the smallest group with 720 employees or 2.7% of the total STEM jobs. The highest entry and experienced wages were observed in management occupations and the lowest in life, physical, and social science occupations. For all STEM-related occupations the

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weighted average annual entry FTE salary is \$56,160 and the weighted average annual experienced FTE salary is \$108,742. Clearly, STEM-related occupations are well paying and thus the Stay Invested in RI Wavemaker Fellowship is targeting high paying jobs relative to the average Rhode Island job.

Part III: Report Data Description

The analysis of the “Stay Invested in RI Wavemaker Fellowship” program required an examination of micro-level taxpayer data. In order to gain access to the relevant data while respecting confidentiality concerns, ORA entered into Memoranda of Understanding (MOU) with the Rhode Island Department of Revenue, Division of Taxation (Division of Taxation), the Rhode Island Department of Labor and Training (DLT), and the Rhode Island Commerce Corporation (CommerceRI). These MOUs sought to preserve the confidentiality of individually identifiable taxpayers consistent with the statutory mandates regarding secrecy and confidentiality of taxpayer information. In this context, ORA relied on data provided by the Division of Taxation and CommerceRI for tax years 2016, 2017, and 2018, to the extent such information were provided, as required by R.I. Gen. Laws § 44-48.2-5(b). The data provided to ORA consisted of the following:

- Wavemaker Fellowship program applications (employer endorsement forms) provided by CommerceRI for tax years 2016 through 2018;
- Tax credit awarded and certified amounts provided by CommerceRI for tax years 2016 through 2018;
- Tax credit amounts used by credit recipients in each tax year subject to the current analysis provided by the Division of Taxation;
- Withholding tax payment records on file provided by the Division of Taxation in each tax year subject to the current analysis;
- Cost of tax credit administration.

ORA made no attempt to verify the accuracy of the data provided and made minimal corrections to the data in order to be able to execute specific calculations for the report. The data included in this report are unaudited and reported as compiled.

1. Number of Taxpayers Granted Tax Benefit

According to the Division of Taxation a total of 395 individuals received the “Stay Invested in RI Wavemaker Fellowship” tax credit over tax years 2016 through 2018, totaling \$1.5 million. A total of \$1.3 million was received by fellows as a tax refund and \$169,724 received as a tax credit that could be applied against their tax liability. The following table provides a breakdown of the program recipients and the corresponding credit/refund amounts received by tax year and by residency status:

“Stay Invested in RI Wavemaker Fellowship”
Credit/Refund Amounts and Number of Recipients

(Tax Years 2016 – 2018)

Residency	TY 2016*	TY 2017	TY 2018	Average	Total
<u>Rhode Islands</u>					
Count of Taxpayers	<i>n/a</i>	147	204	176	351
Credit Amount	<i>n/a</i>	\$68,061	\$95,555	\$81,808	\$163,616
Refund Amount	<i>n/a</i>	\$486,520	\$677,906	\$582,213	\$1,164,427
Total Amount	<i>n/a</i>	\$554,581	\$773,462	\$664,021	\$1,328,043
<u>Out of State</u>					
Count of Taxpayers	<i>n/a</i>	11	33	22	44
Credit Amount	<i>n/a</i>	\$4,455	\$1,653	\$3,054	\$6,108
Refund Amount	<i>n/a</i>	\$27,890	\$127,278	\$77,584	\$155,169
Total Amount	<i>n/a</i>	\$32,346	\$128,931	\$80,639	\$161,277
<u>Total</u>					
Count of Taxpayers	<i>n/a</i>	158	237	198	395
Credit Amount	<i>n/a</i>	\$72,516	\$97,208	\$84,862	\$169,724
Refund Amount	<i>n/a</i>	\$514,410	\$805,185	\$659,798	\$1,319,595
Total Amount	<i>n/a</i>	\$586,927	\$902,393	\$744,660	\$1,489,320

Source: ORA PIT model simulation using data provided by the Division of Taxation

Note:

* The Wavemaker Fellowship program announced the first recipients of the award in September 2016. However, fellows were not eligible for a tax credit or refund until TY 2017.

Rhode Island residents accounted for 93.0% of RI Wavemaker Fellowship recipients in TY 2017 and 86.1% in TY 2018, receiving a total of \$163,616 in credit applied to their tax liability, and \$1.2 million in refunds across the two years. Rhode Island residents received 93.9% of credits awarded through the Wavemaker program in TY 2017, and 98.3% of credits in TY 2018. Refunds were also largely awarded to Rhode Island residents, with residents claiming 94.6% of total refunds in TY 2017 and 84.2% in TY 2018. In total, Rhode Island residents received 94.5% of credits and refunds awarded by the Wavemaker program in TY 2017 and 85.7% of credits and refunds in TY 2018. The average amount of total credits and refunds received by Wavemaker fellows in 2017 and 2018 was \$744,660. However, due to the ramping up of the program in TY 2017, ORA used the TY 2018 figure of \$902,393 to model the cost of the program. ORA assumed that this will reflect the full year cost of the program more accurately.

2. Direct Taxes Paid by Recipients

The Division of Taxation provided ORA with data on personal income tax (PIT) paid by the “Stay Invested in RI Wavemaker Fellowship” recipients for tax years 2016 through 2018. The following table describes the breakdown of this information by taxpayer’s residency status.

“Stay Invested in RI Wavemaker Fellowship”
Personal Income Taxes Paid by Recipients
 (Tax Years 2016 – 2018)

Residency	TY 2016 *	TY 2017	TY 2018	Average	Total
<u>Rhode Island</u>					
Count of Taxpayers	<i>n/a</i>	147	204	176	351
Taxes Paid *	<i>n/a</i>	\$337,907	\$471,001	\$404,454	\$808,908
Avg. Taxes Paid	<i>n/a</i>	\$2,299	\$2,309	\$2,304	\$4,608
<u>Out of State</u>					
Count of Taxpayers	<i>n/a</i>	11	33	22	44
Taxes Paid ^	<i>n/a</i>	\$11,114	\$50,556	\$30,835	\$61,670
Avg. Taxes Paid	<i>n/a</i>	\$1,010	\$1,532	\$1,271	\$2,542
<u>Total</u>					
Count of Taxpayers	<i>n/a</i>	158	237	198	395
Taxes Paid †	<i>n/a</i>	\$349,021	\$521,557	\$435,289	\$870,578
Avg. Taxes Paid	<i>n/a</i>	\$2,209	\$2,201	\$2,205	\$4,410

Source: ORA PIT model simulation using data provided by the Division of Taxation

Note:

* The Wavemaker Fellowship program announced the first recipients of the award in September 2016. However, fellows were not eligible for a tax credit or refund until TY 2017.

* Taxes Paid for RI Residents are calculated as "Total RI Tax and Checkoff Contributions" minus "Property Tax Relief" minus "RI earned income credit" minus "RI Resident lead paint credit"

^ Taxes Paid for RI Non-Residents are calculated as "Total RI Tax and Checkoff Contributions" minus "RI earned income credit"

† Taxes Paid is a sum of RI Residents and RI Non-Residents.

In the table above, the All Taxes Paid amounts are apportioned to the Wavemaker Fellowship program based on the ratio of wages received by a Wavemaker Fellow in the job for which the tax incentive is awarded to the federal Adjusted Gross Income reported on the Wavemaker Fellow’s tax return.

- If an individual who has received a Wavemaker Fellowship files a tax return with a filing status of single and all of his or her income is generated by the job for which he or she received the tax incentive, then 100% of the taxes paid on his or her individual return are attributed to the “Stay Invested in RI Wavemaker Fellowship” program.
- If an individual who has received a Wavemaker Fellowship files a tax return with a filing status of married joint and, for example, 50% of the income reported on the tax return is generated by the job for which he or she received the tax incentive, then 50% of taxes paid on his or her joint return are apportioned to the “Stay Invested in RI Wavemaker Fellowship” program.

Using the information on Credit/Refund Amounts and Number of Recipients above, ORA calculated the average Total Credit/Refund Amount per Recipient:

“Stay Invested in RI Wavemaker Fellowship”
Average Total Credit/Refund Amount per Recipient
 (Tax Years 2016 – 2018)

Residency	TY 2016*	TY 2017	TY 2018	Average	Total
<u>Rhode Island</u>					
Count of Taxpayers	<i>n/a</i>	147	204	176	351
Total Amount	<i>n/a</i>	\$554,581	\$773,462	\$664,021	\$1,328,043
Avg Total Amount	<i>n/a</i>	\$3,773	\$3,791	\$3,782	\$7,564
<u>Out of State</u>					
Count of Taxpayers	<i>n/a</i>	11	33	22	44
Total Amount	<i>n/a</i>	\$32,346	\$128,931	\$80,639	\$161,277
Avg Total Amount	<i>n/a</i>	\$2,941	\$3,907	\$3,653	\$6,848
<u>Total</u>					
Count of Taxpayers	<i>n/a</i>	158	237	198	395
Total Amount	<i>n/a</i>	\$586,927	\$902,393	\$744,660	\$1,489,320
Avg Total Amount	<i>n/a</i>	\$3,715	\$3,808	\$3,761	\$7,523

Source: ORA PIT model simulation using data provided by the Division of Taxation

Note:

* The Wavemaker Fellowship program announced the first recipients of the award in September 2016. However, fellows were not eligible for a tax credit or refund until TY 2017.

A comparison of the average total credit/refund amount per recipient and the average taxes paid per recipient shows that the average total credit/refund amount granted exceeds the average taxes paid by Rhode Island resident and non-resident tax filers in each year of 2017 and 2018 as well as on average for the two tax years and in total over the two tax years with the difference between the two averages significantly higher for non-resident tax filers than for resident tax filers. For example, in TY 2018, Rhode Island resident tax filers received an average total credit/refund amount from the Wavemaker Fellowship program of \$3,791 vs. average taxes paid of \$2,309, a difference of \$1,482 more in Wavemaker tax benefits vs. Rhode Island tax liability. For non-resident tax filers, the same figures are \$3,907, \$1,532 and \$2,375. Thus, in TY 2018, the average Rhode Island resident recipient of a Wavemaker Fellowship received 64.2% more in tax benefits than they paid in taxes while the average non-resident recipient of a Wavemaker Fellowship received 155.0% more in tax benefits than they paid in taxes.

3. Cost of Administration

ORA surveyed the Division of Taxation and Rhode Island Commerce Corporation to ascertain the cost for the administration of the “Stay Invested in RI Wavemaker Fellowship” program. The table below provides information on the cost incurred to administer this tax incentive by both entities during tax years 2016 through 2018.

“Stay Invested in RI Wavemaker Fellowship”

Cost of Administration

(Tax Years 2016 – 2018)

Cost-Incurring Entity	TY 2016	TY 2017	TY 2018	Total	Average
Division of Taxation *	\$1,415	\$1,415	\$5,660	\$8,490	\$2,830
Commerce Corporation †	\$29,428	\$82,938	\$128,037	\$240,402	\$80,134
Total	\$30,843	\$84,353	\$133,697	\$248,892	\$82,964

Source: Division of Taxation and Rhode Island Commerce Corporation.

Note:

* The Division of Taxation did not track hours spent on the administration of the Wavemaker Fellowship program for Tax Years 2016 and 2017. If an estimate is necessary, a reasonable assumption is that the Division of Taxation spent at least 25% of the estimate reported for Tax Year 2018 (Tax Year 2018 estimate is comprehensive).

† Commerce Corporation provided fiscal year estimates for their cost of administration, ORA then averaged these figures to calculate calendar year estimates.

