

# **Biennial Report of the Tax Expenditure Review Commission**

**Massachusetts Tax Expenditure Review Commission**

**March 2021**

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## Overview

This document is the 2021 Report to the Legislature of the Tax Expenditure Review Commission (referred to herein as “TERC” or the “Commission”) filed pursuant to Chapter 14, section 14, of the General Laws.

“Tax expenditures” are defined under Chapter 29 of the General Laws as state tax revenue foregone due to statutory provisions that allow “exemptions, deferrals, deductions from or credits against taxes” imposed on income, businesses, or sales. The Commissioner of Revenue prepares an annual tax expenditure budget estimating the cost of tax expenditures to the Commonwealth in the fiscal year, as directed by section 5B of Chapter 29.

It is the statutory responsibility of the Commission to review the various tax expenditures adopted by the Commonwealth on a five-year cycle and to report biennially to the Legislature on the goals and effectiveness of the expenditures reviewed. This 2021 Report is TERC’s first such biennial report. It considers a group of tax expenditures that relate to commerce, energy, and research & development. Future biennial reports will review the balance of the state’s tax expenditures, as grouped by TERC, over the balance of its five-year review cycle.

## Background: Current and Previous Studies of Massachusetts Tax Expenditures

There has been considerable interest in the last decade regarding the Commonwealth’s tax expenditures. The current TERC, which was created by the Acts of 2018, follows up on the work of an earlier *ad hoc* Tax Expenditure Commission, formed pursuant to Acts 2011, section 160, that issued an extensive report to the Legislature on April 30, 2012. Indeed, the formation of the current TERC may be seen as an implementation of certain recommendations of the previous Commission, which advocated for the periodic review of tax expenditures to ensure their continued relevance and effectiveness. The current TERC represents an institutionalization of such an ongoing review process.

The 2012 Report, along with its multiple appendices, provide a wealth of information regarding state and federal tax expenditures. Additionally, the Tax Expenditure Budget, published annually by the Commissioner of Revenue, provides current cost estimates associated with tax expenditures applicable to the particular fiscal year. Readers are referred to these sources for background information related to Massachusetts tax expenditures. The 2012 Report, with associated materials, is available at: <https://www.mass.gov/lists/2011-2012-tax-expenditure-commission-materials>. The annual Tax Expenditure Budget is available at: <https://www.mass.gov/lists/tax-expenditure-budget>.

The current Tax Expenditure Review Commission was created under Chapter 207 of the Acts of 2018 to review each tax expenditure in the Tax Expenditure Budget every five years; to consider the purpose, goal, and effectiveness of each Tax Expenditure in this review; and to report its findings biennially to the Legislature. The full text of Chapter 207, which is now codified at Chapter 14, section 14 of the General Laws, is reproduced at **Appendix A**.

The TERC is chaired by the Commissioner of the Department of Revenue. Other members include the State Auditor; the State Treasurer; the Chairperson of the House Committee on Ways and Means; the Chairperson of the Senate Committee on the Ways and Means; the House and Senate Chairpersons of the Joint Committee on Revenue; the Minority Leader of the House of Representatives; the Minority Leader of the Senate; and three members with expertise in economics or tax policy, to be appointed

by the Governor. The three members appointed by the Governor will serve four-year terms. The statutory TERC members listed above may appoint designees. Recent participating members of the Commission, including designees, are identified in **Appendix B**.

## TERC Approach to Implementation of its Statutory Mandate

### Statutory Text

The Commission is directed by G.L. c. 14, s. 14(c), as follows:

(c) The commission shall use best practices and standardized criteria to evaluate: (i) the purpose, intent and goal of each tax expenditure and whether the expenditure is an effective means of accomplishing those ends; (ii) the fiscal impact of each tax expenditure on state and local taxing authorities, including past fiscal impacts and expected future fiscal impacts; (iii) the economic impact of each tax expenditure including, but not limited to, revenue loss compared to economic gain and jobs created, retained or lost as a result of the tax expenditure; (iv) the return on the investment made by the tax expenditure and the extent to which the tax expenditure is a cost effective use of resources; and (v) similar tax expenditures, if any, offered by other states and the impact of the tax expenditure on regional and national economic competitiveness.

### Organizational Discussions

The Commission spent its first several meetings discussing how to organize its review of tax expenditures to satisfy this statutory mandate. The questions considered by the members included:

- How to approach the “purpose, intent and goal” of a tax expenditure, when they are not specified in the statute creating the tax expenditure or in its legislative history. The Commission found it necessary in most cases to infer the purpose, intent, and goal or goals of each tax expenditure in order to evaluate its effectiveness.
- How to evaluate economic impacts and return on investment of tax expenditures. Tax expenditures vary widely in subject matter, and only some are intended to create economic incentives. And the extent of available data on which economic impact or return on investment may be judged varies widely. Determining economic impact also triggers the longstanding debate about use of static or dynamic economic models for evaluation purposes. In most cases, despite significant research, the economic data is insufficient for TERC to determine the extent that a tax expenditure incentivized activity that would not have occurred “but for” the tax expenditure, as opposed to the tax expenditure benefiting an activity that might or might not have occurred without the existence of the tax expenditure.
- How to order its evaluation of tax expenditures. Tax expenditures exist within a statutory framework of different tax types – e.g. exemptions or credits may apply to the personal income tax, the corporate excise, or the sales tax. The Commission initially considered organizing its review by tax type. But it concluded that organizing tax expenditures by their perceived goals would assist in analysis and comparison. For the first year, the members chose to review a group of tax expenditures organized under the Tax Expenditure Budget in categories of

commerce, energy, and research & development, due to the interest of the members and perceived interest of the Legislature in these tax expenditures.

- How to develop historical and economic information related to each tax expenditure. The Office of Tax Policy and Analysis and the Rulings & Regulations Bureau within the Department of Revenue jointly provided detailed information to the Commission members regarding each tax expenditure, which included historical information, review of the types of taxpayers claiming the benefit of the tax expenditure, information relating to similar tax expenditure in other states and, in applicable cases, economic models reviewing impact of the tax expenditure. The summaries included dynamic analyses of certain tax expenditures, using the REMI model, where the fiscal cost or number of taxpayers claiming the benefit of a particular tax expenditure justified the effort of such modeling.<sup>1</sup> The final summaries are reproduced at **Appendix C**. The process followed by TERC was to circulate draft DOR analyses prior to the discussion of a tax expenditure by the Commission. Commission members were able to conduct their own review or research of each tax expenditure and often offered comments that were incorporated in the draft DOR analyses.
- How to apply a standardized approach to review of tax expenditures. Tax expenditures vary widely in their goals, intended economic impact, fiscal cost, and benefitting constituencies, among other criteria. The Commission discussed at length how to review the widely varying subject matters in a standardized format that would present relevant information clearly to a reviewer and would flag features of each expenditure likely to be of interest to the Legislature. The result of the discussion was the development of an evaluation template that TERC has applied to each of the tax expenditures reviewed in the past year and plans to apply in future years to the balance of tax expenditures in the tax expenditure budget. See **Appendix D**.

### Template for Review of Tax Expenditures

The review template for each tax expenditure is the vehicle chosen by TERC to achieve standardized criteria for review of tax expenditures. As a process matter, a draft of the template was completed for each tax expenditure by one or more Commission members assigned by the Chair. The assigned member or members offered a draft rating that was then discussed by all TERC members in a public meeting. The Commission voted on the ratings for each tax expenditure reviewed. For final evaluation rating templates for each tax expenditure see **Appendix C**. TERC meeting minutes are attached at **Appendix E**.

In addition to fields for basic background information, the template is structured in three parts: (1) goals; (2) measurement and effectiveness ratings; and (3) a narrative summary of the TERC discussion of the tax expenditure.

1. **Goals.** As mentioned previously, few tax expenditures have stated policy goals in their authorizing legislation, and the Commission has been left to infer policy goals in most cases, based upon the structure of the expenditure and its beneficiaries. The template lists both business-related goals, such as job-creation and competitiveness, and non-business goals, often related to individuals, such as relief of poverty and access to opportunity. Some commonly

<sup>1</sup> For discussion regarding use of the REMI model for dynamic analyses of state tax expenditures, see **Appendix F**.

applicable goals are identified, with a space to identify other goals as well. The Commission has found that more than one goal often seems relevant to a single tax expenditure. Identification of goals is a necessary step in examining the effectiveness of a tax expenditure.

- 2. Measurement and Effectiveness Ratings.** The second section of the template contains a series of statements, some of which are descriptive and some of which attempt to rate the effectiveness of a tax expenditure in benefitting the policy goal(s) identified for that tax expenditure. Each statement receives a TERC rating on a scale running from “strongly agree” to “strongly disagree.”

The descriptive statements relate to the beneficiaries of the expenditure, identifying the degree to which the tax expenditure is broadly used; and the degree to which it benefits small businesses or low-income taxpayers.

The effectiveness ratings begin with a statement as to the degree that the impact of a tax expenditure on achieving its identified goals is measurable. There are then effectiveness statements relating to different aspects of effectiveness: the degree, in the Commission’s judgment, to which the benefit of the tax expenditure justifies its cost; the degree to which the tax expenditure is claimed by its intended beneficiaries; the degree to which the incentive that a tax expenditure creates is meaningful to taxpayers claiming the benefit of the expenditure; and the degree to which the tax expenditure remains relevant today. Finally, this section of the template has a statement as to the ease of administration of the tax expenditure.

The effectiveness ratings represent the judgment of the Commission members in light of the information available. Based on the uncertainties expressed by Commission members in discussion of various ratings, differences of one level in an evaluation such as, for example, the difference between a “strongly agree” rating and a “somewhat agree” rating, may not be highly meaningful. However, ratings of “strongly agree” and “strongly disagree” generally represent a consensus on a rating among the TERC members and are meaningful as to the statement. It is notable that, to date, the Commission has successfully operated on a consensus basis; there has not been significant disagreement among Commission members as to particular tax expenditure ratings. To date, all tax expenditure ratings have been approved unanimously by the Commission members.

One of the statutory directives in TERC’s enabling legislation directs the Commission to evaluate “the return on the investment made by the tax expenditure and the extent to which the tax expenditure is a cost effective use of resources.” The Commission interprets this directive as an instruction to rate the extent to which the benefit of an expenditure justifies its cost, and TERC as has found its cost/benefit evaluative statement to be the most difficult to rate. The rating is particularly problematic, of course, to the extent that the benefit is difficult to measure. However, even though there are prominent tax expenditures such as the Investment Tax Credit or the Research & Development credit where research data on economic impact of comparable federal credits or credits in other states may be available, economic data are seldom sufficient to determine the extent to which a tax expenditure may incent activity that would not otherwise have occurred, as opposed to merely reducing the tax burden for a desired activity, whether or not that activity would have occurred without the tax expenditure. TERC generally

concluded that benefits of expenditures justified the costs in situations where the policy goals were reasonably inferred, and the tax expenditure reasonably related to these goals, particularly if the tax expenditure was available in other states.

In many cases the Commission judged interstate competitiveness to be a goal of a business tax expenditure and tax expenditures matching similar tax benefits in other states were often found to be responsive to this goal, thus justifying their cost on this basis. TERC found such tax expenditures to justify their cost even where dynamic analysis of the tax expenditure using the REMI model did not show growth in jobs from a tax expenditure, given the uncertainty in application of such models and the impact of the economic assumptions necessary to such modeling. Information regarding the application of the REMI model is available at **Appendix F**.

- 3. Summary Comments.** The final section of the template is a narrative summary of the discussion among the Commission members of the tax expenditure at issue, including any comments or recommendations of the members with respect to the different tax expenditures. These summaries were generally drafted subsequent to the TERC discussion by the Office of Tax Policy and Analysis of the Department of Revenue and have been reviewed by Commission members.

## TERC Observations and Recommendations for the Legislature

The evaluation template completed for each tax expenditure represents the report of the Commission to the Legislature on its view of the effectiveness of the tax expenditure. Each evaluation is accompanied by a detailed DOR analysis provided to TERC in association with its discussion. Taking all the reviewed tax expenditures together, the cumulative distribution of TERC's ratings for each evaluative statement is shown in the following chart.

<b>Measurement and Effectiveness</b> <i>Which best reflects your opinion on each statement?</i>	<b>Strongly Disagree</b>	<b>Somewhat Disagree</b>	<b>Somewhat Agree</b>	<b>Strongly Agree</b>	<b>Not Applicable</b>
We can measure the overall benefit toward achieving the goal(s)	2	7	9	7	1
The TE's benefit justifies its fiscal cost	3	5	10	8	0
The TE is claimed by its intended beneficiaries	2	1	8	15	0
The TE is claimed by a broad group of taxpayers	10	2	2	12	0
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	6	1	14	5	0
The TE is relevant today	4	3	6	13	0
The TE is easily administered	0	6	13	7	0
<i>Business only</i> -The TE is beneficial to smaller businesses	2	3	7	10	4
<i>Individuals only</i> -The TE benefits lower income taxpayers	8	3	5	0	10
<b>TOTALS</b>	<b>37</b>	<b>31</b>	<b>74</b>	<b>77</b>	<b>15</b>



## Particular Tax Expenditures Flagged in Evaluation Process

It is, of course, the province of the Legislature and the Governor to set tax policy for the Commonwealth, including what tax expenditures the Commonwealth should adopt or maintain. The hope of the Commission is to provide information and guidance that the Legislature and Governor may find useful in reviewing which tax expenditures are operating effectively. TERC understands this to be its legislative purpose.

In reviewing the TERC templates with an eye toward considering which tax expenditures should be maintained or modified, it may be most useful for the Legislature to focus on tax expenditures that received “strongly disagree” ratings<sup>2</sup> for any of the following evaluative statements in the template:

- i. The tax expenditure’s benefit justifies its fiscal cost.
  - ii. The tax expenditure is claimed by its intended beneficiaries.
  - iii. The tax expenditure amount claimed by each beneficiary is meaningful as an incentive/benefit.
  - iv. The tax expenditure is relevant today.
- *Harbor Maintenance Credit. Annual fiscal cost: \$1.4- \$1.5 million.* TERC voted “strongly disagree” with the proposition that the tax expenditure is relevant today in light of the small number of claimants and the lack of similar tax provisions in neighboring states.
  - *Medical Device User Fee Credit. Annual fiscal cost: \$0.4- \$0.6 million.* TERC voted “strongly disagree” with the proposition that the tax expenditure amount claimed per taxpayer was meaningful as an incentive. The credit was claimed by a limited number of, predominantly, large corporations, and there are no similar tax provisions in neighboring states.
  - *Film Credit. Annual fiscal cost: \$56 - \$80 million.* TERC voted to rate the film credit between “strongly disagree” and “somewhat disagree” on the proposition that the benefit of the tax expenditure justified its costs. We inferred that the purpose of the tax expenditure is to attract film productions to Massachusetts; the implied assumption is that film productions will create jobs and increase economic activity in Massachusetts. The economic data provided to TERC suggested that the film credit supported economic growth and new job creation. Over the period 2006 to 2016, this program resulted in \$503.2 million in net new spending in the Massachusetts economy. But the cost of each new job created in the Commonwealth was \$100,000. Commission members suggested that alternative approaches, such as direct subsidy of construction of film studios in the Commonwealth might lead to more investment than the

<sup>2</sup> TERC members considered the film credit to fall between “somewhat disagree” and “strongly disagree” with respect to the statement that the tax expenditure’s benefits justify its fiscal cost, but this tax expenditure is nonetheless included in the discussion here. Similarly, the Commission wished to flag single sales factor apportionment for mutual fund services corporations for review, notwithstanding that the broader tax expenditure for unequal weighting of apportionment factors, did not receive “strongly disagree” ratings. Commission members believed that the mutual fund services portion of the broader tax expenditure raised separate concerns, not reflected in the ratings of the broader tax expenditure.

existing credit, which instead tends to promote immediate short-term spending, and might promote creation of more permanent jobs in the Commonwealth at lower expense.

- *Income Tax Exemption for Interest on Savings in Massachusetts Banks. Annual fiscal cost: \$4.1 million.* TERC voted “strongly disagree” with the propositions (1) that this tax expenditure justified its fiscal cost; and (2) that the tax expenditure is relevant today. When the exemption was first adopted, Part A interest income would have been taxable at a 10 percent rate, and the exemption had the benefit of limiting tax on a portion of household savings accounts. However, today the applicable tax rate (absent the exemption) has been reduced to 5 percent; interest rates in general have significantly declined; and many savings vehicles not previously available (such as money market funds) have become prevalent.
- *Deduction for Clean Fuel Vehicles and Certain Refueling. Annual fiscal cost: negligible.* TERC voted “strongly disagree” with the propositions (1) that the tax expenditure justified its fiscal cost; (2) that the tax expenditure is claimed by its intended beneficiaries; (3) that the benefit claimed per taxpayer is meaningful as an incentive; and (4) that the tax expenditure is relevant today. In essence, this tax expenditure is obsolete, as the state deduction ties to a former federal deduction that is now repealed and, in any case, applied only to vehicles placed in service on or before December 31, 2006.
- *Alcoholic Beverages Exemption (from sales tax). Annual fiscal cost: \$120.9 - \$131.6 million.*<sup>3</sup> TERC voted “strongly disagree” with the propositions that (1) the benefit of the tax expenditure justified its fiscal cost; and (2) that the tax expenditure amount claimed per taxpayer is meaningful as an incentive/benefit. Alcoholic beverages are exempted from the sales tax because alcoholic products are subject to a wholesale, flat-rate excise under chapter 138. Thus, the exemption avoids the imposition of a double-tax scheme for alcoholic beverages (except in the case of alcohol sold as part of a restaurant meal where the sales tax exemption does not apply)<sup>4</sup>. However, the wholesale tax rate on alcohol is less than the sales tax on retail sales of the same quantity of alcohol would be. Thus, sales of alcoholic beverages are subject to a lower over-all tax burden in Massachusetts than the sale of other goods; e.g., there is more state tax paid on a basket of taxable groceries, containing items such as paper towels and toothpaste, than on an bottle of alcohol of equal retail price. The limited state tax on alcoholic beverages presents an even more extreme contrast in comparison to the very high total tax burden placed on sales of marijuana, tobacco, and vape. The Legislature may wish to examine the lower tax burden on placed on alcoholic beverage sales relative to other sales of other products.
- *Capital Gain Deduction for Sale of Collectibles. Annual fiscal cost: \$2 million.* TERC voted “strongly disagree” that the benefit of this tax expenditure per taxpayer is meaningful as an incentive. The Commonwealth has an unusual tax treatment of income from sales of collectibles held for over a year. Collectibles are excluded from the definition of capital assets, such that long term gains of collectibles are nominally taxable at 12% as opposed to the 5% rate

<sup>3</sup> The fiscal cost of \$120.9 - \$131.6 million is the total cost of the sales tax exemption. The alcohol excise under chapter 138 yielded \$87.6 million in revenue in Fiscal Year 2020. Thus the annual fiscal cost to the Commonwealth of imposing the chapter 138 excise instead of a sales tax on alcoholic beverages is in the range of \$40 million.

<sup>4</sup> Although the sales tax exemption in Massachusetts for sales of alcohol products avoids a double tax, research presented to TERC showed that many other states impose both a sales tax and an alcohol excise on alcohol products. The state tax burden on alcohol in Massachusetts is low not only vis-à-vis sales of other tangible goods in the Commonwealth, but it is also low vis-à-vis the tax burdens imposed on alcohol in other states.

applicable to sales of capital assets held for over a year. However, the statute then provides a 50% deduction for income from the sale of the collectibles, yielding an effective tax rate of 6%. Substantially all the benefit of this deduction goes to higher income taxpayers. TERC does not believe that the deduction operates as an incentive for holding collectibles, but it may function to provide relief from the 12% Part A income tax rate that would otherwise apply. The Legislature may wish to consider whether a simplification of this structure is appropriate.

- *Income Exclusion for the Sale of Certain Patents. Annual fiscal cost: \$0.* TERC voted “strongly disagree” that (1) the tax expenditure is claimed by its intended beneficiaries; (2) that the amount claimed per taxpayer is meaningful as an incentive; and (3) that the tax expenditure is relevant today. While the intent of this tax expenditure was apparently to support research into energy conservation and alternative energy, the benefit has apparently never been claimed since the tax expenditure was enacted in 1979. The Legislature may wish to consider whether repeal would be appropriate.
- *Exemption for Vending Machine Sales. Annual fiscal cost: \$1.3- \$1.4 million.* TERC voted “strongly disagree” that the tax expenditure amount was meaningful as an incentive to consumers. The primary benefit of the tax expenditure is likely to the businesses that operate the vending machines. To the extent that vending machines convert to electronic payment systems, the Legislature may wish to reconsider the administrative need for the tax expenditure.
- *Single Sales Factor Apportionment for Mutual Fund Services Corporations. Annual fiscal cost: \$21 million.*<sup>5</sup> TERC evaluated the broader tax expenditure budget category for unequal weighting of apportionment factors and did not separately rate the component of that broader category that extends single sales factor apportionment to mutual fund services corporations. However, TERC wishes to flag the mutual fund services component of the broader tax expenditure for possible legislative review. Single sales factor apportionment for mutual fund services corporations singles out a narrow group of taxpayers in one industry for benefit in a seemingly arbitrary manner. Although the original legislation granting the benefit included job retention commitments, those job commitments lapsed roughly two decades ago. In the intervening time, the role of mutual funds in the overall financial services industry appears to have declined. The Legislature may wish to review the continuing purposes of this tax expenditure.

## Issues Applying Across Multiple Tax Expenditures

TERC discussions of particular tax expenditures occasionally led to observations that cut across multiple tax expenditures. A number of broad observations relating to tax expenditures, such as the clear identification of legislative goals of tax expenditures and their periodic review, have of course previously been identified by the 2012 Tax Expenditure Review Commission Report and are endorsed by the current TERC. But in addition to such previous observations, the current Commission thought it appropriate to point out separately in this report certain over-arching

<sup>5</sup> The fiscal cost given here is the net fiscal cost related to single sales factor apportionment for mutual fund services corporations. It does not include the fiscal cost of unequal weighing of apportionment factors for other industries.

issues that it had discussed instead of repeating them in each separate tax expenditure discussion. Three such issues are discussed below.

*Transferable tax credits.* Historically, tax credits were amounts that could offset a taxpayer's tax liability up to, but not exceeding, the amount of that liability. So, for example, if a taxpayer had a total tax liability for a period of \$100 and a tax credit of \$150, the taxpayer could eliminate its \$100 of liability (receiving a refund of any amount of that \$100 that the taxpayer had already paid) and the credit balance of \$50 could be carried forward to a future tax period.

In order to give additional economic benefit, the Legislature has authorized certain tax credits to be transferable, refundable, or in some cases either.<sup>6</sup> Refundable credits, to continue the example in the previous paragraph, would enable a taxpayer to receive a refund of its \$50 of unused credit, rather than carrying the unused amount forward. A transferable credit would authorize the taxpayer that earned the credit to sell its unused credit to a second taxpayer that had tax liability to offset and is able, by virtue of the statutory transferability, to use the purchased credit amount.

TERC would like to note for the Legislature its concern about the efficiency of tax expenditures structured as transferable credits. Transferable credits are invariably sold to a buyer at a discount to face value (and additionally, the transaction may incur brokerage or other transaction costs). Thus, a taxpayer holding a \$100 credit that it cannot use, due to the level of its tax liability, might sell the credit to a buyer for \$95. Credit buyers are typically financial institutions or insurance companies that have liability to offset. The buyer would then offset its liability by the \$100 face value of the credit. The result of this transaction is that the state is incurring a fiscal cost of \$100 to give a benefit of only \$95 to the intended taxpayer beneficiary. The additional \$5 of tax benefit is being received by the purchaser of the credit.

Transferable credits inherently dilute the benefit of a credit for the taxpayer engaged in the activity that leads to the credit. Buyers and intermediaries who are not engaged in the activity at which the credit is aimed nonetheless share the benefit. The Legislature may wish to increase the efficiency of transferable credits by making them refundable rather than transferable, thus keeping the benefit with the original taxpayer, and simplifying administration of the credits.

*Model structure for tax credit programs.* In its discussions, TERC members wished to convey to the Legislature their favorable view of tax credit programs, such as the Life Sciences and EDIP programs, and the Historic Rehabilitation credit, that require application by a taxpayer that seeks a credit for its proposed activity to an agency with subject matter expertise. In these programs, the authorizing agencies have an annual budget amount which may be used to grant tax credits, and they have the necessary discretion and expertise to allocate the budgeted credit amounts to projects most beneficial to the Commonwealth where the impact of the credit is likely to be the greatest. TERC believes that a credit program structured in this manner would

<sup>6</sup> Refundable and transferable credits used for various economic incentive purposes and discussed here are listed in General Laws Chapter 62C, section 1, under the definition of "tax credit program." The Department of Revenue reports annually on tax credit programs pursuant to section 89 of Chapter 62C.

provide more focused use of taxpayer dollars than tax expenditure programs, such as the film credit or brownfields credit, which are available to any taxpayer engaged in a specified activity without prior approval of an administering agency with subject matter expertise.

*Sales tax exemptions for inputs in various industries.* Sections 6(r) and 6(s) of chapter 64H provide sales tax exemptions for inputs consumed across multiple disparate industries, ranging from manufacturing to agriculture, fisheries, utilities, research & development, and radio & television broadcasting. Such exemptions are not universal for all industries, and while the policy rationales seem clear for some benefitted industries itemized in these sections, they are less so in other cases. For example, in an age of telecommunications convergence, a separate exemption for radio and television broadcasting industries appears dated. TERC will examine in due course the various 6(r) & (s) individual tax expenditures, but the Legislature may wish to undertake a broader policy review of these sections and the various industries benefitted by the sales tax exemptions that it provides.

# Appendix A

## Chapter 207 of the Acts of 2018

Chapter 207  
of the Acts of 2018

T H E C O M M O N W E A L T H O F M A S S A C H U S E T T S

*In the One Hundred and Ninetieth General Court*

AN ACT RELATIVE TO THE EXAMINATION OF TAX EXPENDITURES BY THE DEPARTMENT OF REVENUE.

Whereas, The deferred operation of this act would tend to defeat its purpose, which is to establish forthwith the examination of tax expenditures by the department of revenue, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

*Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:*

SECTION 1. Chapter 14 of the General Laws is hereby amended by adding the following section:-

Section 14. (a) There shall be a tax expenditure commission that shall examine, evaluate and report on the administration, effectiveness and fiscal impact of tax expenditures, as defined in section 1 of chapter 29, and as presented with the governor's proposed budget under paragraph 3 of section 5B of said chapter 29.

(b) The commission shall be comprised of: the commissioner of revenue or the commissioner's designee, who shall serve as chair; the state auditor or the auditor's designee; the state treasurer or the state treasurer's designee; the chair of the house committee on ways and means or the chair's designee; the chair of the senate committee on ways and means or the chair's designee; the house and senate chairs of the joint committee on revenue or their respective designees; the minority leader of the house of representatives or the house minority leader's designee; the minority leader of the senate or the senate minority leader's designee; and 3 members to be appointed by the governor, who shall have expertise in economics or tax policy. The 3 members appointed by the governor shall each serve 4-year terms.

(c) The commission shall use best practices and standardized criteria to evaluate: (i) the purpose, intent and goal of each tax expenditure and whether the expenditure is an effective means of accomplishing those ends; (ii) the fiscal impact of each tax expenditure on state and local taxing authorities, including past fiscal impacts and expected future fiscal impacts; (iii) the economic impact of each tax expenditure including, but not limited to, revenue loss compared to economic gain and jobs created, retained or lost as a result of the tax expenditure; (iv) the return on the investment made by the tax expenditure and the extent to which the tax expenditure is a cost effective

use of resources; and (v) similar tax expenditures, if any, offered by other states and the impact of the tax expenditure on regional and national economic competitiveness.

(d) The commission shall establish a schedule to review tax expenditures so that each tax expenditure shall be reviewed at least once every 5 years. The review schedule may group tax expenditures by those benefitting from the tax expenditures, the objectives of the tax expenditures or the policy rationale for the tax expenditures. The commission's review of each tax expenditure shall include the date the tax expenditure was enacted and the statutory or legal citation.

(e) Biennially, not later than March 1, the commission shall file a report of its findings and its recommendations to the clerks of the house of representatives and senate, the chairs of the house and senate committees on ways and means and the chairs of the joint committee on revenue. The report shall include all information required to be reviewed by this section and recommendations. The report shall be made available electronically and prominently displayed on the official website of the department of revenue.

(f) The commission shall have access to information, including aggregate tax return information and related documents maintained by the department of revenue, necessary for the performance of the commission's duties under this section but excluding information provided to the commonwealth by other federal and state tax agencies where such access is prohibited by law; provided, however, that tax returns and related documents shall not include a taxpayer's personal identifying information and such returns and documents shall be confidential and exempt from disclosure as a public record under section 7 of chapter 4 and under chapter 66. The commission, in collaboration with the department of revenue, shall adopt policies and procedures to ensure taxpayer confidentiality.

SECTION 2. This act shall take effect as of July 1, 2018.

House of Representatives, August 2, 2018.

Preamble adopted,

*Paul Donato*, Speaker.

In Senate, August 2, 2018.

Preamble adopted,

*Karen E. Spilke*, President.



House of Representatives, August 2, 2018.

Bill passed to be re-enacted,

*Paul Donato*, Speaker.

In Senate, August 2, 2018.

Bill passed to be re-enacted,

*Karen E. Spilka*, President.

*August 9*, 2018.

Approved,

at

1 o'clock and 46 minutes, P. M.

*Charles D. Traut*

Governor.

# Appendix B

## Members of the Tax Expenditure Review Commission

Chairperson Kevin W. Brown, Designee for Commissioner, Massachusetts Department of Revenue

Suzanne Bump, Massachusetts State Auditor

Sue Perez, Designee for Massachusetts State Treasurer and Receiver General

Professor Michelle Hanlon, Massachusetts Institute of Technology, Appointee for Massachusetts Governor

Professor Matthew Weinzierl, Harvard Business School, Appointee for Massachusetts Governor

Representative Mark J. Cusack, House Chairperson, Massachusetts Joint Committee on Revenue

Senator Adam Hinds, Senate Chairperson, Massachusetts Joint Committee on Revenue

KC Fussell, Designee for Chairperson, Massachusetts House Committee on Ways and Means

David Sullivan, Designee for Chairperson, Massachusetts Senate Committee on Ways and Means

Gregory Sullivan, Designee for Massachusetts Senate Minority Leader

William Burke, Beacon Hill Institute, Designee for Massachusetts House Minority Leader

## Additional Members-Participants 2019-2021

Christopher C. Harding, Former Commissioner, Massachusetts Department of Revenue

Philippe Mauldin, Chief of Staff, Massachusetts Department of Revenue

Sally Peacock, Designee for Massachusetts State Treasurer and Receiver General

Hirak Shah, Designee for Massachusetts Senate Minority Leader

Danielle Allard, Designee for Senate Chairperson, Massachusetts Joint Committee on Revenue

Kerri-Ann Hanley, Designee for Massachusetts State Auditor

Conor O'Shaughnessy, Designee for Massachusetts House Minority Leader

Ryan Sterling, Designee for House Chairperson, Massachusetts Joint Committee on Revenue

Tim Sheridan, Designee for Chairperson, Massachusetts House Committee on Ways and Means

Jacob Blanton, Designee for Chairperson, Massachusetts Senate Committee on Ways and Means

Representative Randy Hunt (Ret.), Designee for Massachusetts House Minority Leader

# Appendix C

Evaluation Rating  
Templates and Tax  
Expenditure  
Summaries

## Appendix C: Evaluation Rating Templates and Tax Expenditure Summaries

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## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Exclusion from Employee Income of Business-Related Meals and Entertainment	<b>Annual cost:</b> \$24.6 to \$28.1 million	<b>Year of adoption:</b> 1973	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input checked="" type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input checked="" type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input type="checkbox"/> Job creation & maintenance <input type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input checked="" type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input checked="" type="checkbox"/> Other: Ease of tax filing administration			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments: Exclusion of Income from Business-Related Meals and Entertainment (TE 1.019)</b>				
The TERC review noted the administrative difficulty that would be involved in tracking and reporting these meals and entertainment as income, especially for small businesses. In light of this, the TERC strongly agrees that this TE justified its cost and, as an exemption, is easy to administer. However, these features make it difficult to measure to what extent it achieves its goals. Note that these benefits likely accrue to more highly compensated employees, and less likely to low income filers.				

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Exclusion from Employee Income of Business-Related Meals and Entertainment
<b>TAX EXPENDITURE NUMBER</b>	1.019
<b>TAX EXPENDITURE CATEGORY</b>	Exclusion from income
<b>TAX TYPE</b>	Personal income tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 62, § 2(a)
<b>YEAR ENACTED</b>	M.G.L. c. 62, § 2 was enacted in 1973 but the exclusion stems from IRC § 132
<b>REPEAL/EXPIRATION DATE</b>	
<b>ANNUAL REVENUE IMPACT</b>	\$24.6 to \$28.1 million FY18 to FY22
<b>NUMBER OF TAXPAYERS</b>	Any employed taxpayer may benefit (3.3 million taxpayers in 2018)
<b>AVERAGE TAXPAYER BENEFIT</b>	Average of \$8 per personal income taxpayer

<p><b>Description of the Tax Expenditure:</b> Provides an income exclusion for the value of business-related meals and entertainment provided to employees, consistent with the federal exclusion.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the fiscal, economic, or other goals of the expenditure according to the statute?</b> To promote business activity by allowing employers to provide meals and entertainment to employees at business-related events without requiring such employees to report the value received as income.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> Many states adopt the definition of income under the Code and therefore follow the federal exclusion rules for business-related meals and entertainment provided by employers.</p>

## **INTRODUCTION**

Businesses are permitted to provide meals and entertainment to employees, at business-related events, without these benefits being treated as income to the employee. This is a federal income exclusion that is allowed for Massachusetts personal income tax purposes due to the state's conformity with the Internal Revenue Code ("the Code") for purposes of defining Massachusetts gross income.

## **INTENT OF THE TAX EXPENDITURE**

The Code, and thus the Massachusetts personal income tax, generally includes all amounts received by employees from their employers in the employees' taxable income (with specified exclusions). The exclusion of the value of meals and entertainment from employees' income encourages business activity by shielding employees from additional tax resulting from attending business meals and entertainment events. In addition, the income exclusion simplifies wage reporting for employers.

## **COSTS**

The estimated revenue loss is based on the Joint Committee on Taxation's ("JCT")<sup>1</sup> annual calculation of the impact to federal tax collections of this income exclusion. The JCT estimate is allocated to Massachusetts using the state's wage and salary disbursements as a percentage of the national figure, and then adjusting for differences in tax rates.

<sup>1</sup> The Joint Committee on Taxation is a nonpartisan committee of the United States Congress, originally established under the Revenue Act of 1926. <https://www.jct.gov/>

**Actual and Forecast Tax Loss of Excluding from Employees' Income  
Business-Related Meals and Entertainment (\$millions)**

<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>
\$ 24.6	\$ 25.4	\$ 25.9	\$ 27.5	\$ 28.1

**BENEFITS**

The direct benefits of this tax expenditure are in the form of non-taxed compensation to employees, in an amount equal to the \$28.1 million in FY22, cited above. Employees are not required to report the value of business-related meals and entertainment provided by employers on their tax returns. Thus, there is insufficient data to evaluate the distribution of the direct benefits across industries or income levels.

It should be noted that the benefits excluded under this section, while “infrequent” can range in value from minor, such as an office holiday luncheon, to significant, such as premium tickets to a sporting or entertainment event.

**EVALUATION: COMPARING COSTS AND BENEFITS**

When evaluating the cost of this tax expenditure it should be noted that, if taxed as compensation, the administrative cost to the Commonwealth of enforcing the income inclusion could be significant relative to the tax collected. In many cases, employer-provided meals or entertainment is infrequent, and/or the dollar value is relatively small. The cost of tracking, assessing, and collecting the tax would offset some of the benefits to the broader economy that would result from the tax collected.

When examining the benefits, in addition to the direct benefits to the employee, there are indirect benefits to the employer. Employer-provided meals and entertainment may foster collaboration and innovation, increase employee satisfaction, improve team cohesion, and boost morale.

**SIMILAR TAX EXPENDITURES OFFERED BY OTHER STATES**



Most states adopt the definition of income under the Code and therefore also provide an income exclusion for business-related meals and entertainment excluded under the Code.

According to a 2019 report by the Tax Foundation, although each state has its own additions and subtractions, twenty-nine states and the District of Columbia use federal adjusted gross income (AGI) as their starting point for calculating individual income tax liability, including Vermont, which adopted federal AGI as its starting point beginning with tax year 2018. Another six states (Colorado, Idaho, Minnesota, North Dakota, Oregon, and South Carolina) use federal taxable income. The remaining six states which tax wage income use state-specific definitions of income, although they incorporate some provisions from the Code into these definitions.<sup>2</sup> We are not aware of any state that requires the inclusion of business-related meals and entertainment excluded under the Code.

<sup>2</sup> See *Toward a State of Conformity: State Tax Codes a Year After Federal Tax Reform*: [https://taxfoundation.org/state-conformity-one-year-after-tcja/#\\_ftnref8](https://taxfoundation.org/state-conformity-one-year-after-tcja/#_ftnref8)

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Income Exclusion for Sale of Certain Patents	<b>Annual cost:</b> \$0	<b>Year of adoption:</b> 1979	<b>Sunset date:</b> None
<b>Tax Type</b> (check all that apply): <input type="checkbox"/> Corporate <input checked="" type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other			
<b>Goal of expenditure</b> (check all that apply):			
<i>Business:</i>		<i>Individual:</i>	
<input type="checkbox"/> Job creation & maintenance		<input type="checkbox"/> Relief of poverty	
<input type="checkbox"/> Investment		<input type="checkbox"/> Progressivity/assistance to low earners	
<input checked="" type="checkbox"/> Competitiveness/Strategic		<input type="checkbox"/> Access to opportunity	
<input checked="" type="checkbox"/> Health/Environment/Social Justice		<input checked="" type="checkbox"/> Health/Environment/Social Justice	
<input type="checkbox"/> Other:		<input type="checkbox"/> Other:	
<b>Measurement and Effectiveness Ratings:</b>			
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i> <i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
The TE is relevant today	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
<i>Business only</i>			
-The TE is beneficial to smaller businesses	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
<i>Individuals only</i>			
-The TE benefits lower income taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
<b>Comments</b>			
<b>Exemption of Income from Certain Patents (TE 1.020)</b>			
The TERC finds that, while this is a well-intended exemption, it is so narrowly structured that no one has ever actually used it. This suggests that either it is not relevant, or a meaningful benefit, or simple unknown to its potential claimants.			

## MASSACHUSETTS TAX EXPENDITURES EVALUATION SUMMARY

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Exemption of Income from the Sale, Lease, or Transfer of Certain Patents
<b>TAX EXPENDITURE NUMBER</b>	1.020 and 2.002
<b>TAX EXPENDITURE CATEGORY</b>	Exemption of income from tax
<b>TAX TYPE</b>	Personal and Corporate income tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 62, § 2(a)(2)(G); M.G.L. c. 63, § 30.3
<b>YEAR ENACTED</b>	Added in 1979 (1979, 796, § 8)
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	N/A
<b>NUMBER OF TAXPAYERS</b>	N/A
<b>AVERAGE TAXPAYER BENEFIT</b>	N/A

<p><b>Description of the Tax Expenditure:</b> Exempts from tax income from the sale or transfer of certain patents, or from the production of royalty or other income from property subject to such patents, for a period of five years. The patents must be issued to or applied for by a Massachusetts resident or a Massachusetts corporation, support energy conservation or alternative energy, and be approved by the commissioner of energy resources.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure. However, the language suggests that it is intended to create an economic incentive for Massachusetts residents and corporations to develop technology related to energy conservation and alternative energy development.</p>
<p><b>What are the policy goals of the expenditure?</b> Energy conservation, efficiency, environmental protection, alternative energy development.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> There are many state incentives for renewable energy and efficiency. See <a href="https://www.dsireusa.org/">DSIRE</a><sup>1</sup> website.</p>

<sup>1</sup> DSIRE is a website that has compiled information on incentives and policies that support renewables and energy efficiency in the United States (<https://www.dsireusa.org/>).