4. Measuring the Extent to Which Benefits Remained in the State

R.I. Gen. Laws § 44-48.2-5(a)(8) requires that an economic development tax incentive evaluation report on the extent to which benefits associated with the tax incentive remained in the state, if such information is available. In consideration of this requirement, ORA has presented tables on taxes paid by recipients by resident vs. non-resident status throughout this report.

5. Additional Data Analysis

- “Stay Invested in RI Wavemaker Fellowship” Awardees Characteristics

ORA divided the data provided by the Commerce Corporation into groupings based on awardee characteristics in order to draw comparisons and demonstrate the diversity of the fellows⁴.

“Stay Invested in RI Wavemaker Fellowship”

Descriptive Statistics: Awardees by Residency

(Tax Years 2016 – 2018)

Residency	TY 2016	TY 2017	TY 2018	Total
Rhode Island	90.1%	90.8%	87.9%	89.5%
Out of State	9.9%	9.2%	12.1%	10.5%
Total	100%	100%	100%	100%

Source: Rhode Island Commerce Corporation

Across the three award years, 89.5% of awardees were Rhode Island residents. The remaining 10.5% represents non-resident awardees living in Massachusetts or Connecticut and working in Rhode Island. As is evident from the table above, 2017 had the largest share of resident awardees, with 90.8%, and 2018 had the lowest share of resident awardees at 87.9%.

⁴ An awardee refers to a Wavemaker Fellowship program applicant who was awarded the tax incentive by Rhode Island Commerce Corporation. An applicant means an eligible graduate who applies for a tax credit for education loan repayment expenses under this program.

Commerce Corporation was only able to provide ORA with the 2016 and 2017 certified award amounts for the 2016 cohort, the 2017 certified amount for the 2017 cohort and 2018 calculated amounts for the 2018 cohort. These award amounts may be redeemed in the following tax year.

“Stay Invested in RI Wavemaker Fellowship”
Descriptive Statistics: Award Breakdown by Residency
 (Tax Years 2016 – 2018)

Residency	TY 2016	TY 2017	TY 2018	Total
Rhode Island	91.1%	91.7%	88.8%	90.7%
Out of State	8.9%	8.3%	11.2%	9.3%
Total	100%	100%	100%	100%

Source: Rhode Island Commerce Corporation

The above table shows the breakdown of the total amount awarded by the Wavemaker Fellowship by residency status of awardees. Across all three award years, 90.7% of funds were awarded to Rhode Island residents. In 2016, the Wavemaker Fellowship certified \$740,432 in awards, of which \$674,814, or 91.1%, was awarded to Rhode Island residents. In 2017, a total of \$1.4 million was certified for the program awardees, with \$1.3 million, or 91.7%, going to Rhode Island residents. In 2018, the calculated amount for the 2018 resident cohort was 88.8% of the total calculated award. By statute, 70% of the total amount awarded in each calendar year should be designated to permanent residents of Rhode Island or those who attended an institution of higher education located in Rhode Island when they incurred the education loan expenses. This requirement was easily achieved in 2016 and 2017, the only years for which certified award amounts are available.

“Stay Invested in RI Wavemaker Fellowship”
Descriptive Statistics: Awardees by Academic Institution’s Region
 (Tax Years 2016 – 2018)

Region	TY 2016	TY 2017	TY 2018	Total
Midwest	2.6%	1.0%	3.3%	2.4%
Northeast	91.1%	91.8%	89.1%	90.6%
South	4.2%	5.6%	5.4%	5.1%
West	2.1%	1.5%	2.1%	1.9%
Total	100.0%	100.0%	100.0%	100.0%

Source: Rhode Island Commerce Corporation

The overwhelming majority of awardees attended a higher education institution in the Northeast, accounting for 90.6% of total awardees across all three certification years. Further, across all three years, 59.7% of awardees attended an institution located in Rhode Island and 18.7% attended an institution in Massachusetts. About 5% of awardees attended a school in the South, 2.4% in the Midwest, and 1.9% of all awardees attended an institution in the West.

“Stay Invested in RI Wavemaker Fellowship”
Descriptive Statistics: Awardees by Qualifying Degree
 (Tax Years 2016 – 2018)

Degree	Share of Awardees	Number of Awardees
Associate’s	1.9%	12
Bachelor’s	57.2%	358
Master’s or above	40.9%	256
Total	100.0%	626

Source: Rhode Island Commerce Corporation

Of the 626 total awardees of the RI Wavemaker Fellowship, 57.2% of all awardees hold a bachelor’s degree, while 40.9% of awardees hold a master’s degree or above, and 1.9% earned an associate’s degree. In comparison, 19.9% of all Rhode Island residents 25 years and over hold a bachelor’s degree, 13.4% have a master’s degree and 8.3% have an associate’s degree, according to the U.S. Census Bureau, 2014-2018 American Community Survey 5-year estimates.

“Stay Invested in RI Wavemaker Fellowship”
Descriptive Statistics: Awardees by Work-field
 (Tax Years 2016 – 2018)

Work Field	TY 2016	TY 2017	TY 2018	Total
Advanced Mathematics or Finance	11.0%	12.7%	13.8%	12.7%
Computer, Information or Software Technology	24.1%	31.3%	24.4%	26.4%
Engineering	24.9%	26.6%	30.1%	27.5%
Healthcare	3.7%	0.0%	2.6%	2.1%
Industrial Design or other Commercial Design Field	9.0%	9.7%	9.5%	9.4%
Life, Natural or Environmental Sciences	11.4%	7.7%	5.2%	7.7%
Medicine or Medical Device Technology	15.5%	11.6%	10.9%	12.4%
Other	0.4%	0.4%	3.7%	1.8%
Total	100.0%	100.0%	100.0%	100.0%

Source: Rhode Island Commerce Corporation

Awardees work in a variety of fields but are largely concentrated in two work fields. Of all awardees, regardless of the year they were certified for the Wavemaker fellowship, 27.5% of awardees work in engineering, and 26.4% of awardees work in computer, information or software technology. Advanced mathematics or finance, and medicine or medical device technology account for 12.7% and 12.4% of awardee work-fields, respectively. About 19% of awardees work in the industrial design, or another commercial design field; life, natural or environmental sciences; or healthcare field. Other work-fields accounted for 1.8% of awardees. This is in line with what is defined under R.I. Gen. Laws § 42-64.26-3(8)(ii), which states that applicants to this program should work in one or more of the following covered fields: life, natural or environmental sciences; computer, information or software technology; advanced mathematics or finance; engineering; industrial design or other commercially related design field; or medicine or medical device technology.

“Stay Invested in RI Wavemaker Fellowship”
Descriptive Statistics: Awardees by Employer Industry
 (Tax Years 2016 – 2018)

Industry *	TY 2016	TY 2017	TY 2018	Total
Advanced Business Services	21.9%	15.0%	12.1%	15.9%
Arts, Education, Hospitality & Tourism	4.2%	3.9%	6.2%	4.9%
Biomedical Innovation	11.6%	6.9%	9.0%	9.1%
Construction	2.3%	0.9%	1.7%	1.6%
Defense, Shipbuilding, Maritime	9.3%	19.7%	20.1%	16.8%
Design, Food, Custom Manufacturing	14.4%	15.5%	21.8%	17.6%
Engineering	1.9%	6.0%	2.4%	3.4%
Environmental Sciences	3.3%	3.0%	1.7%	2.6%
Healthcare	15.8%	8.6%	9.7%	11.1%
IT, Cyber, Data Analytics	9.8%	15.0%	10.4%	11.7%
Other	3.3%	3.4%	2.4%	3.0%
Transportation, Distribution & Logistics	2.3%	2.1%	2.4%	2.3%
Grand Total	100.0%	100.0%	100.0%	100.0%

Source: Rhode Island Commerce Corporation

* A list of employers can be found in Appendix B

The type of work, or work-field, does not always match the industry of the employer. The industry classification of employers shows more diversity than work field, with no industry capturing a majority. For all awardees, 17.6% are employed in the design, food, custom manufacturing industry; 16.8% in defense, shipbuilding, maritime; 15.9% in advanced business services; and 11.7% in the IT, cyber, data analytics industry. Combined, these top four industries account for 62% of all awardees, while eight industries make up the remaining 38% of awardees.

“Stay Invested in RI Wavemaker Fellowship”
Descriptive Statistics: Awardees by Salary Range
 (Tax Years 2016 – 2018)

Income Range	TY 2016		TY 2017		TY 2018		Total	
	Number	Share	Number	Share	Number	Share	Number	Share
\$0-\$34,999	0	0%	4	2%	3	1%	7	1%
\$35,000-\$49,999	17	9%	21	11%	28	12%	66	11%
\$50,000-\$74,999	68	36%	90	46%	136	57%	294	47%
\$75,000-\$99,999	67	35%	55	28%	52	22%	174	28%
\$100,000+	37	20%	24	12%	20	8%	81	13%
Total	189	100%	194	100%	239	100%	622	100%

Source: Rhode Island Commerce Corporation

The bulk of Wavemaker fellowship awardees earn an income between \$50,000 and \$74,999, accounting for 47% of all awardees regardless of certification year. The income range with the next largest share of awardees is \$75,000 to \$99,999, making up 28% of awardees. Only 12% of

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awardees earn an income less than \$50,000, while 13% of awardees earn \$100,000 or more. Generally, the breakdown of awardees among the salary ranges is very similar across all three certification years, with 70 to 80% of awardees earning between \$50,000 and \$99,999 in all certification years. According to the U.S. Census Bureau, 2014-2018 American Community Survey 5-year estimates, the average household income in Rhode Island was \$63,296 in 2018.

- “Stay Invested in RI Wavemaker Fellowship” Taxpayer Recipient Characteristics

Awardees of the Wavemaker Fellowship must maintain eligibility in order to take advantage of the tax credit/refund the program awards and not all eligible awardees choose to use the tax credit/refund. ORA divided the data provided by the Division of Taxation into groupings based on recipient characteristics in order to draw comparisons and demonstrate the diversity of the fellowship awardees. In total, 150 recipients used the tax credit/refund in 2017 and 219 used the tax credit/refund in 2018. There were no program recipients in tax year 2016. In addition, the Division of Taxation is unable to disclose the number of tax credit recipients and refund recipients separately due to taxpayer confidentiality reasons.

“Stay Invested in RI Wavemaker Fellowship”
Descriptive Statistics: Recipient of Credit/Refund by Degree
(Tax Years 2017 and 2018)

Degree Level	TY 2017 Tax Credit	TY 2017 Refund	TY 2018 Tax Credit	TY 2018 Refund
Associate	4.5%	1.5%	5.7%	1.5%
Bachelor’s	31.8%	52.9%	45.7%	52.0%
Master’s or above	63.6%	45.6%	48.6%	46.5%
Total Recipients	158		237	

Source: Division of Taxation

Of the 158 awardees of the “Stay Invested in RI Wavemaker Fellowship” who received a credit or refund in 2017, the majority had either a bachelor’s or master’s or higher degree. Of recipients who took a tax credit, 63.6% had a master’s or higher degree and 31.8% had a bachelor’s degree. In contrast, of the recipients who took a refund in 2017, 45.6% had a master’s or higher degree and 52.9% held a bachelor’s degree. In 2018, 48.6% of recipients who received a tax credit had a master’s or higher degree and 45.7% had a bachelor’s degree while 46.5% of recipients who received a refund had a master’s or higher degree and 52.0% had a bachelor’s degree.

“Stay Invested in RI Wavemaker Fellowship”
Descriptive Statistics: Recipient of Credit/Refund by Work-Field
 (Tax Years 2017 and 2018)

Work-Field	TY 2017 Tax Credit	TY 2017 Refund	TY 2018 Tax Credit	TY 2018 Refund
Advanced Mathematics or Finance	3.6%	13.5%	8.7%	12.5%
Computer, information or software technology	21.4%	26.5%	32.6%	26.6%
Engineering	21.4%	21.8%	19.6%	27.4%
Healthcare	10.7%	2.9%	2.2%	1.5%
Industrial design or Other commercially related design field	3.6%	10.0%	4.3%	7.6%
Life, natural or environmental sciences	10.7%	12.9%	8.7%	11.0%
Medicine or medical device technology	25.0%	12.4%	21.7%	12.9%
Other	3.6%	0.0%	2.2%	0.4%
Total Recipients*		158		237

Source: Division of Taxation

Note:

* While some recipients reported multiple work-fields, this number represents the number of distinct recipients.

Of the 158 fellows who received a tax credit in 2017, one quarter worked in the medicine or medical device technology field. The computer, information or software technology work-field and engineering work-field each account for 21.4% of tax credit recipients in 2017. The remaining 32.1% of recipients were distributed unevenly among the other five work-field categories. The computer, information or software technology and engineering fields captured a large share of refund recipients in 2017, with 26.5% and 21.8% respectively. However, the medicine or medical device technology field accounted for only 12.4% of refund recipients in 2017. The same work-fields made up the bulk of recipients work-fields in 2018. This is in line with what is defined under R.I. Gen. Laws § 42-64.26-3(8)(ii), which states that applicants to this program should work in one or more of the following covered fields: life, natural or environmental sciences; computer, information or software technology; advanced mathematics or finance; engineering; industrial design or other commercially related design field; or medicine or medical device technology.

“Stay Invested in RI Wavemaker Fellowship”
Descriptive Statistics: Recipient of Credit/Refund by Employer Industry
 (Tax Years 2017 and 2018)

Employer Industry	TY 2017 Tax Credit	TY 2017 Refund	TY 2018 Tax Credit	TY 2018 Refund
Advanced Business Services	8.7%	24.8%	10.3%	18.8%
Arts, Education, Hospitality & Tourism	13.0%	3.4%	7.7%	3.2%
Biomedical Innovation	8.7%	10.3%	15.4%	9.6%
Construction	0.0%	3.4%	0.0%	0.9%
Defense, Shipbuilding, Maritime	17.4%	7.6%	23.1%	15.1%
Design, Food, Custom Manufacturing	8.7%	13.1%	5.1%	15.1%
Engineering	0.0%	1.4%	2.6%	4.1%
Environmental Sciences	0.0%	4.1%	0.0%	3.2%
Healthcare	34.8%	14.5%	17.9%	9.6%
IT, Cyber, Data Analytics	8.7%	10.3%	15.4%	13.3%
Miscellaneous Manufacturing	0.0%	1.4%	0.0%	2.8%
Transportation, Distribution & Logistics	0.0%	3.4%	2.6%	2.3%
Other	0.0%	2.1%	0.0%	1.8%
Total Recipients		158		237

Source: Division of Taxation

The industry of the employers shows a somewhat different breakdown than the work-field, with healthcare accounting for 34.8% of credit recipient in 2017 and 17.9% of tax credit recipients in 2018. The defense, shipbuilding, maritime and arts, education, hospitality and tourism industries accounted for 17.4% and 13.0%, respectively, of tax credit awardees in 2017. In comparison, these figures were 23.1% and 7.7%, respectively, for tax credit recipients in 2018. The employer industry of refund recipients in both 2017 and 2018 were more diverse, with advanced business services capturing the largest share of awardees in both years, at 24.8% and 18.8% respectively.

“Stay Invested in RI Wavemaker Fellowship”
Descriptive Statistics: Recipient of Credit/Refund by Salary Range
 (Tax Years 2017 and 2018)

Salary Range	TY 2017 Tax Credit	TY 2017 Refund	TY 2018 Tax Credit	TY 2018 Refund
Not Listed	0.0%	1.5%	2.9%	0.5%
\$0-\$34,999	0.0%	0.0%	0.0%	1.5%
\$35,000-\$49,999	9.1%	10.3%	5.7%	8.0%
\$50,000-\$74,999	13.6%	39.0%	37.1%	38.6%
\$75,000-\$99,999	40.9%	31.6%	28.6%	35.1%
\$100,000+	36.4%	17.6%	25.7%	16.3%
Total Recipients		158		237

Source: Division of Taxation.

In 2018, the median household income in Rhode Island was \$63,296 according to the U.S. Census Bureau, 2014-2018 American Community Survey 5-year estimates. Most credit recipients in 2017

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earned an income above the median household income, with 40.9% earning between \$75,000 and \$99,999 and 36.4% earning more than \$100,000. Refund recipients in 2017 were closer to the median household salary with 39.0% earning between \$50,000 and \$74,999 and 31.6% earning between \$75,000 and \$99,999. The breakdown of credit and refund recipients in 2018 was very similar, with the largest share of recipients in each category earning between \$50,000 and \$74,999 and the next largest portion earning between \$75,000 and \$99,999.

“Stay Invested in RI Wavemaker Fellowship”
Descriptive Statistics: Recipient Wages
(Tax Years 2017 and 2018)

Metric	TY 2017	TY 2018
Number of Fellows *	154	233
Sum of Wages	\$10,803,330	\$17,902,555
Average Wage	\$70,152	\$76,835

Source: Division of Taxation

Note:

* The number of fellows is slightly different from what was reported before because the two recipients with the highest and the two with the lowest wages were removed from this analysis.

The average wage earned by Wavemaker recipients, excluding the two recipients with the highest wages and the two recipients with the lowest wage, was \$70,152 in tax year 2017 and \$76,835 in tax year 2018. The average wage earned by Wavemaker recipients was 138.9% of the median earnings for full-time, year-round workers with earnings in Rhode Island in 2017 and 148.1% of the median earnings for full-time, year-round workers with earnings in 2018. The median earnings for full-time, year-round workers with earnings in Rhode Island was \$50,510 in 2017 and \$51,893 in 2018, according to the U.S. Census Bureau, 2013-2017 and 2014-2018 American Community Surveys 5-year estimates,

Part IV: Evaluation of the Economic Impact of the Tax Credit

This section of the report addresses two major objectives defined in R.I. Gen. Laws § 44-48.2-5: first, to provide a projection of the potential impact of the “Stay Invested in RI Wavemaker Fellowship” on state revenues from projected future use and carryforward; and, second, to produce a breakeven cost-benefit analysis that can determine the net impact on state revenues resulting from the tax incentive.

1. Assessment and Five-Year Projection of Revenue

Current law includes a sunset of the Wavemaker fellowship program, stating that no new credits can be authorized after December 31, 2020. However, it is anticipated that credit/refund usage activity will continue beyond this date as unused credit/refund amounts can be carried forward for an additional four years to be applied against future tax liabilities.

To construct a projected schedule of this tax incentive, ORA assumed that Wavemaker Fellowship program usage will follow historical usage patterns. The total amount of this tax incentive increased by \$315,467 in tax year 2018. ORA assumed that credit/refund usage in tax years 2019 and 2020 will increase by the same amount resulting in \$1,217,860 (e.g., \$902,393 + \$315,467) and \$1,533,327 (e.g., \$1,217,860 + \$315,467), respectively. Tax year 2021 is also assumed to increase by the same amount; however, individuals who received this tax incentive in 2017 will have completed the 4-year program in tax year 2020. Therefore, the tax incentive amount associated with the 2017 cohorts was subtracted from the tax year 2020 figure, in addition to the assumed increase, to result in a 2021 figure of \$1,261,868 (e.g., \$1,533,327 + \$315,467 - \$586,926). Similarly, in the following years ORA subtracted the \$315,467 associated with the subsequent cohorts using the tax incentive. This calculation resulted in projected credit/refund of \$946,401 (e.g., \$1,261,868 - \$315,467) for tax year 2022 and \$630,934 (e.g., \$946,401 - \$315,467) for tax year 2023.

The following table provides the distribution of the anticipated amount of the tax incentive to be used in each tax year.

“Stay Invested in RI Wavemaker Fellowship” Revenue Forgone Projections

Tax Year	Credit Amount	Refund Amount	Total Amount
2017	\$72,516	\$514,410	\$586,926
2018	\$97,208	\$805,185	\$902,393
2019*	\$121,900	\$1,095,960	\$1,217,860
2020*	\$146,592	\$1,386,735	\$1,533,327
2021*	\$98,768	\$1,163,100	\$1,261,868
2022*	\$74,076	\$872,325	\$946,401
2023*	\$49,384	\$581,550	\$630,934

Source: ORA calculations based on data provided by the Division of Taxation

Notes:

* Projected years.

The most recent two years of historical data included in the calculation are tax years 2017 and 2018.

2. “Breakeven” Cost-Benefit Analysis

- *Introduction to “Breakeven” Cost-Benefit Analysis Methodology*

Pursuant to R.I. Gen. Laws § 44-48.2-5(6), ORA conducted a “breakeven” cost-benefit analysis to measure the fiscal impacts on the state economy resulting from the Wavemaker Fellowship program under a variety of assumptions. To provide additional insight, ORA also produced breakeven analyses with respect to employment and Rhode Island gross domestic product (GDP).

To execute these cost-benefit analyses, ORA utilized Regional Economic Models, Incorporated’s (REMI) 70-sector model of the Rhode Island economy via the REMI Tax-PI software platform to produce estimates of the total economic effects of the tax credits issued in tax years 2016 through 2018.⁵ The dynamic capabilities of the REMI Tax-PI model allows one to estimate the impacts of exogenous shocks to the state’s economy, including changes to public policy, shifts in consumer behavior and demand, and developments in industry. The REMI Tax-PI operationalizes these insights by augmenting REMI’s base economic and demographic model, PI+, with a module that allows the user to enter a state’s customized budget, in order to run fiscal and economic forecasts. Specifically, for each budget item, one can choose an “Indicator”, which is the economic or demographic driver of that budget item (e.g., personal income for personal income tax revenue, or age 5-18 population for K-12 education spending), and a “Policy Variable”, which is the economic or demographic change associated with a change to the structure of that budget item (e.g., a change in consumer prices for a change in the sales tax).

The analysis is based on self-reported individual-level data provided by CommerceRI, the Division of Taxation and publicly available historical data on the regional and national economies. Direct benefits are input into the REMI model as policy variables simulating changes in industry sales, exogenous final demand, employment, and compensation or wages. ORA assigned these benefits to a profile of sectors among the 70 sectors available in the REMI Tax-PI model in proportion with the TY 2018 Wavemaker tax incentive amount of \$902,393.

The “breakeven” approach developed for this report allows a reader to assume that the Wavemaker program leveraged some degree of economic activity required by program recipients to take this benefit. This assumption means that a varying portion of the economic activity required of these recipients would not have occurred in the absence of the tax incentive. Under this assumption, recipients made certain decisions based on the availability of an incentive over a period of time and removal of that tax benefit in a given year would undo all such decisions.