## INTRODUCTION

For purposes of the personal income tax, Massachusetts gross income is federal gross income. Federal gross income includes income from the sale, lease or other transfer of all patents and income from property subject to such patents. Pursuant to M.G.L. c. 62, § 2(a)(2)(G) income from certain patents that are useful for energy conservation or alternative energy development may be deducted from Massachusetts gross income (and therefore is not subject to tax) for a period of five years. The five-year period begins on the date of issuance of the United States patent or the date of approval by the Commissioner of Energy Resources, whichever expires first.

Similarly, for purposes of the corporate excise the starting point for the computation of Massachusetts taxable net income is federal gross income as defined under the IRC, as amended and in effect for the taxable year (with certain modifications not relevant here). Federal gross income includes income from the sale, lease or other transfer of all patents and income from property subject to such patents. Pursuant to M.G.L. c. 63, § 30.3 income from certain patents that are useful for energy conservation or alternative energy development may be deducted from Massachusetts gross income (and therefore is not subject to tax) for a period of five years. The five-year period begins on the date of issuance of the United States patent or the date of approval by the Commissioner of Energy Resources, whichever expires first.

The income may only be deducted in relation to patents that were issued to or applied for by a Massachusetts resident or a Massachusetts corporation. Also, the patents must be of economic value, practicable, and necessary for the Commonwealth. Finally, the patents must be approved by the Commissioner of Energy Resources.

## POLICY GOAL

The statute does not explicitly state the purpose of this tax expenditure. However, the language suggests that it is intended to create an economic incentive for Massachusetts individual residents and corporations to develop technology related to energy conservation and alternative energy development.

**COSTS**

As noted in the Introduction, the exemption is granted for certain patents approved by the Commissioner of Energy Resources. To determine the number of patents that might currently be taking advantage of this exemption, DOR contacted the Massachusetts Department of Energy Resources. However, the Department of Energy Resources reported that “To the best of our knowledge there has been no approval of any U.S. patents deemed beneficial for energy conservation, alternative energy development or related purposes by the Commissioner of the Department of Energy Resources.” From this DOR concludes that there has not been any tax loss as a result of this potential exemption.

While the past tax loss has been zero, we cannot be certain that it will remain zero over the forecast period through FY22. For future years, we report the cost of this tax expenditure as “N.A.”, meaning the data is “not available” to determine the cost, if any.

**Tax Impact: Exemption of Certain Energy Patents**

<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>
\$0	\$0	\$0	N.A.	N.A.

**BENEFITS**

Given that no eligible patents have been approved, no actual benefits have accumulated.

**EVALUATION: COMPARING COSTS AND BENEFITS**

Both costs and benefits for this tax expenditure are currently zero.

**SIMILAR TAX EXPENDITURES OFFERED BY OTHER STATES**

Indiana has a similar income exclusion for certain patent income. Its exclusion is for a utility patent or a plant patent issued after Dec. 31, 2007, for an invention resulting from a development process conducted in Indiana.

## **IS THE INCENTIVE AS DESIGNED ACCOMPLISHING ITS PURPOSE?**

The agency that would certify a patent for this exemption, the Massachusetts Department of Energy Resources, has reported that, to the best of their knowledge, no patents deemed beneficial for energy conservation, alternative energy development or related purposes has been certified by their commissioner.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Capital Gain Deduction for Sale of Collectibles	<b>Annual cost:</b> \$2M	<b>Year of adoption:</b> pre-1986	<b>Sunset date:</b> None	
<b>Tax Type</b> (check all that apply): <input type="checkbox"/> Corporate <input checked="" type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input type="checkbox"/> Job creation & maintenance <input type="checkbox"/> Investment <input type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input checked="" type="checkbox"/> Other: Structural; Approximate Equalization of Tax Rates			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments</b>				
<b>Capital Gains Deduction for Collectibles (TE 1.201)</b>				
In the absence of this deduction, collectibles would be taxed at 12%; with it, they are taxed at 6%, which is close to the regular 5% rate on capital gains. The TERC finds that this deduction does reach its intended beneficiaries, who are almost exclusively high-net worth income filers. We somewhat disagree that the benefits of this deduction are measurable, and that it justifies its fiscal cost.				

We can measure the cost, but what is the benefit? Filers are required to hold the collectible for more than one year to get the deduction, which could possibly dampen short-term speculation; but it is not at all clear if that is the intention. It may make more sense to simply tax collectibles at regular capital gains rate: 12% if held less than one year, 5% if held for 1 year or more.



**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Capital Gains Deduction for Collectibles
<b>TAX EXPENDITURE NUMBER</b>	1.201
<b>TAX EXPENDITURE CATEGORY</b>	Deduction from gross income
<b>TAX TYPE</b>	Personal income tax
<b>LEGAL REFERENCE</b>	c. 62, § 2(c)(3)
<b>YEAR ENACTED</b>	Prior to 1986
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss \$2 million for TY2018
<b>NUMBER OF TAXPAYERS</b>	499 filers claimed this deduction for TY2018
<b>AVERAGE TAXPAYER BENEFIT</b>	Average of \$4,048 tax savings per claimant

<p><b>Description of the Tax Expenditure:</b> The expenditure provides a 50% deduction for long-term capital gains on the sale or exchange of collectibles.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> DOR surmises that the expenditure is intended to impose an effective rate on collectibles similar to the rate imposed on long-term gain on personal use property.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> Based on research to date DOR has not identified any other state with a similar expenditure.</p>

## INTRODUCTION

In general, short-term capital gains are taxed at 12% in Massachusetts, and long-term capital gains are taxed at the Part B rate, which is currently 5%. In contrast, gain on the sale or exchange of collectibles is generally taxed at the 12% rate, but a 50% deduction is available for collectibles held for more than one year. The statute adopts the definition of “collectibles” in section 408(m) of the Code, and includes items such as works of art, antiques, coins and stamps. Long-term capital gains realized from the sale of collectibles (i.e., gain on the sale of collectibles held for more than one year) is eligible for a 50% deduction. Accordingly, the effective rate of tax on long-term gains from the sale or exchange of a collectible held for more than one year is 6%.

## POLICY GOALS OF THE TAX EXPENDITURE

DOR surmises that the goal of the expenditure is to tax long-term gain collectibles at an effective rate similar to the tax rate imposed on long-term gain on other personal use property, such as residences.

## COSTS

The actual revenue losses from this deduction for FY18 and FY19 were projected through FY22 and are presented in the table below.

**Tax loss resulting from  
50% deduction for capital gain on collectibles held for more than one year**  
(\$millions)

<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>
\$ 1.6	\$ 2.0	\$ 2.1	\$ 2.1	\$ 2.2

## BENEFITS

The tax savings of this deduction accrue to the highest-level income earners. 88% of the total deduction amount is claimed by filers reporting over \$1 million in *annual* income.

### Collectibles Deduction by Income Bracket

Source: Massachusetts Department of Revenue Statistics of Income

Net AGI	Count of All Filers (# of filers)	50% Deduction of Long Term Capital Gains on Collectibles		Tax Savings (at 5% rate) (\$)	Income Group's % of Tax Savings (%)	Average Savings per Claimant (\$ / Claim)
		Claimants (# of filers)	Amount Deducted (\$)			
Under \$5,000	426,940	45	97,299	4,865	0.2%	\$ 108
\$5,000 under \$10,000	275,506	17	66,805	3,340	0.2%	\$ 196
\$10,000 under \$15,000	240,025	15	36,362	1,818	0.1%	\$ 121
\$15,000 under \$20,000	213,056	13	31,303	1,565	0.1%	\$ 120
\$20,000 under \$25,000	199,935	11	53,814	2,691	0.1%	\$ 245
\$25,000 under \$30,000	191,935	13	67,376	3,369	0.2%	\$ 259
\$30,000 under \$35,000	184,155	11	8,234	412	0.0%	\$ 37
\$35,000 under \$40,000	170,142	12	51,375	2,569	0.1%	\$ 214
\$40,000 under \$45,000	153,323	12	76,661	3,833	0.2%	\$ 319
\$45,000 under \$50,000	139,352	15	7,954	398	0.0%	\$ 27
\$50,000 under \$60,000	241,555	20	157,517	7,876	0.4%	\$ 394
\$60,000 under \$70,000	200,365	19	78,128	3,906	0.2%	\$ 206
\$70,000 under \$80,000	166,391	20	151,692	7,585	0.4%	\$ 379
\$80,000 under \$90,000	136,849	13	98,158	4,908	0.2%	\$ 378
\$90,000 under \$100,000	113,896	21	99,558	4,978	0.2%	\$ 237
\$100,000 under \$150,000	373,839	72	450,723	22,536	1%	\$ 313
\$150,000 under \$200,000	193,845	41	250,229	12,511	1%	\$ 305
\$200,000 under \$500,000	246,523	71	2,345,292	117,265	6%	\$ 1,652
\$500,000 under \$1,000,000	42,806	25	564,891	28,245	1%	\$ 1,130
\$1,000,000 or Over	22,013	33	35,700,715	1,785,036	88%	\$ 54,092
<b>All</b>	<b>3,932,451</b>	<b>499</b>	<b>\$40,394,086</b>	<b>\$ 2,019,704</b>	<b>100.0%</b>	<b>\$ 4,048</b>

## **EVALUATION: COMPARING COSTS AND BENEFITS**

The cost of this deduction is the approximately \$2 million in annual foregone revenue to Massachusetts. Research on this topic confirms our conclusion that the primary beneficiaries are “ultra-high-net-worth individuals”<sup>1</sup> who hold certain types of collectibles. The assets in this collectibles category include classic European and American cars, fine wines, rare coins, paintings, sculptures, etc.

Given the ultra-high income of filers who benefit from this deduction, it is likely that any tax savings is not consumed but instead put into additional collectibles or financial assets. Accordingly, this expenditure may have a positive effect on the economy. However, collectibles, by their nature, are not productive assets. Therefore, to the extent this deduction encourages purchase of collectibles, it reduces the amount of capital available for productive investment.

### **Similar Tax Expenditures Offered by Other States**

Based on research to date DOR has not identified any other state with a similar expenditure.

### **IS THE INCENTIVE AS DESIGNED ACCOMPLISHING ITS PURPOSE?**

The purpose of this tax expenditure is not specified in the statute. DOR has surmised that the goal of this expenditure is to tax long-term gains on collectibles at a rate similar to long-term gains on personal use property, such as residences. However, a more precise way to accomplish that goal would be to simply amend the statute to tax these gains as other long-term capital gains are taxed.

<sup>1</sup> See: Jean-Philippe Weiskopf, “When Rationality meets Passion: On the Financial Performance of Collectibles” *Journal of Alternative Investments*, Vol 21, No 2; Fall 2018. Summarized here: <https://academicinsightsoninvesting.com/research-on-the-financial-performance-of-collectibles/>

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Exemption of Interest on Savings in Massachusetts Banks	<b>Annual cost:</b> \$4.1 million	<b>Year of adoption:</b> 1973	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input type="checkbox"/> Corporate <input checked="" type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input type="checkbox"/> Job creation & maintenance <input type="checkbox"/> Investment <input type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input checked="" type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Comments: Mass Bank Interest Deduction (TE 1.413)</b>				
The TERC finds this an outdated deduction, and strongly disagree that it provides a meaningful incentive or justifies its fiscal cost. It is claimed by a broad group of taxpayers, but at \$5 per filer, the average benefit is insignificant. We conclude this is an archaic deduction, originally designed to tax Mass bank interest at the wage and salary rate. However, since 1999 all interest income has been taxed at that rate. Basically, an outdated tax expenditure.				

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Exemption of Interest on Savings in Massachusetts Banks
<b>TAX EXPENDITURE NUMBER</b>	1.413
<b>TAX EXPENDITURE CATEGORY</b>	Deduction against taxable income
<b>TAX TYPE</b>	Personal income tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 62, § 2(b)(1)(A); M.G.L. c. 62, § 3B(a)(6)
<b>YEAR ENACTED</b>	1973, see St. 1973, c. 723, § 2
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$4.1 million FY22
<b>NUMBER OF TAXPAYERS</b>	710,000 filers in tax year 2018
<b>AVERAGE TAXPAYER BENEFIT</b>	\$5 per filer

<p><b>Description of the Tax Expenditure:</b> Up to \$100 (\$200 on a joint return) of interest from savings deposits or savings accounts in Massachusetts banks is <u>deductible</u> from gross income</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> The tax expenditure is designed to encourage taxpayers to open savings accounts with Massachusetts banks, thereby facilitating the growth and development of such banks.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> No other bordering states offer a parallel deduction or exemption for in-state bank interest.</p>

## INTRODUCTION

Massachusetts imposes a personal income tax on the Massachusetts gross income of residents and of income sourced to Massachusetts for non-residents. M.G.L. c. 62, §§ 2; 5A. Massachusetts gross income generally means federal gross income, but is subject to certain modifications. M.G.L. c. 62, § 2. Massachusetts gross income is divided into Part A, Part B, and Part C categories. M.G.L. c. 62, § 2(b). Part A gross income generally consists of interest, dividends, and certain capital gain income, Part C gross income is typically long-term capital gain income, and Part B gross income is gross income not included in either Part A or Part C. M.G.L. c. 62, § 2(b)(1)-(3).

M.G.L. c. 62, § 2(b)(1)(A) excludes Massachusetts bank interest from Part A gross income, thereby classifying it as Part B gross income. M.G.L. c. 62, § 3B(a)(6) allows taxpayers filing singly to deduct up to \$100 of such interest, and taxpayers filing jointly to deduct up to \$200.

While M.G.L. c. 62, § 3B(a)(6) neither mentions nor defines a Massachusetts bank, the Massachusetts bank requirement and its definition are imputed from M.G.L. c. 62, § 2(b)(1)(A). In particular, a Massachusetts bank for purposes of the deduction is a savings or cooperative bank, trust company or credit union incorporated in or chartered by the commonwealth, any national bank, federal savings and loan association, federal savings bank or federal credit union located in the commonwealth, any banking company or Morris Plan company subject to M.G.L. c. 172A, any savings or loan association or banking partnership under the supervision of the Massachusetts commissioner of banks. *Id.*

## POLICY GOAL

This particular tax expenditure encourages savings and deposits in Massachusetts banks by allowing taxpayers a limited deduction for interest received from such banks. This expenditure ultimately supports the banking industry in Massachusetts. In addition, the incentive encourages taxpayers to deposit money in interest-bearing accounts with Massachusetts banks. The amount of the deduction remains unchanged since its enactment in 1973. Neighboring states do not have equivalent tax expenditures. Historically, New Hampshire had a parallel provision, but it was repealed in 1995. See 1995 NH ALS 188, § 3.

## COSTS

The revenue loss from this tax expenditure is calculated annually as part of the Tax Expenditure Budget (TEB). We estimate the cost of this credit in FY22 will be \$4.1 million.

### Actual and Forecast Tax Loss from MA Bank Interest Deduction (\$millions)

<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>
\$ 2.9	\$ 3.2	\$ 3.5	\$ 3.8	\$ 4.1



## BENEFITS

### MA Bank Interest Deduction claimed by filers in 2018, by Income level

Source: Massachusetts Statistics of Income

Net AGI	All Filers (# of filers)	MA Bank Int Deduction		Tax Savings ( $\$$ )	Average Tax Savings \$/claimant	% of All Filers Claiming Deduction (%)
		Claimants	Amount Deducted			
		(# of filers)	( $\$$ )			
<b>Under \$5,000</b>	426,940	49,457	3,845,580	196,125	4	12%
<b>\$5,000 under \$10,000</b>	275,506	29,718	2,396,247	122,209	4	11%
<b>\$10,000 under \$15,000</b>	240,025	28,179	2,317,412	118,188	4	12%
<b>\$15,000 under \$20,000</b>	213,056	25,787	2,188,155	111,596	4	12%
<b>\$20,000 under \$25,000</b>	199,935	23,938	2,042,256	104,155	4	12%
<b>\$25,000 under \$30,000</b>	191,935	22,978	1,935,203	98,695	4	12%
<b>\$30,000 under \$35,000</b>	184,155	22,376	1,856,439	94,678	4	12%
<b>\$35,000 under \$40,000</b>	170,142	21,964	1,801,992	91,902	4	13%
<b>\$40,000 under \$45,000</b>	153,323	21,087	1,720,724	87,757	4	14%
<b>\$45,000 under \$50,000</b>	139,352	20,335	1,632,290	83,247	4	15%
<b>\$50,000 under \$60,000</b>	241,555	39,090	3,136,320	159,952	4	16%
<b>\$60,000 under \$70,000</b>	200,365	35,740	2,890,160	147,398	4	18%
<b>\$70,000 under \$80,000</b>	166,391	32,642	2,678,699	136,614	4	20%
<b>\$80,000 under \$90,000</b>	136,849	29,194	2,427,184	123,786	4	21%
<b>\$90,000 under \$100,000</b>	113,896	26,328	2,257,459	115,130	4	23%
<b>\$100,000 under \$150,000</b>	373,839	100,118	9,073,119	462,729	5	27%
<b>\$150,000 under \$200,000</b>	193,845	60,562	5,896,105	300,701	5	31%
<b>\$200,000 under \$500,000</b>	246,523	89,560	9,768,156	498,176	6	36%
<b>\$500,000 under \$1,000,000</b>	42,806	19,778	2,447,746	124,835	6	46%
<b>\$1,000,000 or Over</b>	22,013	11,848	1,658,298	84,573	7	54%
<b>All</b>	<b>3,932,451</b>	<b>710,679</b>	<b>63,969,544</b>	<b>\$3,262,447</b>	<b>\$ 5</b>	<b>18%</b>

## EVALUATION: COMPARING COSTS AND BENEFITS

The Massachusetts bank interest deduction costs Massachusetts \$3 to \$4 million annually. In addition to the direct tax savings to Massachusetts taxpayers, this deduction supports Massachusetts employment in the banking industry.

While the benefits of the deduction are small, they are widely distributed across all income strata in Massachusetts. In theory, the deduction is equitable because as a percentage of income, the benefit is worth more to lower-income filers. However, as actually applied, the deduction has insignificant benefits for most filers for two reasons:

*Minor tax savings:*

The maximum value of the deduction is \$100 for single filers and \$200 for joint filers. Because the Massachusetts personal income tax is imposed at a rate of 5%, this deduction provides tax savings up to a maximum of either \$5 or \$10 per filer.

*Significant savings required to reach maximum:*

The Massachusetts bank interest deduction was enacted in 1973. At that time, interest rates were much higher than today, and it was not uncommon for a savings account to generate 5% interest annually. By comparison, the current interest rate on a savings account may be only 0.1%. Even a “high rate savings” account may pay only 1% interest annually. At a 1% interest rate, a taxpayer filing alone would have to have at least \$10,000, or \$20,000 if filing jointly, deposited in a Massachusetts bank to earn the maximum \$100 or \$200 in interest annually. These are significant sums to leave in an account bearing such a minor return, even with the tax deduction.

## **SIMILAR TAX EXPENDITURES OFFERED BY OTHER STATES**

No other bordering states offer a parallel deduction or exemption for in-state bank interest.

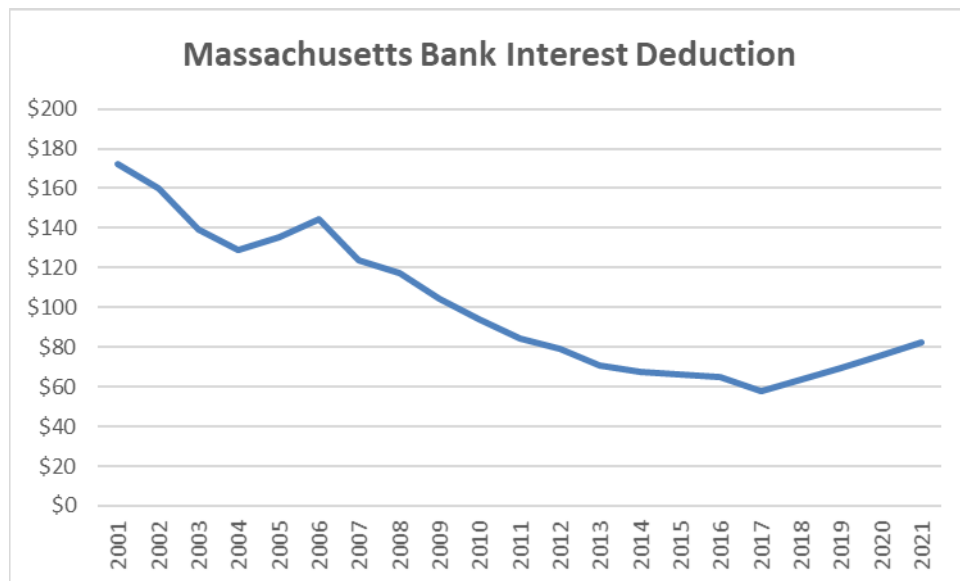
## IS THE INCENTIVE AS DESIGNED ACCOMPLISHING ITS PURPOSE?

This tax expenditure is designed to encourage taxpayers to open savings accounts with Massachusetts banks, thereby facilitating the growth and development of such banks. However, as the chart below demonstrates, the amount of Massachusetts bank interest deducted annually has generally been in decline for the past two decades:

### Total Massachusetts Bank Interest Deducted

Actual Massachusetts Bank Interest deducted, 2001 to 2018; projected 2019 to 2021  
(in \$millions)

Source: Massachusetts Department of Revenue Statistics of Income



The general decline in the amount of Massachusetts bank interest providing this deduction suggests that the deduction is failing to accomplish its goal. It should be noted that interest rates have been falling steadily during the period depicted, which may have contributed to the decline in claimed deductions. However, an examination of the claims by income level (“Benefits” section above) shows fewer claimants than would be expected. Even among filers with incomes over \$500,000, less than half claim *any deduction at all*. It seems unlikely that filers at this income level would have zero Massachusetts bank interest income.

While we cannot be certain why this is so, as noted in the “Benefits” section, the maximum tax benefit is only a savings of \$5 for taxpayers filing singly and \$10 for taxpayers filing

jointly. The relatively low participation rate suggests that this current deduction is too small to have any significant impact on taxpayer behavior.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Deduction for Clean Fuel Vehicles and Certain Refueling Property	<b>Annual cost:</b> Negligible	<b>Year of adoption:</b> 1998 code update	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input type="checkbox"/> Corporate <input checked="" type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input type="checkbox"/> Job creation & maintenance <input type="checkbox"/> Investment <input type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input checked="" type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments: Clean fuel Vehicle Refueling Properties (TE 1.421)</b>				
This tax deduction is outdated and should be dropped. It is still carried because Massachusetts conforms to the Internal Revenue Code as it existed in 2005. The federal statute upon which it is based was repealed in 2014.				

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Deduction for Clean Fuel Vehicles and Certain Refueling Property
<b>TAX EXPENDITURE NUMBER</b>	1.421
<b>TAX EXPENDITURE CATEGORY</b>	Deduction against taxable income
<b>TAX TYPE</b>	Personal income tax
<b>LEGAL REFERENCE</b>	IRC §§ 62(a)(14) and 179A
<b>YEAR ENACTED</b>	As part of 1998 Code update
<b>REPEAL/EXPIRATION DATE</b>	None, but deduction is limited to vehicles and certain refueling property placed in service on or before December 31, 2006
<b>ANNUAL REVENUE IMPACT</b>	Negligible
<b>NUMBER OF TAXPAYERS</b>	N/A
<b>AVERAGE TAXPAYER BENEFIT</b>	N/A

<p><b>Description of the Tax Expenditure:</b> A deduction is allowed for a portion of the cost of qualifying motor vehicles that use clean-burning fuel placed in service on or before December 31, 2006. The deduction exists in Massachusetts because it was present in the Code as of 1/1/05. The federal deduction was repealed in 2014.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure. We inferred that the purpose was to encourage the purchase of vehicles that use clean burning fuel.</p>
<p><b>What are the policy goals of the expenditure?</b> To increase consumer purchasing of alternative fuel-powered vehicles, thereby reducing environmental pollution.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> All New England states and NY have a variety of electric and/or hybrid vehicle incentives and some clean fuel incentive programs but no income tax deduction.</p>

## **INTRODUCTION**

This expenditure is tied to a federal deduction that was repealed in 2014. The deduction was for a portion of the cost of qualifying motor vehicles that use clean-burning fuel and for certain refueling property used for the storage or dispensing of a clean-burning fuel or for the recharging of electric motor vehicles. Because Massachusetts currently conforms to the Code as of January 1, 2005, Massachusetts conforms to the federal deduction as in effect at that time, including this one which required vehicles and property to be placed in service on or before December 31, 2006. Massachusetts follows this requirement. Thus, for practical purposes the deduction is no longer in effect.

If Massachusetts were to update to the current Code, the 2014 repeal would be picked up as part of that update and the deduction would no longer be part of Massachusetts law.

## **POLICY GOAL**

To encourage the purchase and use of clean fuel vehicles by allowing an immediate deduction for the cost of such vehicles and equipment used to refuel them instead of requiring such costs to be capitalized and deducted over a period of years. Note, however, that the federal statute to which Massachusetts conforms has since been repealed. Massachusetts law retains the deduction solely because of its conformity with the Code as it was in effect in 2005.

## **COSTS**

While DOR has estimated the cost of this expenditure to be “Negligible”, its cost is likely zero because the deduction is only available for vehicles placed in service prior to December 31, 2006.

## **BENEFITS**

Given the requirement that eligible vehicles must have been placed in service prior to December 31, 2006, DOR estimates that very few, if any, taxpayers are benefitting from this deduction.

## **EVALUATION: COMPARING COSTS AND BENEFITS**

This deduction, which was intended to promote alternatively fueled vehicles and facilities, has been superseded by other credits/deductions. Both costs and benefits are no longer in effect.

## **OTHER TAX EXPENDITURES / PROGRAMS WITH SIMILAR GOALS**

### *Federal Tax Credit*

The Qualified Plug-in Electric Drive Motor Vehicle Tax Credit is the main federal incentive program for electric cars available in the United States. Under this program, the purchase of a new electric vehicle is eligible for a tax credit worth \$7,500 as long as it meets the following criteria:

- Purchased after December 31, 2009
- Uses a traction battery (as the vast majority of EVs do)
- Battery has at least 4 kilowatt hours (kWh) of capacity
- Uses an external plug-in source to recharge
- Has a vehicle weight rating of up to 14,000 pounds
- Meets emissions standards

The federal electric car tax credit applies to both all-electric vehicles and plug-in hybrid vehicles, and the actual amount you can claim varies based on car model.

This tax credit has a “phase out” built into the program that is dependent on the volume of vehicles sold by the manufacturer of the car. The phase out will kick in at the beginning of the second calendar quarter after a manufacturer has sold 200,000 eligible AEVs and/or PHEVs.

While most electric cars are still eligible for this tax credit, it is of note that Tesla cars are no longer eligible for the full incentive. Only vehicles delivered by December 31, 2018 received the full credit. Vehicles delivered before June 30, 2019 received a credit of \$3,750, those delivered between July 1, 2019 and December 31, 2019 will receive \$1,875, and beyond that timeline no credit is available for Tesla.



### *Massachusetts Plug-In and Zero Emission Vehicle Rebates*

While Massachusetts does not offer additional deductions or a tax credit for electric vehicles, it does offer rebates for certain vehicles. The Massachusetts Department of Energy Resources administers the “*Massachusetts Offers Rebates for Electric Vehicles*” (“MOR-EV”) Program which offers residents, nonprofits, and businesses rebates of up to \$2,500 toward the purchase or lease of eligible battery electric and fuel cell electric vehicles and up to \$1,500 for the purchase or lease of eligible plug-in hybrid electric vehicles. Eligible nonprofit and business fleet vehicles may include rental cars, company cars, and delivery vehicles. Vehicle purchase prices must be below \$50,000. Applicants must retain ownership of the vehicle for a minimum of 36 months. Only vehicles purchased or leased on or after January 1, 2020 are eligible. For more information, visit the MOR-EV website.

## **SIMILAR TAX EXPENDITURES OFFERED BY OTHER STATES**

Maine: Has various incentive programs for hybrid & electric vehicles and clean fuel, but no deduction. [https://afdc.energy.gov/laws/state\\_summary?state=ME](https://afdc.energy.gov/laws/state_summary?state=ME)

Vermont: Has various incentive programs for hybrid & electric vehicles and clean fuel, but no deduction. [https://afdc.energy.gov/laws/state\\_summary?state=VT](https://afdc.energy.gov/laws/state_summary?state=VT)

New Hampshire: Has some incentive programs for clean fuel, but no deduction. [https://afdc.energy.gov/laws/state\\_summary?state=NH](https://afdc.energy.gov/laws/state_summary?state=NH)

Rhode Island: Has some incentive programs for clean fuel, but no deduction. [https://afdc.energy.gov/laws/state\\_summary?state=RI](https://afdc.energy.gov/laws/state_summary?state=RI)

Connecticut: Has various incentive programs for electric vehicles and clean fuel, but no deduction. [https://afdc.energy.gov/laws/state\\_summary?state=CT](https://afdc.energy.gov/laws/state_summary?state=CT)

New York: Has various incentive programs for hybrid & electric vehicles and clean fuel, but no deduction. [https://afdc.energy.gov/laws/state\\_summary?state=NY](https://afdc.energy.gov/laws/state_summary?state=NY)

Current Federal Incentives for Clean Fuel:

<https://afdc.energy.gov/laws/all?state=US>

[Alternative Fuels Data Center Survey](#)

<https://afdc.energy.gov/laws>

## **IS THE INCENTIVE AS DESIGNED ACCOMPLISHING ITS PURPOSE?**

This deduction has only been retained as a result of Massachusetts conforming to the 2005 Code. But as noted above, for practical purposes the deduction is no longer in effect. Thus, it no longer incentivizes the purchase of alternatively fueled vehicles.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Renewable Energy Source Credit	<b>Annual cost:</b> \$5.2 million	<b>Year of adoption:</b> 1979	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input type="checkbox"/> Corporate <input checked="" type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i>		<i>Individual:</i>		
<input checked="" type="checkbox"/> Job creation & maintenance		<input type="checkbox"/> Relief of poverty		
<input type="checkbox"/> Investment		<input type="checkbox"/> Progressivity/assistance to low earners		
<input type="checkbox"/> Competitiveness/Strategic		<input type="checkbox"/> Access to opportunity		
<input type="checkbox"/> Health/Environment/Social Justice		<input checked="" type="checkbox"/> Health/Environment/Social Justice		
<input type="checkbox"/> Other:		<input checked="" type="checkbox"/> Other:		
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				
<b>Renewable Energy Resource Credit (TE 1.601)</b>				
We strongly agree that this credit is relevant, measurable, and justifies its fiscal cost. We somewhat agree that it is claimed by its intended beneficiaries, a broad group of taxpayers who find this an effective incentive.				

This credit effectively incentivizes residential utilization of renewables, and as such is a support for clean energy climate plans. In addition to environmental benefits, the credit has a jobs-creation benefit, and contributes to establishing the renewable energy industry in Massachusetts. This creates indirect benefits for businesses.

A weakness of the credit is its lack of use by lower-income taxpayers; Filers claiming the credit tend to have incomes over \$100,000. The credit could be expanded by structuring it to phase out for high-income filers (over \$250k?) while simultaneously increasing the credit amount for lower income filers, perhaps 50% of costs for those under \$XX per year.

The credit would be more effective if its cap were increased; also note that the current challenges for renewables are for storage and delivery; it may be possible to broaden the credit to provide incentives in these areas.

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Renewable Energy Source Credit (tax credit)
<b>TAX EXPENDITURE NUMBER</b>	1.601
<b>TAX EXPENDITURE CATEGORY</b>	Credit against tax
<b>TAX TYPE</b>	Personal income tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 62, § 6(d)
<b>YEAR ENACTED</b>	1979
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$5.2 million in FY22
<b>NUMBER OF TAXPAYERS</b>	Estimated 6,000 personal income tax filers
<b>AVERAGE TAXPAYER BENEFIT</b>	\$900 to \$1,000 per claimant

<p><b>Description of the Tax Expenditure:</b> Provide homeowners and tenants a credit equal to 15% of the net expenditure for renewable energy source property or \$1,000, whichever is less. The credit is limited to certain types of equipment used directly for the production of solar or wind energy for residential properties.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure. We inferred that the purpose is to provide incentives to homeowners and tenants to invest in renewable energy sources to promote energy efficiency, and reduce environmental pollution.</p>
<p><b>What are the policy goals of the expenditure?</b> We infer it is intended to promote energy efficiency, thereby reducing environmental pollution.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> All the New England states and New York have renewable energy incentive programs. The programs include, depending on the state, a sales tax, property tax or income tax deduction or exemption, or a combination of these tax incentives.</p>

## INTRODUCTION

Owners and tenants of residential property located within Massachusetts who are not dependents and who occupy the property as a principal residence are allowed a credit equal to 15% of the net expenditure for renewable energy source property or \$1,000, whichever is less.

Unused credits may be carried forward for 3 years. The credit is neither transferable nor refundable and is reduced by any federal tax credits and grants or rebates received from the U. S. Department of Housing and Urban Development.

The credit is limited to the purchase and installation of equipment for solar or wind powered and related equipment. See, 830 CMR 62.6.1.

## POLICY GOAL

While the intent of the tax credit is not explicit, it appears intended to encourage the use of renewable energy by allowing homeowners and tenants a credit for installation of qualifying renewable energy equipment. The goals it works towards are:

- Cleaner Environment
- Support the establishment of the renewables industry in Massachusetts
- Provide jobs/employment

## COSTS

The revenue loss from this tax expenditures is calculated annually as part of the Tax Expenditure Budget (TEB). We estimate the cost of this credit in FY22 will be \$5.2 million.

### Actual and Forecast Tax Loss from Renewable Energy Credit (\$millions)

<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>
\$ 4.2	\$ 4.4	\$ 4.6	\$ 4.9	\$ 5.2

## BENEFITS

The table below provides a break-out, by income level, of the \$4.359 million in Renewable credits claimed for tax year 2018. Also shown is the percentage of claimants at each income level, and the percentage of total credits they claimed.

### Renewable Energy Credits claimed by filers in 2018, by Income level

Source: Massachusetts Statistics of Income

	All Filers	Renewable Energy Source Credit		% of Credit in this Income Range	
	# of Returns	# of Returns	\$ Amount	% of Claimants	% of \$ Amount
<b>Net Adjusted Gross Income</b>					
<b>Under \$5,000</b>	426,940	8	3,185	0%	0%
<b>\$5,000 under \$10,000</b>	275,506	17	3,915	0%	0%
<b>\$10,000 under \$15,000</b>	240,025	45	15,945	1%	0%
<b>\$15,000 under \$20,000</b>	213,056	83	29,984	2%	1%
<b>\$20,000 under \$25,000</b>	199,935	87	46,934	2%	1%
<b>\$25,000 under \$30,000</b>	191,935	107	73,254	2%	2%
<b>\$30,000 under \$35,000</b>	184,155	81	55,837	2%	1%
<b>\$35,000 under \$40,000</b>	170,142	103	74,520	2%	2%
<b>\$40,000 under \$45,000</b>	153,323	94	81,531	2%	2%
<b>\$45,000 under \$50,000</b>	139,352	120	102,043	2%	2%
<b>\$50,000 under \$60,000</b>	241,555	213	190,458	4%	4%
<b>\$60,000 under \$70,000</b>	200,365	229	214,470	5%	5%
<b>\$70,000 under \$80,000</b>	166,391	237	217,843	5%	5%
<b>\$80,000 under \$90,000</b>	136,849	224	207,929	5%	5%
<b>\$90,000 under \$100,000</b>	113,896	231	214,681	5%	5%
<b>\$100,000 under \$150,000</b>	373,839	1,001	938,388	21%	22%
<b>\$150,000 under \$200,000</b>	193,845	642	621,778	13%	14%
<b>\$200,000 under \$500,000</b>	246,523	1,075	1,045,281	22%	24%
<b>\$500,000 under \$1,000,000</b>	42,806	160	157,501	3%	4%
<b>\$1,000,000 or Over</b>	22,013	65	63,536	1%	1%
<b>All</b>	3,932,451	4,822	\$ 4,359,013	100%	100%

In Massachusetts, the average cost of a typical 5kWh system is \$16,000<sup>1</sup> (2020); a \$1,000 credit would represent a 6.25% reduction in the cost of such a system.

<sup>1</sup> <https://www.energysage.com/local-data/solar-panel-cost/ma/>

## EVALUATION: COMPARING COSTS AND BENEFITS

This tax credit has direct impacts in the form of lost tax revenue to the state, which reduces state spending. This loss directly benefits certain filers in the form a lower tax burden. The direct benefits lower the tax burden of claimants, which has an economic impact similar to an increase in their disposable income. The net impact on the state's economy is likely slightly negative, as state spending tends to have a greater local impact than a general increase in disposable income. However, for this particular tax expenditure, a consideration of its broader benefits should be considered, even if difficult to quantify.

More broadly, this tax credit has a jobs-creation effect and an environmental benefit. The jobs creation comes from spending for installing renewables, principally solar. Beyond the direct benefits of the jobs it funds, by increasing the volume of installations the credit likely has contributed to the establishment of the solar industry in Massachusetts.

The use of renewables to produce electricity also displaces fossil fuel use, providing environmental benefits. Although difficult to quantify, achievement of this socially desirable goal is a benefit of the credit.

While the installation of renewables has expanded significantly over the past 10 years, it is difficult to quantify how much of this activity can be attributed to this credit, and how much is due to other factors such as federal tax credits and falling costs in the renewables industry. See "Is the Incentive as Designed Accomplishing its Purpose?" section below for further analysis.

## SIMILAR TAX EXPENDITURES OFFERED BY OTHER STATES

Most states have some type of energy incentive or income tax deduction, sales tax exemption and/or property tax exemption:

- Maine has a deduction tied to the Federal Tax Credit for Solar Photovoltaics and other renewable energy incentives. It also offers loans, and net metering.
- Vermont has a deduction tied to the Federal Investment Tax Credit and other renewable energy incentives including net metering. (Varies by local utility)
- New Hampshire has a property tax exemption for solar & wind energy installations. Also, any homeowner with a solar system size of 10 kW or less will qualify for the state's incentive program for small residential solar. The program pays \$0.20 per watt **up to \$1,000** or half the cost of the system, whichever comes first.



- Connecticut has a sales tax exemption and a property tax exemption and several other incentive programs for renewable energy. Connecticut’s “Residential Solar Investment Program” (administered by the Connecticut Green Bank) provides rebates of \$0.463 per watt of solar installed (up to 10kW). That is, a homeowner who invests in a 5-kilowatt system would receive \$2,315.
- Rhode Island has a sales tax exemption and a property tax exemption and several other incentive programs for renewable energy. Rhode Island’s “solar grant program” provides new solar owners \$0.85 per watt via the installing company, up to \$7,000. An average 5-kilowatt roof- system receives \$4,250 in cash payments.
- New York has a sales tax exemption and a property tax exemption and several other incentive programs for renewable energy, notably their Solar Equipment Tax Credit. This is a solar tax credit of up to \$5,000 or 25% of the cost of a solar energy system (whichever is lower). Solar Equipment Tax Credit claimants who rent or lease their system (i.e. solar with a lease or PPA) qualify. Any unused credit may be carried forward into the next year. In addition, New York’s Megawatt Block Incentive is a direct incentive for solar energy available under its NY-Sun Initiative. The program provides an up-front dollars-per-watt (\$/W) rebate for both commercial and residential solar panel systems; the size of your subsidy depends on how much solar energy is already being produced in the area, and could be as high as \$1/W (\$5,000 for a 5-kWh system).