- *Modeling Costs*

ORA assumed that the tax incentive is funded by an equivalent reduction in state government spending – that is, when the state government forgoes revenue by allowing a Wavemaker Fellowship tax credit/refund, there are fewer funds available for other spending priorities. ORA modeled these adjustments based on a comprehensive historical analysis of Rhode Island general fund expenditures for fiscal year 2018, which represent the most recent expenditure data at the time of the analysis. ORA compiled all state general fund expenditures and assumed that the level

⁵ Detailed documentation on the REMI Tax-PI v2.3.1 model employed in this analysis is available at: <http://www.remi.com/resources/documentation>

of these expenditures could be adjusted to maintain a balanced general fund budget. The breakdown of general fund expenditures by category is shown in the following table:

Rhode Island General Fund Expenditures by NAICS

(Fiscal Year 2018)

Industry Description	NAICS Code	Percent of Total
Ambulatory Healthcare Services	621	32.1%
Educational Services	61	30.5%
State Wages, Salary, and other Compensation	n/a (entered as “state/local govt. compensation” and “employment”)	25.6%
Social Assistance	624	2.9%
Local Government Spending	n/a (entered as “local government spending”)	2.9%
Professional, Scientific, and Technical Services	54	1.4%
Administrative and Support Services	561	1.5%
Wholesale Trade	42	0.6%
Remaining/Other	19 additional industries, and also non-residential capital investment	2.6%
Total:		100.0%

Source: ORA analysis of Rhode Island general fund expenditure data.

In addition, ORA decomposed the FY 2018 general fund expenditures data to look at spending by each state government agency, then ORA combined these agencies into different groups based on their functions and duties. The following table describes this breakdown:

Rhode Island General Fund Expenditures by Agency Groups

(Fiscal Year 2018)

Agency Groups *	Percent of Total
Behavioral Health and State Hospitals	5.15%
Children, Youth and Families	4.94%
Corrections	1.81%
Courts	0.69%
Economic Development	1.52%
Elected Officials	0.46%
Environment	0.45%
General Government	2.31%
Health and Human Services (Non-Medicaid)	2.78%
Health Care Services (Medicaid)	37.78%
Higher Education	2.72%
Other	0.10%
Elementary and Secondary Education	38.80%
Public Safety	0.50%
Grand Total	100.00%

Source: ORA analysis of Rhode Island general fund expenditure data.

Note:

*Breakdown of these groups can be found in Appendix C.

- Modeling Benefits

To model the benefits of the Wavemaker Fellowship program, ORA examined the intended purpose and goals defined in the program’s governing statute. When doing so, the objective of this program appeared to be twofold: on one hand, the availability of this tax benefit would offset the cost of higher education to make it more affordable. For example, the Wavemaker Fellowship amount ranges between \$1,000 and \$6,000 a year and takes the form of a tax credit that could be applied against a taxpayer’s liability, or a tax refund that could be cashed out. Therefore, the program recipients would have lower student loan debts in comparison to their peers. On the other hand, the availability of this tax benefit would attract more and higher-paying jobs to the state in the science, technology, engineering and math (STEM) fields.

To address the program’s objectives, ORA modeled this tax benefit as a commensurate increase in industry employment and a decrease in personal income taxes. In the REMI model, an “Industry Employment (Exogenous Production)” policy variable affects the industries that provide the goods or services demanded. This policy variable assumes that employment is related to exogenous sources of demand, thus, the employment loss/gain will not be offset by local firms. In the case of the Wavemaker Fellowship program, this policy variable assumes that the program recipients represent new net jobs to Rhode Island economy. With respect to “Personal Taxes”, this policy variable models changes in total personal income taxes of taxpayers and assumes that lowering personal taxes raises disposable income, which in turn results in higher consumption spending and higher government revenues.

To apply the changes in industry employment discussed above, ORA selected the “Professional, Scientific and Technical Services” sector (NAICS 54) in the REMI Tax-PI model. This sector represents a broad category inclusive of all the STEM fields defined in R.I. Gen. Laws § 42-64.26-

3(8)(ii). It is possible that this sector may include some fields that are not related to those defined in the law, however, it is found to be the most suitable option for capturing STEM-related fields in the REMI analysis.⁶

Finally, it is difficult to infer what percentage of the Wavemaker fellowship program resulted in bringing new net jobs to the state and what percentage resulted in lowering personal income taxes for the program recipients. For this reason, ORA ran different simulation scenarios varying the percentages of these benefits.

- *The “Breakeven” Approach*

A fundamental challenge in evaluating economic development incentives is determining the extent to which an incentive stimulated or attracted new economic activity rather than subsidized economic activity that would have been largely present even in the absence of the incentive. In the case of the Wavemaker Fellowship program, it is difficult to determine how much the program affects an individual’s decision to work in Rhode Island. In fact, it is not unreasonable to think that this tax incentive is large enough to impact such a decision, given the maximum credit/refund allowed over a 4-year period. However, it is also possible that an individual had already decided to work in Rhode Island and therefore, this tax incentive may have simply rewarded or subsidized behavior that likely would have occurred anyway. Real world conditions often make it difficult or impossible for an evaluator to assess where on this continuum the impact of any given tax incentive falls.

In this context, ORA conducted a breakeven analysis. This analysis allows for the evaluation of an incentive program’s performance under a wide range of assumptions regarding the level of economic activity that would have taken place if the program had not been available. Furthermore, the breakeven analysis specifies the proportion of economic activity associated with the incentive program recipients that one must assume to have been attributable to the incentive program in order for the total benefits to equal its total costs, where benefits and costs are measured as the impact on state general revenues (i.e., the condition that must be satisfied for the incentive program to “pay for itself”).

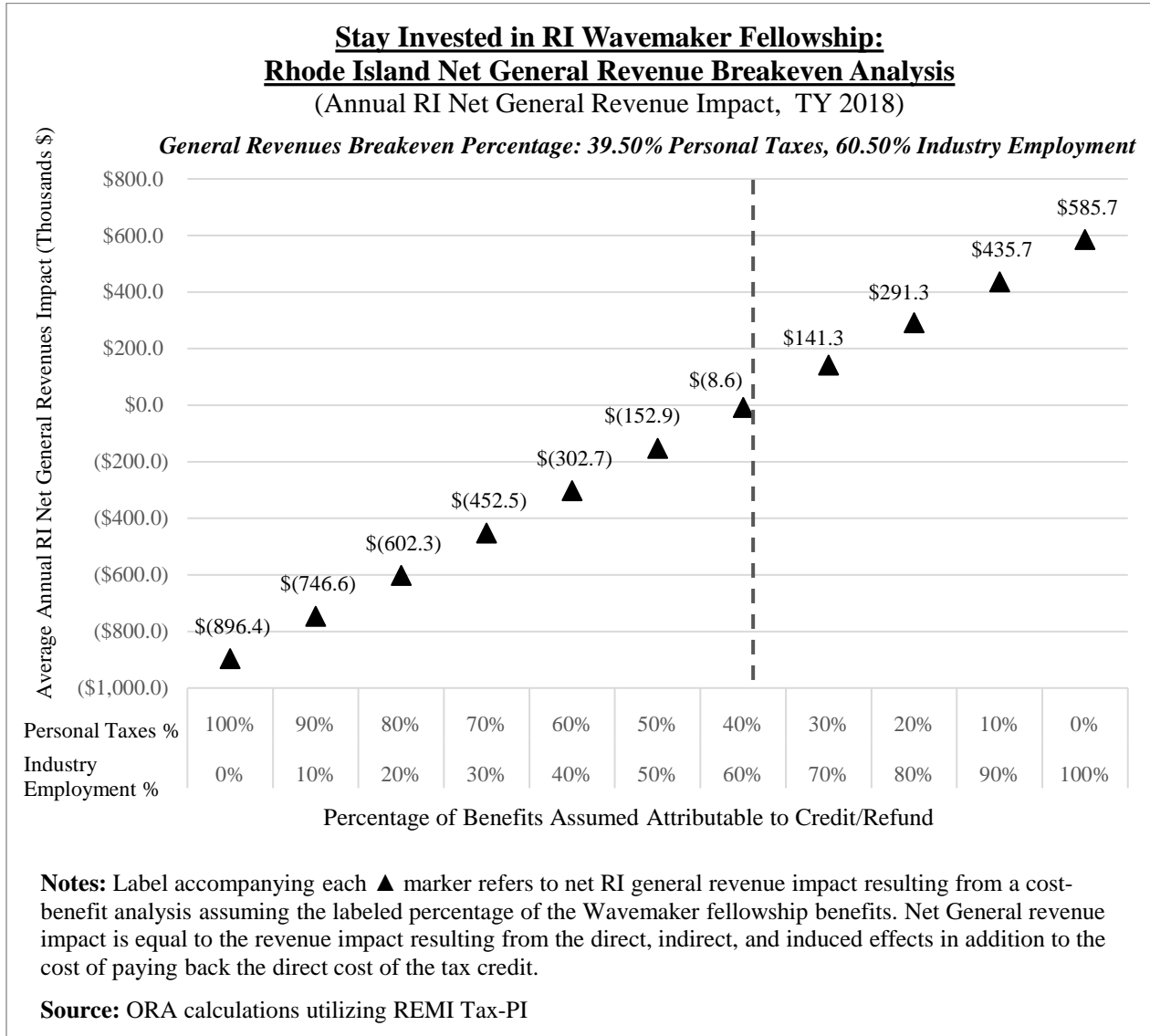
The breakeven percentage should be interpreted as follows: if the reader believes the assumption to be plausible, that at least the amount of economic activity implied by the breakeven percentage can be attributed to the availability of the tax incentive, then one can infer that the incentive has a net positive impact on state general revenues. In the opposite case, if the reader believes that the amount of economic activity attributable to the tax incentive was less than the level implied by the breakeven percentage, then one can infer that the incentive had a net negative impact on state general revenues. Holding other factors equal, a lower breakeven percentage is more desirable than a higher breakeven percentage if the goal of an incentive program is to cost the state as little revenue as possible. A tax incentive program fails to breakeven when the breakeven percentage is greater than 100 percent. This implies that even if 100 percent of the economic activity associated

⁶ A detailed breakdown of the “Professional, Scientific, and Technical Services” NAICS (54) sector is provided in Appendix D.

Stay Invested in RI Wavemaker Fellowship

with the incentive recipient was assumed to have taken place strictly because of the incentive’s availability, a net negative impact on state general revenues would have resulted.

The following chart provides results of the breakeven analysis with respect to Rhode Island general revenues:



The chart suggests that the program breaks even with respect to state net general revenues if 60.50 percent of the Wavemaker fellowship recipients were assumed to work in Rhode Island only because of this tax incentive and 39.50 percent of them were already embedded in the state economy but benefited from the decrease in personal income taxes.

Note that, as the assumed percentage of industry employment benefits increases and the assumed percentage of personal taxes benefits decreases, the net revenue impact becomes higher. However, when these two benefits switch directions, the net revenue impact decreases. This suggests that

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increasing employment in the “Professional, Scientific, and Technical Services” industry has more impact on the state economy than lowering personal income taxes.

The following table provides more detailed information regarding the state general revenue impact breakdown:

<u>"Stay Invested in RI Wavemaker Fellowship"</u>			
<u>Detailed Net Revenue Impacts</u>			
(Annual Rhode Island Net General Revenue Impact, TY 2018)			
Assumed % of “Industry Employment”	100%	50%	0%
Assumed % of “Personal Taxes”	0%	50%	100%
Forgone Revenue Due to Credit	\$(902,393)	\$(902,393)	\$(902,393)
Total General Revenue Generated by Credit	\$1,488,131	\$749,466	\$5,971
<u>Total General Revenue Generated by Component</u>			
Personal Income Tax	\$595,118	\$294,741	\$(7,597)
General Business Taxes	197,469	100,348	2,514
Sales and Use Taxes	543,012	278,863	12,952
Other Taxes	26,535	13,149	(323)
Total Departmental Receipts	61,805	30,592	(772)
Other Sources	64,191	31,773	(802)
<u>Net General Revenue, After Paying for Credit</u>	\$585,737	\$(152,927)	\$(896,422)
Revenues Generated for Every \$1 of Credit	\$1.65	\$0.83	\$0.01

Source: ORA calculations based on historical Rhode Island revenue amounts and REMI Tax-PI simulations.