For programs in other states, see:

**Database of State Incentives for Renewables & Efficiency**

**<https://www.dsireusa.org/>**

**Solar Energy Tax Incentives by State**

**<https://www.solar-electric.com/learning-center/solar-energy-tax-incentives.html/>**

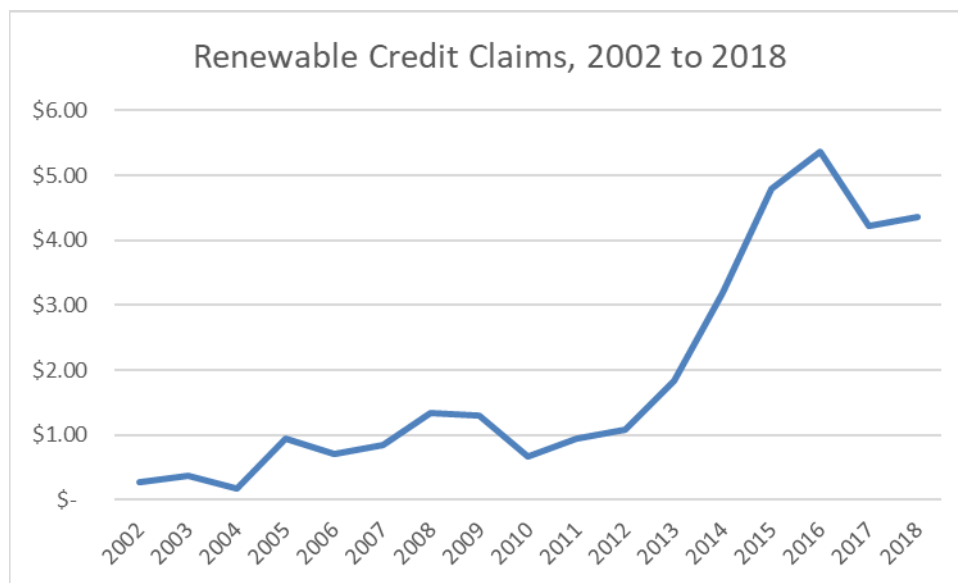
**IS THE INCENTIVE AS DESIGNED ACCOMPLISHING ITS PURPOSE?**

The renewable energy source credit was introduced in 1979. It was little used during its early years. As the cost of solar photovoltaic installations fell, claims for the credit have increased. This was most pronounced over the past 10 years.

The chart below shows the actual credits claimed by filers (in millions of dollars). Annual claims plateaued at around the \$1 million level from 2005 to 2012. We know that the installation costs for solar power have been declining over time. The credit has likely helped make investment in home renewable power more attractive. From 2013 on, credits increased rapidly to the \$4 to \$5 million dollar range. While the renewables credit is only

part of the reason for increased solar installations (see next section), this increase in claims is an indication that the credit is contributing to the goal of expanded use of renewable electric generation.

Note that this credit, as originally conceived, was for any renewable energy source property. As the market for renewables developed, solar power emerged as the most cost-effective renewable source. The credit provided a *renewable* incentive, while the market selected the particular technology (solar in this case) as the principal recipient of the credit.



### **Other Massachusetts plans that support renewable energy production**

It should be noted that the renewable energy source credit is not the only inducement for the installation of these systems. We believe that the two programs described below, in combination with the credit, have contributed to the expanded use of renewables, particularly solar, in Massachusetts.

#### *Massachusetts solar tax exemptions*

There are two major tax exemptions for solar homeowners in addition to the income tax exemption: the sales tax and property tax incentives. Both of these tax incentives are attractive as they provide a 100% tax exemption from both sales and property tax payments.

#### *Mass Solar Loan program*

This new, innovative state-level incentive allows residential homeowners to own a solar photovoltaic system by making fixed, low-interest loan payments. This financing program is a major reason for solar's rising popularity in Massachusetts where legislators wanted to incentivize homeowners to get the best value out of their solar panel installation - by owning it rather than getting into complex third-party ownership agreements.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Economic Development Incentive Program Credit	<b>Annual cost:</b> \$15.8-16.0 million corporate/business \$3.5-3.7 million personal income	<b>Year of adoption:</b> 1993	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input checked="" type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input checked="" type="checkbox"/> Job creation & maintenance <input checked="" type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input checked="" type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Comments (TEs 1.603, 2.605)**

This TE has several elements that make it a model tax expenditure and was earlier noted by the 2012 Tax Expenditure Review Commission as a well-structured model. While claimed by a narrow group, the average benefit per claimant is a meaningful \$100,000, and 50% of claimants are companies of 100 or fewer employees. Members noted that this TE supports investments, jobs, and competitiveness, while providing cost control via an annual funding cap in the state budget.

## MASSACHUSETTS TAX EXPENDITURES EVALUATION SUMMARY

### EVALUATION YEAR: 2020

<b>TAX EXPENDITURE TITLE</b>	Economic Development Incentive Program Credit (formerly referred to as Economic Opportunity Area Credit)
<b>TAX EXPENDITURE NUMBER</b>	1.603 and 2.605
<b>TAX EXPENDITURE CATEGORY</b>	Credit against tax ( <i>personal income tax, corporate and business tax</i> )
<b>TAX TYPE</b>	Corporate and business excise, personal income tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 63, § 38N; c. 62, § 6(g)
<b>YEAR ENACTED</b>	1993
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Annual tax loss of \$15.8 - \$16.0 million from corporate and business tax filers and \$3.5 - \$3.7 million from personal income tax filers during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	131 claims from corporate and business tax filers, and 30 claims from personal income tax filers (tax year 2017)
<b>AVERAGE TAXPAYER BENEFIT</b>	About \$103,900 per claim (tax year 2017)

<p><b>Description of the Tax Expenditure:</b> Under the provisions of the Economic Development Incentive Program (EDIP), the Economic Assistance Coordinating Council (EACC) may authorize taxpayers participating in certified projects to claim tax credits. To be eligible, a project must be certified by the EACC. The total dollar amount of the EDIP credit that may be authorized in a calendar year is \$30 million.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b></p>	<p><b>Are there other states with a similar Tax Expenditure?</b></p>

<p>To provide incentives to invest in new or expanded business ventures in Massachusetts by awarding tax credits for such investments, thereby reducing the cost of capital and spurring economic growth.</p>	
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## **INTRODUCTION**

Under the Economic Development Incentive Program (EDIP), the Economic Assistance Coordinating Council (EACC) may award tax credits to taxpayers that participate in a “certified project” (as defined in G.L. c. 23A, §§ 3A and 3F). The amount of credit allowed in each case is determined by the EACC based on numerous factors set forth in G.L. c. 23A, § 3D, including the number of jobs expected to be created, the amount of capital to be invested, and the net new economic benefit expected to be created. The EACC may designate the credit as refundable for any certified project, subject to a limitation that the EACC may not award more than \$5 million in refundable credits per year.

Unless designated as refundable, the maximum amount of credit allowed in any one taxable year cannot exceed fifty percent of the excise due for the taxable year. The amount of credit allowed cannot reduce the excise below the minimum excise. The EACC is authorized to eliminate or limit carry-over of the credit. The EDIP credits used in a calendar year are subject to an annual cap of \$30 million. Recapture is required if the EACC revokes a business project certification.

The credit is not transferable; however, if a certified project is sold or otherwise disposed of, the credit allowed may be transferred to the purchaser of the certified project, provided that the EDIP contract is assigned to and assumed by the purchaser and approved in writing by the EACC.

When it was first enacted in 1993, the credit was for a fixed 5 percent of the costs of qualifying tangible property, and the project had to be located in a designated “economic opportunity area”. In 2010, the statute was amended to increase the percentage to “up to 10 percent” and “up to a refundable forty percent” in some cases, eliminate the “economic opportunity area” requirement and impose an annual cap of \$25 million. As of 2017, the credit is whatever amount is awarded by the EACC as part of the certification process.

## **POLICY GOALS**

The statute does not explicitly state the purpose of this tax expenditure. However, the credit is designed to provide incentives to invest in new or expanded business ventures in Massachusetts. Credits for such investments reduce the cost of capital, thus spurring economic growth. The credit is a key component of the Economic Development Incentive Program created under G.L. c. 23A and administered by the Massachusetts Office of



Business Development (“MOBD”). In its fiscal year 2020 annual report<sup>1</sup>, MOBD states that it has 4 missions, which are to “facilitate access to resources”, “promote job growth and job retention”, “stimulate private investments”, and “help businesses thrive in Massachusetts”.

## DIRECT COSTS

The revenue loss resulting from this tax expenditure is estimated to be \$15.8 - \$16.0 million per year from corporate and business tax filers and \$3.5 - \$3.7 million per year from personal income tax filers during FY18-FY22. See Table 1. The estimates are based on several factors, including historical claims, economic forecasts, and related law changes.

**Table 1. Tax Revenue Loss Estimates for EDIP Credit**

Fiscal Year		2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	Corporate excise	\$15.8	\$15.9	\$15.9	\$16.0	\$16.0
	Personal Income tax	\$3.5	\$3.6	\$3.6	\$3.7	\$3.7
	Total	\$19.3	\$19.4	\$19.5	\$19.6	\$19.8

Table 2 below shows the amount and number of available, claimed, and shared credits in each year during the period 2015 through 2018. “Available credit” refers to the maximum amount of credit that a taxpayer can claim based on tax liability, provided there are no other restrictions. “Claimed credit” is the amount a taxpayer actually claimed. “Shared credit” is the amount of a taxpayer’s credit that was used by other members of the taxpayer’s combined group. “Count” refers to the number of credit claims.

There were 96 -173 claims per year from corporate and business tax filers, and 6 – 156 claims per year from the personal income tax filers during the tax years 2015 through 2018. The average claimed or shared amount varied from \$85,600 in 2015 to \$120,200 in 2018. It is unknown why the number of claims from personal income tax filers decreased from 156 in 2015 to 30 in 2017, and 6 in 2018. Please also note that the actual claimed or shared amounts of the credit were close to or significantly under 50% of the amounts of credits available. That means that tax filers did not have enough tax liabilities to take full advantage of the credit or certain statutory limitations<sup>2</sup> prevented them from doing so.

<sup>1</sup> EDIP annual reports can be found on this site: <https://www.mass.gov/service-details/economic-development-incentive-program-edip>.

<sup>2</sup> In Massachusetts, for some credits such as EDIPC and ITC (investment tax credit), the claimed amount may not exceed 50% of a tax filer’s tax liability. The rule is not applicable for personal income tax filers.

**Table 2. Amount and Count of EDIP Credit by Tax Year**

Calendar Year		2015		2016		2017		2018	
		Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count
Corporate Business Tax	Available Credit - A	\$114,070	369	\$107,463	322	\$62,063	289	\$23,191	202
	Claimed Credit	\$22,025	157	\$20,716	113	\$11,921	111	\$10,050	85
	Shared Credit	\$2,709	16	\$3,515	14	\$2,793	20	\$1,384	11
	Claimed plus Shared Credit - B	\$24,734	173	\$24,230	127	\$14,714	131	\$11,434	96
	B/A	21.7%	46.9%	22.5%	39.4%	\$23.7%	45.3%	49.3%	47.5%
Personal Income Tax	Claimed Credit	\$3,438	156	\$1,357	90	\$2,019	30	\$828	6
All	Claimed plus Shared Credit	\$28,173	329	\$25,587	217	\$16,733	161	\$12,262	102
	Average Claimed or Shared Amount	\$85.6	NA	\$117.9	NA	\$103.9	NA	\$120.2	NA

Source: Massachusetts Department of Revenue.

Notes: 1. 2017 and 2018 data are preliminary and subject to change.

2. The count is the number of claims, not the number of claimants. The number of claims is either the same as or slightly larger than the number of claimants.
3. "NA" means not applicable.

Note that, though the annual cap for the credit is \$30 million, the actual claimed amounts for the credit have been lower than the cap and have varied by year. See Appendix I.

## **DIRECT BENEFITS**

Tables 3 and 4 present statistics for corporate and business tax filers who claimed the credit in 2017, excluding insurance tax filers and personal income tax filers who claimed the credit.<sup>3</sup>

<sup>3</sup> There were about 30 claims (15 for EOAC and 15 for EDIPC) from personal income tax filers in 2017. There were 2 claims from insurance tax filers. The reason why we excluded insurance tax filers and personal income tax filers was that they did not report comparable detailed information such as number of employees or they are taxed somewhat differently than other corporations. For example, for insurance tax filers, their tax liability is largely based on their insurance premiums. However, the amount of excluded credit is relatively small.

In tax year 2017, there were about 117 claimants that were corporations.<sup>4</sup> About 36.8% of them were corporations with taxable income greater than \$0 but less than \$10,000, and 49.6% of them were corporations with fewer than 100 employees. The average tax benefit per claimant was \$108,665 for all corporations, \$218,727 for the corporations with taxable income greater than \$0 but less than \$10,000 (highest among all income groups), and \$181,439 for the corporations with 100-199 employees (highest among all employment level groups).

**Table 3. 2017 EDIP Credit Claims by Taxable Income Level**

Taxable Income Range	Tax Liability after Credit (\$000)	Claimed Credit (\$000)	Shared Credit (\$000)	Number of Claimants	% of Total Number of Claimants	Tax Saving Per Claimant (\$)
Less than \$0	\$160	\$152	\$57	13	11.1%	\$16,087
\$0 to \$9,999	\$209	\$6,892	\$2,513	43	36.8%	\$218,727
\$10,000 to \$99,999	\$22	\$86	\$0	8	6.8%	\$10,742
\$100,000 to \$999,999	\$167	\$744	\$0	12	10.3%	\$62,026
\$1,000,000 to \$9,999,999	\$3,469	\$1,592	\$222	36	30.8%	\$50,409
\$10,000,000 or more	\$7,264	\$454	\$0	5	4.3%	\$90,881
Total or average	\$11,291	\$9,921	\$2,793	117	100.0%	\$108,665

Source: Massachusetts Department of Revenue (2017 corporate excise return data)

Notes: 1. Personal income tax filers and insurance tax filers were excluded from this table.

2. The data are preliminary and subject to change.

**Table 4. 2017 EDIP Credit Claims by Taxpayer Size (Number of Employees)**

Employees Range*	Tax Liability after Credit (\$000)	Claimed Credit (\$000)	Shared Credit (\$000)	Number of Claimants	% of Total Number of Claimants	Tax Saving Per Claimant (\$)
Less than 5	\$307	\$2,019	\$257	15	12.8%	\$151,728
5 to 49	\$1,353	\$426	\$18	18	15.4%	\$24,686
50 to 99	\$363	\$265	\$	25	21.4%	\$10,589
100 to 199	\$1,740	\$2,896	\$370	18	15.4%	\$181,439
200 to 499	\$682	\$1,278	\$105	10	8.6%	\$138,340
500 or more	\$6,845	\$3,037	\$2,043	31	26.5%	\$163,854
Total or average	\$11,291	\$9,921	\$2,793	117	100.0%	\$108,665

<sup>4</sup> Tables 3-4 show that there were 117 *claimants* for the credit in 2017, which is slightly lower than the 131 *claims* reported in Table 2. There are two reasons for this difference besides the exclusion of insurance taxpayers in tables 3-4. First, for combined reporting corporate tax filers, the data sets for credits include only the parent corporation's identification number. So, we were not able to match with other data sets that include information on employees, NAICS codes, etc. at the subsidiary company level. Second, there were rare cases in which a claimant had more than one claim. For example, some taxpayers within a combined group might have taken part of the available credit and shared the remainder with other members (all claims are counted under the name of the parent corporation).

Source: Massachusetts Department of Revenue (2017 corporate excise return data)

Notes: 1. \* Information is based on number of employees as reported by taxpayers.

2. Personal income tax filers and insurance tax filers were excluded from this table.

3. The data are preliminary and subject to a slight revision later.

On the other hand, according to the EDIP Fiscal Year 2020 Annual Report,<sup>5</sup> in the fiscal year 2020, there were 23 projects approved, 2,854 jobs to be created, 1,386 jobs to be retained, \$900 million in private investment, and \$1.695 million EDIP credit awarded. Of the 23 projects approved, 5 projects were for manufacturers, 12 projects were located in gateway cities, and 11 projects were for small businesses with fewer than 200 employees. A key criterion that EACC uses in approving a project and corresponding credit is whether the project would not occur “but for” the EDIP tax credit incentive. For this purpose, EACC considers answers to questions including “Is property already purchased?”, “Is lease already signed?”, “Has news article appeared on front page of local paper?”, “Has a groundbreaking ceremony been held?”, “Is equipment already placed on order?”, “Has a public announcement been made?”, and “Has construction begun?”.

To better understand the numbers in MOBD’s annual reports as related to this evaluation report, we should note that: (1) According to MOBD, when applying for the EDIP credit, companies commit to creating certain number of jobs over several number of years. Hence, the numbers are cumulative. (2) More importantly, although EACC uses the “but for” criterion to choose projects, there is still possibility that some of the money the companies invest in the EDIP projects could have been invested in other projects in Massachusetts even if the tax incentive had not existed, because investors would not let their money sit idle. Or in other words, the investments in EDIP projects are not necessarily all “net new” investment to Massachusetts. They could be shift from other parts of Massachusetts or shift from future investments. (3) Some of committed investments and job creation/retention might not actually be realized due to changes in situation later. (4) EDIP program has components other than the credit though the latter is the key component.

## **EVALUATION: COMPARING COSTS AND BENEFITS**

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases tax to finance the EDIP credit) and direct benefits (to taxpayers who claim the credit) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

<sup>5</sup> <https://www.mass.gov/doc/edip-fy2020-annual-report/download>

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy, for example where a chain of businesses benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>6</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. Appendix II shows one such attempt by DOR.

### **Similar Tax Expenditures Offered by Other States**

Most states have some form of economic development incentive. This is a widely adopted tax incentive.

<sup>6</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

## References

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*MODELS: TAX-PI*. (n.d.). Retrieved from Regional Economic Models, Inc.: <https://www.remi.com/model/tax-pi/>

## **Appendix I: More Background Information on EDIP**

In the text we note that, though the annual cap for the credit is \$30 million, the actual claimed amounts for the credit have been lower than the cap and varied by year. To understand why that has occurred, it is necessary to review the history of the credit. The data and description of credit history in this appendix are based on information provided by MOBD.

The EDIP program was changed significantly by the Acts of 2009 and was administered on annual budget. Prior to that, there was no limit on the amount of EDIP projects that could be approved. Economic Opportunity Area Credit (EOAC) was the tax credit approved prior to tax years beginning on or after January 1, 2010. The amount was equal to 5% of the cost of any property that qualified for the Investment Tax Credit (ITC) allowed by M.G.L. c. 63, § 31A. EOAC had long carryforward provisions which made the claimed amount very difficult to forecast. In 2010, the first EDIP Credits were granted under entirely new rules. To reduce the chance that EDIP would exceed budget due to the unknown carryforward liability of EOAC, it was decided that EACC would not award the full cap amount of EDIP credit. As a result, there was always some amount of tax credits withheld to account for the EOAC carryforward liability. Table A1-1 shows how much the EDIP credit was held in reserve by year. The award for EDIP credit has been adjusted down by the amount held in reserve each year. This finally expired in 2020.

**Table A1-1. The Amount Held in Reserve for EDIP Credit**

Year	Amount Held in Reserve
2010	\$ 20,016,178
2011	\$ 17,860,953
2012	\$ 14,475,661
2013	\$ 11,368,616
2014	\$ 9,745,425
2015	\$ 8,107,788
2016	\$ 6,578,150
2017	\$ 5,701,478
2018	\$ 4,082,960
2019	\$ 1,610,158
2020	\$ 0

Source: Massachusetts Office of Business Development (MOBD)

Additionally, the Acts of 2016 called for every EDIP project ever awarded tax credits to be under contract with the EACC by December 31, 2016. This was for the purpose to estimate how much potential EOAC carryforward was still out there. Any company that did not sign a contract now gets booted from the tax system if they want to use EOAC and do not have a contract. From 2010 to 2014, the total combined annual calendar year tax credits budget for EDIP and HDIP (Housing Development Incentive Program) was \$25 million in which

\$20 million was for EDIP and \$5 million for HDIP. In 2015, the budget became \$30 million for both programs combined, and the cap for HDIP was raised to \$10 million from \$5 million. The first year HDIP granted awards were in 2014 for \$1,167,825. In 2015, HDIP made \$0 in awards. In 2016, the two programs became separated. HDIP funding was clearly \$10 million annually. Subsequently, the statute was revisited and the annual cap for EDIP increased to \$30 million. However, the Administration & Finance (A&F) dictated that EACC could award only \$20 million annually regardless of the statutory cap of \$30 million. EACC continues to award only \$20 million of EDIPC to this day.

A reform of the EDIP credit occurred in 2017 for the purposes of more accountability, increased flexibility, and wiser investment of public funds. We will not discuss every detail of the reform in this report but will highlight key points of the EDIP reform before and after the 2017 reform in Table A1-2 below. We expect the credit to be used closely to the cap going forward.

**Table A1-2. EDIP before the 2017 reform and after the 2017 reform**

Before the reform	After the reform
Certified projects had to meet the criteria for one of four kinds of projects: EP, EEP, MRP and JCP.	One category: certified project.
For most project categories, the amount of credit was limited by the company’s capital expenditures.	Amount of credit is determined by the EACC based on job creation and other relevant considerations.
Local incentives were required for some projects.	A local incentive is optional for all projects; and there is more flexibility for the amount of a local incentive.
Project certification could be revoked if there was a “material variance” from projections; revocation was required where a company created less than half of the new jobs promised	EACC has more discretion to decertify a nonperforming project; and upon decertification, the loss of tax credits may be proportional to actual job creation.
Difficult for DOR to recapture tax credits that were claimed but not earned	DOR has better tools to recoup credits the company claimed but did not earn.

Source: Massachusetts Office of Business Development (MOBD)



## Appendix II: Further Discussion on Costs and Benefits

The text of the report discusses the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>7</sup>) and direct benefits (to taxpayers who claim the credit) of this tax expenditure. It also summarizes indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced, as well as other costs and benefits in more detail.

### Other costs and benefits: Indirect and Induced

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement, assuming that there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an **"opportunity cost"** to the Commonwealth. The opportunity cost to the state includes not only the impact on the businesses and their employees that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is the cost to the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "Multiplier Effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI in the reference. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive has a specific purpose, the reduced spending is assumed to be proportionally distributed across the Commonwealth's current expenditures.

#### *Quantifying total costs (direct, indirect and induced)*

<sup>7</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A2-1 and A2-2 report the model results. The figures for 2018 and 2019 are estimates of forgone benefits (opportunity costs) that the Massachusetts economy experienced due to having the expenditure, and those for 2020, 2021 and 2022 are projections of forgone benefits that the Massachusetts economy will experience going forward. The effects are displayed as negative numbers as reduced spending has a negative impact on the state economy.

Tables A2-1 and A2-2 show that the reduction in state government spending results in lost economic activity, with real state GDP declining by \$42 million - \$46 million and total employment declining by 464- 526 jobs annually. Lost economic activity results in further loss of state revenues,<sup>8</sup> ranging from \$0.9 million to \$2.4 million annually. Note that the revenue impact reported in Table A2-1 does not include the estimated direct impact of the tax expenditure from Table 1, but only the additional indirect/induced impact.

**Table A2-1. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	-\$941	-\$2,047	-\$2,266	-\$2,406	-\$2,438

\* This table reports the lost revenues from the foregone economic activity as the state reduced government spending to finance the EDIP credit.

**Table A2. Economic Impacts due to Decreased Government Spending by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-511	-518	-526	-498	-464
Impact on private non-farm employment	-282	-285	-291	-271	-246
Impact on GDP (\$000), real dollars (2012)	-\$44,000	-\$45,000	-\$46,000	-\$44,000	-\$42,000
Impact on personal income (\$000)	-\$37,000	-\$41,000	-\$46,000	-\$47,000	-\$47,000

\*This table reports the lost economic activity as the state reduced government spending to finance the EDIP.

### *Indirect and Induced Benefits*

<sup>8</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 1.

The cost savings due to the EDIP credit encourage the directly affected businesses to invest, expand, hire additional workers, etc. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy, or put another way, generate a “Multiplier Effect” (see discussion in the previous section) from the initial or direct benefits as reported in the text. As a result, the total benefits of the EDIP credit would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect/induced benefits, we again employed Tax-PI. A summary of the revenue impact of the EDIP credit is reported in Table A2-3, and the economic benefit from the EDIP credit is reflected in Table A2-4 below. The figures for 2018 and 2019 are estimates of benefits that the Massachusetts economy experienced and those for 2020, 2021 and 2022 are projections of the benefits that the Massachusetts economy will experience going forward.

Tables A2-3 and A2-4 show that, the EDIP credit results in more economic activity, with real state GDP increasing by \$23 million - \$45 million and total employment increasing by 237 – 386 jobs annually. More economic activity results in more state revenues, ranging from \$0.6 million to \$2.3 million annually, which partially offsets the cost of this tax incentive.

**Table A2-3. Additional Revenue Impact of EDIP Credit**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$553	\$1,353	\$1,772	\$2,098	\$2,301

**Table A2-4. Economic Impacts of EDIP Credit by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	237	312	370	386	384
Impact on private non-farm employment	228	295	342	356	352
Impact on GDP (\$000), real dollars (2012)	\$23,000	\$32,000	\$39,000	\$43,000	\$45,000
Impact on personal income (\$000)	\$17,000	\$25,000	\$32,000	\$37,000	\$40,000

Note that the overall economic impact reported in this section, especially job creation, is much smaller than the job creation reported in MOBD’s EDIP FY2020 annual report. The reasons for such big differences may include: (1) In this analysis, REMI Tax-PI model captures only the businesses’ general response to cost saving due to EDIP credits (but not

specific features of the EDIP program) whereas in real world other components of the EDIP program may be also important, such as facilitation to resources (workforce training, financing, export assistance, infrastructure support, etc) and other help to businesses. (2) As discussed in the text, numbers in MOBD’ annual report may be not as large as they appear to be. More importantly, the number of job creation and retention may be not necessarily all “net new” jobs and could be jobs shifted from other part of the state or from future.

### Comparison of costs and benefits

Ignoring the opportunity cost of the tax incentive, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would be reaped if the Commonwealth used the dollars spent on the tax incentive for other purposes. Those dollars could be spent in many other ways, and examining them is beyond the scope of the current evaluation report. Nonetheless, we reported net impacts of the tax incentive in Tables A2-5 and A2-6 below under the balanced budget requirement, which are the combined effects in Tables A2-1 to A2-4.

Tables A2-5 and A2-6 show that the EDIP credit combined with a cut in state government spending results in less economic activity in general, with real state GDP changing by -\$21 million to +\$3 million. The net impact on total employment is negative, decreasing by 80 – 274 jobs annually. The net additional impact on state revenues is also negative, decreasing by \$0.1 million to \$0.7 million annually.

**Table A2-5. Net Additional Revenue Impact of EDIP Credit\***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	-\$388	-\$694	-\$494	-\$308	-\$137

\* assuming state government spending is cut by the same amount as the revenue loss due to EDIP credit to balance budget.

**Table A2-6. Net Economic Impacts of EDIP Credit by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-274	-206	-156	-112	-80
Impact on private non-farm employment	-54	10	51	85	106
Impact on GDP (\$000), real dollars (2012)	-\$21,000	-\$13,000	-\$7,000	-\$1,000	\$3,000

Impact on personal income (\$000)	-\$20,000	-\$16,000	-\$14,000	-\$10,000	-\$7,000
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\* assuming state government spending is cut by the same amount as the revenue loss due to EDIP credit to balance budget.

Because the tax expenditure has its own specific purpose, the net negative impacts do not necessarily imply that the tax expenditure is not desirable. The statute does not explicitly state the purpose of this tax expenditure; however, we assume that the purpose is to encourage investment, job creation and economic development in Massachusetts, which seem achieved according to MOBD’s annual report as mentioned in the text.

**Other unquantified costs and benefits:**

Besides the additional costs and benefits quantified in the previous sections, there are other costs and benefits that are hard to quantify due to lack of data or other challenges. In this section we will enumerate some of these costs and benefits.

Ihlanfeldt and Sjoquist (2001), a published study for the state of Georgia, summarizes some of the other costs and benefits as follows:

Loss of competitiveness. Providing tax incentive such as credits to selected firms may diminish the competitiveness for existing similar firms.

Compliance costs. They think that the costs to the firm may be substantial.

Improved business climate. Tax incentive improves the perception of the business climate in the state and is used by site location specialists in screening alternative sites.

Synergistic or clustering effects. Tax incentive may attract a firm in an industry new to the state, which then serves as a magnet for attracting additional firms in the industry.

EDPIC is in general deployed to areas such as gateway cities where economic development is needed socially, and it creates desirable social benefits.

Another hard to quantify cost is the administrative cost. The administrative cost to the Department of Revenue attributable to this incentive should be relatively small because the Department of Revenue administers the credit with existing staff as part of its overall mission. There is also administrative cost of the credit to EACC and MOBD as a key component of the EDIP program.

## **Other issues related to costs and benefits**

The burden of a tax does not necessarily fall on those responsible for remitting the tax. It is known through economic theories that corporate taxes change the allocation of capital between corporations and noncorporate businesses and among states because capital would flee from states of higher corporate taxes if all other considerable factors are not significantly different.

Felix (2009) finds that labor bears a significant burden from the state corporate tax in the form of lower wages. Her study further suggests that a one-percentage-point increase in the marginal state corporate tax rate reduces wages by 0.14% to 0.36%, that labor's burden from the state corporate tax has trended upward over time due to increased global competition and increased competition among states to attract businesses, and that state corporate taxes reduce the wages of highly educated workers more than that of less-educated workers.

The EDIP credit reduces the effective tax rate of its direct beneficiaries. The findings imply that the incentive may have benefited workers who were employed by the corporations in the form of higher wages. The incentive may have further benefited the shareholders and clients due to the growth of businesses.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Massachusetts Historic Rehabilitation Tax Credit	<b>Annual cost:</b> up to \$55 million	<b>Year of adoption:</b> Enacted 2003. Effective 2005	<b>Sunset date:</b> 12/31/2022	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input checked="" type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input checked="" type="checkbox"/> Job creation & maintenance <input checked="" type="checkbox"/> Investment <input type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input checked="" type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Comments:**

**Historic Buildings Rehabilitation Credit (TE 1.610 and 2.610)**

The TERC strongly agrees that the Historic Building Rehabilitation Credit is an effective credit that justifies its fiscal cost, that it provides meaningful incentives, and that it is relevant today. We somewhat agree that it reaches its intended beneficiaries, and that this is a broad group of taxpayers. The credit is transparent, but not easily administered due to complexity.

It is a “grant like” credit, which suggests it might be better administered as a grant. However, administering these funds as a tax credit makes it a long-term incentive as the funds do not need to be appropriated annually. This shields the credits from the appropriations process; is that a good thing? Yes, as this provides the long-term certainty that developers of multi-year projects need to make investments.

Structuring the incentive as a tax credit allows the process to take advantage of the expertise of the certifying agency (the Massachusetts Historical Commission) to determine who gets the credit.

As with other transferable credits, not all the benefits accrue to the targeted group. Some of the tax savings (something under 10%) goes to the transferee who purchased the credit at a discount. Purchasers are often insurance or other financial companies. We may want to think about what the “correct” amount of discount is needed to make it worthwhile to purchasers (5%?) and offer the credit as refundable at that discount.



**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Massachusetts Historic Rehabilitation Tax Credit
<b>TAX EXPENDITURE NUMBER</b>	1.610, 2.610
<b>TAX EXPENDITURE CATEGORY</b>	Credit against tax ( <i>personal income tax, corporate excise</i> )
<b>TAX TYPE</b>	Personal income tax, corporate excise
<b>LEGAL REFERENCE</b>	M.G.L. c. 62, § 6J; M.G.L. c. 63, § 38R
<b>YEAR ENACTED</b>	Enacted by St. 2003, c. 141, § 22, effective January 1, 2005
<b>REPEAL/EXPIRATION DATE</b>	December 31, 2022
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of up to \$55 million FY22
<b>AVERAGE NUMBER OF TAXPAYERS / AVERAGE TAXPAYER BENEFIT</b>	Corporate filers: 32 filers; average \$1.2 million Personal filers: 52 filers; average \$0.1 million

<p><b>Description of the Tax Expenditure:</b> The Massachusetts historic rehabilitation tax credit is a credit for qualified expenditures made by a taxpayer in rehabilitating a qualified historic structure.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure</p>
<p><b>What are the policy goals of the expenditure?</b> To encourage (1) private sector investment in the rehabilitation and re-purposing of historic buildings and (2) private capital targeted at revitalizing low income, distressed, or underserved areas, thereby spurring job growth and the economy.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> All of the New England states, the entire eastern seaboard except New Jersey and Florida, and most of the remaining states around the country except for a handful mainly in the northwest, offer a historic rehabilitation tax credit. New Jersey has proposed legislation, which is currently pending.</p>

## **INTRODUCTION**

The Massachusetts historic rehabilitation tax credit (“MHRTC”) is a credit equal to a percentage, not to exceed 20%, of the qualified rehabilitation expenditures made by a taxpayer in rehabilitating a qualified historic structure which has received final certification by the Massachusetts Historical Commission (“MHC”) and has been placed in service. The MHRTC is available to both chapter 62 (personal income) and chapter 63 (corporate) taxpayers.

Unused portions of the MHRTC may be carried forward for up to 5 years and may be transferred or sold to another taxpayer, but are not refundable. The MHRTC cannot be used to reduce the corporate excise due below the minimum excise provided by G.L. c. 63, § 39(b), currently \$456. The allowable corporate credit is not subject to the 50% limitation of G.L. c. 63, § 32C. If, before the end of the five-year period beginning on the date on which the qualified historic structure received final certification and was placed in service, the taxpayer disposes of its interest in the structure, the credit will be subject to recapture and the taxpayer’s tax for the taxable year in which the disposition occurs will be increased by the recapture amount.

The MHRTC is currently capped at \$55 million per year, effective for taxable years beginning January 1, 2018 and ending December 31, 2022. Previously the cap was set at \$50 million per year, for taxable years beginning January 1, 2017 and ending December 31, 2022. The original cap was set at \$15 million per year, effective for taxable years beginning January 1, 2005 and ending December 31, 2009.

Effective August 13, 2014, taxpayers subject to the personal income tax imposed by G.L. c. 62 that acquire a qualified historic structure may transfer MHRTC awards subject to criteria established by the MHC. In the case of a multi-phased project MHRTC awards may be transferred for any phase of the project that meets the MHC’s criteria. Effective August 10, 2016, MHRTC awards also may be transferred by taxpayers subject to the corporate excise under G.L. c. 63. See TIR 15-6 and 16-15.

## **INTENT OF THE TAX EXPENDITURE**

The intent of the MHRTC is to encourage private sector investment in the rehabilitation and re-purposing of historic buildings, as well as to create jobs and support community revitalization programs. The expenditure is intended to attract private capital to fund the rehabilitation of historic centers and buildings, many of which are located in low-income

communities or designated distressed or underserved areas. These private investor funds help revitalize these communities through increased property values, new jobs, and increased tax revenues from a revitalized tax base.

## COSTS

The revenue loss from this tax expenditure is calculated annually as part of the Tax Expenditure Budget (TEB). We estimate that the cost of this credit in FY22 will be near the \$55.0 million cap.

### Actual and Forecast Tax Loss from Historic Rehabilitation Credit (\$millions)

	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>
Corporate Filers: \$	36.0	\$ 46.3	\$ 46.8	\$ 47.2	\$ 47.7
<u>Personal Income Filers: \$</u>	<u>6.0</u>	<u>\$ 6.2</u>	<u>\$ 6.5</u>	<u>\$ 6.7</u>	<u>\$ 7.0</u>
Total Credits Claimed: \$	41.9	\$ 52.5	\$ 53.2	\$ 54.0	\$ 54.7

Both corporate and personal income tax filers qualify for the credit. As shown in the table, corporate filers typically claim over 85% of the credits.

## BENEFITS

This credit provides direct benefits to taxpayers who own or lease historic properties and wish to renovate those properties. The credit serves to lower their cost of renovation. Note that while the recipients of the credit will tend to be higher income filers, the construction projects incentivized by the credit tend to spend in the local economy for labor and materials. Perhaps more importantly, the renovation of historic buildings has significant indirect impacts, as it preserves and supports the historic character of an area. As discussed in the next section, this further benefits the local economy by drawing businesses, tourists, and shoppers to historic districts.

## EVALUATION: COMPARING COSTS AND BENEFITS

The direct costs and direct benefits of the credit are equal. When the Commonwealth issues credits to some taxpayers, the credits are the benefits to these taxpayers. However, some people will bear the cost as reduced government spending or reduced tax incentives. These are the direct costs and benefits. Given this, the comparison of costs to benefits requires an assessment of the credit's impact on the overall economy.

Historic preservation projects provide important indirect benefits to the tourism industry, as they help preserve properties that may be of interest to tourists. Rehabilitation of the aesthetic quality or commercial viability of the properties may also benefit the broader community by increasing property values and encouraging business activity in the area.

Tourism is an important segment of the state's economy. In their 2020 annual report, the Massachusetts Office of Travel and Tourism estimates that spending by tourists created 153,200 jobs in calendar year 2018. As would be expected, 60% of these jobs are in the Lodging and Food service industries, but in addition tourism also supported 21,800 jobs in the Public/Auto transportation industry sector and 22,700 jobs in the Entertainment and Recreation sector.<sup>1</sup>

Historic preservation contributes to an area's appeal to what is termed "Heritage Tourism", which is tourism based on the historical significance of an area. A 2002 study conducted on behalf of the Massachusetts Historical Commission investigated the impact of historic preservation and Heritage Tourism in Massachusetts. Among its findings it noted that heritage travelers spend on average considerably more than average tourists. In addition, a much higher share of heritage travelers come from out of state (90 percent for the heritage group versus 79 percent for all Massachusetts travelers).<sup>2</sup> Spending by out-of-state visitors is a direct injection into the local economy. These traits combined to accentuate the economic contribution of the heritage travelers to Massachusetts

While tourists visit the state for many reasons, the historical significance of the area is often cited as a reason for traveling here. Massachusetts in general, and Boston in particular, are regularly cited among the most popular destinations for a vacation with historical interest. In its compilation of the "10 Best Historical Cities to Visit in the USA", *US News and World Report* listed 3 Massachusetts cities: Boston at #2, Plymouth at #8, and Salem at #10.<sup>3</sup> This ranking is based on a survey of the magazine's readers and input from

<sup>1</sup> See table on page 7 at [https://www.massvacation.com/wp-content/uploads/2020/06/2020\\_Annual\\_Report.pdf](https://www.massvacation.com/wp-content/uploads/2020/06/2020_Annual_Report.pdf)

<sup>2</sup> See page 8 of "Economic Impacts of Historic Preservation in Massachusetts", available on the Massachusetts Historical Commission home page (see "Learning and Research" section): <https://www.sec.state.ma.us/mhc/>

<sup>3</sup> <https://travel.usnews.com/rankings/best-us-historic-destinations/>

their editors. The fact that Massachusetts is so well represented is evidence that its history is a strong draw for tourism.

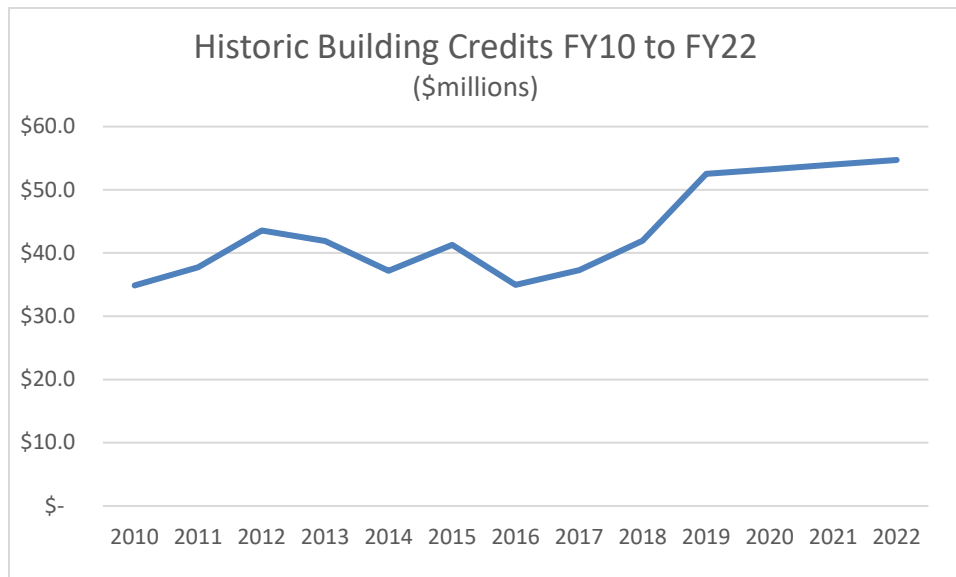
While it is difficult to quantify how much of the success of the heritage tourism industry in Massachusetts should be attributed to the Historic Buildings Rehabilitation credit, we can be certain that the credit serves to preserve the historical character that draws many tourists to the state. We believe it likely that these economic benefits more than offset the cost of this credit.