The table shows the detailed revenue impacts under three different scenarios. The “most favorable” scenario is when 100.0 percent of the Wavemaker Fellowship recipients took a job in Rhode Island only because of this tax incentive. This scenario generated a total of \$585,737 of net general revenues, which incorporates the average credit amount of \$902,393. Expressed another way, under this scenario, for every dollar spent on the Wavemaker program, the state generates \$1.65 of revenues. This payback ratio shows that new revenues generated from the Wavemaker-incentivized activity exceed the total costs of the Wavemaker program and add a new net positive revenue amount to the state under the assumption that all Wavemaker recipients would not work in Rhode Island if not for the availability of the tax incentive.

The table also shows the detailed revenue impacts under the “least favorable” scenario where the tax incentive resulted in lowering personal income taxes for all program recipients but did not generate any new employment to the state. Under this scenario, Rhode Island gives up \$902,393 in revenues on the Wavemaker Fellowship program and receives \$5,971 of new revenues in return, equal to an annual net loss of \$896,422 in net general revenues. In this case, for every dollar spent on the Wavemaker program, the state generates only one cent of revenues in return.

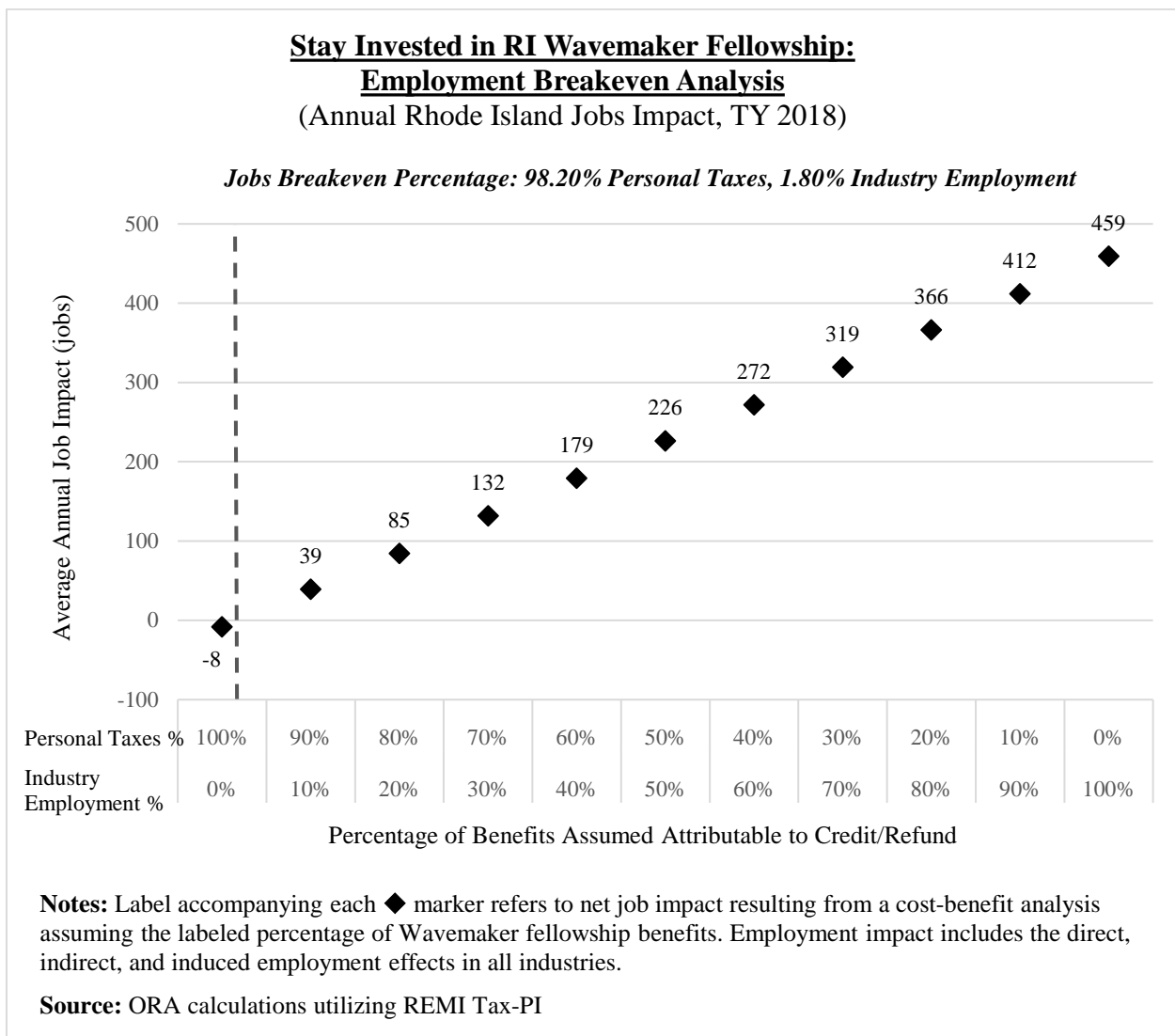
In addition to these two extreme cases, the table provides a mid-point scenario. In this case, 50.0 percent of the Wavemaker fellowship recipients were assumed to work in Rhode Island only because of this tax incentive and 50.0 percent of them were already embedded in the state economy but benefited from the decrease in personal income taxes. Under this scenario, the generated net

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revenue is a loss of \$152,927. The calculated payback ratio in this case is \$0.83 for every dollar spent on the program. ORA examined additional possible scenarios varying the percentages of benefits assumed attributable to the tax incentive. Results of these analyses are provided in appendix E.

The breakeven framework can also be extended to employment and RI GDP. In these contexts, the breakeven percentage can be interpreted as the percentage of economic activity associated with Wavemaker-recipients assumed to be attributable to the availability of the tax incentive necessary for the increase in employment and GDP resulting from new economic activity to outweigh the employment or GDP losses resulting in the reduction in government spending necessary to fund the credit.

The following chart shows the results of a breakeven analysis with respect to employment.



The employment breakeven percentages imply that the Wavemaker Fellowship has a net positive impact on Rhode Island employment if at least 1.80 percent of the program was associated with

Part V: Discussion and Recommendations

1. Statement by the CEO of the Commerce Corporation

The Secretary of Commerce, who serves as Chief Executive Officer of the Rhode Island Commerce Corporation pursuant to R.I. Gen. Laws 42-64-1.1(b), provided the following statement pursuant to R.I. Gen. Laws § 44-48.2-5(a)(6)(iii):

Statement from the CEO of the Commerce Corporation:

Growing Rhode Island’s skilled and educated workforce and incentivizing growth of STEM industries are key components of our economic strategy. The Stay Invested in R.I. Wavemaker Fellowship (Wavemaker) is designed to help grow and retain Rhode Island’s high-tech, high-skilled workforce by offering individual employees a financial incentive that offsets student loan costs. And the program is fulfilling its critical purpose.

While R.I. Gen. Laws § 44-48.2-3 includes Wavemaker (R.I. Gen. Laws Chapter 42-64.26) on its list of tax incentives that require evaluation by ORA, Wavemaker differs from other programs that require evaluation as it is also a benefit directed to workers in Rhode Island. Unlike other economic development programs, Wavemaker does not operate simply as a traditional business incentive tool or as a traditional individual benefit. Wavemaker is a unique tool designed to attract and retain talent in order to keep Rhode Island strong, benefiting employees directly and business indirectly

While other incentive programs can be evaluated to determine whether they directly encourage businesses to locate, hire employees, expand, invest, and/or remain in the state, as described in the Incentives Evaluation Act’s legislative findings and purposes (R.I. Gen. Laws § 44-48.2-2), Wavemaker is different in its approach. Wavemaker was built in response to Rhode Island companies seeking tools to attract and retain a highly educated and highly skilled workforce. It provides an incentive to employees by defraying student loan costs, creating the pool of talent companies need to grow and remain strong. Further, the Wavemaker application process is employer-blind, preventing analysis of the program through the lens of “recruitment or retention of businesses in the state of Rhode Island.”

This report provides useful contextual data on the existing landscape for student loan debt in Rhode Island, among neighboring states, and across the country; includes an accurate breakdown of awardees by educational level, work-field, industry, and salary level; and incorporates an excellent overview of awardees by employer and city in Appendix B, which underscores the broad reach of Wavemaker program. However, as Wavemaker cannot be evaluated to determine whether it encourages businesses to stay or grow in Rhode Island, we do not think the cost-benefit analysis applied in this evaluation is able to fully analyze whether Wavemaker has fulfilled its goals and intended purpose. Additionally, viewing the program through a tax policy equity lens does not directly speak to whether the program fulfills its intended purpose. This incentive is limited, competitive, industry specific, and selection is name- and employer-blind. It should be noted that we believe there should be a multitude of tools to benefit Rhode Island workers, especially those burdened with financial aid costs. While equity of tax policy is an

important objective, this limited program is not the only tool for accomplishing a more level tax burden. The degree of achieving horizontal and vertical tax equity, while important, does not measure whether this program is fulfilling its goals and intended purpose.

With that being said, we do find significant value in this report and its recommendations, including the suggestions to designate work fields by NAICS codes to better evaluate the program; to embed additional analysis within the program about how awards under the Wavemaker program attract and retain talent long-term; and to gather additional data on earned wages within the application process. We also support additional ways to ensure the diversity of the applicant pool and to enable a diversity of Rhode Island STEM professionals to have access to these competitive funds.

Additionally, through the Governor's FY 2021 budget, we have asked the General Assembly to consider amendments to the Wavemaker program. These amendments would expand the program to include STEM teachers as well as make minor modifications to ease the administrative burden existing in the program's current formulation.

Commerce believes that a thriving, highly skilled STEM workforce is central to Rhode Island's economic growth. The Wavemaker fellowship program is very effectively supporting and growing Rhode Island's STEM workforce in fulfillment of the program's important mission.

2. ORA Recommendations

Finding #1: The Wavemaker fellowship application form provides a breakdown of the applicants work fields by economic industries, however this breakdown does not follow the North American Industry Classification System (NAICS). While this industry breakdown may be suitable for statutory compliance, it is not specific enough for facilitating the economic analysis of the program.

Related Recommendations:

- The program recipients work fields should be designated based on the North American Industry Classification System in order to help evaluators conduct a detailed economic analysis.

Discussion Supporting Finding #1:

ORA received all the Wavemaker Fellowship application forms for calendar years 2016 through 2018 from the Rhode Island Commerce Corporation. These forms capture a considerable amount of information regarding each program applicant and their employers, which is suitable to demonstrate compliance with Wavemaker Fellowship eligibility criteria. One piece of information of interest for the current analysis was the work fields of the tax incentive recipients. ORA examined this data and attempted to match each credit recipient to the corresponding industry code according to the North American Industry Classification System (NAICS) when modeling the benefits of this program in the REMI Tax-PI model. However, the industry description on the

application forms was not clear enough for this type of breakdown as it did not indicate specific NAICS-based sectors or codes. Therefore, ORA was unable to allocate the number of program recipients across different industries in the REMI model. Instead, given that the Wavemaker Fellowship program is targeting the science, technology, engineering and math (STEM) fields, ORA selected the “Professional, Scientific and Technical Services” sector (NAICS 54) to represent a broad category inclusive of all these fields. ORA cautions that the results of the breakeven analysis presented in this report are particularly dependent on this assumption. A list of subsectors contained in this sector is provided in the appendix for further details.

Finding #2: The majority of Wavemaker Fellowship recipients are found to have high salaries.

Related Recommendations:

- The statutory goals of the program aim to increase the net compensation of individuals to make jobs located in Rhode Island more competitive on an after-tax basis with higher paying jobs located elsewhere in the region.
- The program, by design, benefits those persons who work in Rhode Island in specific high-wage occupations and who have student loan debt, for a maximum of four years. Modifying the program by adjusting the amount of the Wavemaker Fellowship grant based on an applicant’s income could allow the program to be expanded to more applicants in the STEM fields or to other occupations outside of the STEM fields thereby raising the after-tax income of more workers.

Discussion Supporting Finding #2:

The statutory goals and objectives of the program do not provide any explicit income limit on program recipients making this tax incentive open to all income ranges. However, ORA examined income information of the Wavemaker Fellowship recipients provided by the Division of Taxation. As indicated in the “Additional Data Analysis” section, this data revealed that most recipients earned an income above the 2018 Rhode Island median earnings for full time, year-round workers with earnings as reported by the U.S. Census Bureau ACS 5-year estimates. This is not surprising since R.I. Gen. Laws § 42-64.26-3(8)(ii) explicitly states that the program applicant must be a full-time employee working in one of the STEM fields, which usually are high paying jobs. While this may satisfy the objective to “bring more and higher-paying jobs to this state by increasing the skill level of this state’s workforce”, it may not help relieve student loan debts for individuals in other

less well remunerated occupations. Policymakers need to reconsider the program's parameters and probably prioritize low income earners when deciding on the program eligibility.

Finding #3: The cost of administration represents a significant portion of the tax benefit delivered to taxpayers.

Related Recommendations:

- ORA recommends altering the Wavemaker Fellowship program statute to reduce the relatively high cost of administration and allocate more funds to program participants.

Discussion Supporting Finding #3:

A best practice of tax incentive design is to minimize its cost of administration. The TY 2018 annual revenue forgone as a result of the “Stay Invested in Rhode Island Wavemaker Fellowship” program was \$902,393. The TY 2018 annual cost of administration reported by the Division of Taxation and Commerce Corporation over this same time period was \$133,697. Therefore, the cost to administer the program represents 13.0 percent of the total cost to the state, Wavemaker Fellowship awards plus program administration, of \$1,036,090.

The significant amount of administrative cost of the Wavemaker Fellowship program may be because the program is demanding to administer given the large volume of applicants attempting to secure the tax incentive. Streamlining the application and approval process should be undertaken to reduce the administrative cost of the program. Policymakers should minimize the cost of the administration in order to ensure program efficiency, provided that one of the goals and objectives of the program is to reduce bureaucracy as much as possible.

Finding #4: It is unknown how much new net employment is attributable to the Wavemaker fellowship program.

Related Recommendations:

- Producing a more rigorous analysis than what is contained in this report would require incorporating some elements of “but for” due diligence into the application process.

Discussion Supporting Finding #4:

It is difficult to determine with certainty the portion of Wavemaker Fellowship program recipients who made the decision to work in Rhode Island because of the availability of this tax incentive. Thus, when evaluating this program's benefits, ORA provided a variety of scenarios displaying possible economic and fiscal outcomes using different employment assumptions.

To help overcome this challenge, ORA recommends incorporating some level of ‘but for’ due diligence into the application process. For example, applicants of the Wavemaker Fellowship should be required to commit to working in Rhode Island for a specific time period in order to receive this tax benefit. This approach would demonstrate that the program recipients are not provided tax benefits for engaging in an activity that they would have done absent the incentive.

Policymakers should not consider the “but for” as a hurdle to this program. Instead, the “but for” is a diligent effort to limit subsidies given to individuals that would have taken a job in Rhode Island without any government support as much as possible.

Finding #5: The Wavemaker fellowship application form provides wage ranges of the program’s applicants. However, this information is insufficient for purposes of tax incentive evaluation.

Related Recommendations:

- Applicants to the Wavemaker Fellowship program should be required to indicate their earned wage on the program’s application form.

Discussion Supporting Finding #5:

The application form provides important Wavemaker Fellowship individual level data. However, a simple modification to the application form is changing the wage range field to a field where the Wavemaker fellows can indicate their earned wage. Absent the actual wages earned by the Wavemaker Fellowship recipient, it is not possible to determine, for example, the compensation of these recipients relative to the state minimum wage, a common requirement in other tax incentive programs.

Based on wage data provided by the Division of Taxation, the average wage made by Wavemaker Fellowship recipient in TY 2018 was \$76,835 which is 148.1% of the median earnings for full-time, year-round workers with earnings in 2018. This difference in wages has the potential to significantly impact the economic and fiscal outcomes of the analysis. Therefore, ORA recommends that future program applicants should specify their wages in order to conduct a precise analysis.

3. ORA Conclusion and Overall Recommendation

R.I. Gen. Laws § 44-48.2-5(a) (11) requires the Office of Revenue analysis to make a recommendation “as to whether the tax incentive should be continued, modified, or terminated.” The Office of Revenue Analysis recommends that the Stay Invested in RI Wavemaker Fellowship be retained at this time but that adjustments be made in accordance with the recommendations described in the previous section. In addition, ORA warns that the net positive impact of the Stay Invested in RI Wavemaker Fellowship program is heavily dependent on the industry sector in which the qualifying jobs are located. Expansion of the program to industry sectors with lower paying jobs will likely diminish the effectiveness of the program.

It is important to recognize, however, that the Stay Invested in RI Wavemaker Fellowship program as it is currently constituted conflicts with the good tax policy principals of horizontal and vertical equity in the treatment of program participants. The conflict with the principle of vertical equity resides in the fact that the Wavemaker Fellowship program effectively reduces the student loan burden of those individuals who can most afford to pay their student loan debts given their employment in high paying jobs. For example, a Wavemaker Fellow who earns \$150,000 per year


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receives the same tax benefit as one who earns \$50,000 per year even though the higher earning Fellow has a greater financial capability to make student loan payments. One possible reform that could be made to the program would be to phase out the amount of the Wavemaker fellowship at incomes above a certain level. For illustrative purposes, a reduction in the Wavemaker fellowship amount of say, \$50 for every \$1,000 above \$100,000 in earnings would reduce the Wavemaker fellowship for the \$150,000 earner to \$1,500 (assuming the student loan debt was incurred for a bachelor's degree) freeing up resources that could be used to fund other Wavemaker fellows.

The conflict with the principle of horizontal equity results from the fact that, as devised, the Stay Invested in RI Wavemaker Fellowship program treats similarly situated taxpayers, those with the same income, potentially the same title, and same student loan debt burden who may work at the same company, differently based on whether they are a Wavemaker fellow recipient or not. For example, two senior software engineers that each earn \$80,000 a year and each of whom have \$25,000 in student loan debt, will have very different tax burdens, with the senior software engineer who is a Wavemaker fellow having a tax burden up to \$4,000 less (assuming the student loan debt was incurred for a bachelor's degree) than the senior software engineer that is not a Wavemaker fellow. One possible solution to this inequity would be to make the Stay Invested in RI Wavemaker Fellowship a by right benefit and not one that an eligible person must apply and be approved for.

APPENDICES

Appendix A: 2019 Wavemaker Fellowship Program Application, Employer Endorsement Form



**2019 Wavemaker Fellowship Program Application
Employer Endorsement Form**

Applicants: Please have this form completed by your immediate supervisor to certify your current employment status at your company, performing work in a qualifying job field.

Employers: Please complete this form in its entirety to certify that you support your employee's application to the Wavemaker Fellowship Program. Questions? Email wavemaker@commerceri.com

Wavemaker Fellowship Applicant Information:

1. Applicant Legal Name:
2. Applicant Job Title:
3. Is this position considered a senior-level position at your company? Yes No
4. Does this position require specific skills/competencies that make it a 'difficult to fill' position at your company? Yes No
5. Does the applicant work at least 35 hours/week, with wages subject to state tax withholding? Yes No
6. Is the applicant the owner or sole proprietor of this company?: Yes No
Note: Additional documentation may be required if the answer to this question is 'yes'
7. Has this applicant received any workplace awards or recognition (ex: performance awards, merit-based awards, employee of the month, etc.): Yes No
7a. If yes, please list:
8. Please indicate which field(s) applies to the work that the applicant does on a daily basis for your organization:

<input type="checkbox"/> Life, natural or environmental sciences	<input type="checkbox"/> Medicine or medical device technology
<input type="checkbox"/> Computer, information or software technology	<input type="checkbox"/> Industrial design or other commercially relevant design field
<input type="checkbox"/> Advanced mathematics or finance	<input type="checkbox"/> Other: <input type="text"/>
<input type="checkbox"/> Engineering	
9. Please give a short description of the applicant's regular duties & responsibilities:
10. What is the applicant's salary range?:

<input type="checkbox"/> \$0-\$34,999	<input type="checkbox"/> \$55,000-\$59,999	<input type="checkbox"/> \$80,000-\$84,999
<input type="checkbox"/> \$35,000-\$39,999	<input type="checkbox"/> \$60,000-\$64,999	<input type="checkbox"/> \$85,000-\$89,999
<input type="checkbox"/> \$40,000-\$44,999	<input checked="" type="checkbox"/> \$65,000-\$69,999	<input type="checkbox"/> \$90,000-\$94,999
<input type="checkbox"/> \$45,000-\$49,999	<input type="checkbox"/> \$70,000-\$74,999	<input type="checkbox"/> \$95,000-\$99,999
<input checked="" type="checkbox"/> \$50,000-\$54,999	<input type="checkbox"/> \$75,000-\$79,999	<input type="checkbox"/> \$100,000+

1

Last updated April 12, 2019



Employer Information:

11. Organization Legal Name: _____

12. Organization Address: _____

13. RI Tax ID #: _____

14. Which industry or sector is your company a part of?:

- | | |
|--|---|
| <input type="checkbox"/> Biomedical Innovation | <input type="checkbox"/> Design, Food, Custom Manufacturing |
| <input type="checkbox"/> IT, Cyber, Data Analytics | <input type="checkbox"/> Transportation, Distribution & Logistics |
| <input type="checkbox"/> Defense, Shipbuilding, Maritime | <input type="checkbox"/> Arts, Education, Hospitality & Tourism |
| <input type="checkbox"/> Advanced Business Services | <input type="checkbox"/> Other: _____ |

15. Please describe your company's primary work/function: _____

16. Name of individual completing this form: _____

17. Are you the owner or sole proprietor of this business?: _____

18. Title of individual completing this form: _____

19. Email address of individual completing this form: _____

20. Phone number of individual completing form: _____

21. How long have you been supervising this Fellow?: _____

Optional Employer Information:

22. How many employees are there in your company?: _____

23. If your company has multiple locations, how many employees in your RI location(s)?: _____

24. Is your company's workforce primarily comprised of Rhode Island residents?: Yes No

25. Does your company recruit primarily from Rhode Island institutions of higher education?: Yes No

25a. If yes, which institutions?: _____

Certification:

I hereby certify that the answers to all questions in this form are true to the best of my knowledge and belief.