### **SIMILAR TAX EXPENDITURES OFFERED BY OTHER STATES**

Other states offer credits to taxpayers that rehabilitate historic buildings. These credits are generally based on a percentage of the costs of rehabilitation. Several of these states cap the total amount of credit available statewide as does Massachusetts. A variety of limitations and carry over rules apply. Finally, the credit is refundable in some of these states, but not others. States with a historic building renovation credit include New York, Maine, Rhode Island, Connecticut, Delaware, Maryland and Pennsylvania.

### **IS THE INCENTIVE AS DESIGNED ACCOMPLISHING ITS PURPOSE?**

The chart below shows the total Historic Rehabilitation credits claimed, actual and projections to FY2022.



The intent of the credit has been to incentivize private sector investment in the rehabilitation and re-purposing of historic buildings. On that score, as the chart shows, the credit has been achieving its purpose. Since its introduction in 2005, the cap on the credit amount that the Massachusetts Historical Society may approve has increased from \$15 to \$55 million. These increases have been in response to the credit's success in contributing to projects that rehabilitate historic structures.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Film Production Incentives	<b>Annual cost:</b> \$56-80 million	<b>Year of adoption:</b> 2005	<b>Sunset date:</b> 1/1/2023	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input checked="" type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input checked="" type="checkbox"/> Job creation & maintenance <input checked="" type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	(X) between <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				
<b>Film Tax Credit (TEs 1.611 and 2.614 and 3.004)</b>				
The TERC somewhat agrees that this credit provides a meaningful incentive as it returns 25% of the filer's spending, whether that is \$25,000 on \$100,000 for a commercial or \$25 million on \$100 million in spending for a feature film. We somewhat disagree that it benefits smaller businesses or is relevant today. We also somewhat disagree that it is claimed by its intended beneficiaries, as nearly 90% of the credits are transferred.				

We strongly disagree that it benefits lower income taxpayers or that it is claimed by a broad group of filers. We are between “somewhat” and “strongly” disagreeing that it justifies its fiscal cost.

The TERC notes that, by its nature, this credit produces immediate and measurable spending within the Massachusetts economy. This can be contrasted with, for example, an investment credit. Unlike the film credit, an investment credit would have little immediate impact; however, where an investment credit contributes to long-term capital formation, the Film credit has had no discernable impact beyond its one-time spending. Further, much of the initial spending that qualifies for the Film credit occurs outside of Massachusetts, providing no benefit at all. The result is that, while the film credit provides some immediate stimulus, it does not contribute to the long run growth of the state’s economy.

Even though we are able to measure in detail all of the economic benefits of this credit, it still results in a cost of \$100,000 per job created. We conclude that this is not the best use of the state’s money.



## MASSACHUSETTS TAX EXPENDITURES EVALUATION SUMMARY

### EVALUATION YEAR: 2020

<b>TAX EXPENDITURE TITLE</b>	Film Production Incentives (tax credit and sales tax exemption)
<b>TAX EXPENDITURE NUMBER</b>	1.611, 2.614, 3.004
<b>TAX EXPENDITURE CATEGORY</b>	Credit against tax ( <i>personal income tax, corporate and business tax</i> ); Exemption ( <i>sales tax</i> )
<b>TAX TYPE</b>	Personal income tax, corporate and business tax; sales and use tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 62, § 6(l), c. 63, § 38X, c. 64H, § 6(ww)
<b>YEAR ENACTED</b>	November 23, 2005
<b>REPEAL/EXPIRATION DATE</b>	January 1, 2023
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$56-80 million annually FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	During 2006-2016, the number of film projects granted the credit varied from 97 to 162 annually.
<b>AVERAGE TAXPAYER BENEFIT</b>	\$480,000 per project during 2006-2016

<p><b>Description of the Tax Expenditure:</b> The Massachusetts film tax incentives, as amended in July 2007, allow a producer of a motion picture a tax credit equal to 25% of the film’s production cost and 25% of the film’s payroll costs. They also provide an exemption from sales tax for film productions in Massachusetts.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> The creation of jobs and generation of economic activity by attracting film productions to Massachusetts.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> 31 states, Washington D.C., Puerto Rico and the U.S. Virgin Islands maintain film incentive programs</p>

## INTRODUCTION

The Massachusetts film tax incentives, as amended in July 2007, are allowed for taxpayers engaged in the production of feature-length films, videos, digital media projects, television series, and commercials, for theatrical or television viewing. The statute makes no reference to productions that are instead made for viewing on the Internet.

The film tax incentives consist of a tax credit equal to 25% of a film's production cost and 25% of a film's payroll cost, and an exemption from sales tax for film productions. The incentives are dependent upon a taxpayer incurring Massachusetts production expenses of at least \$50,000 in a twelve-month period. Assuming that threshold requirement is met, a taxpayer may claim the payroll portion of the credit for any in-state employment of persons in connection with the filming and production of a motion picture, so long as the payment constitutes Massachusetts source income to the recipient. The taxpayer may claim the production expense portion of the credit if its Massachusetts production expenses exceed 50% of its total production expenses, or if at least 50% of the taxpayer's total days spent filming the motion picture took place in Massachusetts.

The tax credits are available to both corporate excise and personal income tax filers and can be used to reduce the taxpayer's liability. At the taxpayer's election, the Department of Revenue will refund 90% of any amount of the tax credit that exceeds the taxpayer's liability. The tax credits may also be transferred or sold by taxpayers to third parties that may use the tax credits to reduce their Massachusetts corporate, insurance, financial institution, or personal income tax liabilities. Over 89% of film tax credits issued have been sold to third parties.

The sales tax exemption applies to sales of tangible personal property to a qualifying motion picture production company or to an accredited film school student for the production expenses related to a school film project.

## POLICY GOAL

The statute does not explicitly state the purpose of this tax expenditure. We inferred that the purpose is to attract film productions to Massachusetts; the implied assumption is that film productions will create jobs and increase economic activity in Massachusetts.

## COSTS

The amount of tax credits has fluctuated from year to year. Most of the fluctuation is due to national economic conditions (the impact of the recession after 2009 can be seen in the table below) and, related to that, the number of feature films qualifying for the credit. Feature films, although a small number of total projects, generally represent 80% of the spending that qualifies for the credit.

<b>Table 3 - Aggregate Amount of Tax Credits Generated and Used</b>			
<b>(Dollar amounts are in millions)</b>			
<b>Year</b>	<b>Number of Productions / calendar year</b>	<b>\$ Amount of Tax Credits / calendar year</b>	<b>Estimated \$ Amount of Tax Credits Used By Fiscal Year</b>
2006*	97	\$19.4	\$0.0
2007	125	\$39.9	\$11.9
2008	162	\$120.4	\$10.5
2009	107	\$85.3	\$110.0
2010	121	\$19.2	\$90.8
2011	114	\$48.6	\$45.9
2012	130	\$82.0	\$55.7
2013	129	\$70.6	\$80.1
2014	146	\$67.0	\$41.8
2015	121	\$69.7	\$77.6
2016	138	\$45.7	\$71.1
2017	N/A	N/A	\$65.0
<b>Total Approved / Pending**</b>	<b>1,390</b>	<b>\$667.8</b>	<b>\$660.4</b>
* For tax year 2006, the payroll credit was only 20% and credits were capped at \$7 million for any one production			
** Through December 31, 2018; some projects in final states of approval.			
Detail may not add to total due to rounding.			

“Table 3” from the “Report on the Impact of Massachusetts Film Industry Tax Incentives through Calendar Year 2016”

The table shows the total credit liability of \$667.8 million accumulated since the start of the credit. Note that there is typically a delay between when the filming activity occurs and when the credit is claimed (which is when the tax loss is realized by the state). The column on the right shows the total actual cost of \$660.4 million to the state’s budget as filers claimed the credits. Filming may occur in one calendar year, but the associated credits might not be claimed, approved, and used until subsequent fiscal years.

Note that the revenue loss from film tax incentives is almost entirely attributable to the credit, while the sales tax exemption represents only \$0.3 million. The FY22 Tax Expenditure Budget estimates the future cost of the film tax incentives as follows:

	Tax type	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Film (or Motion Picture) Credit	Corporate and Income	\$56.7	\$79.1	\$80.0	\$80.0	\$80.0
Sales Tax Exemption	Sales	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3

## BENEFITS

Film producers, whether in-state or out-of-state, derive an economic benefit from this tax expenditure directly. Individuals who are employed in the film industry and businesses selling inputs to the film industry will also derive an economic benefit from this tax expenditure.

After subtracting the film spending amount that goes to non-residents and non-Massachusetts businesses, as well as state spending reductions required to fund the tax credits in order to maintain a balanced budget, the film tax credit program resulted in \$28.7 million in net new spending in the Massachusetts economy during the calendar year 2016. Over the period 2006 to 2016, the film incentive program resulted in \$503.2 million in net new spending in the Massachusetts economy.

In addition to the net new direct spending, economic activity generated by film spending produces a positive multiplier impact. However, this is offset by the necessary cuts in state spending to pay for the film credits, a negative multiplier impact. After taking into account the full impacts, including the direct impact and the multiplier impact, the film incentive program in 2016 generated net new Massachusetts Gross State Product (GSP) of \$60.7 million, and \$27.8 million in personal income.

It is possible that Massachusetts could experience an increase in economic activity from greater exposure of the Commonwealth through films and other productions that are made in Massachusetts. Some studies have suggested that having high-profile movie and television actors in the Commonwealth for extended periods of time might be tantamount to advertising. However, those studies have generally been conducted or sponsored by interested parties, and there have been some reports indicating that the findings and methodologies of those studies that do exist are controversial or biased (see for example <http://www.cbpp.org/files/11-17-10sfp.pdf>). DOR is not aware of any published and peer-reviewed study measuring the direct and indirect impact of the film credit.

## EVALUATION: COMPARING COSTS AND BENEFITS

The film tax incentives, principally the credit, have created jobs and increased state GSP, but it is hampered by the leakage out of state and the cost of the credits themselves. “Leakage” occurs when economic activity is generated by the tax incentive, but outside of Massachusetts; the benefits are not captured locally but instead leak into the broader national economy.

Since Massachusetts has a balanced budget requirement, every dollar spent on the film credit is one less dollar that can be spent in other ways. This offsets a portion of the benefits of the credit, which increases the cost per Massachusetts-resident job created.

<b>Dynamic Economic Impacts of Film Incentives</b>	<b>2006-2016</b>
Net \$ Cost to State (\$millions)	\$575.8
\$ in State Revenue Per \$ of Tax Expenditure	\$0.14
Net Cost to State Per MA Resident Job Created (\$)	\$102,370
Net Cost to State Per MA & Non-MA Job Created (\$)	\$70,472

Condensed from “Table 5” of the “Report on the Impact of Massachusetts Film Industry Tax Incentives through Calendar Year 2016”

The leakage also impacts the taxes generated by film activity. While film activity does generate new state tax collections (particularly income tax on wages), that revenue only equaled 14 cents for each dollar of tax incentives issued over the 2006 to 2016 period.

## SIMILAR TAX EXPENDITURES OFFERED BY OTHER STATES

State film tax credits grew in popularity until 2009 when 44 states, Puerto Rico, and Washington D.C., offered some form of film and television production incentives. However, the number of states offering these programs has decreased in recent years. In 2018, only 31 states, Washington D.C., Puerto Rico and the U.S. Virgin Islands continue to maintain film

incentive programs, and several of these states are tightening the requirements for qualifying expenses and establishing caps at both the project and annual-program levels.<sup>1</sup>

## IS THE INCENTIVE AS DESIGNED ACCOMPLISHING ITS PURPOSE?

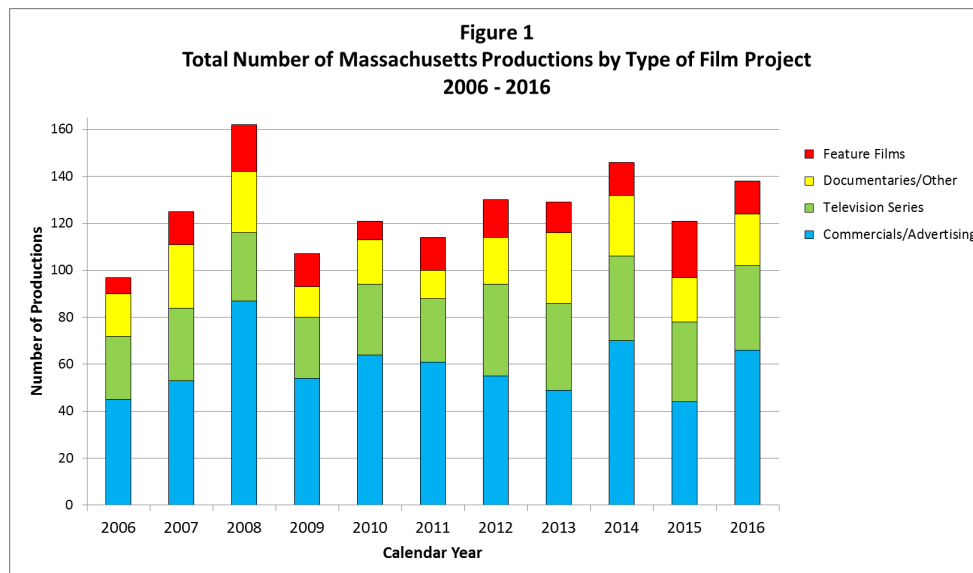
As noted, while the statute does not explicitly state a purpose, we infer that the credit is intended to:

- 1) promote filming in Massachusetts, and
- 2) create local jobs.

While these two goals are related, due to the structure of the credit they are not strictly linked, as is discussed below.

Purpose: Promote film production in Massachusetts:

The credit supports filming activity in Massachusetts. Although it has varied, the number of projects qualifying for the credit has generally increased since the recession in 2009, as this chart shows:

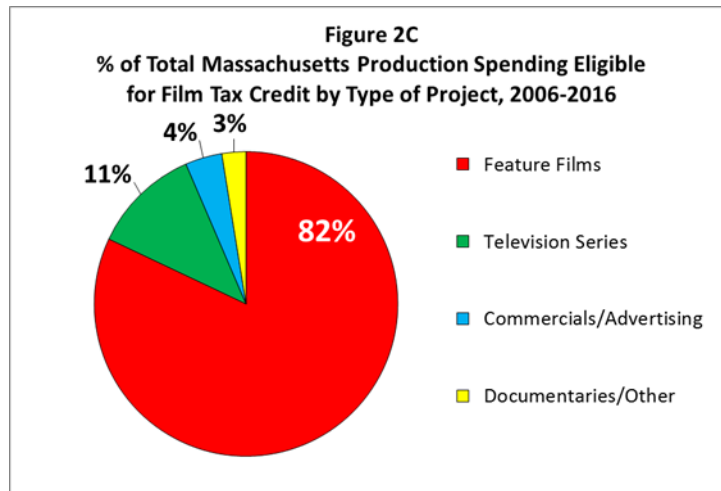


“Figure 1” of the “Report on the Impact of Massachusetts Film Industry Tax Incentives through Calendar Year 2016”

<sup>1</sup> See National Conference of State Legislatures, <https://www.ncsl.org/research/fiscal-policy/state-film-production-incentives-and-programs.aspx>

While few in number, feature films claim over 80% of the credits. In its current form, the film credit can be considered a feature film credit. This is significant because the spending patterns of a feature film differ from those for television programs or commercials.

### Total spending qualifying for the film credit, by type of production, 2006 to 2016



“Figure 2C” of the “Report on the Impact of Massachusetts Film Industry Tax Incentives through Calendar Year 2016”

A feature film will generally bring together talent and workers with special skills, some of which will be “imported” from outside the state. The film’s presence in the state will typically last only for several weeks, leaving little or no lasting presence in the local economy. By contrast, television productions usually establish a local presence and, if successful, remain for a number of years. The same is true for commercials: Although a single commercial will be completed in a short period of time, a successful production company will typically produce a steady stream of commercials each year, thus creating a local business.

#### *Purpose: Create local jobs:*

While the credit has led to increased film spending, this has not always translated into local jobs. This is because much of the production and wage spending that qualifies for the credit has gone to vendors and workers outside of the state. The Massachusetts film credit does not require production costs to be incurred with a Massachusetts-based business to qualify for a film tax credit. If a production otherwise qualifies, payments made to out-of-state vendors are eligible for the credit. This is significant as purchases generally stimulate economic activity only in the state or area where the purchase is made, and not elsewhere.

Although the payroll component of the credit is only available for wages paid for work in Massachusetts, a similar form of leakage occurs with wages paid to workers who reside outside the state. Again, this tends to affect feature films, where non-residents, in some cases highly paid, spend brief periods in Massachusetts before returning to their home states.<sup>2</sup>

The bottom half of the table below summarizes the percentage of qualified film credit spending that went to Massachusetts and non-Massachusetts residents and businesses (denoted as “MA Resident/Businesses” and “Non-MA Residents/Businesses” in the table).

### Film Spending by Category, with Massachusetts vs. Non-Massachusetts Amounts

Table 2B - Total Massachusetts Production Spending Eligible for Film Tax Credits, 2012-2016						
(Dollar Amounts are in Millions)						
Category of Spending	Calendar Years					2006 to 2016
	2012	2013	2014	2015	2016	
Total Wages	\$214.4	\$185.6	\$179.7	\$185.1	\$116.8	\$1,733.4
<i>Wages \$1 Million &amp; Over</i>	\$83.5	\$62.2	\$60.2	\$69.0	\$29.9	\$624.1
<i>Wages Under \$1 Million</i>	\$130.9	\$123.4	\$119.5	\$116.0	\$86.9	\$1,109.3
Set Construction	\$6.2	\$2.6	\$3.7	\$3.8	\$2.8	\$73.2
Location Fees	\$33.7	\$31.1	\$30.5	\$29.3	\$22.2	\$267.6
Unclassified/Other	\$73.5	\$63.3	\$54.2	\$60.6	\$40.7	\$604.5
<b>Totals</b>	<b>\$327.8</b>	<b>\$282.6</b>	<b>\$268.1</b>	<b>\$278.7</b>	<b>\$182.6</b>	<b>\$2,678.7</b>
<b>Of Which Spent on:</b>						
<b>MA Resident/Business (\$)</b>	<b>\$112.4</b>	<b>\$119.4</b>	<b>\$122.2</b>	<b>\$120.5</b>	<b>\$94.1</b>	<b>\$1,024.6</b>
<b>Non-MA Resident/Business (\$)</b>	<b>\$215.4</b>	<b>\$163.2</b>	<b>\$145.9</b>	<b>\$158.2</b>	<b>\$88.5</b>	<b>\$1,654.1</b>
<b>MA Resident/Business (%)</b>	<b>34%</b>	<b>42%</b>	<b>46%</b>	<b>43%</b>	<b>52%</b>	<b>38%</b>
<b>Non-MA Resident/Business (%)</b>	<b>66%</b>	<b>58%</b>	<b>54%</b>	<b>57%</b>	<b>48%</b>	<b>62%</b>
*Data hidden to protect taxpayer confidentiality Detail may not add to total due to rounding						

“Table 2B” from the “Report on the Impact of Massachusetts Film Industry Tax Incentives through Calendar Year 2016”

Note that generally more than half is spent outside of Massachusetts. While this does create jobs outside of Massachusetts, it dampens the local jobs-creation impact of the film credit.<sup>3</sup>

<sup>2</sup> Between 2006 and 2016, \$624.1 million in wages was paid to individuals earning over \$1 million on a project; nearly all of them were Non-Massachusetts residents.

<sup>3</sup> For more detail, see the full annual film reports at <https://www.mass.gov/lists/massachusetts-film-industry-tax-incentive-reports>



The table below provide further detail of the jobs created by the credit, broken out by “Resident” and “Non-Resident”.

### Full Time Equivalent Employment, Resident and Non-Resident

<b>Table 6 - Estimated Wages and Number of Full-Time Equivalent Employees (FTEs) Generated by Film Incentives</b>					
	Calendar Years				
	2012	2013	2014	2015	2016
<b>Employment</b>					
<b>Employment (Full-Time Equivalents)</b>	<b>1,408</b>	<b>1,276</b>	<b>1,306</b>	<b>1,100</b>	<b>605</b>
<b>Employment (Resident)</b>	<b>724</b>	<b>822</b>	<b>800</b>	<b>731</b>	<b>277</b>
<i>Direct Resident (Employed on Film Productions)</i>	<i>679</i>	<i>751</i>	<i>699</i>	<i>683</i>	<i>510</i>
<i>Indirect/Induced Jobs Held by MA Residents Due to Film Spending</i>	<i>581</i>	<i>723</i>	<i>707</i>	<i>1019</i>	<i>706</i>
<i>Indirect/Induced Jobs Lost by MA Residents Due to State Spending Cuts<sup>1</sup></i>	<i>-569</i>	<i>-705</i>	<i>-624</i>	<i>-990</i>	<i>-975</i>
<i>Indirect Jobs Held By MA Residents in Other States</i>	<i>34</i>	<i>53</i>	<i>19</i>	<i>19</i>	<i>35</i>
<b>Employment (Non-Resident)</b>	<b>684</b>	<b>453</b>	<b>506</b>	<b>369</b>	<b>328</b>
<i>Direct Non-Resident (Employed on Film Productions)</i>	<i>682</i>	<i>450</i>	<i>490</i>	<i>385</i>	<i>328</i>
<i>Indirect/Induced Jobs Held by Non-Residents Due to Film Spending</i>	<i>110</i>	<i>138</i>	<i>134</i>	<i>134</i>	<i>81</i>
<i>Indirect/Induced Jobs Lost by Non-Residents Due to State Spending Cuts<sup>1</sup></i>	<i>-108</i>	<i>-134</i>	<i>-119</i>	<i>-150</i>	<i>-80</i>
<b>Total Wages (\$ Million)</b>					
<b>Wages (Resident)</b>	<b>\$44.5</b>	<b>\$44.1</b>	<b>\$60.0</b>	<b>\$62.6</b>	<b>\$25.1</b>
<i>Direct Resident (Employed on Film Productions)<sup>2</sup></i>	<i>\$52.6</i>	<i>\$55.2</i>	<i>\$66.1</i>	<i>\$63.1</i>	<i>\$41.7</i>
<i>Indirect/Induced Jobs Held by MA Residents Due to Film Spending</i>	<i>\$37.3</i>	<i>\$46.1</i>	<i>\$46.9</i>	<i>\$58.0</i>	<i>\$41.2</i>
<i>Indirect/Induced Jobs Lost by MA Residents Due to State Spending Cuts</i>	<i>-\$45.4</i>	<i>-\$57.1</i>	<i>-\$52.9</i>	<i>-\$58.5</i>	<i>-\$57.8</i>
<b>Wages (Non-Resident)</b>	<b>\$62.5</b>	<b>\$53.8</b>	<b>\$60.7</b>	<b>\$46.8</b>	<b>\$35.5</b>
<i>Direct Non-Resident (&lt;\$1 million per worker)<sup>2</sup></i>	<i>\$64.0</i>	<i>\$56.0</i>	<i>\$61.9</i>	<i>\$48.1</i>	<i>\$35.5</i>
<i>Indirect/Induced Jobs Held by Non-Residents Due to Film Spending</i>	<i>\$7.1</i>	<i>\$8.8</i>	<i>\$8.9</i>	<i>\$7.6</i>	<i>\$4.7</i>
<i>Indirect/Induced Jobs Lost by Non-Residents Due to State Spending Cuts</i>	<i>-\$8.6</i>	<i>-\$10.9</i>	<i>-\$10.1</i>	<i>-\$8.8</i>	<i>-\$4.8</i>
<b>Median Wages (\$)<sup>3</sup></b>					
<i>Direct Resident (Employed on Film Productions)</i>	<i>\$61,176</i>	<i>\$69,350</i>	<i>\$68,780</i>	<i>\$74,551</i>	<i>\$72,299</i>
<i>Direct Non-Resident (&lt;\$1 million)</i>	<i>\$71,500</i>	<i>\$92,701</i>	<i>\$92,336</i>	<i>\$92,283</i>	<i>\$87,550</i>
<sup>1</sup> Film credit program did not require state spending cuts in 2006 due to lag in tax credit claims. <sup>2</sup> Including wage payments reported as non-wage spending. <sup>3</sup> a) Indirect/induced jobs are generated from REMI output which does not include information necessary to calculate median wages. b) Wage payments reported as non-wage spending, which are not available for individuals, are excluded in calculating median wages. c) Due to lack of available detailed data, median wages for 2006-2008 are for feature films and for all three years. d) Median wages for 2009 - 2016 are calculated based on all new projects.					
Totals may not add due to rounding.					

“Table 6” from the “Report on the Impact of Massachusetts Film Industry Tax Incentives through Calendar Year 2016”

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Medical Device User Fee Credit	<b>Annual cost:</b> \$0.4 - \$0.6 million	<b>Year of adoption:</b> 2006	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input checked="" type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input checked="" type="checkbox"/> Job creation & maintenance <input checked="" type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input checked="" type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				
<b>Medical Device Users Credit (TEs 1.613 and 2.615)</b>				
The TERC strongly agrees that this credit is claimed by its intended beneficiaries. We somewhat agree that it is easily administered; however we somewhat disagree that its benefits are measurable or that the credit is relevant today. Even with its low dollar cost, we somewhat disagree that its				

benefits justify its fiscal cost. The TERC strongly disagrees that the credit is claimed by a broad group of taxpayers, small businesses, or low-income filers. We further strongly disagree that the credit provides a meaningful incentive to its recipients, The use of this credit by less than half a dozen large companies is a strong indication that it is not relevant. While its low cost suggests it might be easily justified, we conclude the average tax credit is too small (\$34k) to provide a meaningful incentive to the relatively large businesses that claim it. We note that Massachusetts is the only state in the country that offers this type of credit.

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Medical Device User Fee Credit
<b>TAX EXPENDITURE NUMBER</b>	1.613 and 2.615
<b>TAX EXPENDITURE CATEGORY</b>	Credit against tax ( <i>personal income tax, corporate and business excise tax</i> )
<b>TAX TYPE</b>	Personal income tax; Corporate and business excise
<b>LEGAL REFERENCE</b>	M.G.L. c. 63, § 31L; c. 62, § 6½
<b>YEAR ENACTED</b>	2006 (St. 2006, c. 144-145)
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$0.4 - \$0.6 million annually from corporate excise filers and negligible from personal income tax filers during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	4 claims in 2017 and 6 claims in 2016
<b>AVERAGE TAXPAYER BENEFIT</b>	\$34,000 (2017), \$124,800 (2016) per claim.

<p><b>Description of the Tax Expenditure:</b> The Medical Device Credit is equal to 100% of the user fees actually paid to the United States Food and Drug Administration (FDA) by a medical device company during the taxable year for which the tax is due for pre-market submissions to market new technologies or upgrades, changes, or enhancements to existing technologies, developed or manufactured in Massachusetts.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure. The purpose of the credit is to reimburse medical companies for these expenses, with the additional incentive that the credit itself may be sold to another taxpayer. As a result, it can be inferred that the tax expenditure is designed to expand, develop, and facilitate medical device companies in Massachusetts.</p>
<p><b>What are the policy goals of the expenditure?</b> The user fee structure imposed on medical</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> No other states provide a credit for user fees</p>

<p>device companies that seek approval by the FDA for medical devices has been decried as a hidden tax on innovation. As a result, the credit seeks to reimburse companies that incur such fees, thereby facilitating such companies to operate in Massachusetts.</p>	<p>borne by medical device companies.</p>
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## INTRODUCTION

Medical device companies subject to tax under either the personal income tax under M.G.L. c. 62 or a corporate excise under M.G.L. c. 63, and which develop or manufacture medical devices in Massachusetts can claim a transferable credit equal to 100% of the user fees paid by them when submitting certain medical device applications and supplements to the FDA. The credit may not be carried forward to subsequent tax years and is not refundable. However, unused portions of the credit may be transferred, and the transferee may carry over the credit, but must use it within 5 years.

This particular tax expenditure was enacted on July 8, 2006, making the incentive applicable from tax years beginning on or after January 1, 2006. St. 2006, c. 144, 145.

## POLICY GOAL

The statute does not explicitly state the purpose of this tax expenditure. The purpose of the credit is to reimburse medical companies for these expenses, with the additional incentive that the credit itself may be sold to another taxpayer. As a result, it can be inferred that the tax expenditure is designed to expand, develop, and facilitate medical device development in Massachusetts.

## COSTS

The credit has no cap and is transferable. The revenue loss (see Table 1) is estimated to be \$0.4 - \$0.6 million annually for corporate excise and a negligible amount for personal income tax during FY18-FY22.

**Table 1. Tax Revenue Loss Estimates for Medical Device User Fee Credit**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$0.4	\$0.6	\$0.6	\$0.5	\$0.5

Table 2 below shows the amount and count of available, claimed, and shared credit in the past several years. For purposes of Table 2, “Available Credit” refers to the maximum amount of the credit that a taxpayer can claim if the taxpayer has enough tax liability against which to apply the credit, and if there are no other limitations; “Claimed Credit” is the credit amount actually claimed by a taxpayer; and “Shared Credit” means the credit amount that a taxpayer filing in a combined group is able to share with other members of the group.

Corporate excise filers claimed the credit in 6 instances in 2016 and in 4 instances in 2017. In 2016, the average amount claimed was about \$124,800 and in 2017 it was about \$34,000.

**Table 2. Medical Device User-Fee Credit Claimed in 2016-2018**

	2016		2017		2018	
	Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count
Available Credit -A	\$831	6	\$491	5	\$401	*
Claimed Credit	\$749	6	\$136	4	\$401	*
Shared Credit	\$0	0	0	0	\$0	0
Claimed plus Shared Credit - B	\$749	6	\$136	4	\$401	*
B/A	90.1%	100.0%	27.7%	80.0%	100.0%	*
Average Claimed or Shared Amount	\$124.8	NA	\$34.0	NA	*	NA

Source: Massachusetts Department of Revenue.

Notes: 1. There were no claims from personal income tax filers for the above years.

2. \* Information withheld to maintain confidentiality

3. 2017 and 2018 data are preliminary and subject to change.

4. "NA", not applicable.

## **BENEFITS**

The direct beneficiaries of the credit are medical device companies. In 2017, most of the direct beneficiaries were large corporations with more than 500 employees.

## **EVALUATION: COMPARING COSTS AND BENEFITS**

In the previous sections, we report the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses that benefit from state expenditures<sup>1</sup>) and direct benefits (to taxpayers who claim the benefits) of this tax

<sup>1</sup> Spending on a specific tax incentive means less spending on other expenditure needs for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from these items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses that benefit from these expenditure items.

expenditure. Since the direct costs to the Commonwealth are the direct benefits to the taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy, for example where a chain of businesses benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>2</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. Given that the amount of direct costs and benefits are small for this tax expenditure, less than \$1 million per year, DOR did not attempt to quantify such costs and benefits.

### **Similar Tax Expenditures Offered by Other States**

Neighboring states do not provide a credit for user fees paid to the FDA with respect to medical devices.

<sup>2</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>



## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Small Business Corporations	<b>Annual cost:</b> \$134.7 - \$161.3 million	<b>Year of adoption:</b> 1986	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input checked="" type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input checked="" type="checkbox"/> Job creation & maintenance <input type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments</b>				
<b>Small Business Corporations ("S Corporations") (TE 2.001)</b> S-corporations are business entities taxed at the personal income rate. The TERC strongly agrees that this benefits small businesses and is relevant today. We further somewhat agree that is measurable and is easily administered. While not a tax expenditure issue, the TERC questions whether the distinction between S-corps and other pass-through structures make sense. S-Corps				

seem a less-favorable structure for the business than LLC's or LLP's, which do not have any entity-level tax and may provide liability protection. S-corps do pre-date both LLC's and LLP's and so may be an historical quirk. Its structure provides for an entity is closely held, but not necessarily small. This poses the question: Are large entities getting "too much" benefit from this tax expenditure?

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Small Business Corporations
<b>TAX EXPENDITURE NUMBER</b>	2.001
<b>TAX EXPENDITURE CATEGORY</b>	Favorable tax treatment for S corporations <i>(corporate and business tax)</i>
<b>TAX TYPE</b>	Corporate and business excise tax
<b>LEGAL REFERENCE</b>	IRC, §§ 1361-1363; M.G.L. c. 62, § 17A; M.G.L. c. 63, §32D
<b>YEAR ENACTED</b>	1986
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$134.7 - \$161.3 million per year during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	112,509 (2018)
<b>AVERAGE TAXPAYER BENEFIT</b>	About \$1,300 per impacted filer (2018)

<p><b>Description of the Tax Expenditure:</b> Upon enactment of the S corporation statute in 1985, S corporation taxation was reduced from the full C corporation rate plus the full personal income tax rate on distributions, to a modified system under which S corporation income is taxed at three different levels depending on the receipts of the corporation, with the lowest being the personal income tax rate, and the highest the full C corporation rate, as described below.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> While not defined in the statute, we assume the purpose of the rate structure is to bring the total tax burden on S corporations into parity with that of C corporations, by imposing on shareholders the personal income tax rate for S corporation income, with a reduced corporate</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> New York, Rhode Island and Vermont have a modified two-level taxation structure, described below.</p>

rate so that the two figures combined more closely replicate the C corporation rate.	
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## **INTRODUCTION**

In general, corporations organized under, or subject to, Chapters 156, 156A, 156B, 156C, 156D or 180 of Massachusetts General Laws (M.G.L.) or that have privileges, powers, rights or immunities not possessed by individuals or partnerships are subject to the corporate excise. Most corporations have an income tax component of their excise. For those corporations, income is taxed at a rate of between 8 and 9%. Dividends distributed to Massachusetts residents are also subject to the personal income tax rate of 5%.

Certain corporations with no more than 100 shareholders may elect to be taxed, for both federal and state tax purposes, as “S corporations.” Under federal law, most S corporation income is passed through and taxed only as personal income to shareholders, and is not taxable at the entity level. Only limited categories of income are subject to an entity-level tax for federal tax purposes.

For Massachusetts purposes generally, S corporation income is not subject to an entity-level tax, except as follows: 1) those limited categories of income that are subject to an entity-level tax for federal tax purposes are also taxable in Massachusetts at the full corporate rate; and 2) the income of an S corporation with receipts of \$6 million or more is subject to tax at reduced corporate rates.

As of 2020, S corporations with total receipts of at least \$6 million but less than \$9 million are subject to a corporate excise of 2.00% of net income for non-financial institutions and 2.67% for financial institutions. An S corporation with total receipts of \$9 million or more is subject to an excise of 3.00% of net income for non-financial institutions and 4.00% for financial institutions.

The favorable manner in which income is taxed to an S corporation and its shareholders as compared to an ordinary business corporation (including its shareholders) constitutes a tax expenditure. Massachusetts first adopted this treatment of S corporations in 1986.

## **POLICY GOALS**

Congress adopted federal S corporation treatment in 1958 to promote the competitiveness of small businesses. Operating in corporate form provides benefits to businesses, including limited liability. However, corporations were subject to two levels of tax, which made the corporate form less attractive to smaller businesses. Thus, many smaller businesses operated as partnerships, which did not enjoy limited liability. Congress enacted the S corporation regime to allow eligible small businesses in corporate form to elect to be S

corporations, allowing them to claim the same liability protection as large businesses in corporate form (hereafter referred to as C corporations) but without the double tax.

The Massachusetts statute does not explicitly state the purpose of this tax expenditure. Presumably, the purpose parallels the purpose of the federal S corporation rules, notwithstanding the fact that Massachusetts adopted its S corporation regime nearly twenty years after the enactment of the federal rules. The purpose of the rate structure is to bring the total tax burden on S corporations into parity with that of C corporations, by imposing on shareholders the personal income tax rate for S corporation income, with a reduced corporate rate so that the two figures combined more closely replicate the C corporation rate.

### DIRECT COSTS

The revenue loss resulting from this tax expenditure is estimated to be \$134.7 - \$161.3 million per year during FY18-FY22. See Table 1. The estimates are based on several factors, including historical claims, economic forecasts, and related law changes.

Although S corporations pay less corporate excise because of reduced tax rates, they are pass-through entities and their owners pay personal income tax on their taxable income. Still, the overall tax burden of S corporations is lighter than that of C corporations. Such favorable tax treatment for S corporations results in lost tax revenues to the Commonwealth.

**Table 1. Tax Revenue Loss Estimates for Favorable Tax Treatment for S Corporations**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$134.7	\$149.4	\$152.6	\$156.6	\$161.3

### DIRECT BENEFITS

Direct beneficiaries of this tax incentive are S corporations that conduct business in Massachusetts. In 2018, as shown in Table 2, there were 112,509 S corporations. About 86.7% of them had gross receipts of less than \$6 million, representing about 16.7% of total tax liability of all S corporations and 0.8% of total taxable income; about 2.8% of all S corporations had gross receipts of at least \$6 million but less than \$9 million, representing about 5.8% of total tax liability of all S corporations and 8.9% of total taxable income; and about 10.5% of all S corporations had gross receipts of at least \$9 million, representing about 77.5% of total tax liability of all S corporations and 90.2% of total taxable income.

The average taxable income of all S corporations in 2018 was about \$75,000, and the average tax liability was \$2,891 (\$325,209,000 total tax liability divided by 112,509 total S corporations). The term “tax liability” for S corporations includes both the income and non-income measure of the corporate excise, when applicable.

**Table 2. Tax Liability, Taxable Income of S Corporations by Range of Gross Receipts**

Gross Receipts	Tax Liability (\$000)	Percent of Total S Corporation Tax Liability	Taxable Income (\$000)	Percent of Total S Corporation Taxable Income	Taxable Income Per Impacted Corporation (\$000)	Number of S corporations	Percent of Total Number of S Corporations
Less than \$6Million	\$54,303	16.7%	\$71,361	0.8%	\$1	97,537	86.7%
At least \$6Million but less than \$9Million	\$18,910	5.8%	\$753,794	8.9%	\$237	3,183	2.8%
At least \$9Million	\$251,996	77.5%	\$7,606,752	90.2%	\$645	11,789	10.5%
Total or average	\$325,209	100.0%	\$8,431,906	100.0%	\$75	112,509	100.0%

Source: Department of Revenue (2018 corporate excise returns).

Notes: 1. The data is preliminary and subject to change.

2. Tax liability is all from non-income measure for S Corporations with less than \$6 million gross receipts. Some taxable income for this group was reported but actually not taxed.

By range of taxable income, as shown in Table 3, more than 90% of the S corporations had taxable income between \$0 and \$9,999, representing 18.0% of the total tax liability of all S corporations and 0.1% of total taxable income. Only 0.1% of the S corporations had taxable income of \$10 million or more, but those corporations represented 28.4% of the total tax liability of all S corporations and 40.3% of total taxable income.

**Table 3. Tax Liability, Taxable Income of S Corporations by Taxable Income Level**

Taxable Income Range	Tax Liability (\$000)	Percent of Total S Corporation Tax Liability	Taxable Income (\$000)	Percent of Total S Corporation Taxable Income	Taxable Income Per Impacted Corporation (\$000)	Number of S corporations	Percent of Total Number of S Corporations
Less than \$0	\$4,658	1.4%	-\$502,521	-6.0%	-\$219	2,292	2.0%
0 to \$9,999	\$58,519	18.0%	\$8,818	0.1%	\$	101,325	90.1%
\$10,000 to \$99,999	\$5,904	1.8%	\$141,521	1.7%	\$41	3,452	3.1%
\$100,000 to \$999,999	\$46,141	14.2%	\$1,434,444	17.0%	\$375	3,830	3.4%
\$1,000,000 to \$9,999,99	\$117,728	36.2%	\$3,952,268	46.9%	\$2,658	1,487	1.3%
\$10,000,000 or more	\$92,258	28.4%	\$3,397,267	40.3%	\$28,077	121	0.1%
Unmatched*	\$1	0.0%	\$110	0.0%	\$55	2	0.0%
Total or average	\$325,209	100.0%	\$8,431,906	100.0%	\$75	112,509	100.0%

Source: Department of Revenue (2018 corporate excise returns)

Notes: 1. \*Unmatched means that we could not find some taxpayers in one or more of data sets to match.  
 2. The data is preliminary and subject to change.

By number of employees, as shown in Table 4, almost all S corporations were businesses with fewer than 100 employees, representing about 65.4% of total tax liability of all S corporations and 57.7% of total taxable income. About 63.0% of total S corporations had fewer than 5 employees, representing about 26.5% of total tax liability and 18.1% of total taxable income. Only 0.6% of S corporations had more than 500 employees, representing about 10.7% of total tax liability and 14.5% of total taxable income.

**Table 4. Tax Liability, Taxable Income of S Corporations by Number of Employees**

Employees Range*	Tax Liability (\$000)	Percent of Total S Corporation Tax Liability	Taxable Income (\$000)	Percent of Total S Corporation Taxable Income	Taxable Income Per Impacted Corporation (\$000)	Number of S corporations	Percent of Total Number of S Corporations
Less than 5	\$86,308	26.5%	\$1,525,794	18.1%	\$22	70,829	63.0%
5 to 49	\$85,336	26.2%	\$2,167,299	25.7%	\$63	34,334	30.5%
50 to 99	\$41,353	12.7%	\$1,169,942	13.9%	\$315	3,713	3.3%
100 to 199	\$36,590	11.3%	\$1,067,669	12.7%	\$569	1,878	1.7%
200 to 499	\$40,809	12.5%	\$1,274,967	15.1%	\$1,198	1,064	0.9%
500 or more	\$34,813	10.7%	\$1,226,235	14.5%	\$1,775	691	0.6%
Total or average	\$325,209	100.0%	\$8,431,906	100.0%	\$75	112,509	100.0%

Source: Department of Revenue (2018 corporate excise returns)

Notes: 1. Information is based on number of employees as reported by taxpayers.  
 2. The data is preliminary and subject to change.

By industry, as shown in Table 5, about 17.8% of S corporations were in the industry of “Professional, Scientific, and Technical Services”; those S corporations represented 14.2% of total tax liability of all S corporations and 18.0% of total taxable income. The industry with the smallest number of S corporations is “Mining, Quarrying, and Oil and Gas Extract”, with only 0.1% of all S corporations, representing 0.19% of total tax liability and 0.22% of total taxable income.

**Table 5. Tax Liability, Taxable Income of S Corporations by Industry**

Industry	Tax Liability (\$000)	Percent of Total S Corporation Tax Liability	Taxable Income (\$000)	Percent of Total S Corporation Taxable Income	Taxable Income Per Impacted Corporation (\$000)	Number of S corporations	Percent of Total Number of S Corporations
11 Agriculture, Forestry, Fishing and Hunting	\$1,954	0.6%	\$43,892	0.5%	\$43	1,016	0.9%
21 Mining, Quarrying, and Oil and Gas Extract	\$631	0.2%	\$18,759	0.2%	\$179	105	0.1%



22 Utilities	\$248	0.1%	\$821	0.0%	\$6	134	0.1%
23 Construction	\$52,190	16.0%	\$1,355,112	16.1%	\$77	17,623	15.7%
31-33 Manufacturing	\$35,473	10.9%	\$1,110,555	13.2%	\$216	5,147	4.6%
42 Wholesale Trade	\$41,057	12.6%	\$1,132,782	13.4%	\$258	4,398	3.9%
44-45 Retail Trade	\$46,724	14.4%	\$970,203	11.5%	\$82	11,810	10.5%
48-49 Transportation and Warehousing	\$6,798	2.1%	\$132,457	1.6%	\$33	4,018	3.6%
51 Information	\$4,643	1.4%	\$108,829	1.3%	\$59	1,840	1.6%
52 Finance and Insurance	\$20,071	6.2%	\$553,345	6.6%	\$150	3,691	3.3%
53 Real Estate and Rental and Leasing	\$16,195	5.0%	\$305,238	3.6%	\$28	10,779	9.6%
54 Professional, Scientific, and Technical Services	\$46,336	14.2%	\$1,517,716	18.0%	\$76	20,034	17.8%
55 Management of Companies and Enterprises	\$11,897	3.7%	\$306,697	3.6%	\$382	802	0.7%
56 Administrative and Support and Waste Management	\$9,271	2.9%	\$217,410	2.6%	\$40	5,394	4.8%
61 Educational Services	\$1,346	0.4%	\$33,918	0.4%	\$38	903	0.8%
62 Health Care and Social Assistance	\$9,276	2.9%	\$242,458	2.9%	\$38	6,450	5.7%
71 Arts, Entertainment, and Recreation	\$5,287	1.6%	\$115,842	1.4%	\$37	3,119	2.8%
72 Accommodation and Food Services	\$7,840	2.4%	\$142,208	1.7%	\$20	6,983	6.2%
81 Other Services (except Public Administration)	\$7,517	2.3%	\$118,356	1.4%	\$15	7,697	6.8%
Others or unmatched*	\$455	0.1%	\$5,309	0.1%	\$9	566	0.5%
Total or average	\$325,209	100.0%	\$8,431,906	100.0%	\$75	112,509	100.0%

Source: Department of Revenue (2018 corporate excise returns)

Notes: 1. \*Unmatched means that we could not find some taxpayers in one or more of data sets to match.

2. The data is preliminary and subject to change.

## EVALUATION: COMPARING COSTS AND BENEFITS

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases tax to finance the favorable tax treatment for S corporations) and direct benefits (to S corporations) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy, for example where a chain of businesses benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>1</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. The Appendix shows one such attempt by DOR.

### **Similar Tax Expenditures Offered by Other States**

Looking at neighboring states, some tax the pass-through income to shareholders (copying the federal model, as Massachusetts does), and also impose some corporate-level tax: New York taxes both shareholder distributive share income, and also has an entity-level component with some modifications to C corporation taxation, including slightly lower corporate tax rates. In Rhode Island and Vermont, S corporations pay a minimum corporate franchise tax, but not a corporate income tax. Connecticut historically conformed to this model, but changed its law in response to the 2017 federal Code amendment that imposed a \$10,000 cap on personal income tax deductions for state and local taxes paid. Starting in 2018, Connecticut has a system for pass-through entities, including S corporations, to pay an income tax at the personal income tax rates, with a credit for these taxes allowed to individual shareholders. Maine generally follows the federal model, with most S corporation income taxable only at the individual level, but with any income taxable federally at the entity level also taxable at the entity level.

New Hampshire, which has limited personal income taxes, taxes S corporations in the same manner as C corporations, offering no reduced rate.

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<sup>1</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

## References

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Keith R. Ihlanfeldt, David L. Sjoquist. (2001, August). Conducting an Analysis of Georgia's Economic Development Tax Incentive Program. *ECONOMIC DEVELOPMENT QUARTERLY*, 15(3), 217-228.

*MODELS: TAX-PI*. (n.d.). Retrieved from Regional Economic Models, Inc.:  
<https://www.remi.com/model/tax-pi/>

## Appendix: Further Discussion on Costs and Benefits

The text of the report discusses the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>2</sup>) and direct benefits (to S corporations) of this tax expenditure. It also summarizes indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced, as well as other costs and benefits in more detail.

### Other costs and benefits: Indirect and Induced

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement, assuming no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an "**opportunity cost**" to the Commonwealth. The opportunity cost to the state includes not only the impact on the businesses and their employees that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is the cost to the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "Multiplier Effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI in the reference. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive has a specific purpose, the reduced spending that results from the expenditure is assumed to be proportionally distributed across the Commonwealth's current expenditures.

#### *Quantifying total costs (direct, indirect and induced)*

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A1 and A2 report the model results. The

<sup>2</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.

figures for 2018 and 2019 are estimates of forgone benefits (opportunity costs) that the Massachusetts economy experienced due to having the expenditure, and those for 2020, 2021 and 2022 are projections of forgone benefits that the Massachusetts economy will experience going forward. The effects are displayed as negative numbers as reduced spending has a negative impact on the state economy.

Tables A1 and A2 show that the reduction in state government spending results in lost economic activities, with real state GDP declining by \$324 million-\$366 million and total employment declining by 3,754 -4,156 jobs annually. Lost economic activities result in further loss of state revenues,<sup>3</sup> ranging from \$6.9 million to \$19.7 million annually. Note that the revenue impact reported in Table A1 does not include the estimated direct impact of the tax expenditure from Table 1, but only the additional indirect/induced impact.

**Table A1. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	-\$6,918	-\$15,450	-\$17,678	-\$19,131	-\$19,704

\*This table reports the lost revenues from the foregone economic activities as the state reduced government spending to finance the favorable tax treatment for S corporations.

**Table A2. Economic Impacts due to Decreased Government Spending by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-3,754	-4,015	-4,156	-4,028	-3,804
Impact on private non-farm employment	-2,070	-2,213	-2,300	-2,195	-2,024
Impact on GDP (\$000), real dollars (2012)	-\$324,000	-\$350,000	-\$366,000	-\$359,000	-\$344,000
Impact on personal income (\$000)	-\$271,000	-\$320,000	-\$360,000	-\$377,000	-\$383,000

\*This table reports the lost economic activities as the state reduced government spending to finance the favorable tax treatment for S corporations.

### *Indirect and Induced Benefits*

The cost savings due to the favorable tax treatment for S corporations encourages the directly affected businesses to invest, expand, hire additional workers, etc. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy, or put another way, generate a “Multiplier Effect” (see

<sup>3</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 1.

discussion in the previous section) from the initial or direct benefits described in the text of the report. As a result, the total benefits of the favorable tax treatment for S corporations would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect/induced benefits, we again employed Tax-PI. A summary of the revenue impact of the favorable tax treatment for S corporations is reported in Table A3, and the economic benefit from the favorable tax treatment for S corporations is reflected in Table A4 below. The figures for 2018 and 2019 are estimates of benefits that the Massachusetts economy experienced and those for 2020, 2021 and 2022 are projections of the benefits that the Massachusetts economy will experience going forward.

Tables A3 and A4 show that, the favorable tax treatment for S corporations results in more economic activities, with real state GDP increasing by \$233 million - \$330 million and total employment increasing by 2,624-3,491 jobs annually. More economic activities result in more state revenues, ranging from \$5.5 million to \$19.1million annually, which partially offsets the cost of this tax incentive.

**Table A3. Additional Revenue Impact of Favorable Tax Treatment for S Corporations**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$5,502	\$12,960	\$16,026	\$18,124	\$19,099

**Table A4. Economic Impacts of Favorable Tax Treatment for S Corporations by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	2,624	3,148	3,491	3,473	3,305
Impact on private non-farm employment	2,531	2,990	3,246	3,223	3,065
Impact on GDP (\$000), real dollars (2012)	\$233,000	\$286,000	\$323,000	\$330,000	\$323,000
Impact on personal income (\$000)	\$183,000	\$244,000	\$296,000	\$321,000	\$330,000

**Comparison of costs and benefits**

Without taking into account the opportunity cost of the tax incentive, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would be generated if the Commonwealth used the dollars expended on this tax incentive for other

purposes. Those dollars could be spent in many other ways, and examining them is beyond the scope of the current evaluation report. Nonetheless, we reported net impacts of the tax incentive in Tables A5 and A6 below under the balanced budget requirement, which are the combined effects in Tables A1-A4.

Tables A5 and A6 show that the favorable tax treatment for S corporations combined with a cut in state government spending results in less economic activity, with real state GDP decreasing by \$21 million-\$91 million. The net impact on total employment is negative with total employment decreasing by 499 – 1,130 jobs annually. The impact on state revenues is also negative, decreasing by \$0.6 million to \$2.5 million annually.

Because the tax expenditure has its own specific purpose, the net negative impacts do not necessarily imply that the tax expenditure is not desirable.

**Table A5. Net Additional Revenue Impact of Favorable Tax Treatment for S Corporations\***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	-\$1,416	-\$2,490	-\$1,652	-\$1,007	-\$605

\* assuming state government spending is cut by the same amount as the revenue loss due to the favorable tax treatment for S corporations to balance budget.

**Table A6. Net Economic Impacts of Favorable Tax Treatment for S Corporations by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-1,130	-867	-665	-555	-499
Impact on private non-farm employment	461	777	946	1,028	1,041
Impact on GDP (\$000), real dollars (2012)	-\$91,000	-\$64,000	-\$43,000	-\$29,000	-\$21,000
Impact on personal income (\$000)	-\$88,000	-\$76,000	-\$64,000	-\$56,000	-\$53,000

\* assuming state government spending is cut by the same amount as the revenue loss due to the favorable tax treatment for S corporations to balance budget.

**Other unquantified costs and benefits:**

Besides the additional costs and benefits quantified in the previous sections, there are other costs and benefits that are hard to quantify due to lack of data or other challenges. In this section we will enumerate some of these costs and benefits.

Ihlanfeldt and Sjoquist (2001), a published study for the state of Georgia, summarizes some of other costs and benefits as follows:

Loss of competitiveness. Providing tax incentive such as credits to selected firms may diminish the competitiveness for existing similar firms.

Compliance costs. They think that the costs to the firm may be substantial.

Improved business climate. Tax incentive improves the perception of the business climate in the state and is used by site location specialists in screening alternative sites.

Synergistic or clustering effects. Tax incentive may attract a firm in an industry new to the state, which then serves as a magnet for attracting additional firms in the industry.

Another hard to quantify cost is the administrative cost. The administrative cost attributable to this incentive should be relatively small because the Department of Revenue administers this incentive with existing staff as part of its overall mission.

### **Other issues related to costs and benefits**

The burden of a tax does not necessarily fall on those responsible for remitting the tax. It is known through economic theories that corporate taxes change the allocation of capital between corporations and noncorporate businesses and among states because capital would flee from states of higher corporate taxes if all other considerable factors are not significantly different.

Felix (2009) finds that labor bears a significant burden from the state corporate tax in the form of lower wages. Her study further suggests that a one-percentage-point increase in the marginal state corporate tax rate reduces wages by 0.14% to 0.36%, that labor's burden from the state corporate tax has trended upward over time due to increased global competition and increased competition among states to attract businesses, and that state corporate taxes reduce the wages of highly educated workers more than that of less-educated workers.

This incentive is significant to the direct beneficiaries by reducing the effective tax rate greatly. Hence, the findings imply that the incentive may have benefited workers who were employed by the corporations in the form of higher wages. The incentive may have further benefited the shareholders and clients due to the growth of businesses.



## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Net Operating Loss Carryover	<b>Annual cost:</b> \$167.1 - \$194.0 million	<b>Year of adoption:</b> 1988	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input type="checkbox"/> Individual <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Corporate:</i> <input checked="" type="checkbox"/> Job creation & maintenance <input type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input checked="" type="checkbox"/> Other: Structural; smooth annual variations in income		<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:		
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments</b>				
<b>Net operating loss carryover (TE 2.203)</b>				
The TERC strongly agreed that this TE is claimed by its intended beneficiaries, a broad group of 10,00 to 12,000 businesses that includes small businesses. This TE contributes to both competitiveness and job creation.				
Previously, the NOL had a five-year carry forward; currently the carryforward is 20 years, in line with the federal NOL tax expenditure. Note however, that				

Massachusetts does not have a carry-back provision as federal law provides. Also, financial institutions are not allowed to carry losses forward. The TERC believes this TE is important, as it allows companies to smooth income over time, especially smaller business who may have to deal with a volatile income stream. Start-ups (particularly Life Science) have losses upfront and may need a 20-year carryforward to smooth losses against gains.

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Net Operating Loss Carryover
<b>TAX EXPENDITURE NUMBER</b>	2.203
<b>TAX EXPENDITURE CATEGORY</b>	Deduction against tax ( <i>corporate and business tax</i> )
<b>TAX TYPE</b>	Corporate excise tax
<b>LEGAL REFERENCE</b>	IRC, § 172; M.G.L. c. 63, § 30(5)
<b>YEAR ENACTED</b>	1988
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$167.1 - \$194.0 million per year during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	10,735 – 12,184 claims for the deduction per year during the tax years 2015 through 2018.
<b>AVERAGE TAXPAYER BENEFIT</b>	About \$14,400 per claimant (2018)

<p><b>Description of the Tax Expenditure:</b> A deduction for net operating losses incurred in previous taxable years is allowed to certain corporations in determining net income in the current year.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> No goals are identified in the statute, but we assume the goal of the NOL deduction is to smooth out annual variations in income.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> Most states with a corporate income tax allow a deduction for NOLs, including all of Massachusetts' neighboring states.</p>

## INTRODUCTION

The net operating loss (NOL) deduction is a current-year deduction for losses sustained in prior years. Losses incurred in years a corporation is not subject to the corporate excise in Massachusetts (for example, where the corporation does no business in Massachusetts) are not allowed to be carried forward. While the Internal Revenue Code provides a federal deduction for NOLs, Massachusetts does not conform to those rules; rather the General Laws provide for a specific Massachusetts deduction.

The deduction was enacted in 1988. Prior to 2010, NOLs incurred by Massachusetts corporate excise filers could be carried forward for not more than 5 years, and could not be carried back. Losses incurred in taxable years beginning on or after January 1, 2010 can be carried forward for 20 years, and cannot be carried back.

## POLICY GOALS

The federal NOL deduction is intended to smooth over the effects of economic and business cycles on corporate taxes over multiple tax years. The idea is that two companies that have the same earnings over a period of tax years should bear similar long term tax burdens even though one of the companies had losses in some years and the other was consistently profitable. Allowing a deduction for losses incurred in prior years furthers this goal.

A recent article by Tax Foundation (Watson, 2020) illustrates this point using the following example:

*For example, imagine a firm (Firm 1) that loses \$50,000 in its first year, but earns \$100,000 in the second year. A second firm (Firm 2) earns \$25,000 in both years. In the absence of NOL deductions, the first firm is taxed at a 42 percent effective tax rate over those two years, while the second firm faces an effective tax rate half the size at 21 percent (see Table 1). The first firm faces a higher effective tax rate for earning uneven income over those two years.*

**Table 1. Effective Tax Rate for Two Firms without a Net Operating Loss Deduction  
(21% Tax Rate)**

	Year 1 Net income	Year 2 Net Income	Tax Liability for Year 1	Tax Liability for Year 2	Combined Effective Tax Rate
Firm 1	(\$50,000)	\$100,000	\$0	\$21,000	42%
Firm 2	\$25,000	\$25,000	\$5,250	\$5,250	21%

Source: Tax Foundation calculations.

When NOL deductions are available, both firms face an equivalent effective tax rate, and the firm with uneven income is not penalized for losses accrued in Year 1 (see Table 2). NOL deductions are an important aspect of the tax code to ensure neutrality between firms and industries that experience variability in profits over time.

**Table 2. Effective Tax Rate for Two Firms with a Net Operating Loss Deduction (21% Tax Rate)**

	Year 1 Net income	Year 2 Net Income	Tax Liability for Year 1	Tax Liability for Year 2	Combined Effective Tax Rate
Firm 1	(\$50,000)	\$100,000	\$0	\$10,500 (\$100,000 - \$50,000) * 21%	21%
Firm 2	\$25,000	\$25,000	\$5,250	\$5,250	21%

Source: Tax Foundation calculations.

The Massachusetts statute does not explicitly state the purpose of this tax expenditure. However, it is likely that the Massachusetts NOL deduction was adopted for the same reasons as the federal deduction.

## DIRECT COSTS

The revenue loss resulting from this tax expenditure is estimated to be \$167.1 - \$194.0 million per year during FY18-FY22.<sup>1</sup> See Table 3. The estimates are based on several factors, including historical claims, economic forecasts, and related law changes.

**Table 3. Tax Revenue Loss Estimates for NOL deduction**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$167.1	\$177.4	\$182.8	\$188.3	\$194.0

Table 4 below shows the number of claimed and shared NOL deductions and the amount of such deductions in the past several years. Here, “Claimed NOL” is the deduction amount that a taxpayer incurred and claimed; and “Shared NOL” is the deduction amount shared from other members of the taxpayer’s combined group.

During the tax years 2015 through 2018, the number of NOL deductions claimed or shared annually varied from 10,735 to 12,184, the aggregate amount of NOL deduction claimed or shared annually varied from \$1.677 billion to \$2.922 billion, and the average claimed or shared amount was \$147,200-\$239,800 per year.

<sup>1</sup> The estimates do not reflect the impact of the COVID-19 and the resulted recession.

**Table 4. Amount and Count of Net Operating Loss Deduction by Tax Year**

	2015		2016		2017		2018	
	Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count
Claimed NOL	\$1,629,247	11,132	\$1,661,298	10,555	\$2,053,378	10,831	\$2,809,989	11,816
Shared NOL	\$48,246	263	\$25,298	180	\$33,689	184	\$111,551	368
Total	\$1,677,493	11,395	\$1,686,596	10,735	\$2,087,067	11,015	\$2,921,541	12,184
Average Amount of Deduction	\$147.2	NA	\$157.1	NA	\$189.5	NA	\$239.8	NA

Source: Massachusetts Department of Revenue.

Notes: 1. 2017 and 2018 data are preliminary and subject to change.

2. The count is the number of claims, not the number of claimants. The number of claims is either the same as or slightly higher than the number of claimants, as discussed in footnote 1.

3. "NA" means not applicable.

## DIRECT BENEFITS

Direct beneficiaries of the deduction are corporations that conduct business in Massachusetts and have net operating losses in some years. Because it is common for corporations to incur losses in some years with the expectation of profits in future years, the deduction applies to a broad range of businesses in the state. Tables 5-7 below show the profile of the corporations that claimed the deduction in tax year 2018.

In 2018, a total of 12,024 claimants<sup>2</sup> claimed \$2.921 billion in NOL deductions, reducing taxable income by 49.4% from \$5.919 billion to \$2.998 billion. Put another way, taxable income after NOL deductions was 50.6% of taxable income before NOL deductions. The ratio of taxable income post-NOLs to taxable income pre-NOLs varied from 0.3% for corporations whose taxable income ranged between \$0 and \$9,999, to 87.2% for corporations with \$10 million or higher taxable income (see Table 5), from 26.3% for corporations with 200-499 employees to 63.6% for corporations with fewer than 5 employees (see Table 6), and from 1.7% for corporations in the industry of "Mining, Quarrying, and Oil and Gas Extract" to 78.3% for corporations in the "Retail Trade" industry (see Table 7).

<sup>2</sup> Tables 5-7 show that there were 12,024 claimants for the deduction in 2018, which is slightly lower than the 12,184 claims reported in Table 4. The difference was due to the cases in which a claimant had more than one claims. For example, a taxpayer in a combined group that incurred a loss may use part of the available deduction itself, and then share the remainder with other members, in which case the number of claims would be larger than the number of claimants (all claims are counted under the name of the member who incurred the loss).

Table 5 shows that about 77.8% of the corporations claiming NOL deductions (“impacted corporations”) had taxable income ranging between \$0 and \$9,999, and in total represented 16.9% of the total tax liability of all impacted corporations and 0.2% of total taxable income after NOL deductions. About 0.3% of the impacted corporations had more than \$10 million taxable income, representing 49.3% of the total tax liability of impacted corporations and 63.3% of total taxable income after NOL deductions. Table 6 shows that about 55.7% of the impacted corporations had with fewer than 5 employees, and these corporations represented 50.8% of the total tax liability of such corporations and 43.2% of total taxable income after NOL deductions. About 4.5 % of the impacted corporations were corporations with 500 or more employees, representing 24.8% of the total tax liability of all impacted corporations and 31.5% of total taxable income after NOL deductions. By industry, Table 7 shows that the “Professional, Scientific, and Technical Services” industry represented about 19.3% of impacted corporations, 13.5% of total tax liability, and 19.3% of total taxable income after NOL deductions. The “Manufacturing” industry represented about 11.0% of total impacted corporations, 8.3% of total tax liability, and 11.9% of taxable income after NOL deduction.

On average, impacted corporations claimed net operating loss deductions of \$242,972. This average claimed amount varied from \$49,509 for corporations with taxable income less than \$0 to \$7.927 million for corporations with \$10 million or higher taxable income, from \$110,716 for corporations with fewer than 5 employees to \$1.467 million for corporations with 500 or more employees, and from \$27,540 for corporations in the industry of “Other Services (except Public Administration)” to \$851,304 for corporations in the “Utilities” industry.

**Table 5. Impacted Corporations of Net Operating Loss Carryover, Tax Liability, and Taxable Income by Taxable Income Level**

Taxable Income Range (after NOL)	Taxable Income Before NOL (\$000) -A	Taxable Income After NOL (\$000) -B	Percent of Total Taxable Income After NOL	B/A	Tax Liability (\$000)	Percent of Total Tax Liability	Number of Impacted Corporations	Percent of Total Number of Impacted Corporations	NOL per impacted Corporation (\$)
Less than \$0	\$306	-\$981	0.0%		\$13	0.0%	26	0.2%	\$49,509
0 to \$9,999	\$1,975,266	\$5,530	0.2%	0.3%	\$43,287	16.9%	9,354	77.8%	\$210,577
\$10,000 to \$99,999	\$145,423	\$55,970	1.9%	38.5%	\$8,262	3.2%	1,501	12.5%	\$59,596
\$100,000 to \$999,999	\$493,236	\$286,140	9.5%	58.0%	\$26,477	10.3%	843	7.0%	\$245,666
\$1,000,000 to \$9,999,99	\$1,128,909	\$752,415	25.1%	66.6%	\$51,729	20.2%	265	2.2%	\$1,420,732
\$10,000,000 or more	\$2,175,866	\$1,898,435	63.3%	87.2%	\$126,351	49.3%	35	0.3%	\$7,926,592
Total	\$5,919,005	\$2,997,508	100.0%	50.6%	\$256,118	100.0%	12,024	100.0%	\$242,972

Source: Department of Revenue (2018 corporate excise returns)

Notes: 1. NOL denotes Net Operating Loss.

2. The data is preliminary and subject to change.

**Table 6. Impacted Corporations of Net Operating Loss Carryover, Tax Liability, and Taxable Income by Number of Employees**

Employees Range*	Taxable Income Before NOL (\$000) -A	Taxable Income After NOL (\$000) -B	Percent of Total Taxable Income After NOL	B/A	Tax Liability (\$000)	Percent of Total Tax Liability	Number of Impacted Corporations	Percent of Total Number of Impacted Corporations	NOL per impacted Corporation (\$)
Less than 5	\$2,037,597	\$1,296,241	43.2%	63.6%	\$129,988	50.8%	6,696	55.7%	\$110,716
5 to 49	\$870,079	\$301,809	10.1%	34.7%	\$24,795	9.7%	3,300	27.4%	\$172,203
50 to 99	\$263,154	\$105,349	3.5%	40.0%	\$10,717	4.2%	586	4.9%	\$269,292
100 to 199	\$528,449	\$221,636	7.4%	41.9%	\$15,617	6.1%	483	4.0%	\$635,223
200 to 499	\$490,022	\$129,029	4.3%	26.3%	\$11,413	4.5%	423	3.5%	\$853,410
500 or more	\$1,729,705	\$943,443	31.5%	54.5%	\$63,587	24.8%	536	4.5%	\$1,466,906
Total	\$5,919,005	\$2,997,508	100.0%	50.6%	\$256,118	100.0%	12,024	100.0%	\$242,972

Source: Department of Revenue (2018 corporate excise returns)

Notes: 1. \* Information is based on number of employees as reported by taxpayers.

2. NOL denotes Net Operating Loss.

3. The data is preliminary and subject to change.

**Table 7. Impacted Corporations of Net Operating Loss Carryover, Tax Liability, and Taxable Income by Industry**

Industry	Taxable Income Before NOL (\$000) -A	Taxable Income After NOL (\$000) -B	Percent of Total Taxable Income After NOL	B/A	Tax Liability (\$000)	Percent of Total Tax Liability	Number of Impacted Corporations	Percent of Total Number of Impacted Corporations	NOL per impacted Corporation (\$)
11 Agriculture, Forestry, Fishing and Hunting	\$3,341	\$615	0.0%	18.4%	\$96	0.0%	46	0.4%	\$59,271
21 Mining, Quarrying, and Oil and Gas Extract	\$495	\$8	0.0%	1.7%	\$89	0.0%	8	0.1%	\$60,895
22 Utilities	\$52,681	\$16,075	0.5%	30.5%	\$2,004	0.8%	43	0.4%	\$851,304
23 Construction	\$145,815	\$70,058	2.3%	48.0%	\$4,741	1.9%	999	8.3%	\$75,834
31-33 Manufacturing	\$937,465	\$355,866	11.9%	38.0%	\$21,182	8.3%	1,319	11.0%	\$440,939
42 Wholesale Trade	\$252,518	\$109,797	3.7%	43.5%	\$8,978	3.5%	796	6.6%	\$179,298
44-45 Retail Trade	\$523,430	\$409,767	13.7%	78.3%	\$36,025	14.1%	920	7.7%	\$123,547
48-49 Transportation and Warehousing	\$69,257	\$24,174	0.8%	34.9%	\$2,151	0.8%	387	3.2%	\$116,494
51 Information	\$398,384	\$130,435	4.4%	32.7%	\$10,965	4.3%	537	4.5%	\$498,975
52 Finance and Insurance	\$244,041	\$68,962	2.3%	28.3%	\$12,603	4.9%	769	6.4%	\$227,671
53 Real Estate and Rental and Leasing	\$274,287	\$158,399	5.3%	57.7%	\$18,161	7.1%	813	6.8%	\$142,543
54 Professional, Scientific, and Technical Services	\$1,195,083	\$578,259	19.3%	48.4%	\$34,497	13.5%	2,318	19.3%	\$266,102
55 Management of Companies and Enterprises	\$321,537	\$120,873	4.0%	37.6%	\$13,091	5.1%	324	2.7%	\$619,332
56 Administrative and Support and Waste Management	\$124,962	\$38,434	1.3%	30.8%	\$4,347	1.7%	495	4.1%	\$174,803
61 Educational Services	\$13,291	\$1,004	0.0%	7.6%	\$205	0.1%	111	0.9%	\$110,698



62 Health Care and Social Assistance	\$103,741	\$43,371	1.4%	41.8%	\$4,934	1.9%	454	3.8%	\$132,973
71 Arts, Entertainment, and Recreation	\$7,926	\$3,056	0.1%	38.6%	\$289	0.1%	142	1.2%	\$34,296
72 Accommodation and Food Services	\$33,647	\$12,107	0.4%	36.0%	\$1,536	0.6%	461	3.8%	\$46,725
81 Other Services (except Public Administration)	\$19,999	\$7,138	0.2%	35.7%	\$666	0.3%	467	3.9%	\$27,540
Others or unmatched*	\$1,197,102	\$849,109	28.3%	70.9%	\$79,557	31.1%	615	5.1%	\$565,842
Total or average	\$5,919,005	\$2,997,508	100.0%	50.6%	\$256,118	100.0%	12,024	100.0%	\$242,972

Source: Department of Revenue (2018 corporate excise returns)

Notes: 1. \*Unmatched means that we could not find some taxpayers in one or more of data sets to match.

2. NOL denotes Net Operating Loss.

3. The data is preliminary and subject to change.

## EVALUATION: COMPARING COSTS AND BENEFITS

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases tax to finance the NOL deduction) and direct benefits (to taxpayers who claim the benefits) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy, for example where a chain of businesses benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>3</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. The Appendix shows one such attempt by DOR.

## Similar Tax Expenditures Offered by Other States

This is a popular and widely used deduction. Most states allow a deduction for NOLs, but the terms of those deductions vary. New York, like Massachusetts, has a state specific NOL

<sup>3</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

deduction that does not conform to the federal deduction, and allows 20 years carryforward. However, New York allows a carryback deduction for NOLs, which Massachusetts does not allow.

Connecticut also has a state specific NOL deduction, which can be carried forward for 20 years, as in Massachusetts. Also like Massachusetts, Connecticut recognizes NOLs only from years the corporation was subject to tax in the state. Like federal law, prior year losses must be applied against income to the maximum extent possible and in a consecutive fashion during the carryover period, so that losses from the earliest years are used first.

Rhode Island uses a modified version of the federal NOL deduction. Like Massachusetts, Rhode Island recognizes NOLs only from years the corporation was subject to tax in the state. Rhode Island does not permit NOL carrybacks. The carryforward period is limited to five years.

Maine generally conforms to the federal NOL provisions, but for tax years ending after 2017 losses may be carried forward indefinitely, but not carried back, except in limited circumstances.

Vermont has decoupled from the federal NOL deduction and has created a state-specific deduction. Vermont allows NOLs to be carried forward 10 years, and does not allow carrybacks.

Louisiana offers a net operating loss deduction. For returns filed on or after July 1, 2015, regardless of the tax year to which it relates, the deduction is equal to 72% of the available net operating loss, limited to 72 percent of net income.

Colorado offers a net operating loss deduction. For any given tax year the deduction is the portion of the federal net operating loss allocated and/or apportioned to Colorado. An NOL deduction is allowed in the same manner that it is allowed under the internal revenue code unless subject to any state limitations.

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## Appendix: Further Discussion on Costs and Benefits

The text of the report discusses the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>4</sup>) and direct benefits (to taxpayers who claim the benefits) of this tax expenditure. It also summarizes indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced, as well as other costs and benefits in more detail.

### Other costs and benefits: Indirect and Induced

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement, assuming that there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an **"opportunity cost"** to the Commonwealth. The opportunity cost to the state includes not only the impact on the businesses and their employees that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is the cost to the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "Multiplier Effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI in the reference. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive has a specific purpose, the reduced spending is assumed to be proportionally distributed across the Commonwealth's current expenditures.

#### *Quantifying total costs (direct, indirect and induced)*

<sup>4</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A1 and A2 report the model results. The figures for 2018 and 2019 are estimates of forgone benefits (opportunity costs) that the Massachusetts economy experienced due to having the expenditure, and those for 2020, 2021 and 2022 are projections of forgone benefits that the Massachusetts economy will experience going forward. The effects are displayed as negative numbers as reduced spending has a negative impact on the state economy.

Tables A1 and A2 show that the reduction in state government spending results in lost economic activity, with real state GDP declining by \$377 million - \$428 million and total employment declining by 4,364- 4,859 jobs annually. Lost economic activity results in further loss of state revenues,<sup>5</sup> ranging from \$8.0 million to \$23.2 million annually. Note that the revenue impact reported in Table A1 does not include the estimated direct impact of the tax expenditure from Table 3, but only the additional indirect/induced impact.

**Table A1. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	-\$8,041	-\$17,952	-\$20,598	-\$22,381	-\$23,232

\* This table reports the lost revenues from the foregone economic activity as the state reduced government spending to finance the NOL deduction.

**Table A2. Economic Impacts due to Decreased Government Spending by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-4,364	-4,664	-4,859	-4,722	-4,530
Impact on private non-farm employment	-2,407	-2,571	-2,689	-2,574	-2,411
Impact on GDP (\$000), real dollars (2012)	-\$377,000	-\$407,000	-\$428,000	-\$421,000	-\$410,000
Impact on personal income (\$000)	-\$314,000	-\$372,000	-\$420,000	-\$441,000	-\$454,000

\*This table reports the lost economic activity as the state reduced government spending to finance the NOL deduction.

### *Indirect and Induced Benefits*

<sup>5</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 3.

The cost savings due to the NOL deduction encourages the directly affected businesses to invest, expand, hire additional workers, etc. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy, or put another way, generate a “Multiplier Effect” (see discussion in the previous section) from the initial or direct benefits as reported in the text. As a result, the total benefits of the NOL deduction would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect/induced benefits, we again employed Tax-PI. A summary of the revenue impact of the NOL deduction is reported in Table A3, and the economic benefit from the NOL deduction is reflected in Table A4 below. The figures for 2018 and 2019 are estimates of benefits that the Massachusetts economy experienced and those for 2020, 2021 and 2022 are projections of the benefits that the Massachusetts economy will experience going forward.

Tables A3 and A4 show that, the NOL deduction results in more economic activity, with real state GDP increasing by \$230 million - \$315 million and total employment increasing by 2,359 – 3,088 jobs annually. More economic activity results in more state revenues, ranging from \$5.0 million to \$17.3 million annually, which partially offsets the cost of this tax incentive.

**Table A3. Additional Revenue Impact of NOL Deduction**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$5,026	\$11,705	\$14,340	\$16,260	\$17,331

**Table A4. Economic Impacts of NOL Deduction by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	2,359	2,774	3,084	3,088	3,001
Impact on private non-farm employment	2,271	2,628	2,859	2,856	2,774
Impact on GDP (\$000), real dollars (2012)	\$230,000	\$274,000	\$307,000	\$315,000	\$314,000
Impact on personal income (\$000)	\$175,000	\$227,000	\$274,000	\$298,000	\$312,000

**Comparison of costs and benefits**

Ignoring the opportunity cost of the tax incentive, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would be reaped if the

Commonwealth used the dollars spent on the tax incentive for other purposes. Those dollars could be spent in many other ways, and examining them is beyond the scope of the current evaluation report. Nonetheless, we reported net impacts of the tax incentive in Tables A5 and A6 below under the balanced budget requirement, which are the combined effects in Tables A1-A4.

Tables A5 and A6 show that the NOL deduction combined with a cut in state government spending results in less economic activity, with real state GDP decreasing by \$96 million-\$147 million. The net impact on total employment is negative with total employment decreasing by 1,529 – 2,005 jobs annually. The impact on state revenues is also negative, decreasing by \$3.0 million to \$6.3 million annually.

Because the tax expenditure has its own specific purpose, the net negative impacts do not necessarily imply that the tax expenditure is not desirable. The statute does not explicitly state the purpose of this tax expenditure; however, we assume that the purpose is to smooth over the effects of economic and business cycles on corporate taxes over multiple tax years as described above.

**Table A5. Net Additional Revenue Impact of NOL Deduction\***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	-\$3,015	-\$6,247	-\$6,258	-\$6,121	-\$5,901

\* assuming state government spending is cut by the same amount as the revenue loss due to the NOL deduction to balance budget.

**Table A6. Net Economic Impacts of NOL Deduction by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-2,005	-1,890	-1,775	-1,634	-1,529
Impact on private non-farm employment	-136	57	170	282	363
Impact on GDP (\$000), real dollars (2012)	-\$147,000	-\$133,000	-\$121,000	-\$106,000	-\$96,000
Impact on personal income (\$000)	-\$139,000	-\$145,000	-\$146,000	-\$143,000	-\$142,000

\* assuming state government spending is cut by the same amount as the revenue loss due to the NOL deduction to balance budget.

**Other unquantified costs and benefits:**

Besides the additional costs and benefits quantified in the previous sections, there are other costs and benefits that are hard to quantify due to lack of data or other challenges. In this section we will enumerate some of these costs and benefits.

Ihlanfeldt and Sjoquist (2001), a published study for the state of Georgia, summarizes some of the other costs and benefits as follows:

Loss of competitiveness. Providing tax incentive such as credits to selected firms may diminish the competitiveness for existing similar firms.

Compliance costs. They think that the costs to the firm may be substantial.

Improved business climate. Tax incentive improves the perception of the business climate in the state and is used by site location specialists in screening alternative sites.

Synergistic or clustering effects. Tax incentive may attract a firm in an industry new to the state, which then serves as a magnet for attracting additional firms in the industry.

Another hard to quantify cost is the administrative cost. The administrative cost attributable to this incentive should be relatively small because the Department of Revenue administers the deduction with existing staff as part of its overall mission.

### **Other issues related to costs and benefits**

The burden of a tax does not necessarily fall on those responsible for remitting the tax. It is known through economic theories that corporate taxes change the allocation of capital between corporations and noncorporate businesses and among states because capital would flee from states of higher corporate taxes if all other considerable factors are not significantly different.