Signature: _____

Date: _____

Appendix B: Employers List

Employer Name	Location	Wavemaker Fellows by Year of Award			
		2016	2017	2018	Total
(add)ventures	Providence	-	-	6	6
AAA Northeast	Providence	1	-	-	1
ABCya.com, LLC	Providence	-	1	1	2
ACS Industries Inc.	Lincoln	1	-	-	1
Adler, Pollock & Sheehan, P.C.	Providence	-	1	-	1
AECOM	Providence	-	-	1	1
Agcore Technologies, LLC	Cranston	-	1	1	2
AIPSO	Johnston	-	-	1	1
Alex & Ani	Cranston	-	1	-	1
Alexion Pharmaceuticals	Smithfield	1	-	-	1
Amedisys Home Health	Warwick	1	-	-	1
American Ecotech	Warren	1	-	-	1
American Systems Corporation	Middletown	-	2	-	2
Amgen	West Greenwich	2	1	11	14
Amica Mutual Insurance Company	Lincoln	18	12	4	34
Amtrol, Inc.	West Warwick	-	1	1	2
Anvil International	North Kingstown	1	-	1	2
Applied Behavioral Interventions	Warwick	-	-	1	1
Applied Science Associates	South Kingstown	-	1	-	1
AquaMotion, Inc.	Warwick	-	-	1	1
Asthenis, LLC	Providence	-	-	1	1
AstroNova, Inc.	East Greenwich	-	1	-	1
Atane Consulting	Providence	1	-	-	1
AVTECH Software, Inc.	Warren	-	1	1	2
B2B Gateway	Hope Valley	3	-	-	3
BAE Systems Technology Solutions & Services, Inc.	Middletown	-	-	1	1
Barrington Pediatric Associates	Barrington	1	-	-	1
Bay Computer Associates, Inc.	Cranston	-	-	3	3
BAYADA Home Health Care, Inc.	Warren	-	-	1	1
BD	Warwick	-	1	-	1
Becton Dickinson & Co.	Warwick	4	-	-	4
Behan Bros, Inc.	Newport	-	-	1	1
Bellevue Capital Partners, LLC	Newport	-	1	-	1
Berlin Steel Construction Co.	Johnston	1	-	-	1
Beta Group, Inc.	Lincoln	-	-	1	1
BI Medical, LLC	Coventry	-	1	-	1
Blue Cross & Blue Shield of Rhode Island	Providence	-	1	1	2

Stay Invested in RI Wavemaker Fellowship

Employer Name	Location	Wavemaker Fellows by Year of Award			
		2016	2017	2018	Total
Blum Shapiro & Co.	Cranston	-	1	-	1
Bradford Soap Works	West Warwick	-	-	2	2
Brave River Solutions, Inc.	Warwick	2	-	-	2
Brewster Thornton Group Architects	Providence	1	-	-	1
Brown Medicine	Providence	-	1	-	1
Brown University	Providence	3	2	5	10
Building Enclosure Science	Providence	-	-	1	1
Building Engineering Resources Inc.	Cranston	1	1	0	2
C.A. Pretzer Associates, Inc.	Cranston	-	-	1	1
Cadence, Inc.	Cranston	-	1	-	1
CAI Software	Smithfield	1	-	-	1
Care Resource	East Providence	1	-	-	1
Carousel Industries	Exeter	-	-	4	4
CBIZ New England	Providence	-	-	2	2
Chartercare Health Partners	Providence	1	-	-	1
CharterCare Warren Family Practice	Warren	-	1	-	1
Citizens Bank	Providence	-	-	1	1
Citrin, Cooperman & Company, LLP	Providence	-	-	2	2
Clarke Industrial Engineering	North Kingstown	-	1	1	2
CME	Warwick	-	-	1	1
Collette	Pawtucket	-	2	-	2
Cooliance, Inc.	Warwick	-	-	1	1
Cordtsen Design Architecture	Middletown	3	-	-	3
CORE Business Technologies	East Providence	-	1	-	1
Corrigan Financial Inc.	Middletown	1	-	1	2
Corvias Group, LLC	East Greenwich	-	-	1	1
Coto Technology	North Kingstown	-	1	-	1
Custom Design Inc.	North Kingstown	1	-	-	1
Customers Bank	Providence	1	-	-	1
CVS Health	Woonsocket	5	1	2	8
Dassault Systemes Simulia Corp	Johnston	-	2	-	2
Davol, Inc.	Warwick	-	-	1	1
DBVW Architects	Providence	-	4	4	8
DeCrescenzo Chiropractic, Inc.	East Providence	-	-	1	1
DelGrande & Montefusco, Inc.	Cranston	-	-	1	1
Delta Dental of Rhode Island	Providence	-	-	1	1
Design Under Sky	Providence	-	-	1	1
DiLeonardo International, Inc.	Warwick	-	1	-	1
DiSanto, Priest & Co.	Warwick	5	5	3	13

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Employer Name	Location	Wavemaker Fellows by Year of Award			Total
		2016	2017	2018	
Narragansett Lab/ Integrated Statistics, Inc.	Narragansett	-	1	-	1
Dominion Diagnostics	North Kingstown	1	-	-	1
EA Engineering, Science and Technology, Inc.	Warwick	1	-	-	1
Eagle Picher Technologies	East Greenwich	-	-	1	1
Earthly	Providence	-	-	1	1
Eaton Aerospace	Rumford	1	-	-	1
Edesia Inc	North Kingstown	1	-	-	1
Edward Rowse Architects	East Providence	1	-	-	1
Elderwood of Scallop Shell at Wakefield	Wakefield	-	-	1	1
Electro Standards Laboratories	Cranston	-	1	-	1
Elisa S. Liberto, DMD	Warwick	-	-	1	1
Elite Physical Therapy	Warwick	1	-	2	3
eMoney Advisor	Providence	-	-	1	1
Engineering Design Services Inc.	Slatersville	1	-	-	1
Environmental Resources Management	Providence	1	-	-	1
Envision Technology Advisors	Pawtucket	2	1	1	4
EnVision/Plastics Plus	Cumberland	-	-	1	1
EPAC Software Technologies	East Greenwich	-	-	1	1
EPhysBio	Kingston	1	-	-	1
EpiVax, Inc.	Providence	2	1	-	3
ERM Consulting & Engineering, Inc.	Providence	-	1	-	1
Ethide Laboratories, Inc.	West Warwick	1	-	-	1
Eurofins Lancaster Labs PSS	West Greenwich	1	-	-	1
FarSounder, Inc.	Warwick	-	1	-	1
FGX International	Smithfield	1	-	-	1
Fidelity Investments	Smithfield	2	-	4	6
Fidelity Technology Group, LLC	Smithfield	-	1	-	1
FM Approvals	West Glocester	3	1	-	4
FM Global	Johnston	2	1	2	5
G Media Studios	Pawtucket	1	-	-	1
Gardner Resource Consulting, LLC	Wellesley, Providence	1	1	-	2
GE Digital	Providence	1	-	-	1
General Dynamics Electric Boat	Middletown	-	-	4	4
Genesis Rehab Services at Pawtucket Skilled Nursing & Rehab	Pawtucket	-	1	-	1
Gilbane Building Company	Providence	1	-	2	3

Stay Invested in RI Wavemaker Fellowship

Employer Name	Location	Wavemaker Fellows by Year of Award			
		2016	2017	2018	Total
Greystone, Inc.	Lincoln	-	-	1	1
GZA GeoEnvironmental, Inc.	Providence	-	1	1	2
Hanna Instruments	Smithfield	2	-	-	2
Hart Engineering Corporation	Cumberland	-	1	-	1
Hasbro, Inc.	Pawtucket	6	4	10	20
Herbold Meckesheim USA	North Smithfield	1	-	-	1
Hexagon Manufacturing Intelligence	North Kingstown	-	2	-	2
Home Health and Hospice of Nursing Placement	Pawtucket	-	1	-	1
Hope Health	Lincoln	1	-	-	1
Hub Digital	Hope Valley	1	-	-	1
IGT	Providence, West Greenwich	2	1	2	5
INNOVEX	Lincoln	-	-	1	1
Jensen Hughes, Inc.	Warwick	1	-	-	1
John Patrick Walsh A IA Architectural Design LLC	Westerly	1	-	-	1
Johnson & Johnson	Providence	-	-	2	2
Johnson & Wales University	Providence	-	1	-	1
Johnson Controls	Cranston	1	1	-	2
Kahn Litwin Renza & Co., Ltd.	Middletown, Providence	3	-	1	4
Katherine Field & Associates	Newport	-	-	1	1
Kelly Taylor Interior Design	Providence	-	1	-	1
Kineteks, LLC	Warwick	-	1	-	1
Kingstown Pediatrics, Inc.	North Kingstown	1	-	-	1
Lifespan	Providence	6	3	4	13
LLB Architects	Pawtucket	-	1	-	1
Lockheed Martin Corporation	Middletown	-	1	1	2
Lotuff Leather	Providence	-	-	1	1
Louis Berger US, Inc.	Providence	-	-	1	1
Lucas Milhaupt	Warwick	-	1	-	1
Lumetta Incorporated	Warwick	1	-	-	1
Manafort Brothers Incorporated	Cumberland	1	-	-	1
Marcum LLP	Providence	1	-	3	4
Marstone Inc	Providence	-	1	-	1
Materials Science Associates	Coventry	1	1	-	2
Materials Science Associates/BI Medical	Coventry	1	-	-	1
McArdle Chiropractic and Wellness	Cranston	2	-	-	2
McLaughlin & Moran, Inc.	Cranston	1	-	-	1

Stay Invested in RI Wavemaker Fellowship

Employer Name	Location	Wavemaker Fellows by Year of Award			Total
		2016	2017	2018	
McMahon Associates	Lincoln	-	-	1	1
Medical Associates of RI	Bristol	1	-	-	1
Meister Abrasive USA, Inc.	North Kingstown	-	-	1	1
Merrill Edge	Lincoln	-	1	-	1
Merrill Lynch	Providence	-	1	-	1
Mesiter Abrasives	North Kingstown	-	1	-	1
MetLife, Inc.	Warwick	-	1	1	2
Mikel, Inc.	Middletown	-	1	3	4
Mojo Tech	Providence	2	-	-	2
National Grid	Providence	1	1	2	4
Naval Undersea Warfare Center	Newport	15	30	24	69
Navatek	South Kingstown	1	-	1	2
NeliPak Packaging	Cranston	-	1	-	1
Neqter Labs LLC	Middletown	-	1	-	1
New England Construction Co.	Rumford	-	-	1	1
Northrop Grumman Corporation	Middletown	-	1	1	2
NTT Data, Inc.	Providence	-	1	-	1
O&G Studio	Warren	-	4	-	4
OCTO Product Development	Pawtucket	-	-	1	1
ON Semiconductor	East Greenwich	2	1	-	3
Optum/United Health Care	Warwick	-	-	1	1
OSHEAN	North Kingstown	1	-	-	1
Pappas Physical and Hand Therapy	North Providence, Johnston	-	2	1	3
Pare Corporation	Lincoln	2	2	1	5
Parkinson Technologies Inc.	Woonsocket	1	-	1	2
Pawtucket Credit Union	Pawtucket	-	1	-	1
Piccerelli, Gilstein & Company LLP	Providence	-	-	1	1
Planned Parenthood of Southern New England	Providence	-	1	-	1
PopHealthCare Medical Services of RI	Warwick	1	-	-	1
Predicata Healthcare Solutions	Riverside	1	-	-	1
Procure Physical Therapy	Barrington	1	-	-	1
Pro-Change Behavior Systems, Inc.	South Kingstown	-	1	-	1
Prospect CharterCARE, LLC	North Providence	-	-	1	1
Providence College	Providence	-	-	1	1
Providence VA Medical Center	Providence	1	-	-	1
PR SIC & PR SIC	Rumford	-	1	1	2

Stay Invested in RI Wavemaker Fellowship

Employer Name	Location	Wavemaker Fellows by Year of Award			Total
		2016	2017	2018	
Quarterdeck, LLC	Providence	-	2	-	2
R&D Technologies	North Kingstown	1	-	1	2
Raytheon BBN Technologies	Middletown	-	1	-	1
Raytheon Company	Portsmouth	-	1	2	3
Raytheon Integrated Defense Systems	Portsmouth	1	-	-	1
RC Technology, LLC	Riverside	-	-	1	1
Research and Development Solutions, Inc.	Middletown	-	-	1	1
Restivo Monacelli LLP	Providence	-	-	1	1
RGB Architects	Providence	1	-	-	1
Rhode Island College	Providence	2	-	1	3
Rhode Island Hospital	Providence	4	3	4	11
Rhode Island Housing	Providence	-	1	-	1
Rhode Island Limb	Cranston	1	-	-	1
Rhode Island Medical Imaging	Warwick	1	-	-	1
Rhode Island School of Design	Providence	-	-	1	1
Rhodes Pharmaceuticals	Coventry	-	-	3	3
RI Analytical Laboratories	Warwick	2	-	-	2
RI Distributing Company, LLC	West Greenwich	1	-	-	1
RI Monthly Communications	Providence	-	1	-	1
RI Office of the Postsecondary Commissioner	Warwick	-	1	-	1
Rite Solutions	Middletown	1	5	3	9
Roger Williams Medical Center	Providence	-	1	-	1
Roger Williams University	Bristol	1	-	1	2
Rogers Corporation	Narragansett	-	1	-	1
RPS Group plc	Wakefield, South Kingstown	1	3	2	6
Sabetti Construction Inc. dba Newport Solar	North Kingstown	1	-	-	1
Salve Regina University	Newport	-	1	-	1
Schneider Electric	West Kingston	-	-	1	1
Science Applications International Corporation	Middletown	-	3	3	6
SEA CORP	Middletown	2	1	10	13
Searle Design Group	Providence	1	-	-	1
SecureWorks	Providence	1	-	-	1
Shawmut Design & Construction	Providence	1	-	1	2
Sheer Tek, LLC	Cumberland	1	-	-	1
Shoreline Business Solutions	North Kingstown	-	-	1	1
Sixteen on Center	Tiverton	1	-	-	1

Stay Invested in RI Wavemaker Fellowship

Employer Name	Location	Wavemaker Fellows by Year of Award			
		2016	2017	2018	Total
South County Health	Narragansett	-	1	1	2
SPD Design, LLC	Providence	-	-	1	1
State of Rhode Island	Providence	1	-	-	1
Summer Infant	Woonsocket	1	-	-	1
Teknor Apex Company	Pawtucket	-	-	2	2
Tellart	Providence	-	1	1	2
Textron, Inc.	Providence	-	-	1	1
The Miriam Hospital	Providence	-	-	1	1
The Providence Center	Providence	-	-	1	1
Thielsch Engineering, Inc.	Cranston	3	1	-	4
Thundermist Health Center	Wakefield	-	1	-	1
Toray Plastics	North Kingstown	-	-	1	1
TPI Composites	Warren	-	1	-	1
Trade Area Systems	Providence	-	1	-	1
Traverse Landscape Architects	Providence	1	-	-	1
Tuition Management Systems (FM Systems, LLC)	Warwick	-	-	1	1
UBS Financial Services	Providence	-	1	-	1
Union Studio Architecture & Community Design	Providence	-	1	2	3
United Natural Foods, Inc.	Providence	-	2	1	3
University Emergency Medicine Foundation	Providence	-	-	1	1
University of Rhode Island	Kingston	-	1	2	3
University Surgical Associates	Providence	-	1	-	1
Upserve Inc.	Providence	1	-	1	2
US Dept of Transportation- FHWA	Providence	-	-	1	1
USDA- Natural Resources Conservation Service	Warwick	-	1	-	1
Vanasse Hangen Brustlin, Inc.	Providence	-	-	3	3
Videology Imaging Solutions	Greenville	-	1	-	1
Virgin Pulse	North Kingstown	-	-	3	3
Vishay Electro-Films	Warwick	-	1	-	1
Vision 3 Architects	Providence	-	1	-	1
Vistaprint Corporate Solutions	Providence	-	-	1	1
Vitae Industries, Inc.	Providence	1	1	-	2
VoltServer	East Greenwich	1	2	1	4
Walgreens Pharmacy	Warwick	-	1	-	1
Women & Infants Hospital of Rhode Island	Providence	3	1	1	5

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Employer Name	Location	Wavemaker Fellows by Year of Award			Total
		2016	2017	2018	
Woonsocket Head Start Child Development Association	Woonsocket	-	-	1	1
World of JAS, LLC	Providence	-	1	-	1
Xeros, Inc.	Providence	-	-	2	2
Ximedica	Providence	2	4	-	6
Yushin America	Cranston	-	1	-	1
Zebra Technologies	Lincoln	-	5	1	6
Total		192	195	239	626

Source: Rhode Island Commerce Corporation.

Note:

* Employer names were edited and consolidated by ORA.

Appendix C: Agency Groups Breakdown

ORA Categorization	Agency Name
Behavioral Health and State Hospitals	<ul style="list-style-type: none"> •Department of Behavioral Healthcare, Developmental Disabilities, and Hospitals •Office of the Mental Health Advocate
Children, Youth, and Families	<ul style="list-style-type: none"> •Department of Children, Youth, and Families •Office of the Child Advocate
Corrections	<ul style="list-style-type: none"> •Department of Corrections
Courts	<ul style="list-style-type: none"> •Judicial Department - Constitution •Office of Public Defender
Economic Development	<ul style="list-style-type: none"> •Department of Business Regulation •Department of Labor and Training •Executive Office of Commerce
Elected Officials	<ul style="list-style-type: none"> •Department of Attorney General •General Assembly •Office of Lieutenant Governor •Office of the Governor •Secretary of State •Treasury Department
Environment	<ul style="list-style-type: none"> •Coastal Resources Management Council •Department of Environmental Management

ORA Categorization	Agency Name
General Government	<ul style="list-style-type: none">•Department of Administration•Department of Revenue
Health and Human Services	<ul style="list-style-type: none">•Department of Health•Department of Human Services
Health Services	<ul style="list-style-type: none">•Executive Office of Health and Human Services
Higher Education	<ul style="list-style-type: none">•Community College of Rhode Island•Office of the Postsecondary Commissioner•Rhode Island Atomic Energy Commission•Rhode Island College•University of Rhode Island
Other	<ul style="list-style-type: none">•Board of Elections•Commission on the Deaf & Hard of Hearing•Govrnor's Commission on Disabilities•Historical Preservation and Heritage Commission•Rhode Island Commission for Human Rights•Rhode Island Council of the Arts•Rhode Island Ethics Commission
Public Education	<ul style="list-style-type: none">•Elementary and Secondary Education
Public Safety	<ul style="list-style-type: none">•Department of Public Safety•Military Staff•Rhode Island Emergency Management Agency•State Fire Marshal

Appendix D: Breakdown of the “Professional, Scientific, and Technical Services” Sector (NAICS 54)

54	<i>Professional, Scientific, and Technical Services</i>
5411	Legal Services
541110	Offices of Lawyers
541120	Offices of Notaries
541191	Title Abstract and Settlement Offices
541199	All Other Legal Services
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services
541211	Offices of Certified Public Accountants
541213	Tax Preparation Services
541214	Payroll Services
541219	Other Accounting Services
5413	Architectural, Engineering, and Related Services
541310	Architectural Services
541320	Landscape Architectural Services
541330	Engineering Services
541340	Drafting Services
541350	Building Inspection Services
541360	Geophysical Surveying and Mapping Services
541370	Surveying and Mapping (except Geophysical) Services
541380	Testing Laboratories
5414	Specialized Design Services
541410	Interior Design Services
541420	Industrial Design Services
541430	Graphic Design Services
541490	Other Specialized Design Services
5415	Computer Systems Design and Related Services
541511	Custom Computer Programming Services
541512	Computer Systems Design Services
541513	Computer Facilities Management Services
541519	Other Computer Related Services
5416	Management, Scientific, and Technical Consulting Services
541611	Administrative Management and General Management Consulting Services
541612	Human Resources Consulting Services
541613	Marketing Consulting Services
541614	Process, Physical Distribution, and Logistics Consulting Services
541618	Other Management Consulting Services
541620	Environmental Consulting Services
541690	Other Scientific and Technical Consulting Services

54	<i>Professional, Scientific, and Technical Services</i>
5417	Scientific Research and Development Services
541713	Research and Development in Nanotechnology
541714	Research and Development in Biotechnology (except Nanobiotechnology)
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)
541720	Research and Development in the Social Sciences and Humanities
5418	Advertising, Public Relations, and Related Services
541810	Advertising Agencies
541820	Public Relations Agencies
541830	Media Buying Agencies
541840	Media Representatives
541850	Outdoor Advertising
541860	Direct Mail Advertising
541870	Advertising Material Distribution Services
541890	Other Services Related to Advertising
5419	Other Professional, Scientific, and Technical Services
541910	Marketing Research and Public Opinion Polling
541921	Photography Studios, Portrait
541922	Commercial Photography
541930	Translation and Interpretation Services
541940	Veterinary Services
541990	All Other Professional, Scientific, and Technical Services

Appendix E: Additional Breakeven Scenarios

The following table presents a sensitivity analysis of the Wavemaker fellowship program. ORA ran different economic scenarios across which the input parameters are being varied accordingly to provide the reader with additional possible breakeven analysis outcomes.

“Stay Invested in RI Wavemaker Fellowship”
Detailed Net Economic & Revenue Impacts

	<i>Policy Variable Percentage Assumed</i>										
	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
Personal Taxes	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
Industry Employment	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
	<i>Economic & Revenue Impacts Calculated</i>										
Total Employment (Count)	-8	39	85	132	179	226	272	319	366	412	459
Direct Employment	0	24	47	71	95	119	142	166	190	213	237
Indirect Employment	-1	6	13	21	29	36	44	51	59	66	74
Induced Employment	-7	9	24	40	56	72	86	102	118	132	148
Total GDP (\$000)	\$(840)	\$3,322	\$7,319	\$11,481	\$15,644	\$19,806	\$23,802	\$27,966	\$32,131	\$36,129	\$40,294
Generated Revenues by Component (\$000)											
<i>Personal Income Tax</i>	(7.6)	53.3	112.0	172.9	233.8	294.7	353.5	414.4	475.4	534.2	595.1
<i>General Business Taxes</i>	2.5	22.2	41.2	60.9	80.6	100.3	119.3	139.0	158.8	177.7	197.5
<i>Sales and Use Taxes</i>	13.0	66.5	118.1	171.7	225.3	278.9	330.5	384.1	437.7	489.4	543.0
<i>Other Taxes</i>	(0.3)	2.4	5.0	7.7	10.4	13.1	15.8	18.5	21.2	23.8	26.5
<i>Total Departmental Receipts</i>	(0.8)	5.6	11.6	17.9	24.3	30.6	36.7	43.0	49.4	55.4	61.8
<i>Other Sources</i>	(0.8)	5.8	12.1	18.6	25.2	31.8	38.1	44.7	51.3	57.6	64.2
Total Net Revenues (\$000)*	\$(896.4)	\$(746.6)	\$(602.3)	\$(452.5)	\$(302.7)	\$(152.9)	\$(8.6)	\$141.3	\$291.3	\$435.7	\$585.7

Source: ORA calculations based on historical Rhode Island revenue amounts and REMI Tax-PI simulations.

Note:

* The total net revenues represent the difference between the sum of generated revenues and the cost of the tax incentive.

Stay Invested in RI Wavemaker Fellowship