Felix (2009) finds that labor bears a significant burden from the state corporate tax in the form of lower wages. Her study further suggests that a one-percentage-point increase in the marginal state corporate tax rate reduces wages by 0.14% to 0.36%, that labor's burden from the state corporate tax has trended upward over time due to increased global competition and increased competition among states to attract businesses, and that state corporate taxes reduce the wages of highly educated workers more than that of less-educated workers.



As discussed in the report, the NOL deduction reduces the effective tax rate of its direct beneficiaries. The findings imply that the incentive may have benefited workers who were employed by the corporations in the form of higher wages. The incentive may have further benefited the shareholders and clients due to the growth of businesses.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Unequal weighting of sales, payroll, and property in the apportionment formula	<b>Annual cost:</b> \$397.8-\$439.4 million	<b>Year of adoption:</b> 1976 double weight sales (1996 Single sales for Section 38 Manufacturers and mutual funds)	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input checked="" type="checkbox"/> Job creation & maintenance <input checked="" type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b> <i>Which best reflects your opinion on each statement?</i>				
	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Comments****Unequal Weighting of Sales, Payroll, and Property in the Apportionment Formula (TE 2.401)**

Although the TERC finds it difficult to measure the overall benefits towards achieving its goals, we somewhat agree that its cost is justified by the benefits. This TE reaches a broad group of corporate taxpayers, including small businesses, providing a meaningful benefit. It is important to note that competing states offer this tax break, making it important for promotion of job growth and competitiveness.

The TERC wants to call attention to two aspects of this TE. First, while companies were originally required to maintain a certain number of jobs to receive this benefit, it is no longer a requirement. Second, in addition to manufacturing companies, mutual funds service corporation also qualify. The mutual fund companies are not a broad group of taxpayers. The Legislature may want to consider if incentivizing mutual fund services companies is the purpose of this tax break.

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Unequal Weighting of Sales, Payroll, and Property in the Apportionment Formula
<b>TAX EXPENDITURE NUMBER</b>	2.401
<b>TAX EXPENDITURE CATEGORY</b>	Unequal weighting of Sales, Payroll, and Property in apportionment of <i>corporate income</i>
<b>TAX TYPE</b>	Corporate excise tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 63, § 38 (c), (k), (l), (m)
<b>YEAR ENACTED</b>	1976 (Double-weighted sales), 1996 (Single sales for Section 38 manufacturers and mutual fund service corporations)
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$397.8 – \$439.4 million per year during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	In tax year 2017, 7,049 taxpayers benefited from the current apportionment formulas.
<b>AVERAGE TAXPAYER BENEFIT</b>	About \$78,000 per positively impacted filer (tax year 2017)

<p><b>Description of the Tax Expenditure:</b> Instead of an equal weighting of the property, payroll and sales factors in the corporate apportionment formula, Massachusetts generally gives double weight to the sales factor, and eliminates the property and payroll factors entirely for some types of corporations ( single-sales factor apportionment).</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure. With equal weighting of the property, payroll and sales factors, locating property or employees in a state increases a corporation’s apportionment in the state, thereby increasing its tax. Reducing or eliminating the impact of property and employees on apportionment encourages corporations to increase or maintain their physical plant and workforce in the state.</p>
<p><b>What are the policy goals of the expenditure?</b></p>	<p><b>Are there other states with a similar Tax Expenditure?</b></p>

<p>To encourage corporations to increase or maintain property and workforce in Massachusetts by eliminating or diminishing the effect of the property and payroll factors on Massachusetts apportionment.</p>	<p>The following are general rules – note that there are industry-specific exceptions in most states, including Massachusetts.</p> <p>New York: sales factor only Connecticut: sales factor only Rhode Island: sales factor only Maine: sales factor only New Hampshire: double-weighted sales Vermont: double-weighted sales</p>
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## **INTRODUCTION**

Apportionment formulas are used throughout the country to determine the share of a multistate corporation's income that an individual state may tax. Massachusetts employs such formulas. Corporations with a presence both in Massachusetts and in other states generally apportion income to the Commonwealth using a three-factor apportionment formula. A corporation's sales, payroll, and property in Massachusetts are compared to those outside Massachusetts and the resulting percentage is applied to total income to determine income taxable in the Commonwealth.

### **Double-Weighted Sales Factor**

An apportionment calculation that counts the sales factor twice (so-called "double-weighted sales") was adopted for most business corporations beginning with taxable years ending on or after December 31, 1976. Companies with property and payroll in Massachusetts and sales in other states tend to benefit from an apportionment formula that weights sales more heavily than the other factors. On the other hand, businesses located outside of the state with a large volume of sales into Massachusetts are hurt by double-weighted sales factor formula. On balance, apportionment with double-weighted sales factor is a tax expenditure.

### **Single-Sales Factor**

Certain corporations are permitted to apportion their income using only the sales factor (so-called "single-sales factor" apportionment).

Eligible defense corporations were permitted to apportion using a single-sales factor formula starting in 1996. Single-sales factor apportionment was extended to other qualified manufacturers (referred to in this report as "section 38 manufacturers") in 2000. Starting in 1997, corporations that perform services for a mutual fund are allowed to apportion their income to Massachusetts based solely on the percentage of the mutual fund's shareholders that are Massachusetts residents.

As is the case with double-weighted sales factor, not all corporations that apportion using single-sales factor benefit from the rule, in particular those that are located outside of Massachusetts. However, on balance, single-sales factor apportionment is a tax expenditure.

## **POLICY GOALS**

The statute does not explicitly state the purpose of this tax expenditure. The theory behind reducing or eliminating the consideration of property and payroll in determining a state

apportionment formula is to encourage corporations to increase or maintain their physical footprint and employment in a state by giving those items less weight in the formula.

Arel-Bundock and Parinandi (2018) explain the characteristics of formulary apportionment as follows: A corporate income tax that is allocated using an additive apportionment formula can be seen as three separate taxes based on those factors. Increasing the sales weight results in turning the income measure of the corporate excise tax into a sort of sales tax. This could have regressive distributional effects, because sales taxes are regressive in general. The payroll and property weights can be viewed as similar to taxes on employment and capital respectively, which implies that high payroll and property formula weights could discourage firms from expanding their production operations in states that use an equal-weights formula, while increasing the sales weight and reducing the payroll and property weights could attract investment in capital and labor.

**DIRECT COSTS**

Higher sales factor weighting is generally associated with lower tax revenues, as confirmed by empirical studies (for example, Clausing (2016) and Arel-Bundock and Parinandi (2018)). For Massachusetts, the revenue loss resulting from formulas with a higher weighted sales factor (double-weighted sales factor or single-sales factor) is estimated to be \$397.8 - \$439.4 million annually during FY18-FY22. See Table 1. The estimates are based on several factors, including historical tax return data, economic forecasts, and the statutory provisions applicable to each year.

**Table 1. Tax Revenue Loss Estimates for Formulas with Higher Weighted Sales Factor**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$397.8	\$407.8	\$418.2	\$428.7	\$439.4

**DIRECT BENEFITS**

Direct beneficiaries of this tax expenditure are corporations that owe less tax using formulas with higher weighted sales factor than using formulas weighting the factors equally. Note that, depending on other apportionment factors (generally property and payroll), some corporations may owe more tax using formulas with higher weighted sales factor. Also note that corporations that file financial institution tax returns must follow a

three-factor formula with equal weighting, and therefore are not impacted by this tax expenditure.

The tables below, which are based on a micro-simulation using 2017 corporate excise return data, show the profile of the corporations that owed more or less tax using formulas with higher weighted sales factor than using the formula with equal-weighted factors.<sup>1</sup>

Looking at Table 2, in tax year 2017, about 16,689 corporations had a smaller or larger tax liability using formulas with higher weighted sales factor (double-weighted sales factor or single-sales factor) than they would have had using the formula with equal-weighted factors. Among them, 14.9%, or 2,486 corporations used single-sales factor apportionment (14.4% or 2,407 corporations were section 38 manufacturers, 0.5% or 79 were mutual fund services corporations), and 85.1% or 14,203 were other types of corporations applying a double-weighted sales factor formula. The impacted corporations' tax liability decreased by a net amount of \$393 million,<sup>2</sup> with 87.0% of the tax savings going to section 38 manufacturers, 7.1% to mutual fund service corporations, and 5.9% to other corporations. Note that mutual fund service corporations have a much higher average net tax savings (\$352,000 million) than other corporations (the average was \$24,000 for all affected corporations).

See Appendix 1 for more details on those corporations that owed more tax or less tax using the formulas with higher weighted sales factor.

In table 2, we report the net impact on section 38 manufacturers and mutual fund services corporations when they use the single sales factor (SSF) instead of the equal-weighted factors. In Appendix 2, we provide revenue impact figures for how much the tax liability would change if section 38 manufacturers and mutual fund services corporations use the double weighted sales factor (DSF) instead of the single sales factor (SSF).

**Table 2. Net Tax Liability Change by Corporation Type** <sup>(1)</sup>

Corporation Type	Number of Impacted Corporations	% of Total Number of Impacted Corporations	Net Tax Liability Change using Formulas with Higher Weighted Sales Factor (\$000) <sup>(2)</sup>	% of Total Net Tax Liability Change	Net Tax Liability Change per Impacted Corporation (\$000) <sup>(2)</sup>
Section 38 Manufacturers	2,407	14.4%	-\$342,005	87.0%	-\$142
Mutual Fund Services	79	0.5%	-\$27,846	7.1%	-\$352

<sup>1</sup> We exclude a few filers with particularly large impact, which are assumed to be outliers in the simulation.

<sup>2</sup> This amount is the decrease in tax liability for taxpayers who owe less tax partially offset by the increase in tax liability for taxpayers who owe more tax.



All others	14,203	85.1%	-\$23,043	5.9%	-\$2
Total or average	16,689	100.0%	-\$392,894	100.0%	-\$24

Source: Department of Revenue (2017 corporate excise return)

Note: 1. The data are preliminary and subject to change.

2. Negative numbers indicate that taxpayers owed less tax using formulas with higher weighted sales factor; positive numbers indicate that taxpayers owed more tax using formulas with higher weighted sales factor.

Table 3 below shows that, in tax year 2017, about 33.0% of the impacted corporations had taxable income ranging between \$0.1 million and \$1 million, with those corporations representing 20.2% of the total net tax savings of all impacted corporations. About 1.8% of the impacted corporations had more than \$10 million in taxable income, representing 26.9% of the total net tax savings of all impacted corporations and having the highest average net tax savings of all impacted corporations (\$351,000 compared with \$24,000 for all affected corporations).

**Table 3. Net Tax Liability Change by Taxable Income Level <sup>(1)</sup>**

Taxable Income Range	Number of Impacted Corporations	% of Total Number of Impacted Corporations	Net Tax Liability Change using Formulas with Higher Weighted Sales Factor (\$000) <sup>(2)</sup>	% of Total Net Tax Liability Change	Net Tax Liability Change per Impacted Corporation (\$000) <sup>(2)</sup>
0 to \$9,999	2,563	15.4%	-\$60,835	15.5%	-\$24
\$10,000 to \$99,999	6,122	36.7%	-\$10,576	2.7%	-\$2
\$100,000 to \$999,999	5,511	33.0%	-\$79,177	20.2%	-\$14
\$1,000,000 to \$9,999,99	2,192	13.1%	-\$136,755	34.8%	-\$62
\$10,000,000 or more	301	1.8%	-\$105,551	26.9%	-\$351
Total or average	16,689	100.0%	-\$392,894	100.0%	-\$24

Source: Department of Revenue (2017 corporate excise return)

Note: 1. The data are preliminary and subject to change.

2. Negative numbers indicate that taxpayers owed less tax using formulas with higher weighted sales factor; positive numbers indicate that taxpayers owe more tax using formulas with higher weighted sales factor

Table 4 shows that about 43.9% of the impacted corporations had fewer than 5 employees, and these corporations represented 3.7% of the total net tax savings of all impacted corporations. About 9.9% of all impacted corporations were corporations with 500 or more employees, representing 68.9% of the total net tax savings of all impacted corporations and having the highest average net tax savings of all impacted corporations(\$164,000 compared with \$24,000 for all affected corporations).

**Table 4. Net Tax Liability Change by Number of Employees <sup>(1)</sup>**

Number of Employees <sup>(2)</sup>	Number of Impacted Corporations	% of Total Number of Impacted Corporations	Net Tax Liability Change using Formulas with Higher Weighted Sales Factor (\$000) <sup>(3)</sup>	% of Total Net Tax Liability Change	Net Tax Liability Change per Impacted Corporation (\$000) <sup>(3)</sup>
Less than 5	7,320	43.9%	-\$14,468	3.7%	-\$2
5 to 49	3,809	22.8%	-\$2,105	0.5%	-\$1
50 to 99	1,494	9.0%	-\$27,182	6.9%	-\$18
100 to 199	1,225	7.3%	-\$16,135	4.1%	-\$13
200 to 499	1,194	7.2%	-\$62,452	15.9%	-\$52
500 or more	1,647	9.9%	-\$270,553	68.9%	-\$164
Total or average	16,689	100.0%	-\$392,894	100.0%	-\$24

Source: Department of Revenue (2017 corporate excise return)

Notes: 1. The data are preliminary and subject to change.

2. Information is based on number of employees as reported by taxpayers.

3. Negative numbers indicate that taxpayers owed less tax using formulas with higher weighted sales factor; positive numbers indicate that taxpayers owed more tax using formulas with higher weighted sales factor.

By industry, Table 5 shows that the “Professional, Scientific, and Technical Services” industry represented about 18.5% of all impacted corporations and 23.4% of total net tax savings. The “Manufacturing”<sup>3</sup> industry represented about 16.4% of total impacted corporations, 46.1% of total net tax savings, and had the highest average net tax savings of \$66,000 compared with \$24,000 for all positively affected corporations.

**Table 5. Net Tax Liability Change by Industry <sup>(1)</sup>**

Industry	Number of Impacted Corporations	% of Total Number of Impacted Corporations	Net Tax Liability Change using Formulas with Higher Weighted Sales Factor (\$000) <sup>(3)</sup>	% of Total Net Tax Liability Change	Net Tax Liability Change per Impacted Corporation (\$000) <sup>(3)</sup>
11 Agriculture, Forestry, Fishing and Hunting	60	0.4%	\$99	0.0%	\$2
21 Mining, Quarrying, and Oil and Gas Extract	12	0.1%	\$0	0.0%	\$0
22 Utilities	32	0.2%	-\$510	0.1%	-\$16
23 Construction	1,124	6.7%	\$309	-0.1%	\$0
31-33 Manufacturing	2,733	16.4%	-\$181,090	46.1%	-\$66
42 Wholesale Trade	2,084	12.5%	\$6,621	-1.7%	\$3

<sup>3</sup> Based on self-reported NAICS sector 31-33, not the “section 38 manufacturer” classification. The self-reported NAICS may differ from the “section 38 manufacturer” classification for many reasons. For example, a non-manufacturing corporation or its subsidiaries may still conduct substantial manufacturing activities that meet the requirements of the “section 38 manufacturer” classification, or a “section 38 manufacturer” may report the NAICS of its parent company.

44-45 Retail Trade	906	5.4%	-\$6,021	1.5%	-\$7
48-49 Transportation and Warehousing	396	2.4%	\$165	0.0%	\$0
51 Information	725	4.3%	-\$29,105	7.4%	-\$40
52 Finance and Insurance	1,078	6.5%	-\$27,982	7.1%	-\$26
53 Real Estate and Rental and Leasing	644	3.9%	-\$2,816	0.7%	-\$4
54 Professional, Scientific, and Technical Services	3,085	18.5%	-\$92,133	23.4%	-\$30
55 Management of Companies and Enterprises	624	3.7%	-\$23,282	5.9%	-\$37
56 Administrative and Support and Waste Management	641	3.8%	-\$1,207	0.3%	-\$2
61 Educational Services	97	0.6%	-\$117	0.0%	-\$1
62 Health Care and Social Assistance	242	1.5%	\$72	0.0%	\$0
71 Arts, Entertainment, and Recreation	148	0.9%	\$162	0.0%	\$1
72 Accommodation and Food Services	228	1.4%	\$102	0.0%	\$0
81 Other Services (except Public Administration)	219	1.3%	-\$12	0.0%	\$0
Others or unmatched <sup>(2)</sup>	1,611	9.7%	-\$36,149	9.2%	-\$22
Total	16,689	100.0%	-\$392,894	100.0%	-\$24

Source: Department of Revenue (2017 corporate excise return)

Notes: 1. The data are preliminary and subject to change.

2. Unmatched means that we could not find some taxpayers in one or more of data sets to match.

3. Negative numbers indicate that taxpayers owed less tax using formulas with higher weighted sales factor; positive numbers indicate that taxpayers owed more tax using formulas with higher weighted sales factor.

## EVALUATION: COMPARING COSTS AND BENEFITS

In the previous sections, we reported the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases tax to finance the apportionment formulas using higher weighted sales factor) and net direct benefits<sup>4</sup> of this tax expenditure. Since the direct costs to the Commonwealth are the net direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses.<sup>5</sup> The induced impact (cost or benefit) results from any overall change

<sup>4</sup> The reduction in tax liability for the taxpayers who are positively impacted by a higher weighted sales factor formula is partially offset by the increase in tax liability for the taxpayers who are negatively impacted.

<sup>5</sup> For example, physical plant in Massachusetts requires services that would not otherwise be required (e.g., cleaning, security, information technology services, etc.). Some of these services may be procured from other businesses, thus increasing business activity in the state.

in the economy derived from the tax expenditure, such as where a chain of businesses benefits when the employees working for the directly impacted businesses spend their additional wages and salaries attributable to the tax expenditure to buy goods and services.<sup>6</sup> The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>7</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. Appendix 3 shows one such attempt by DOR.

### **Similar Tax Expenditures Offered by Other States**

All states with a corporate income tax have some form of apportionment formula. Single-sales factor is the most common formula used by states. New York, Connecticut, Rhode Island, and Maine all generally use a single-sales factor formula. Other states use a three-factor formula (taking into account property, payroll, and sales), with a subset of those states double-weighting the sales factor. New Hampshire and Vermont generally use a double weighted sales factor. Many states, like Massachusetts, have industry-specific apportionment formulas that are applied to specialized activities (e.g., telecommunications). See the table below for more details.

<sup>6</sup> The tax expenditure may encourage employment in Massachusetts. Persons thus employed will earn and spend money in the Commonwealth, some of which would not otherwise be earned or spent.

<sup>7</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

## STATE APPORTIONMENT OF CORPORATE INCOME

(Formulas for tax year 2021 – as of January 1, 2021)

ALABAMA *	Double wtd Sales	MONTANA *	3 Factor
ALASKA*	3 Factor	NEBRASKA	Sales
ARIZONA *	Sales/Double wtd Sales	NEVADA	No State Income Tax
ARKANSAS *	Sales	NEW HAMPSHIRE	Double wtd Sales
CALIFORNIA *	Sales	NEW JERSEY	Sales
COLORADO *	Sales	NEW MEXICO *	3 Factor/Sales
CONNECTICUT	Sales	NEW YORK	Sales
DELAWARE	Sales	NORTH CAROLINA *	Sales
FLORIDA	Double wtd Sales	NORTH DAKOTA *	3 Factor/Sales
GEORGIA	Sales	OHIO	N/A (2)
HAWAII *	3 Factor	OKLAHOMA	3 Factor
IDAHO *	Double wtd Sales	OREGON	Sales
ILLINOIS *	Sales	PENNSYLVANIA	Sales
INDIANA	Sales	RHODE ISLAND	Sales
IOWA	Sales	SOUTH CAROLINA	Sales
KANSAS *	3 Factor	SOUTH DAKOTA	No State Income Tax
KENTUCKY *	Sales	TENNESSEE	Triple wtd Sales
LOUISIANA	Sales	TEXAS	Sales
MAINE *	Sales	UTAH	Sales
MARYLAND (3)	75.0% Sales, 12.5% Property & Payroll	VERMONT	Double wtd Sales
MASSACHUSETTS	Sales/Double wtd Sales	VIRGINIA	Double wtd Sales/Sales
MICHIGAN	Sales	WASHINGTON	No State Income Tax
MINNESOTA	Sales	WEST VIRGINIA *	Double wtd Sales
MISSISSIPPI	Sales/Other (1)	WISCONSIN *	Sales
MISSOURI *	Sales	WYOMING	No State Income Tax
		DIST. OF COLUMBIA	Sales

Source: Compiled by FTA from state sources.

### Notes:

The formulas listed are for general manufacturing businesses. Some industries have a special formula different from the one shown.

\* State has adopted substantial portions of the UDITPA (Uniform Division of Income Tax Purposes Act).

Slash (/) separating two formulas indicates taxpayer option or specified by state rules.

3 Factor = sales, property, and payroll equally weighted.

Double wtd Sales = 3 factors with sales double-weighted

Sales = single sales factor

(1) Mississippi provides different apportionment formulas based on specific type of business. A single sales factor formula is required if no specific business formula is specified.  
required if no specific business formula is specified.

(2) Ohio Tax Department publishes specific rules for situs of receipts under the CAT tax.

(3) Maryland is phasing in a single sales factor for tax years after 2022.

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## Appendix 1: Corporations that Owe More Tax and Corporations that Owe Less Tax using Formulas with Higher Weighted Sales Factor Compared with Formulas with Equal-Weighted Factors

As discussed in the text, some corporations owe more tax using the formulas with higher weighted sales factor instead of the formula with equal-weighted factors while other corporations owe less tax. In the text, we report the net impact on all affected corporations. In this appendix, we report more details on the impacted corporations: impact figures for those corporations that owe more tax and impact figures for those corporations that owe less tax using the formulas with higher weighted sales factor than they would using equal-weighted factors.

### *A. Impact on corporations that owe less tax using the formulas with higher weighted sales factor:*

The tables below show the profile of the corporations that benefited from formulas with higher weighted sales factor.

Looking at Table A1-1 below, in tax year 2017, about 7,049 corporations had a smaller tax liability using formulas with higher weighted sales factor than they would have had using the formula with equal-weighted factors. Among them, 13.1%, or 923 corporations used single-sales factor apportionment (12.7% or 897 corporations were section 38 manufacturers, 0.4% or 26 were mutual fund services corporations), and 86.9% or 6,126 were other types of corporations applying a double-weighted sales factor formula. Tax savings to these corporations totaled \$552 million, with 78.1% of the savings going to section 38 manufacturers, 7.0% to mutual fund service corporations, and 14.9% to other corporations. Note that mutual fund service corporations have a much higher average tax savings (\$1.5 million) than other corporations that benefited from the tax expenditure (the average was \$78,000 for all positively affected corporations).

**Table A1-1. Tax Liability Decrease by Corporation Type <sup>(1)</sup>**

Corporation Type	Number of Positively Impacted Corporations	% of Total Number of Positively Impacted Corporations	Tax Liability Decrease using Formulas with Higher Weighted Sales Factor (\$000) <sup>(2)</sup>	% of Total Tax Liability Decrease	Tax Liability Decrease per Positively Impacted Corporation (\$000) <sup>(2)</sup>
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Section 38 Manufacturers	897	12.7%	-\$431,040	78.1%	-\$481
Mutual Fund Services	26	0.4%	-\$38,346	7.0%	-\$1,475
All others	6,126	86.9%	-\$82,304	14.9%	-\$13
Total or average	7,049	100.0%	-\$551,690	100.0%	-\$78

Source: Department of Revenue (2017 corporate excise return)

Note: 1. The data are preliminary and subject to change.

2. Negative numbers indicate that taxpayers owe less tax using formulas with higher weighted sales factor than using the formula with equal-weighted factors.

Table A1-2 below shows that, in tax year 2017, about 33.1% of the corporations that benefited from formulas with higher weighted sales factor had taxable income ranging between \$0.1 million and \$1 million, with those corporations representing 17.9% of the total tax savings of all positively impacted corporations. About 2.1% of the positively impacted corporations had more than \$10 million in taxable income, representing 33.3% of the total tax savings of all positively impacted corporations and having the highest average tax savings of all beneficiaries of the tax expenditure (\$1.2 million compared with \$78,000 for all positively affected corporations).

**Table A1-2. Tax Liability Decrease by Taxable Income Level <sup>(1)</sup>**

Taxable Income Range	Number of Positively Impacted Corporations	% of Total Number of Positively Impacted Corporations	Tax Liability Decrease using Formulas with Higher Weighted Sales Factor (\$000) <sup>(2)</sup>	% of Total Tax Liability Decrease	Tax Liability Decrease per Positively Impacted Corporation (\$000) <sup>(2)</sup>
0 to \$9,999	1,398	19.8%	-\$61,058	11.1%	-\$44
\$10,000 to \$99,999	2,041	29.0%	-\$13,484	2.4%	-\$7
\$100,000 to \$999,999	2,332	33.1%	-\$98,847	17.9%	-\$42
\$1,000,000 to \$9,999,99	1,130	16.0%	-\$194,764	35.3%	-\$172
\$10,000,000 or more	148	2.1%	-\$183,537	33.3%	-\$1,240
Total or average	7,049	100.0%	-\$551,690	100.0%	-\$78

Source: Department of Revenue (2017 corporate excise return)

Note: 1. The data are preliminary and subject to change.

2. Negative numbers indicate that taxpayers owe less tax using formulas with higher weighted sales factor than using the formula with equal-weighted factors.

Table A1-3 below shows that about 32.9% of the positively impacted corporations had fewer than 5 employees, and these corporations represented 11.7% of the total tax savings of all positively impacted corporations. About 9.9% of the positively impacted corporations were corporations with 500 or more employees, representing 61.4% of the total tax savings of all positively impacted corporations and having the highest average tax savings of all beneficiaries of the tax expenditure (\$487,000 compared with \$78,000 for all positively affected corporations).



**Table A1-3. Tax Liability Decrease by Number of Employees <sup>(1)</sup>**

Number of Employees <sup>(2)</sup>	Number of Positively Impacted Corporations	% of Total Number of Positively Impacted Corporations	Tax Liability Decrease using Formulas with Higher Weighted Sales Factor (\$000) <sup>(3)</sup>	% of Total Tax Liability Decrease	Tax Liability Decrease per Positively Impacted Corporation (\$000) <sup>(3)</sup>
Less than 5	2,321	32.9%	-\$64,639	11.7%	-\$28
5 to 49	2,101	29.8%	-\$21,171	3.8%	-\$10
50 to 99	798	11.3%	-\$35,366	6.4%	-\$44
100 to 199	579	8.2%	-\$20,937	3.8%	-\$36
200 to 499	555	7.9%	-\$70,897	12.9%	-\$128
500 or more	695	9.9%	-\$338,680	61.4%	-\$487
Total or average	7,049	100.0%	-\$551,690	100.0%	-\$78

Source: Department of Revenue (2017 corporate excise return)

Notes: 1. The data are preliminary and subject to change.

2. Information is based on number of employees as reported by taxpayers.

3. Negative numbers indicate that taxpayers owe less tax using formulas with higher weighted sales factor than using the formula with equal-weighted factors.

By industry, Table A1-4 below shows that the “Professional, Scientific, and Technical Services” industry represented about 20.4% of positively impacted corporations and 18.1% of total tax savings. The “Manufacturing” industry represented about 13.9% of total positively impacted corporations, 44.0% of total tax savings, and had the highest average tax savings of \$248,000 compared with \$78,000 for all positively affected corporations.

**Table A1-4. Tax Liability Decrease by Industry <sup>(1)</sup>**

Industry	Number of Positively Impacted Corporations	% of Total Number of Positively Impacted Corporations	Tax Liability Decrease using Formulas with Higher Weighted Sales Factor (\$000) <sup>(3)</sup>	% of Total Tax Liability Decrease	Tax Liability Decrease per Positively Impacted Corporation (\$000) <sup>(3)</sup>
11 Agriculture, Forestry, Fishing and Hunting	21	0.3%	-\$92	0.0%	-\$4
21 Mining, Quarrying, and Oil and Gas Extract	4	0.1%	-\$11	0.0%	-\$3
22 Utilities	17	0.2%	-\$557	0.1%	-\$33
23 Construction	513	7.3%	-\$803	0.1%	-\$2
31-33 Manufacturing	977	13.9%	-\$242,756	44.0%	-\$248
42 Wholesale Trade	877	12.4%	-\$14,255	2.6%	-\$16
44-45 Retail Trade	392	5.6%	-\$10,062	1.8%	-\$26
48-49 Transportation and Warehousing	190	2.7%	-\$935	0.2%	-\$5
51 Information	305	4.3%	-\$38,829	7.0%	-\$127
52 Finance and Insurance	396	5.6%	-\$44,387	8.0%	-\$112

53 Real Estate and Rental and Leasing	338	4.8%	-\$4,116	0.7%	-\$12
54 Professional, Scientific, and Technical Services	1,436	20.4%	-\$99,777	18.1%	-\$69
55 Management of Companies and Enterprises	265	3.8%	-\$31,411	5.7%	-\$119
56 Administrative and Support and Waste Management	267	3.8%	-\$2,230	0.4%	-\$8
61 Educational Services	44	0.6%	-\$196	0.0%	-\$4
62 Health Care and Social Assistance	111	1.6%	-\$385	0.1%	-\$3
71 Arts, Entertainment, and Recreation	43	0.6%	-\$110	0.0%	-\$3
72 Accommodation and Food Services	115	1.6%	-\$402	0.1%	-\$3
81 Other Services (except Public Administration)	111	1.6%	-\$349	0.1%	-\$3
Others or unmatched <sup>(2)</sup>	627	8.9%	-\$60,028	10.9%	-\$96
Total	7,049	100.0%	-\$551,690	100.0%	-\$78

Source: Department of Revenue (2017 corporate excise return)

Notes: 1. The data are preliminary and subject to change.

2. Unmatched means that we could not find some taxpayers in one or more of data sets to match.

3. Negative numbers indicate that taxpayers owe less tax using formulas with higher weighted sales factor than using the formula with equal-weighted factors.

### ***B. Impact on corporations that owe more tax using the formulas with higher weighted sales factor:***

The tables below show the profile of the corporations that owe more tax using formulas with higher weighted sales factor.

Looking at Table A1-5 below, in tax year 2017, about 9,640 corporations had a larger tax liability using formulas with higher weighted sales factor than they would have had using the formula with equal-weighted factors. Among them, 16.2%, or 1,563 corporations used single-sales factor apportionment (15.7% or 1,510 corporations were section 38 manufacturers, 0.5% or 53 were mutual fund services corporations), and 83.8% or 8,077 were other types of corporations applying a double-weighted sales factor formula. The total tax increase for these corporations totaled \$159 million, with 56.1% of the increase going to section 38 manufacturers, 6.6% to mutual fund service corporations, and 37.3% to other corporations. Note that mutual fund service corporations have a much higher average tax increase (\$198,000) than other corporations that owe more tax (the average was \$16,000 for all negatively affected corporations). Compared with positively impacted corporations (see Table A1-1), there were more negatively impacted corporations. But the average impact in absolute terms was smaller on negatively impacted corporations (|+\$159M|) than on positively impacted corporations (|-\$552M|).

**Table A1-5. Tax Liability Increase by Corporation Type <sup>(1)</sup>**

Corporation Type	Number of Negatively Impacted Corporations	% of Total Number of Negatively Impacted Corporations	Tax Liability Increase using Formulas with Higher Weighted Sales Factor (\$000) <sup>(2)</sup>	% of Total Tax Liability Increase	Tax Liability Increase per Negatively Impacted Corporation (\$000) <sup>(2)</sup>
Section 38 Manufacturers	1,510	15.7%	\$89,036	56.1%	\$59
Mutual Fund Services	53	0.5%	\$10,500	6.6%	\$198
All others	8,077	83.8%	\$59,261	37.3%	\$7
Total or average	9,640	100.0%	\$158,796	100.0%	\$16

Source: Department of Revenue (2017 corporate excise return)

Note: 1. The data are preliminary and subject to change.

2. Positive numbers indicate that taxpayers owe more tax using formulas with higher weighted sales factor than using the formula with equal-weighted factors.

Table A1-6 below shows that, in tax year 2017, about 33.0% of the corporations that owe more tax using formulas with higher weighted sales factor had taxable income ranging between \$0.1 million and \$1 million, with those corporations representing 12.4% of the total tax increase of all negatively impacted corporations. About 1.6% of the negatively impacted corporations had more than \$10 million in taxable income, representing 49.1% of the total tax increase of all negatively impacted corporations and having the highest average tax increase of all negatively impacted corporations (\$510,000 compared with \$16,000 for all negatively affected corporations).

**Table A1-6. Tax Liability Increase by Taxable Income Level <sup>(1)</sup>**

Taxable Income Range	Number of Negatively Impacted Corporations	% of Total Number of Negatively Impacted Corporations	Tax Liability Increase using Formulas with Higher Weighted Sales Factor (\$000) <sup>(2)</sup>	% of Total Tax Liability Increase	Tax Liability Increase per Negatively Impacted Corporation (\$000) <sup>(2)</sup>
0 to \$9,999	1,165	12.1%	\$223.1	0.1%	\$0
\$10,000 to \$99,999	4,081	42.3%	\$2,908.0	1.8%	\$1
\$100,000 to \$999,999	3,179	33.0%	\$19,669.8	12.4%	\$6
\$1,000,000 to \$9,999,99	1,062	11.0%	\$58,008.8	36.5%	\$55
\$10,000,000 or more	153	1.6%	\$77,986.6	49.1%	\$510
Total or average	9,640	100.0%	\$158,796.3	100.0%	\$16

Source: Department of Revenue (2017 corporate excise return)

Note: 1. The data are preliminary and subject to change.

2. Positive numbers indicate that taxpayers owe more tax using formulas with higher weighted sales factor than using the formula with equal-weighted factors.

Table A1-7 below shows that about 51.9% of the negatively impacted corporations had fewer than 5 employees, and these corporations represented 31.6% of the total tax increase of all negatively impacted corporations. About 9.9% of the negatively impacted corporations were corporations with 500 or more employees, representing 42.9% of the total tax increase of all negatively impacted corporations and having the highest average tax increase of all negatively impacted corporations (\$72,000 compared with \$16,000 for all negatively affected corporations).

**Table A1-7. Tax Liability Increase by Number of Employees <sup>(1)</sup>**

Number of Employees <sup>(2)</sup>	Number of Negatively Impacted Corporations	% of Total Number of Negatively Impacted Corporations	Tax Liability Increase using Formulas with Higher Weighted Sales Factor (\$000) <sup>(3)</sup>	% of Total Tax Liability Increase	Tax Liability Increase per Negatively Impacted Corporation (\$000) <sup>(3)</sup>
Less than 5	4,999	51.9%	\$50,171.4	31.6%	\$10
5 to 49	1,708	17.7%	\$19,066.1	12.0%	\$11
50 to 99	696	7.2%	\$8,184.1	5.2%	\$12
100 to 199	646	6.7%	\$4,802.7	3.0%	\$7
200 to 499	639	6.6%	\$8,444.5	5.3%	\$13
500 or more	952	9.9%	\$68,127.4	42.9%	\$72
Total or average	9,640	100.0%	\$158,796.3	100.0%	\$16

Source: Department of Revenue (2017 corporate excise return)

Notes: 1. The data are preliminary and subject to change.

2. Information is based on number of employees as reported by taxpayers.

3. Positive numbers indicate that taxpayers owe more tax using formulas with higher weighted sales factor than using the formula with equal-weighted factors.

By industry, Table A1-8 below shows that the “Professional, Scientific, and Technical Services” industry represented about 17.1% of negatively impacted corporations and 4.8% of total tax increase. The “Manufacturing” industry represented about 18.2% of total negatively impacted corporations, 38.8% of total tax increase, and had the highest average tax increase of \$35,000 compared with \$16,000 for all negatively affected corporations.

**Table A1-8. Tax Liability Increase by Industry <sup>(1)</sup>**

Industry	Number of Negatively Impacted Corporations	% of Total Number of Negatively Impacted Corporations	Tax Liability Increase using Formulas with Higher Weighted Sales	% of Total Tax Liability Increase	Tax Liability Increase per Negatively

			Factor (\$000) (3)		Impacted Corporation (\$000) (3)
11 Agriculture, Forestry, Fishing and Hunting	39	0.4%	\$190.9	0.1%	\$5
21 Mining, Quarrying, and Oil and Gas Extract	8	0.1%	\$10.2	0.0%	\$1
22 Utilities	15	0.2%	\$47.6	0.0%	\$3
23 Construction	611	6.3%	\$1,112.4	0.7%	\$2
31-33 Manufacturing	1,756	18.2%	\$61,666.0	38.8%	\$35
42 Wholesale Trade	1,207	12.5%	\$20,876.4	13.1%	\$17
44-45 Retail Trade	514	5.3%	\$4,041.6	2.5%	\$8
48-49 Transportation and Warehousing	206	2.1%	\$1,100.1	0.7%	\$5
51 Information	420	4.4%	\$9,723.3	6.1%	\$23
52 Finance and Insurance	682	7.1%	\$16,405.2	10.3%	\$24
53 Real Estate and Rental and Leasing	306	3.2%	\$1,299.8	0.8%	\$4
54 Professional, Scientific, and Technical Services	1,649	17.1%	\$7,643.5	4.8%	\$5
55 Management of Companies and Enterprises	359	3.7%	\$8,128.4	5.1%	\$23
56 Administrative and Support and Waste Management	374	3.9%	\$1,023.4	0.6%	\$3
61 Educational Services	53	0.5%	\$79.0	0.0%	\$1
62 Health Care and Social Assistance	131	1.4%	\$456.5	0.3%	\$3
71 Arts, Entertainment, and Recreation	105	1.1%	\$271.7	0.2%	\$3
72 Accommodation and Food Services	113	1.2%	\$504.1	0.3%	\$4
81 Other Services (except Public Administration)	108	1.1%	\$337.6	0.2%	\$3
Others or unmatched (2)	984	10.2%	\$23,878.5	15.0%	\$24
Total	9,640	100.0%	\$158,796.3	100.0%	\$16

Source: Department of Revenue (2017 corporate excise return)

Notes: 1. The data are preliminary and subject to change.

2. Unmatched means that we could not find some taxpayers in one or more of data sets to match.

3. Positive numbers indicate that taxpayers owe more tax using formulas with higher weighted sales factor than using the formula with equal-weighted factors.

## **Appendix 2: Change in Tax Liability for Section 38 Manufacturers and Mutual Fund Services Corporations Were They to Use Double-Weighted Sales Factor Apportionment Instead of Single-Sales Factor Apportionment**

In Table 2 of the text, we report the net impact on section 38 manufacturers and mutual fund services corporations of using single sales factor apportionment (SSF) instead of equal-weighted factors. In this appendix, we provide figures for how much the tax liability would change if section 38 manufacturers and mutual fund services corporations were to use double-weighted sales factor apportionment (DSF) instead of single-sales factor apportionment (SSF).

Looking at Table A2-1 below, in tax year 2017, about 2,487 corporations had a smaller or larger tax liability using the DSF formula than they would have had using the SSF formula. Among them, 96.9% or 2,409 corporations were section 38 manufacturers, and 3.1% or 78 were mutual fund services corporations. The impacted corporations' tax liability increased by a net amount of \$276 million,<sup>8</sup> with 92.4% of the tax increase going to section 38 manufacturers and 7.6% to mutual fund service corporations. Looking at Table 2 in the text, the simulation results indicate that by using the SSF formula instead of the formula with equal-weighted factors, the section 38 manufacturers and mutual fund services corporations' combined net tax saving was \$370 million in 2017 (\$342 million for section 38 manufacturers and \$28 million for mutual fund services corporations). But if these same corporations were to use the DSF formula instead of SSF formula, their net tax liability would increase by \$276 million (\$255 million for section 38 manufacturers and \$21 million for mutual fund services corporations).

**Table A2-1. Net Tax Liability Change by Corporation Type <sup>(1)</sup>**

Corporation Type	Number of Impacted Corporations	% of Total Number of Impacted Corporations	Net Tax Liability Change using the DSF Formula (\$000) <sup>(2)</sup>	% of Total Net Tax Liability Change	Net Tax Liability Change per Impacted Corporation (\$000) <sup>(2)</sup>
Section 38 Manufacturers	2,409	96.9%	\$254,710	92.4%	\$106
Mutual Fund Services	78	3.1%	\$20,923	7.6%	\$268
Total or average	2,487	100.0%	\$275,633	100.0%	\$111

<sup>8</sup> This amount is the increase in tax liability for taxpayers who owe more tax offset by the decrease in tax liability for taxpayers who owe less tax.

Source: Department of Revenue (2017 corporate excise return)

Note: 1. The data are preliminary and subject to change.

2. Positive numbers indicate that taxpayers owe more tax using the DSF apportionment than using SSF apportionment; negative numbers indicate that taxpayers owe less tax using the DSF apportionment than using SSF apportionment

Looking at Table A2-2 below, in tax year 2017, about 921 corporations had a larger tax liability using the DSF formula than they would have had using the SSF formula. Among them, 97.2% or 895 corporations were section 38 manufacturers and 2.8% or 26 were mutual fund service corporations. The tax increase to these corporations totaled \$351 million, with 91.8% of the increase going to section 38 manufacturers and 8.2% to mutual fund service corporations. Note that mutual fund service corporations have a much higher average tax increase than section 38 manufacturers (\$1.1 million vs \$360,000).

**Table A2-2. Tax Liability Increase by Corporation Type <sup>(1)</sup>**

Corporation Type	Number of Negatively Impacted Corporations	% of Total Number of Negatively Impacted Corporations	Tax Liability Increase using the DSF Formula (\$000) <sup>(2)</sup>	% of Total Tax Liability Increase	Tax Liability Increase per Negatively Impacted Corporation (\$000) <sup>(2)</sup>
Section 38 Manufacturers	895	97.2%	\$322,257	91.8%	\$360
Mutual Fund Services	26	2.8%	\$28,759	8.2%	\$1,106
Total or average	921	100.0%	\$351,016	100.0%	\$381

Source: Department of Revenue (2017 corporate excise return)

Note: 1. The data are preliminary and subject to change.

2. Positive numbers indicate that taxpayers owe more tax using the DSF apportionment than using SSF apportionment.

Looking at Table A2-3 below, in tax year 2017, about 1,566 corporations had a smaller tax liability using the DSF formula than they would have had using the SSF formula. Among them, 96.7% or 1,514 corporations were section 38 manufacturers and 3.3% or 52 were mutual fund services corporations. Tax savings to these corporations totaled \$75 million, with 89.6% of the savings going to section 38 manufacturers and 10.4% to mutual fund service corporations. Note that mutual fund service corporations have a much higher average tax savings than section 38 manufacturers (\$151,000 vs \$45,000).

**Table A2-3. Tax Liability Decrease by Corporation Type <sup>(1)</sup>**

Corporation Type	Number of Positively Impacted Corporations	% of Total Number of Positively Impacted Corporations	Tax Liability Decrease using the DSF Formula (\$000) <sup>(2)</sup>	% of Total Tax Liability Decrease	Tax Liability Decrease per Positively Impacted
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					Corporation (\$000) <sup>(2)</sup>
Section 38 Manufacturers	1,514	96.7%	-\$67,547	89.6%	-\$45
Mutual Fund Services	52	3.3%	-\$7,836	10.4%	-\$151
Total or average	1,566	100.0%	-\$75,383	100.0%	-\$48

Source: Department of Revenue (2017 corporate excise return)

Note: 1. The data are preliminary and subject to change.

2. Negative numbers indicate that taxpayers owe less tax using the DSF apportionment than using SSF apportionment.



## Appendix 3: Further Discussion on Costs and Benefits

The text of the report discusses the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>9</sup>) and net direct benefits<sup>10</sup> of this tax expenditure. It also summarizes indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced, as well as other costs and benefits in more detail.

### Other costs and benefits: Indirect and Induced

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement, assuming that there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an **"opportunity cost"** to the Commonwealth. The opportunity cost to the state includes not only the impact on the businesses and their employees that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is the cost to the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "Multiplier Effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI in the reference. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive has a specific purpose, the reduced spending is assumed to be proportionally distributed across the Commonwealth's current expenditures.

#### *Quantifying total costs (direct, indirect and induced)*

<sup>9</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.

<sup>10</sup> The reduction in tax liability for the taxpayers who are positively impacted by a higher weighted sales factor formula is partially offset by the increase in tax liability for the taxpayers who are negatively impacted.

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A1 and A2 report the model results. The figures for 2018 and 2019 are estimates of forgone benefits (opportunity costs) that the Massachusetts economy experienced due to having the expenditure, and those for 2020, 2021 and 2022 are projections of forgone benefits that the Massachusetts economy will experience going forward. The effects are displayed as negative numbers as reduced spending has a negative impact on the state economy.

Tables A3-1 and A3-2 show that the reduction in state government spending results in lost economic activity, with real state GDP declining by \$897 million-\$968 million and total employment declining by 10,021 to 10,998 jobs annually. Lost economic activity results in further loss of state revenues,<sup>11</sup> ranging from \$19.1 million to \$51.9 million annually. Note that the revenue impact reported in Table A3-1 does not include the estimated direct impact of the tax expenditure from Table 1, but only the additional indirect/induced impact.

**Table A3-1. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	-\$19,121	-\$41,867	-\$46,977	-\$50,537	-\$51,917

\*This table reports the lost revenues from the foregone economic activity as the state reduced government spending to finance the apportionment formulas with higher weighted sales factor.

**Table A3-2. Economic Impacts due to Decreased Government Spending  
by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-10,380	-10,670	-10,998	-10,569	-10,021
Impact on private non-farm employment	-5,724	-5,882	-6,087	-5,758	-5,326
Impact on GDP (\$000), real dollars (2012)	-\$897,000	-\$930,000	-\$968,000	-\$943,000	-\$906,000
Impact on personal income (\$000)	-\$748,000	-\$853,000	-\$954,000	-\$992,000	\$1,009,000

\*This table reports the lost economic activity as the state reduced government spending to finance the apportionment formulas with higher weighted sales factor.

### *Indirect and Induced Benefits*

<sup>11</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 1.

The cost savings due to the apportionment formulas with higher weighted sales factor encourage the directly affected businesses to invest, expand, hire additional workers in Massachusetts. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy, or put another way, generate a “Multiplier Effect” (see discussion in the previous section) from the initial or direct benefits as reported in the text. As a result, the total benefits of this tax expenditure would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect/induced benefits, we again employed Tax-PI. A summary of the revenue impact of this tax expenditure is reported in Table A3-3, and the economic benefit from this tax expenditure is reflected in Table A3-4 below. The figures for 2018 and 2019 are estimates of benefits that the Massachusetts economy experienced and those for 2020, 2021 and 2022 are projections of the benefits that the Massachusetts economy will experience going forward.

Tables A3-3 and A3-4 show that, the apportionment formula with higher weighted sales factor results in more economic activity, with real state GDP increasing by \$719 million - \$924 million and total employment increasing by 6,718 to 8,403 jobs annually. More economic activity results in more state revenues, ranging from \$14.7 million to \$47.8 million annually, which partially offsets the cost of this tax incentive.

**Table A3-3. Additional Revenue Impact of Formulas with Higher Weighted Sales Factor**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$14,658	\$33,413	\$40,055	\$45,097	\$47,818

**Table A3-4. Economic Impacts of Formulas with Higher Weighted Sales Factor by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	6,718	7,607	8,403	8,358	8,078
Impact on private non-farm employment	6,459	7,187	7,754	7,693	7,430
Impact on GDP (\$000), real dollars (2012)	\$719,000	\$816,000	\$906,000	\$924,000	\$919,000
Impact on personal income (\$000)	\$513,000	\$639,000	\$764,000	\$826,000	\$861,000

## Comparison of costs and benefits

Ignoring the opportunity cost of the tax expenditure, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would be reaped if the Commonwealth used the dollars spent on the tax expenditure for other purposes. Those dollars could be spent in many other ways and examining them is beyond the scope of the current evaluation report. Nonetheless, we report net impacts of the tax expenditure in Tables A3-5 and A3-6 below under the balanced budget requirement, which are the combined effects in Tables A3-1 to A3-4.

Tables A3-5 and A3-6 show that the apportionment formula with higher weighted sales factor combined with a cut in state government spending in general results in less economic activity, with real state GDP changing by -\$178 million to +\$13 million. The net impact on total employment is negative with total employment decreasing by 1,943 to 3,662 jobs annually. The impact on state revenues is also negative, decreasing by \$4.5 million to \$8.5 million annually.

**Table A3-5. Net Additional Revenue Impact of Formulas with Higher Weighted Sales Factor\***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	-\$4,463	-\$8,454	-\$6,922	-\$5,440	-\$4,099

\* assuming state government spending is cut by the same amount as the revenue loss due to the apportionment formulas with higher weighted sales factor to balance budget.

**Table A3-6. Net Economic Impacts of Formulas with Higher Weighted Sales Factor by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-3,662	-3,063	-2,595	-2,211	-1,943
Impact on private non-farm employment	735	1,305	1,667	1,935	2,104
Impact on GDP (\$000), real dollars (2012)	-\$178,000	-\$114,000	-\$62,000	-\$19,000	\$13,000
Impact on personal income (\$000)	-\$235,000	-\$214,000	-\$190,000	-\$166,000	-\$148,000

\* assuming state government spending is cut by the same amount as the revenue loss due to the apportionment formulas with higher weighted sales factor to balance budget.

Because the tax expenditure has its own specific purpose, the net negative impacts do not necessarily imply that the tax expenditure is not desirable. The statute does not explicitly state the purpose of this tax expenditure; however, we assume that the purpose is to

encourage corporations to increase their physical footprint, including capital and employment, in Massachusetts as described above. It seems that this tax expenditure has negative impact on employment contrary to the assumed purpose. However, please keep in mind that this conclusion is reached under the balanced budget requirement. If considering only the net tax savings to taxpayers, this tax expenditure results in more economic activity. See Tables A3-3 and A3-4. Some empirical studies, such as Clausing (2016), found that “economic activity is not sensitive to U.S. state corporate tax policy choices” (in contrast to some early studies of this question cited in that paper) but “tax revenues are sensitive to tax policy choices regarding tax rates, sales weights, and throwback rules.”

### **Other unquantified costs and benefits**

Besides the additional costs and benefits quantified in the previous sections, there are other costs and benefits that are hard to quantify due to lack of data or other challenges. In this section we will enumerate some of these costs and benefits.

Ihlanfeldt and Sjoquist (2001), a published study for the state of Georgia, summarizes some of the other costs and benefits as follows:

*Loss of competitiveness.* Providing tax incentive such as credits to selected firms may diminish the competitiveness for existing similar firms.

*Compliance costs.* They think that the costs to the firm may be substantial.

*Improved business climate.* Tax incentive improves the perception of the business climate in the state and is used by site location specialists in screening alternative sites.

*Synergistic or clustering effects.* Tax incentive may attract a firm in an industry new to the state, which then serves as a magnet for attracting additional firms in the industry.

Another hard to quantify cost is the administrative cost. The administrative cost attributable to this tax expenditure should be relatively small because the Department of Revenue administers this tax expenditure with existing staff as part of its overall mission.

### **Other issues related to costs and benefits**

The burden of a tax does not necessarily fall on those responsible for remitting the tax. It is known through economic theories that corporate taxes change the allocation of capital between corporations and noncorporate businesses and among states because capital

would flee from states of higher corporate taxes if all other considerable factors are not significantly different.

Felix (2009) finds that labor bears a significant burden from the state corporate tax in the form of lower wages. Her study further suggests that a one-percentage-point increase in the marginal state corporate tax rate reduces wages by 0.14% to 0.36%, that labor's burden from the state corporate tax has trended upward over time due to increased global competition and increased competition among states to attract businesses, and that state corporate taxes reduce the wages of highly educated workers more than that of less-educated workers.

As discussed in the report, the apportionment formulas with higher weighted sales factor reduces the effective tax rate of the direct beneficiaries. The findings imply that the incentive may have benefited workers who were employed by these corporations in the form of higher wages. The incentive may have further benefited the shareholders and clients due to the growth of businesses.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Exemption for Property Subject to Local Taxation	<b>Annual cost:</b> \$245.5 - \$301.6 million	<b>Year of adoption:</b> 1962	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input type="checkbox"/> Job creation & maintenance <input type="checkbox"/> Investment <input type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input checked="" type="checkbox"/> Other: Avoid duplication of state and local taxation	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments</b>				
<b>Exemption for Properties Subject to Local Taxation (TE 2.502)</b>				
The TERC finds this exemption is measurable, relevant today, achieves it goals, and justifies its fiscal cost. It follows the principle that, in general, double taxation should be avoided.				
The structure provides local tax revenue to localities, who host the businesses. While paying local tax is probably more expensive than state corporate tax				

rate, locally an entity generally is required to pay property taxes. We note that it may not be easily administered, as it has many different rules that are sometimes archaic and confusing.



## MASSACHUSETTS TAX EXPENDITURES EVALUATION SUMMARY

### EVALUATION YEAR: 2020

<b>TAX EXPENDITURE TITLE</b>	Exemption for Property Subject to Local Taxation
<b>TAX EXPENDITURE NUMBER</b>	2.502
<b>TAX EXPENDITURE CATEGORY</b>	Exemption for property subject to local taxation <i>(corporate and business tax)</i>
<b>TAX TYPE</b>	Corporate excise tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 63, § 30.7; c. 63, § 30.8; c. 63 § 39(a)(1)
<b>YEAR ENACTED</b>	1962
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$245.5 - \$301.6 million annually during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	57,408 – 59,597 tax filers per year during the tax years 2015 through 2018
<b>AVERAGE TAXPAYER BENEFIT</b>	About \$4,400 per claimant (2018)

<p><b>Description of the Tax Expenditure:</b> In computing the state corporate excise on tangible property, property subject to tax at the local level, including real property and most tangible personal property, is exempt. Generally, the state taxes only the machinery of manufacturing corporations. The state's rate on property (non-income measure) is \$2.60 per \$1,000.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> DOR assumes that the intent is to avoid property being taxed at both the local and state level.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> According to the <a href="https://taxfoundation.org/state-capital-stock-tax-2020/#:~:text=Connecticut%20will%20phase%20out%20its.more%20neutral%20forms%20of%20taxation">Tax Foundation</a><sup>1</sup>, as of 2020 there are sixteen states with some type of capital stock or net worth tax. NY and CT are phasing the entire tax out; and RI repealed it</p>

<sup>1</sup><https://taxfoundation.org/state-capital-stock-tax-2020/#:~:text=Connecticut%20will%20phase%20out%20its.more%20neutral%20forms%20of%20taxation>

	starting in 2014. However, it is not clear whether these states have a similar exemption related to property subject to tax at the local level.
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## INTRODUCTION

Under M.G.L. c. 63, § 39, all business corporations organized or doing business in Massachusetts are required to pay the corporate excise “for the enjoyment under the protection of the laws of the commonwealth, of the powers, rights, privileges and immunities derived by reason of its existence and operation.” The corporate excise is comprised of a net income measure and a non-income measure based on the value of a corporation’s property or net worth, depending upon the type of corporation. In calculating the non-income measure, a taxpayer may exclude property subject to local taxation from the value of the business corporation. M.G.L. c. 59, § 5, paragraph sixteen, identifies what property of a business corporation is exempt from local taxation. Generally, the state taxes only the machinery of manufacturing corporations, but it exempts business real estate and tangible personal property. For purposes of estimating revenue loss from this tax expenditure, the state's rate on property (non-income measure), \$2.60 per \$1,000, has been applied. The incentive to exempt property subject to local taxation from the value of the property/net worth measure was enacted in 1962.

Note that corporations are subject to the non-income measure of corporate excise based on different computations depending on whether the corporations are classified as tangible property corporations or intangible property corporations. The determination of whether a corporation is a tangible property corporation or an intangible property corporation is generally made by taking the ratio at book value of: (i) tangible assets located in Massachusetts on the last day of the taxable year and not subject to local taxation to (ii) total assets on the last day of the taxable year (less assets locally taxed and less investments in subsidiary corporations which represent 80% or more of the voting stock of those corporations) multiplied by the income apportionment percentage. If the ratio of (i) to (ii) is 10% or more, the corporation is a "tangible property corporation", if the ratio is less than 10%, the corporation is an "intangible property corporation."

For tangible property corporations, the non-income measure of the excise is imposed at a rate of 0.26% on the book value of tangible property located in Massachusetts on the last day of the taxable year and that is not subject to local taxation. For intangible property corporations, the non-income measure of the excise is imposed at a rate of 0.26% on the book value of a corporation’s total assets on the last day of the taxable year, less the sum of (i) its liabilities on said date, (ii) the book value of its tangible property situated in Massachusetts on said date and subject to local taxation, and (iii) the book value on said date of its investment in subsidiary corporations which represent 80% or more of the voting stock of said corporations, multiplied by the intangible property corporation's income apportionment percentage.

## POLICY GOALS

The statute does not explicitly state the purpose of this tax expenditure. However, the exemption avoids taxation of property at both the local and state level.

## DIRECT COSTS

The revenue loss resulting from this tax expenditure is estimated to be \$245.5 - \$301.6 million annually during FY18-FY22. See Table 1. The estimates are based on several factors, including historical claims, economic forecasts, and related law changes.

**Table 1. Tax Revenue Loss Estimates for Exemption of Tangible Property Subject to Local Taxation**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$245.5	\$260.5	\$273.5	\$287.2	\$301.6

As shown in Table 2, there were 57,408 – 59,597 tax filers per year who reported tangible property subject to local taxation during the tax years 2015 through 2018. The average amount of such property ranged from about \$2.1 million in 2015 to about \$2.6 million in 2018.

**Table 2. Tangible Property Subject to Local Taxation**

	2015		2016		2017		2018	
	Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count
Tangible property subject to local taxation	\$125,772,342	58,739	\$131,980,417	59,597	\$141,463,727	59,520	\$148,034,837	57,408
Average Amount	\$2,141	NA	\$2,215	NA	\$2,377	NA	\$2,579	NA

Source: Massachusetts Department of Revenue.

Note: 2017 and 2018 data are preliminary and subject to change.

## DIRECT BENEFITS

The incentive reduces the capital costs of doing business by excluding assets such as land, vehicles, and machinery from the calculation of the non-income measure. The reduction in capital costs due to the incentive helps businesses survive and grow. It also may help them retain and create jobs.

Direct beneficiaries of the tax incentive are corporations that have tangible property subject to local taxation in Massachusetts. In 2018, as shown in Tables 3-5, there were about 57,408 corporations whose tangible property, totaling \$148 million, was subject to

local taxation. Their total tax liabilities<sup>2</sup> were 80.3% of the amount that would have been due absent the exclusion (or in other words, this exclusion resulted in a total tax savings of 19.7%). The ratio of tax liability with the exclusion to liability without the exclusion varied from 26.7% for corporations with negative taxable income to 91.9% for corporations with \$10 million or higher taxable income, from 60.7% for corporations with fewer than 5 employees to 92.0% for corporations with 100-199 employees, and from 36.5% for corporations in the industry of “Utilities” to 98.0% for corporations in the “Finance and Insurance” industry.

Tables 3-5 also show that, among the impacted corporations, about 83.5% had taxable income less than \$10,000 each, with a total of 56.9% of the excluded property being held by that group. 45.3% of them had fewer than 5 employees each, representing 53.6% of the total excluded property. 49.5% of the property was held by businesses in the “Real Estate and Rental and Leasing” industry, representing 12.1% of the impacted corporations.

The average tax saving per impacted corporation was \$4,428, varying from \$1,308 for corporations with taxable income between \$0 and \$9,999 to \$228,987 for corporations with \$10 million or higher taxable income, from \$684 for corporations with 5-49 employees to \$102,239 for corporations with 500 or more employees, and from \$337 for corporations in the industry of “Other Services (except Public Administration)” to \$66,881 for corporations in the “Utilities” industry.

**Table 3. Tangible Property Taxed Locally, Tax Liability, Impacted Corporations by Taxable Income Level**

Taxable Income Range	Tax Liability Under the Current Law (\$000) - A	Tax Liability without the Exemption (\$000) - B	A/B (%)	Tangible Property Taxed Locally (\$000)	Percentage of Total Tangible Property Taxed Locally	Number of Impacted Corporations	Percentage of Total Number of Impacted Corporations	Tax Saving Per Impacted Corporation (\$)
Less than \$0	\$34,364	\$128,830	26.7%	\$52,694,033	35.6%	6,400	11.1%	\$14,760
0 to \$9,999	\$43,034	\$97,377	44.2%	\$31,565,349	21.3%	41,545	72.4%	\$1,308
\$10,000 to \$99,999	\$15,156	\$26,298	57.6%	\$5,243,170	3.5%	3,704	6.5%	\$3,008
\$100,000 to \$999,999	\$77,987	\$91,816	84.9%	\$8,518,222	5.8%	3,561	6.2%	\$3,883
\$1,000,000 to \$9,999,999	\$239,544	\$263,326	91.0%	\$23,755,709	16.0%	1,670	2.9%	\$14,241
\$10,000,000 or higher	\$619,746	\$674,474	91.9%	\$25,116,128	17.0%	239	0.4%	\$228,987

<sup>2</sup> The term “tax liability” includes both the income and non-income measure of the corporate excise, when applicable.

Unmatched*	N.A.	\$1,941	N.A.	\$1,142,226	0.8%	289	0.5%	N.A.
Total or average	\$1,029,831	\$1,284,062	80.3%	\$148,034,837	100.0%	57,408	100.0%	\$4,428

Source: Department of Revenue (2018 corporate excise returns)

- Notes: 1. \*Unmatched means that we could not find some taxpayers in one or more of data sets to match.  
2. The data are preliminary and subject to change.

**Table 4. Tangible Property Taxed Locally, Tax Liability, Impacted Corporations by Number of Employees**

Employees Range*	Tax Liability Under the Current Law (\$000) - A	Tax Liability without the Exemption (\$000) - B	A/B (%)	Tangible Property Taxed Locally (\$000)	Percentage of Total Tangible Property Taxed Locally	Number of Impacted Corporations	Percentage of Total Number of Impacted Corporations	Tax Saving Per Impacted Corporation (\$)
Less than 5	\$193,141	\$318,211	60.7%	\$79,403,345	53.6%	26,005	45.3%	\$4,809
5 to 49	\$139,639	\$156,773	89.1%	\$9,523,745	6.4%	25,039	43.6%	\$684
50 to 99	\$57,551	\$63,871	90.1%	\$4,355,133	2.9%	2,957	5.2%	\$2,137
100 to 199	\$72,991	\$79,375	92.0%	\$3,394,873	2.3%	1,440	2.5%	\$4,433
200 to 499	\$95,315	\$110,496	86.3%	\$11,539,403	7.8%	874	1.5%	\$17,370
500 or more	\$471,195	\$553,395	85.1%	\$38,676,112	26.1%	804	1.4%	\$102,239
Unmatched**	N.A.	\$1,941	N.A.	\$1,142,226	0.8%	289	0.5%	N.A.
Total or average	\$1,029,831	\$1,284,062	80.3%	\$148,034,837	100.0%	57,408	100.0%	\$4,428

Source: Department of Revenue (2018 corporate excise returns)

- Notes: 1. \*Information is based on number of employees as reported by taxpayers.  
2. \*\*Unmatched means that we could not find some taxpayers in one or more of data sets to match.  
3. The data are preliminary and subject to change.

**Table 5. Tangible Property Taxed Locally, Tax Liability, Impacted Corporations by Industry**

Industry	Tax Liability Under the Current Law (\$000) - A	Tax Liability without the Exemption (\$000) - B	A/B (%)	Tangible Property Taxed Locally (\$000)	Percentage of Total Tangible Property Taxed Locally	Number of Impacted Corporations	Percentage of Total Number of Impacted Corporations	Tax Saving Per Impacted Corporation (\$)
11 Agriculture, Forestry, Fishing and Hunting	\$2,986	\$3,708	80.5%	\$467,796	0.3%	662	1.2%	\$1,090
21 Mining, Quarrying, and Oil and Gas Extract	\$677	\$903	75.0%	\$88,614	0.1%	59	0.1%	\$3,828
22 Utilities	\$4,233	\$11,590	36.5%	\$2,920,307	2.0%	110	0.2%	\$66,881
23 Construction	\$56,176	\$60,914	92.2%	\$2,003,613	1.4%	10,333	18.0%	\$459
31-33 Manufacturing	\$109,870	\$130,141	84.4%	\$8,755,022	5.9%	3,789	6.6%	\$5,350
42 Wholesale Trade	\$100,192	\$103,134	97.1%	\$1,952,749	1.3%	2,518	4.4%	\$1,168
44-45 Retail Trade	\$161,572	\$176,512	91.5%	\$6,342,821	4.3%	6,416	11.2%	\$2,329
48-49 Transportation and Warehousing	\$32,694	\$36,535	89.5%	\$3,055,223	2.1%	2,283	4.0%	\$1,683
51 Information	\$45,952	\$48,526	94.7%	\$2,047,231	1.4%	633	1.1%	\$4,067
52 Finance and Insurance	\$79,246	\$80,854	98.0%	\$5,567,042	3.8%	1,227	2.1%	\$1,310
53 Real Estate and Rental and Leasing	\$62,018	\$167,631	37.0%	\$73,291,774	49.5%	6,945	12.1%	\$15,207
54 Professional, Scientific, and	\$57,173	\$65,909	86.7%	\$4,681,280	3.2%	5,953	10.4%	\$1,467

Technical Services								
55 Management of Companies and Enterprises	\$44,048	\$46,850	94.0%	\$3,056,405	2.1%	200	0.3%	\$14,009
56 Administrative and Support and Waste Management	\$14,494	\$16,003	90.6%	\$875,639	0.6%	2,442	4.3%	\$618
61 Educational Services	\$1,071	\$1,202	89.1%	\$55,857	0.0%	326	0.6%	\$403
62 Health Care and Social Assistance	\$13,410	\$14,918	89.9%	\$863,750	0.6%	3,065	5.3%	\$492
71 Arts, Entertainment, and Recreation	\$5,579	\$6,679	83.5%	\$479,821	0.3%	924	1.6%	\$1,191
72 Accommodation and Food Services	\$17,881	\$27,008	66.2%	\$4,510,690	3.0%	4,574	8.0%	\$1,995
81 Other Services (except Public Administration)	\$8,617	\$10,013	86.1%	\$560,395	0.4%	4,135	7.2%	\$337
Others or unmatched*	\$211,942	\$275,034	77.1%	\$26,458,810	17.9%	814	1.4%	\$77,509
Total or average	\$1,029,831	\$1,284,062	80.3%	\$148,034,837	100.0%	57,408	100.0%	\$4,428

Source: Department of Revenue (2018 corporate excise returns)

Notes: 1. \*Unmatched means that we could not find some taxpayers in one or more of data sets to match.

2. The data are preliminary and subject to change.

## EVALUATION: COMPARING COSTS AND BENEFITS

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases tax to finance the exemption for tangible property subject to local taxation) and direct benefits (to taxpayers who claim this exemption) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy, for example where a chain of businesses benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>3</sup>

<sup>3</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. The Appendix shows one such attempt by DOR.

### Similar Tax Expenditures Offered by Other States

According to an article by the Tax Foundation (Cammenga, 2020), as of 2020 there were sixteen states with some type of capital stock or net worth tax. NY and CT are phasing the entire tax out; and RI repealed it starting in 2014. However, it is not clear whether any of the states with such a tax have a similar exemption for property subject to tax at the local level.

## References

Felix, R. A. (2009, Second Quarter). *Do State Corporate Income Taxes Reduce Wages?*, Economic Review, FEDERAL RESERVE BANK OF KANSAS CITY.

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Keith R. Ihlanfeldt, David L. Sjoquist. (2001, August). Conducting an Analysis of Georgia's Economic Development Tax Incentive Program. *ECONOMIC DEVELOPMENT QUARTERLY*, 15(3), 217-228.

*MODELS: TAX-PI*. (n.d.). Retrieved from Regional Economic Models, Inc.: <https://www.remi.com/model/tax-pi/>



## Appendix: Further Discussion on Costs and Benefits

The text of the report discusses the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>4</sup>) and direct benefits (to taxpayers who claim the exemption) of this tax expenditure. It also summarizes indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced, as well as other costs and benefits in more detail.

### Other costs and benefits: Indirect and Induced

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement, assuming no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an "**opportunity cost**" to the Commonwealth. The opportunity cost to the state includes not only the impact on the businesses and their employees that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is a cost related to the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "multiplier effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI in the reference. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive has a specific purpose, the reduced spending that results from the expenditure is assumed to be proportionally distributed across the Commonwealth's current expenditures.

#### *Quantifying total costs (direct, indirect and induced)*

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A1 and A2 report the model results. The

<sup>4</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.

figures for 2018 and 2019 are estimates of forgone benefits (opportunity costs) that the Massachusetts economy experienced due to having the expenditure, and those for 2020, 2021 and 2022 are projections of forgone benefits that the Massachusetts economy will experience going forward. The effects are displayed as negative numbers since reduced spending has a negative impact on the state economy.

Tables A1 and A2 show that the reduction in state government spending results in lost economic activities, with real state GDP declining by \$581 million - \$665 million and total employment declining by 6,719 – 7,526 jobs annually. Lost economic activities result in further loss of state revenues,<sup>5</sup> ranging from \$12.4 million to \$36.9 million annually. Note that the revenue impact reported in Table A1 does not include the estimated direct impact of the tax expenditure from Table 1, but only the additional indirect/induced impact.

**Table A1. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	-\$12,379	-\$27,480	-\$31,632	-\$34,914	-\$36,874

\* This table reports the lost revenues from the foregone economic activities as the state reduced government spending to finance the exemption for tangible property subject to local taxation.

**Table A2. Economic Impacts due to Decreased Government Spending by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-6,719	-7,100	-7,526	-7,455	-7,302
Impact on private non-farm employment	-3,705	-3,914	-4,164	-4,063	-3,891
Impact on GDP (\$000), real dollars (2012)	-\$581,000	-\$619,000	-\$662,000	-\$665,000	-\$660,000
Impact on personal income (\$000)	-\$484,000	-\$567,000	-\$650,000	-\$694,000	-\$727,000

\*This table reports the lost economic activities as the state reduced government spending to finance the exemption for tangible property subject to local taxation.

### *Indirect and Induced Benefits*

The cost savings due to the exemption encourages the directly affected businesses to invest, expand, hire additional workers, etc. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy, or put

<sup>5</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 1.

another way, generate a “Multiplier Effect” (see discussion in the previous section) from the initial or direct benefits as reported in the text. As a result, the total benefits of the exemption would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect/induced benefits, we again employed Tax-PI. A summary of the revenue impact of the exemption is reported in Table A3, and the economic benefit from the exemption is reflected in Table A4 below. The figures for 2018 and 2019 are estimates of benefits that the Massachusetts economy experienced and those for 2020, 2021 and 2022 are projections of the benefits that the Massachusetts economy will experience going forward.

Tables A3 and A4 show that, the exemption for tangible property subject to local taxation results in more economic activities, with real state GDP increasing by \$263 million - \$473 million and total employment increasing by 2,743 – 4,437 jobs annually. More economic activities result in more state revenues, ranging from \$6.0 million to \$25.1 million annually, which partially offsets the cost of this tax incentive.

**Table A3. Additional Revenue Impact of Exemption for Tangible Property Subject to Local Taxation**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$5,991	\$14,732	\$19,405	\$22,949	\$25,089

**Table A4. Economic Impacts of Exemption for Tangible Property Subject to Local Taxation by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	2,743	3,618	4,280	4,437	4,391
Impact on private non-farm employment	2,640	3,435	3,972	4,104	4,056
Impact on GDP (\$000), real dollars (2012)	\$263,000	\$355,000	\$429,000	\$460,000	\$473,000
Impact on personal income (\$000)	\$190,000	\$279,000	\$359,000	\$405,000	\$432,000

**Comparison of costs and benefits**

Ignoring the opportunity cost of the tax incentive, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would be reaped if the Commonwealth used the dollars spent on the tax incentive for other purposes. Those

dollars could be spent in many other ways, and examining them is beyond the scope of the current evaluation report. Nonetheless, we reported net impacts of the tax incentive in Tables A5 and A6 below under the balanced budget requirement, which are the combined effects in Tables A1-A4.

Tables A5 and A6 show that the exemption for tangible property subject to local taxation combined with a cut in state government spending results in less economic activity, with real state GDP decreasing by \$187 million - \$318 million. The net impact on total employment is negative with total employment decreasing by 2,911 – 3,976 jobs annually. The impact on state revenues is also negative, decreasing by \$6.4 million - \$12.7 million annually.

Because the tax expenditure has its own specific purpose, the net negative impacts do not necessarily imply that the tax expenditure is not desirable. The statute does not explicitly state the purpose of this tax expenditure; however, the exemption avoids taxation of property at both the local and state level.

**Table A5. Net Additional Revenue Impact of Exemption for Tangible Property Subject to Local Taxation\***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	-\$6,388	-\$12,748	-\$12,227	-\$11,965	-\$11,785

\* assuming state government spending is cut by the same amount as the revenue loss due to the exemption for tangible property subject to local taxation to balance budget.

**Table A6. Net Economic Impacts of Exemption for Tangible Property Subject to Local Taxation by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-3,976	-3,482	-3,246	-3,018	-2,911
Impact on private non-farm employment	-1,065	-479	-192	41	165
Impact on GDP (\$000), real dollars (2012)	-\$318,000	-\$264,000	-\$233,000	-\$205,000	-\$187,000
Impact on personal income (\$000)	-\$294,000	-\$288,000	-\$291,000	-\$289,000	-\$295,000

\* assuming state government spending is cut by the same amount as the revenue loss due to the exemption for tangible property subject to local taxation to balance budget.

## **Other unquantified costs and benefits:**

Besides the additional costs and benefits quantified in the previous sections, there are other costs and benefits that are hard to quantify due to lack of data or other challenges. In this section we will enumerate some of these costs and benefits.

Ihlanfeldt and Sjoquist (2001), a published study for the state of Georgia, summarizes some of other costs and benefits as follows:

*Loss of competitiveness.* Providing tax incentive such as credits to selected firms may diminish the competitiveness for existing similar firms.

*Compliance costs.* They think that the costs to the firm may be substantial.

*Improved business climate.* Tax incentive improves the perception of the business climate in the state and is used by site location specialists in screening alternative sites.

*Synergistic or clustering effects.* Tax incentive may attract a firm in an industry new to the state, which then serves as a magnet for attracting additional firms in the industry.

Another hard to quantify cost is the administrative cost. The administrative cost attributable to this incentive should be relatively small because the Department of Revenue administers the exemption with existing staff as part of its overall mission.

## **Other issues related to costs and benefits**

The burden of a tax does not necessarily fall on those responsible for remitting the tax. It is known through economic theories that corporate taxes change the allocation of capital between corporations and noncorporate businesses and among states because capital would flee from states of higher corporate taxes if all other considerable factors are not significantly different.

Felix (2009) finds that labor bears a significant burden from the state corporate tax in the form of lower wages. Her study further suggests that a one-percentage-point increase in the marginal state corporate tax rate reduces wages by 0.14% to 0.36%, that labor's burden from the state corporate tax has trended upward over time due to increased global competition and increased competition among states to attract businesses, and that state corporate taxes reduce the wages of highly educated workers more than that of less-educated workers.

The exemption for tangible property subject to local taxation is significant to the direct beneficiaries. Hence, the findings imply that the incentive may have benefited workers who were employed by the corporations in the form of higher wages. The incentive may have further benefited the shareholders and clients due to the growth of businesses.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Investment Tax Credit	<b>Annual cost:</b> \$66.4 - \$77.1 million	<b>Year of adoption:</b> 1971	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input type="checkbox"/> Job creation & maintenance <input checked="" type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				
<b>Investment Tax Credit (TE 2.602)</b>				
The TERC strongly agrees that this credit is claimed by its intended beneficiaries: A broad group of 2,100 to 2,400 taxpayers that includes many smaller businesses. The credit equals about 3% of the spending on qualifying investments, which we somewhat agree provides a meaningful incentive to the claimants.				

We believe this credit is important for competitiveness; more than 30 other states have this type of benefit, and Massachusetts would likely be at a competitive disadvantage without it. Principally for this support of competitiveness, we somewhat agree that its benefits justify the fiscal cost, and that it is relevant today. However, we do have some concerns. The credit as it is structured is complicated, with many moving parts; we somewhat disagree that it is easily administered or that the benefits can be measured.

An alternative to consider would be Bonus Depreciation, as offered by the Federal tax system.



**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Investment Tax Credit
<b>TAX EXPENDITURE NUMBER</b>	2.602
<b>TAX EXPENDITURE CATEGORY</b>	Credit against tax <i>(corporate and business tax)</i>
<b>TAX TYPE</b>	Corporate excise
<b>LEGAL REFERENCE</b>	M.G.L. c. 63, § 31A (i), (j)
<b>YEAR ENACTED</b>	1971
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$66.4 - \$77.1 million annually during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	2,109 – 2,363 claims per year during tax years 2015-2018
<b>AVERAGE TAXPAYER BENEFIT</b>	About \$23,100 - \$32,900 per claim during tax years 2015-2018

<p><b>Description of the Tax Expenditure:</b> Manufacturing corporations and corporations engaged primarily in research and development, agriculture or commercial fishing are allowed to take a credit of 3% of the cost of qualifying tangible property.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> DOR infers that the expenditure was intended to encourage manufacturing and R&amp;D in Massachusetts.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> Yes, DOR estimates that over 20 states have a similar tax expenditure.</p>

## INTRODUCTION

Manufacturing corporations and corporations engaged primarily in research and development, agriculture or commercial fishing are allowed to take an investment tax credit (ITC) of 3% (for tax years ending before January 1, 1993 the rate was 1%) of the cost of qualifying tangible property. Both owners and eligible corporate lessees of property may claim the ITC. Qualifying property includes tangible personal property, real property including buildings and build-outs. It does not include motor vehicles. The property must be depreciable under Code § 167 and have a useful life of four years or more, and it must be used in Massachusetts and situated in Massachusetts on the last day of the taxable year. The maximum amount of ITC allowed in any one taxable year cannot exceed fifty percent of the excise due for the taxable year. The credit is neither transferable nor refundable. A corporation that does not use the full amount of ITC generated in a taxable year because the credit exceeded its excise for the taxable year may carry over the credit, as reduced from year to year, for three years. Any portion of ITC not used in a taxable year because of the fifty percent limitation may be carried over, as reduced from year to year, indefinitely. A portion of the credit is subject to a recapture tax if the qualifying property sold or otherwise transferred before the end of its useful life, unless the property was in qualified use for more than twelve years.

The incentive was enacted on July 1, 1971, and applied to qualifying tangible property acquired, constructed, reconstructed, or erected after December 31, 1969.

## POLICY GOALS

The statute does not explicitly state the purpose of this tax expenditure, but we infer that it was intended to encourage manufacturing and R&D in Massachusetts.

## DIRECT COSTS

Table 1 reports revenue loss estimates for the ITC, which ranges from \$66.4 to \$77.1 million annually during FY18-FY22. The estimates are made based on historical claims, economic forecasts, related law changes, etc.

**Table 1. Tax Revenue Loss Estimates for ITC**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$66.4	\$70.5	\$72.6	\$74.8	\$77.1

Table 2 below shows the count and amount of available, claimed, and shared credit in the past several years. Here, available credit is the maximum amount of credit which a taxpayer can claim based on tax liability, provided there are no other restrictions; claimed credit is the credit amount which a taxpayer actually claimed; and shared credit is the credit amount used by other members of the taxpayer’s combined group.

During the tax years 2015 through 2018, the number of credits claimed or shared annually varied from 2,109 to 2,363, and the average claimed or shared amount was about \$23,100 - \$32,900 per year. Note that the total amount of credit claimed or shared was 13%-18% of the amount of credit available, meaning that tax filers did not have enough tax liability to take full advantage of the credit, or certain statutory limitations<sup>1</sup> prevented them from doing so.

**Table 2. Count and Amount of Investment Tax Credit by Tax Year**

	2015		2016		2017		2018	
	Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count
Available Credit -A	\$387,008	4,836	\$400,047	4,809	\$395,614	4,786	\$401,210	4,611
Claimed Credit	\$46,262	2,288	\$44,192	2,222	\$54,155	2,138	\$61,554	2,019
Shared Credit	\$8,490	75	\$9,040	84	\$9,140	105	\$7,936	90
Claimed plus Shared Credit - B	\$54,752	2,363	\$52,232	2,306	\$63,295	2,243	\$69,491	2,109
B/A	14.1%	48.9%	13.3%	48.0%	16.0%	46.9%	17.3%	45.7%
Average Claimed or Shared Amount	\$23.2	NA	\$23.1	NA	\$28.2	NA	\$32.9	NA

Source: Massachusetts Department of Revenue.

Notes: 1. 2017 and 2018 data are preliminary and subject to change.

2. The count is the number of claims, not the number of claimants. The number of claims is either the same as or slightly higher than the number of claimants.

3. “NA”, not applicable.

## DIRECT BENEFITS

The credit is applied to qualifying tangible property acquired, constructed, reconstructed, or erected after December 31, 1969. Historically, the amount of the credit has fluctuated between 3% and 1% of the eligible costs incurred. Pursuant to Section 25 of Chapter 141 of

<sup>1</sup> In Massachusetts, the maximum amount of certain credits claimed by a corporate excise taxpayer may not exceed 50% of the taxpayer’s tax liability.

the Acts of 2003, the credit amount was fixed at 3% of the eligible costs. To qualify, a corporation must be defined under Massachusetts law as a manufacturing corporation, a research and development corporation, a corporation primarily engaged in agriculture, or a corporation primarily engaged in commercial fishing.

Tables 3-5 show the number of claimants and the claim amounts by income level, size of taxpayer in terms of number of employees, and industry, respectively, for the 2017 tax year.<sup>2</sup> 56.4% of the claimants were corporations with negative or less than \$10,000 taxable income, 67.8% of the claimants were corporations with fewer than 100 employees, and 75.8% of the claimants were in the industries of manufacturing and professional, scientific, & technical services.

The tax benefit per claimant averaged \$29,021, varying from \$11,556 for unmatched filers to \$456,234 for the corporations with \$10 million or higher taxable income, from \$5,630 for the corporations with 5-49 employees to \$134,009 for the corporations with 500 or more employees, and from \$3,093 for the corporations in the “Accommodation and Food Services” industry to \$130,096 for the corporations in the “utilities” industry. In total, claimed credit (\$54 million) and shared credit (\$9 million) are 77% of tax liabilities after credit (\$82 million).

**Table 3. 2017 ITC Claims by Taxable Income Level**

Taxable Income Range	Tax Liability after Credit (\$000)	Claimed Credit (\$000)	Shared Credit (\$000)	Number of Claimants	Percent of Total Number of Claimants	Tax Saving Per Claimant (\$)
Less than \$0	\$3,041	\$4,820	\$1,314	480	22.0%	\$12,778
\$0 to \$9,999	\$1,541	\$12,442	\$5,748	751	34.4%	\$24,221
\$10,000 to \$99,999	\$515	\$4,226	\$330	152	7.0%	\$29,970
\$100,000 to \$999,999	\$7,804	\$4,892	\$829	417	19.1%	\$13,718
\$1,000,000 to \$9,999,999	\$38,012	\$15,298	\$427	336	15.4%	\$46,799
\$10,000,000 or more	\$31,079	\$12,282	\$493	28	1.3%	\$456,234
Unmatched*	N.A.	\$196	-	17	0.8%	\$11,556

<sup>2</sup> Tables 3-5 show that there were 2,181 *claimants* for the credit in 2017, which is slightly lower than the 2,243 *claims* reported in Table 2. There are two reasons for this difference. First, for combined reporting corporate tax filers, the data sets for credits include only the parent corporation’s identification number. So, we were not able to match with other data sets that include information on employees, NAICS codes, etc. at the subsidiary company level. Second, there were rare cases in which a claimant had more than one claim. For example, some taxpayers within a combined group may have taken part of the available credit and shared the remainder with other members (all claims are counted under the name of the parent corporation).

Total or average	\$81,992	\$54,155	\$9,140	2,181	100.0%	\$29,021
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Source: Department of Revenue (2017 corporate excise return)

Notes: 1. \*Unmatched means that we could not find some taxpayers in one or more of data sets to match.

2. The data are preliminary and subject to change

**Table 4. 2017 ITC Claims by Taxpayer Size (Number of Employees)**

Employees Range*	Tax Liability after Credit (\$000)	Claimed Credit (\$000)	Shared Credit (\$000)	Number of Claimants	Percent of Total Number of Claimants	Tax Saving Per Claimant (\$)
Less than 5	\$11,533	\$11,644	\$2,324	262	12.0%	\$53,311
5 to 49	\$9,752	\$4,640	\$167	854	39.2%	\$5,630
50 to 99	\$6,018	\$2,271	\$86	361	16.6%	\$6,530
100 to 199	\$14,012	\$5,323	\$1,971	286	13.1%	\$25,502
200 to 499	\$19,254	\$8,853	\$492	212	9.7%	\$44,078
500 or more	\$21,423	\$21,227	\$4,100	189	8.7%	\$134,009
Unmatched**	N.A.	\$196	-	17	0.8%	\$11,556
Total or average	\$81,992	\$54,155	\$9,140	2,181	100.0%	\$29,021

Source: Department of Revenue (2017 corporate excise return)

Notes: 1. \* Information is based on number of employees as reported by taxpayers.

2. \*\*Unmatched means that we could not find some taxpayers in one or more of data sets to match.

3. The data are preliminary and subject to change.

**Table 5. 2017 ITC Claims by Industry**

Industry	Tax Liability after Credit (\$000)	Claimed Credit (\$000)	Shared Credit (\$000)	Number of Claimants	Percent of Total Number of Claimants	Tax Saving Per Claimant (\$)
11 Agriculture, Forestry, Fishing and Hunting	\$451	\$153	-	36	1.7%	\$4,255
21 Mining, Quarrying, and Oil and Gas Extraction	\$176	\$92	-	6	0.3%	\$15,403
22 Utilities	\$1,681	\$650	-	5	0.2%	\$130,096
23 Construction	\$1,728	\$273	-	29	1.3%	\$9,423
31-33 Manufacturing	\$49,796	\$33,034	\$3,730	1,399	64.1%	\$26,279
42 Wholesale Trade	\$9,864	\$3,735	\$63	98	4.5%	\$38,759
44-45 Retail Trade	\$693	\$178	\$6	19	0.9%	\$9,693
48-49 Transportation and Warehousing	\$18	\$115	\$195	9	0.4%	\$34,463
51 Information	\$676	\$423	\$1,115	53	2.4%	\$29,005
52 Finance and Insurance	\$311	\$104	-	10	0.5%	\$10,401

53 Real Estate and Rental and Leasing	\$53	\$207	-	13	0.6%	\$15,911
54 Professional, Scientific, and Technical Services	\$5,544	\$5,098	\$735	254	11.7%	\$22,961
55 Management of Companies and Enterprises	\$650	\$3,457	\$245	94	4.3%	\$39,376
56 Administrative and Support and Waste Management and Remediation Services	\$145	\$162	-	13	0.6%	\$12,455
62 Health Care and Social Assistance	\$2	\$53	-	4	0.2%	\$13,306
72 Accommodation and Food Services	\$90	\$12	-	4	0.2%	\$3,093
81 Other Services (except Public Administration)	\$56	\$48	-	6	0.3%	\$8,066
Unmatched* or others	\$10,058	\$6,359	\$3,052	129	5.9%	\$72,957
Total	\$81,992	\$54,155	\$9,140	2,181	100.0%	\$29,021

Source: Department of Revenue (2017 corporate excise return)

Notes: 1. \*Unmatched means that we could not find some taxpayers in one or more of data sets to match.  
2. The data are preliminary and subject to change.

## EVALUATION: COMPARING COSTS AND BENEFITS

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases tax to finance the investment tax credit) and direct benefits (to taxpayers who claim the credit) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy, for example where a chain of businesses benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>3</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. The Appendix shows one such attempt by DOR.

<sup>3</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

## Similar Tax Expenditures Offered by Other States

DOR estimates that over 20 states have some form of ITC. A couple of examples are below:

Under section 210-B.1 of the New York Consolidated Laws, general business corporations may claim an investment tax credit (ITC) against the franchise tax imposed for the tax year during which they placed qualified tangible property in service. Qualified property includes buildings, machinery and equipment. The New York ITC is computed on the cost, or other basis of qualified tangible property. The standard rate is 5% on the first \$350 million, and 4% for anything above that amount. The credit may not reduce the excise below the New York minimum excise. Any credit that is not used may be carried over for 15 years.

Vermont offers a non-refundable investment tax credit equal to 24% of the federal investment tax credit for Vermont-property investment in the following activities: rehabilitation (IRC § 47), energy (IRC § 48(a)), advanced coal products (IRC § 48(a)), and gasification products (IRC § 48B(e)). (Feldman, et al., 2019)

## References

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*MODELS: TAX-PI*. (n.d.). Retrieved from Regional Economic Models, Inc.: <https://www.remi.com/model/tax-pi/>

## Appendix: Further Discussion on Costs and Benefits

The text of the report discusses the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses that benefit from state expenditures<sup>4</sup>) and direct benefits of this tax expenditure. It also summarizes indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced, as well as other costs and benefits in more detail.

### Other costs and benefits: Indirect and Induced

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement, assuming that there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an **"opportunity cost"** to the Commonwealth. The opportunity cost to the state includes not only the impact on the businesses and their employees that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is the cost to the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "Multiplier Effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI in the reference. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive has a specific purpose, the reduced spending is assumed to be proportionally distributed across the Commonwealth's current expenditures.

#### *Quantifying total costs (direct, indirect and induced)*

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A1 and A2 report the model results. The

<sup>4</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.



figures for 2018 and 2019 are estimates of forgone benefits (opportunity costs) that the Massachusetts economy experienced due to having the expenditure, and those for 2020, 2021 and 2022 are projections of forgone benefits that the Massachusetts economy will experience going forward. The effects are displayed as negative numbers as reduced spending has a negative impact on the state economy.

Tables A1 and A2 show that the reduction in state government spending results in lost economic activity, with real state GDP declining by \$159 million-\$174 million and total employment declining by 1,837-1,981 jobs annually. Lost economic activity results in further loss of state revenues<sup>5</sup>, ranging from \$3.4 million to \$9.5 million annually. Note that the revenue impact reported in Table A1 does not include the estimated direct impact of the tax expenditure from Table 1, but only the additional indirect/induced impact.

**Table A1. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	(\$3,384)	(\$7,444)	(\$8,422)	(\$9,136)	(\$9,472)

\* This table reports the lost revenues from the foregone economic activity as the state reduced government spending to finance the investment tax credit.

**Table A2. Economic Impacts due to Decreased Government Spending  
by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	(1,837)	(1,905)	(1,981)	(1,923)	(1,844)
Impact on private non-farm employment	(1,013)	(1,050)	(1,097)	(1,048)	(981)
Impact on GDP (\$000), real dollars (2012)	(\$159,000)	(\$166,000)	(\$174,000)	(\$172,000)	(\$167,000)
Impact on personal income (\$000)	(\$132,000)	(\$152,000)	(\$172,000)	(\$180,000)	(\$185,000)

\*This table reports the lost economic activity as the state reduced government spending to finance the investment tax credit.

### *Indirect and Induced Benefits*

The cost savings due to the ITC encourage the directly affected businesses to invest, expand, hire additional workers in Massachusetts. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy, or put

<sup>5</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 1.

another way, generate a “Multiplier Effect” (see discussion in the previous section) from the initial or direct benefits as reported in the text. As a result, the total benefits of this tax expenditure would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect/induced benefits, we again employed Tax-PI. A summary of the revenue impact of this tax expenditure is reported in Table A3, and the economic benefit from this tax expenditure is reflected in Table A4 below. The figures for 2018 and 2019 are estimates of benefits that the Massachusetts economy experienced and those for 2020, 2021 and 2022 are projections of the benefits that the Massachusetts economy will experience going forward.

Tables A3 and A4 show that, the investment tax credit results in more economic activity, with real state GDP increasing by \$81 million - \$187 million and total employment increasing by 826-1,574 jobs annually. More economic activity results in more state revenues, ranging from \$1.8 million to \$9.0 million annually, which partially offsets the cost of this tax incentive.

**Table A3. Additional Revenue Impact of Investment Tax Credit**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$1,814	\$4,663	\$6,481	\$7,956	\$8,989

**Table A4. Economic Impacts of Investment Tax Credit  
by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	826	1,162	1,433	1,539	1,574
Impact on private non-farm employment	794	1,102	1,326	1,419	1,447
Impact on GDP (\$000), real dollars (2012)	\$81,000	\$121,000	\$155,000	\$174,000	\$187,000
Impact on personal income (\$000)	\$62,000	\$96,000	\$128,000	\$149,000	\$164,000

**Comparison of costs and benefits**

Ignoring the opportunity cost of the tax expenditure, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would be reaped if the Commonwealth used the dollars spent on the tax expenditure for other purposes. Those dollars could be spent in many other ways and examining them is beyond the scope of the

current evaluation report. Nonetheless, we report net impacts of the tax expenditure in Tables A5 and A6 below under the balanced budget requirement, which are the combined effects in Tables A1-A4.

Tables A5 and A6 show that the investment tax credit combined with a cut in state government spending in general results in less economic activity, with real state GDP changing by -\$78 million to +\$20 million. The net impact on total employment is negative with total employment decreasing by 270-1,011 jobs annually. The impact on state revenues is also negative, decreasing by \$0.5 million to \$2.8 million annually.

**Table A5. Net Additional Revenue Impact of Investment Tax Credit \***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	(\$1,570)	(\$2,781)	(\$1,941)	(\$1,180)	(\$483)

\* assuming state government spending is cut by the same amount as the revenue loss due to the investment tax credit to balance budget.

**Table A6. Net Economic Impacts of Investment Tax Credit  
by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	(1,011)	(743)	(548)	(384)	(270)
Impact on private non-farm employment	(219)	52	229	371	466
Impact on GDP (\$000), real dollars (2012)	(\$78,000)	(\$45,000)	(\$19,000)	\$2,000	\$20,000
Impact on personal income (\$000)	(\$70,000)	(\$56,000)	(\$44,000)	(\$31,000)	(\$21,000)

\* assuming state government spending is cut by the same amount as the revenue loss due to the investment tax credit to balance budget.

Because the tax expenditure has its own specific purpose, the net negative impacts do not necessarily imply that the tax expenditure is not desirable. The statute does not explicitly state the purpose of this tax expenditure; however, we assume that the purpose is to encourage manufacturing and R&D in Massachusetts.

#### **Other unquantified costs and benefits:**

Besides the additional costs and benefits quantified in the previous sections, there are other costs and benefits that are hard to quantify due to lack of data or other challenges. In this section we will enumerate some of these costs and benefits.

Ihlanfeldt and Sjoquist (2001), a published study for the state of Georgia, summarizes some of the other costs and benefits as follows:

Loss of competitiveness. Providing tax incentive such as credits to selected firms may diminish the competitiveness for existing similar firms.

Compliance costs. They think that the costs to the firm may be substantial.

Improved business climate. Tax incentive improves the perception of the business climate in the state and is used by site location specialists in screening alternative sites.

Synergistic or clustering effects. Tax incentive may attract a firm in an industry new to the state, which then serves as a magnet for attracting additional firms in the industry.

The investment tax credit is a popular tax incentive for these and other social benefits, similar to the Economic Development Incentive Program (EDIP) and the research credit. It also contributes to the technological change and innovation. Technological change is an important factor of long-run productivity growth and increases in living standards. Advances in technology come from innovation, which is the process of inventing new products, improving existing products, and reducing production costs.

Another hard to quantify cost is the administrative cost. The administrative cost attributable to this tax expenditure should be relatively small because the Department of Revenue administers this tax expenditure with existing staff as part of its overall mission.

### **Other issues related to costs and benefits**

The burden of a tax does not necessarily fall on those responsible for remitting the tax. It is known through economic theories that corporate taxes change the allocation of capital between corporations and noncorporate businesses and among states because capital would flee from states of higher corporate taxes if all other considerable factors are not significantly different.

Felix (2009) finds that labor bears a significant burden from the state corporate tax in the form of lower wages. Her study further suggests that a one-percentage-point increase in the marginal state corporate tax rate reduces wages by 0.14% to 0.36%, that labor's burden from the state corporate tax has trended upward over time due to increased global competition and increased competition among states to attract businesses, and that state corporate taxes reduce the wages of highly educated workers more than that of less-

educated workers. Even though the exact amount of effect on wages may vary by researchers, the logic of the effect is broadly shared. The investment tax credit is an important incentive that contributes to lower effective corporate and business tax rates. Hence, the findings imply that the investment tax credit may have benefited workers who were employed by the corporations in the form of higher wages and benefited the shareholders of the corporations. The incentive may have further benefited the shareholders and employees due to the growth of businesses.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Research Credit	<b>Annual cost:</b> \$288.4 - \$477.6 million	<b>Year of adoption:</b> 1991	<b>Sunset date:</b> The credit itself is not set to expire. However, certain provisions relating to special treatment for defense contractors are set to expire in 2028.	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i>	<i>Individual:</i>			
<input checked="" type="checkbox"/> Job creation & maintenance	<input type="checkbox"/> Relief of poverty			
<input checked="" type="checkbox"/> Investment	<input type="checkbox"/> Progressivity/assistance to low earners			
<input checked="" type="checkbox"/> Competitiveness/Strategic	<input type="checkbox"/> Access to opportunity			
<input type="checkbox"/> Health/Environment/Social Justice	<input type="checkbox"/> Health/Environment/Social Justice			
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Comments:**

**Research Tax Credit (TE 2.604)**

The TERC strongly agrees that this credit benefits small businesses, is used by a broad spectrum of companies who receive credits for their research expenditures and that it is relevant today. We somewhat agree that it provides a meaningful incentive and is relatively easy to administer. The credit is estimated to be about 5% of a firm's spending on research and development (R&D). We note that the credit has a high cost, and that its exact impact is difficult to measure. Many states offer this type of credit, making its retention an important part of competitiveness as it shows the state's serious commitment to R&D-oriented companies.

Note that the modeling results presented in the analysis focused on short-term spending, not long-term impacts. This likely understates the economic benefits of this credit: While its short-term impact in terms of jobs is modest, it has long-term benefits for the innovation economy. An R&D credit has long-term benefits and its return on the investment needs to be considered in that light. Academic research indicates that this credit does payoff in the long run, as it promotes location of primary research within the jurisdiction providing the credit.

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Research Credit
<b>TAX EXPENDITURE NUMBER</b>	2.604
<b>TAX EXPENDITURE CATEGORY</b>	Credit against tax ( <i>corporate and business tax</i> )
<b>TAX TYPE</b>	Corporate excise tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 63, § 38M
<b>YEAR ENACTED</b>	1991
<b>REPEAL/EXPIRATION DATE</b>	The credit itself is not set to expire. However, certain provisions relating to special treatment for defense contractors are set to expire in 2028.
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$288.4 - \$477.6 million per year during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	2,919 – 4,059 claims per year during tax years 2015-2018
<b>AVERAGE TAXPAYER BENEFIT</b>	About \$60,600 – \$82,300 per claim during tax years 2015-2018

<p><b>Description of the Tax Expenditure:</b> Massachusetts provides corporations a credit for increased spending in research and development activity conducted in Massachusetts. The Massachusetts research credit, in large part, is based on the research credit allowed under Internal Revenue Code (Code) § 41.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> DOR infers that it was intended to encourage research and development in Massachusetts.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> Yes, DOR estimates that over 30 states have a similar expenditure.</p>



## INTRODUCTION

Massachusetts provides corporations a credit for increased spending in research and development. The credit is available only for expenditures for research activity conducted in Massachusetts. The Massachusetts research credit, in large part, is based on the research credit allowed under Internal Revenue Code (Code) § 41. In particular, the alternative simplified method for calculating the credit is modeled after the federal alternative simplified method. The credit can be shared among affiliated corporations that are members of the same combined group, subject to limitations.

There are two methods for calculating the Massachusetts research credit. Under one method, the amount of the credit is equal to: 10% of the difference between the current year's Massachusetts qualified research expenses and a "base amount" plus 15% of the Massachusetts basic research payments for the taxable year as determined under Code § 41(e)(1)(A). The actual computation of the credit under this method can be complex. Pursuant to legislation enacted in 2014, a taxpayer can now elect to determine its credit using the so-called "alternative simplified method." This method is based on the federal simplified method which was enacted in 2006. Using this method, the amount of the credit is equal to a percentage of the difference between the corporation's qualified research expenses for the current taxable year and 50% of the corporation's average qualified research expenses for the 3 taxable years preceding the taxable year for which the credit is being determined. The percentage used to calculate the credit under the alternate simplified method is being phased in over a 7-year period. For calendar years 2015, 2016 and 2017, a rate of 5 percent was used to calculate the credit under the alternative simplified method, for calendar years 2018, 2019 and 2020, that rate was 7.5 percent and for calendar years beginning on or after January 1, 2021, the rate is 10 percent.

Regardless of which method the corporation uses to determine the credit amount to which it is entitled for a taxable year, the amount of research credit that can be used in a taxable year is limited to 100 percent of a corporation's first \$25,000 of excise, plus 75 percent of the corporation's excise in excess of \$25,000. A single \$25,000 amount applies to affiliated groups of corporations. Credit not used because of the limitations generally can be carried over for 15 years. In certain instances the credit can be carried forward indefinitely.

The research credit is not transferable and generally is not refundable. However, a certified Life Science Company may apply to the Massachusetts Life Science Center for a refund of a portion of its available excess research credits in lieu of carrying such credits forward for use in later years.

## POLICY GOALS

The statute does not explicitly state the purpose of this tax expenditure. However, contemporaneous accounts of the enactment of the credit indicate that it was intended to encourage research and development in Massachusetts.

## DIRECT COSTS

The revenue loss resulting from the expenditure is estimated to be \$288.4 - \$477.6 million per year during FY18-FY22. See Table 1. The estimates are based on several factors, including historical claims, economic forecasts, and related law changes.

**Table 1. Tax Revenue Loss Estimates for Research Credit**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$288.4	\$337.6	\$344.3	\$410.3	\$477.6

Table 2 below shows the amount and number of available, claimed, and shared credits in each year during the period 2015 through 2018. “Available credit” refers to the maximum amount of credit that a taxpayer can claim based on tax liability, provided there are no other restrictions. “Claimed credit” is the amount a taxpayer actually claimed. “Shared credit” is the amount of a taxpayer’s credit that was used by other members of the taxpayer’s combined group. “Count” refers to the number of credit claims.

During the tax years 2015 through 2018, the number of credits claimed or shared annually varied from 2,919 to 4,059, and the average claimed or shared amount was about \$60,600 - \$82,300 per year. The total amount of credit claimed or shared was 6.3%-8.2% of the amount of credit available, meaning that tax filers did not have enough tax liability to take full advantage of the credit, or certain statutory limitations<sup>1</sup> prevented them from doing so.

<sup>1</sup> See the section of “Introduction” for one such limitation: the amount of research credit that can be used in a taxable year is limited to 100 percent of a corporation's first \$25,000 of excise, plus 75 percent of the corporation's excise in excess of \$25,000.

**Table 2. Amount and Count of Research Credit by Tax Year**

	2015		2016		2017		2018	
	Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count
Available Credit - A	\$3,002,410	10,666	\$3,207,342	11,819	\$3,250,400	13,361	\$4,059,419	15,348
Claimed Credit	\$148,849	2,657	\$154,010	2,996	\$178,598	3,280	\$266,186	3,714
Shared Credit	\$50,152	262	\$48,081	338	\$63,897	348	\$68,029	345
Claimed plus Shared Credit - B	\$199,001	2,919	\$202,091	3,334	\$242,496	3,628	\$334,216	4,059
B/A	6.6%	27.4%	6.3%	28.2%	7.5%	27.2%	8.2%	26.4%
Average Claimed or Shared Amount	\$68.2	NA	\$60.6	NA	\$66.8	NA	\$82.3	NA

Source: Massachusetts Department of Revenue.

Notes: 1. 2017 and 2018 data are preliminary and subject to change.

2. "NA" means not applicable.

## DIRECT BENEFITS

This is a popular and significant tax incentive and has been claimed by many corporations, compared to other tax incentives. The incentive reduces expenses paid by corporations for R&D activities. It is incremental and aims to reimburse taxpayers for increasing research expenses over their historical levels. A recent study (Rao, 2016) demonstrates that a firm's research intensity, which is the ratio of R&D expenditures to sales, responds to changes in the cost of R&D. The study finds that a 10% reduction in the cost of R&D leads the average firm to increase its research intensity by 19.8% in the short run. In the long run, the average firm responds with further increases in spending.

Tables 3-5 show the number of claimants and claim amounts by income level (Table 3), industry (Table 4), and size of taxpayer in terms of number of employees (Table 5), respectively, for the 2017 tax year.<sup>2</sup> The tables show that, 59.2% of claimants were corporations with taxable income less than \$10,000, 68.6% of claimants were corporations with less than 100 employees, and 68.0% of claimants were in the industries of manufacturing and professional, scientific, & technical services.

<sup>2</sup> Tables 3-5 show that there were 3,440 *claimants* for the credit in 2017, which is slightly lower than the 3,628 *claims* reported in Table 2. There are two reasons for this difference. First, for combined reporting corporate tax filers, the data sets for credits include only the parent corporation's identification number. So, we were not able to match with other data sets that include information on employees, NAICS codes, etc. at the subsidiary company level. Second, there were rare cases in which a claimant had more than one claim. For example, some taxpayers within a combined group may have taken part of the available credit and shared the remainder with other members (all claims are counted under the name of the parent corporation).

The tax benefit per claimant averaged \$70,493, varying from \$11,402 for unmatched filers to \$913,918 for the corporations with \$10 million or higher taxable income, from \$11,402 for unmatched filers to \$258,438 for the corporations with 500 or more employees, and from \$2,144 for the corporations in the “Accommodation and Food Services” industry to \$213,151 for corporations in the “Unmatched or others” industry.

**Table 3. 2017 Research Credit Claims by Taxable Income Level**

Taxable Income Range	Tax Liability after Credit (\$000)	Claimed Credit (\$000)	Shared Credit (\$000)	Number of Claimants	Percent of Total Number of Claimants	Tax Saving per Claimant (\$)
Less than \$0	\$3,234	\$17,668	\$3,176	1,082	31.5%	\$19,264
0 to \$9,999	\$1,248	\$75,463	\$32,019	951	27.7%	\$113,021
\$10,000 to \$99,999	\$630	\$7,501	\$606	324	9.4%	\$25,022
\$100,000 to \$999,999	\$6,585	\$13,306	\$2,688	536	15.6%	\$29,840
\$1,000,000 to \$9,999,999	\$32,327	\$30,855	\$3,831	439	12.8%	\$79,010
\$10,000,000 or more	\$85,900	\$33,257	\$21,578	60	1.7%	\$913,918
Unmatched*	NA	\$547	\$0	48	1.4%	\$11,402
Total or average	\$129,924	\$178,598	\$63,897	3,440	100.0%	\$70,493

Source: Department of Revenue (2017 corporate excise returns)

Notes: 1. \*Unmatched means that we could not find some taxpayers in one or more of the data sets to match.  
2. The data are preliminary and subject to change.

**Table 4. 2017 Research Credit Claims by Industry**

Industry	Tax Liability after Credit (\$000)	Claimed Credit (\$000)	Shared Credit (\$000)	Number of Claimants	Percent of Total Number of Claimants	Tax Saving per Claimant (\$)
11 Agriculture, Forestry, Fishing and Hunting	\$2	\$13	\$0	5	0.2%	\$2,593
22 Utilities	\$293	\$272	\$0	3	0.1%	\$90,527
23 Construction	\$1,158	\$1,679	\$3	73	2.1%	\$23,035
31-33 Manufacturing	\$55,381	\$58,792	\$36,300	1,138	33.1%	\$83,561
42 Wholesale Trade	\$7,878	\$4,448	\$994	110	3.2%	\$49,477
44-45 Retail Trade	\$14,070	\$834	\$1	37	1.1%	\$22,563
48-49 Transportation and Warehousing	\$52	\$101	\$200	7	0.2%	\$43,040
51 Information	\$7,424	\$10,652	\$1,842	226	6.6%	\$55,283
52 Finance	\$2,315	\$2,003	\$531	56	1.6%	\$45,243
53 Real Estate and Rental and Leasing	\$98	\$4,653	\$442	26	0.8%	\$195,968
54 Professional, Scientific, and Technical Services	\$23,693	\$25,234	\$5,541	1,200	34.9%	\$25,646
55 Management of Companies and Enterprises	\$9,128	\$17,149	\$1,323	143	4.2%	\$129,175
56 Administrative and Support and Waste Management and Remediation Services	\$1,134	\$1,571	\$183	35	1.0%	\$50,118

61 Educational Services	\$366	\$79	\$0	10	0.3%	\$7,887
62 Health Care and Social Assistance	\$60	\$1,095	\$538	40	1.2%	\$40,816
71 Arts, Entertainment, and Recreation	\$1	\$23	\$22	3	0.1%	\$14,852
72 Accommodation and Food Services	\$53	\$9	\$0	4	0.1%	\$2,144
81 Other Services (except Public Administration)	\$191	\$316	\$3	16	0.5%	\$19,977
Unmatched* or others	\$6,629	\$49,676	\$15,974	308	9.0%	\$213,151
Total or average	\$129,924	\$178,598	\$63,897	3,440	100.0%	\$70,493

Source: Department of Revenue (2017 corporate excise returns)

- Notes: 1. \*Unmatched means that we could not find some taxpayers in one or more of the data sets to match.  
2. The data are preliminary and subject to change.

**Table 5. 2017 Research Credit Claims by Taxpayer Size (Number of Employees)**

Employees Range*	Tax Liability after Credit (\$000)	Claimed Credit (\$000)	Shared Credit (\$000)	Number of Claimants	Percent of Total Number of Claimants	Tax Saving per Claimant (\$)
Less than 5	\$20,563	\$44,920	\$26,610	717	20.8%	\$99,763
5 to 49	\$19,921	\$14,918	\$1,831	1,223	35.6%	\$13,695
50 to 99	\$6,753	\$8,221	\$796	420	12.2%	\$21,470
100 to 199	\$8,653	\$18,756	\$8,370	342	9.9%	\$79,317
200 to 499	\$7,076	\$15,032	\$2,479	303	8.8%	\$57,790
500 or more	\$66,958	\$76,204	\$23,811	387	11.3%	\$258,438
Unmatched**	NA	\$547	\$0	48	1.4%	\$11,402
Total or average	\$129,924	\$178,598	\$63,897	3,440	100.0%	\$70,493

Source: Department of Revenue (2017 corporate excise returns)

- Notes: 1. \* Information is based on number of employees as reported by taxpayers.  
2. \*\*Unmatched means that we could not find some taxpayers in one or more of the data sets to match.  
3. The data are preliminary and subject to change.

## EVALUATION: COMPARING COSTS AND BENEFITS

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases tax to finance the research tax credit) and direct benefits (to taxpayers who claim the credit) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy, for example where a chain of businesses benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods

and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>3</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. The Appendix shows one such attempt by DOR.

## **SIMILAR TAX EXPENDITURES OFFERED by OTHER STATES**

Over 30 states have some form of research credit. The following are some examples.

### **Maine**

Maine offers a research credit to corporations, sole proprietors, and members of pass-through entities such as partnerships, joint ventures or subchapter S corporations. The credit is based on the incremental increase in spending for qualifying research activities in Maine. The credit is equal to 5% of the excess, if any, of the qualified research expense in Maine for the taxable year over the average spent by the taxpayer on qualified research in Maine during the three prior tax years, plus 7.5% of the basic research payments made during the taxable year. An enhanced credit is available for research expenses that exceed 150% of the prior three year’s research expenses. The total credit claimed may not reduce the taxpayer’s income tax liability for any tax year to less than zero. For corporations, the credit is limited to 100% of the first \$25,000 in income tax determined before other credits, plus 75% of the tax amount in excess of \$25,000. Any unused credit amount may be carried forward for a total of 15 years. The Maine credit is not refundable.

### **Connecticut**

Connecticut allows corporations a research credit for the incremental increase in research expenditures conducted in Connecticut. The credit amount is 20% of the excess of the research expenditures incurred in Connecticut during the current tax year over the amount of such expenditures during the preceding tax year. The credit can be carried forward for 15 years. The credit is generally not refundable. However, a qualified small business that cannot take the credit in a tax year as a result of having no tax liability may exchange the credit for a refund equal to 65% of the value of the tax credit, or may elect to carry the tax credit forward.

### **Rhode Island**

<sup>3</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

Rhode Island offers an incremental research credit to corporations, sole proprietors, and members of pass-through entities. The credit is based on the taxpayer's research expenses that are eligible for the federal credit (taking into account the federal base amount), to the extent that the expenses are incurred in Rhode Island. For periods January 1, 1998 and thereafter, the credit is 22.5% of eligible Rhode Island expenses up to \$111,111 and 16.9% of the remaining expenses. The credit may not be used to reduce the tax below the minimum tax imposed by Rhode Island law. The credit that may be claimed is further limited to 50% of the tax otherwise payable, after all other credits available to the taxpayer have been used. Any amount of credit not used may be carried forward for a maximum of seven years. The credit is not refundable.

### **New Hampshire**

New Hampshire offers a research credit against business taxes. The credit is available only by application to the state. Businesses that have qualified manufacturing research and development expenditures may apply for the credit. The amount of the credit is the lesser of 10% of the business organization's qualified manufacturing research and development expenditures or \$50,000. Unused credit may be carried forward for five tax years. As of July 1, 2017 the annual cap on the credit is \$7 million. The credit is not refundable.

### **Vermont**

Vermont provides a tax credit for increasing qualifying research activities. The Vermont credit is 27% of the federal tax credit that is attributable to research conducted in Vermont. This credit applies to personal income tax or business or corporate income tax. Any unused credit available may be carried forward up to 10 years. The credit is not refundable.

### **New York**

New York offers a research credit to companies in certain industries that are considered strategic, including technology, financial services, manufacturing and agriculture. The credit is available only by application to the state. Approval criteria are based largely on the number of jobs created in the state. The credit is equal to 50% of the federal credit that is (i) allowed in the taxable year and (ii) attributable to research conducted in New York. Unused credit is refundable and the credit may only be claimed over a ten year period.

### **California**

California offers an incremental research credit to both corporate and non-corporate taxpayers for qualified research and basic research conducted in California. The credit is equal to 15% of the excess of the qualified research expenses incurred in California, over the base amount, plus 24% of the basic research payments. The base amount is the portion

of the federal base amount attributable to California. If the credit exceeds the tax for the taxable year, the excess may be carried forward to reduce the tax in the following year, and succeeding years, if necessary, until the credit has been exhausted. The credit is not refundable.

## **Georgia**

Georgia offers a tax credit for incremental increases in research expenses for research conducted within Georgia for any business, or headquarters of any such business, engaged in manufacturing, warehousing, distribution, processing, telecommunications, tourism, broadcasting or research and development activities. The credit is 10% of the additional research expense incurred in Georgia over the base amount. The base amount is the average of Georgia research expenses incurred in the three prior years. To claim the Georgia credit for a tax year, a taxpayer must be able to claim a federal research credit in the same tax year. The credit may not exceed 50% of the business' Georgia income tax liability, after all other credits have been applied. Any unused credit may be carried forward 10 years. Excess research tax credit earned in taxable years beginning on or after January 1, 2012, may be used to offset payroll tax withholding, as provided in the research credit regulation.



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## Appendix: Further Discussion on Costs and Benefits

The text of the report discussed the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>4</sup>) and direct benefits (to taxpayers who claim the credit) of this tax expenditure. It also summarized indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced, as well as other costs and benefits in more detail.

### Other costs and benefits: Indirect and Induced

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement assuming no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an **opportunity cost** to the Commonwealth. The opportunity cost to the state include not only the impact on the businesses and their employees that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is the cost to the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "Multiplier Effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI in the reference. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive is for a specific purpose, the reduced spending is assumed to be made according to the current composition of the Commonwealth's expenditure.

#### *Quantifying total costs (direct, indirect and induced)*

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A1 and A2 report the model results. The

<sup>4</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.

figures for 2018 and 2019 are estimates of forgone benefits (opportunity costs) that the Massachusetts economy experienced due to having the expenditure, and those for 2020, 2021 and 2022 are projections of forgone benefits that the Massachusetts economy will experience going forward. The effects are displayed as negative numbers as reduced spending has a negative impact on the state economy.

Tables A1 and A2 show that the reduction in state government spending results in lost economic activities, with real state GDP declining by \$608 million-\$845 million and total employment declining by 7,034 – 9,475 jobs annually. Lost economic activities result in further loss of state revenues,<sup>5</sup> ranging from \$13.0 million to \$45.4 million annually. Note that the revenue impact reported in Table A1 does not include the estimated direct impact of the tax expenditure from Table 1, but only the additional indirect/induced impact.

**Table A1. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	-\$12,961	-\$28,371	-\$31,820	-\$39,016	-\$45,366

\*This table reports the lost revenues from the foregone economic activities as the state reduced government spending to finance the research tax credit.

**Table A2. Economic Impacts due to Decreased Government Spending by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-7,034	-7,228	-7,446	-9,475	-9,152
Impact on private non-farm employment	-3,879	-3,985	-4,122	-5,159	-4,889
Impact on GDP (\$000), real dollars (2012)	-\$608,000	-\$630,000	-\$656,000	-\$845,000	-\$827,000
Impact on personal income (\$000)	-\$507,000	-\$578,000	-\$646,000	-\$855,000	-\$893,000

\*This table reports the lost economic activities as the state reduced government spending to finance the research tax credit.

### *Indirect and Induced Benefits*

The cost savings due to the research credit encourages the directly affected businesses to increase research and development spending, invest in new technology and equipment, and hire additional researchers and workers. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy, or put

<sup>5</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 1.

another way, generate a “Multiplier Effect” (see discussion in the previous section) from the initial or direct benefits as reported in the text. As a result, the total benefits of the tax credit would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect/induced benefits, we again employed Tax-PI. A summary of the revenue impact of the research credit is reported in Table A3, and the economic benefit from the credit is reflected in Table A4 below. The figures for 2018 and 2019 are estimates of benefits that the Massachusetts economy experienced and those for 2020, 2021 and 2022 are projections of the benefits that the Massachusetts economy will experience going forward.

Tables A3 and A4 show that, the research tax credit results in more economic activities, with real state GDP increasing by \$417 million - \$699 million and total employment increasing by 3,963 – 6,272 jobs annually. More economic activities result in more state revenues, ranging from \$8.6 million to \$35.3 million annually, which partially offsets the cost of this tax incentive.

**Table A3. Additional Revenue Impact of Research Credit**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$8,594	\$19,616	\$23,541	\$29,732	\$35,331

**Table A4. Economic Impacts of Research Credit by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	3,963	4,497	4,967	6,249	6,272
Impact on private non-farm employment	3,812	4,252	4,588	5,792	5,781
Impact on GDP (\$000), real dollars (2012)	\$417,000	\$475,000	\$527,000	\$681,000	\$699,000
Impact on personal income (\$000)	\$303,000	\$378,000	\$451,000	\$600,000	\$651,000

**Comparison of costs and benefits**

If we don’t consider the opportunity cost of the tax incentive, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would occur if the Commonwealth used the tax incentive for other purposes. There can be numerous other purposes and examining them is beyond the scope of the current evaluation report.

Nonetheless, we reported net impacts of the tax incentive in Tables A5 and A6 below under the balanced budget requirement, which are the combined effects in Tables A1-A4.

Tables A5 and A6 show that the research tax credit combined with a cut in state government spending of the same amount results in less economic activities, with real state GDP decreasing by \$128 million-\$191 million. The net impact on total employment is negative with total employment decreasing by 2,479 – 3,226 jobs annually. The impact on state revenues is also negative, decreasing by \$4.4 million- \$10.0 million annually.

Because the tax expenditure has its own specific purpose, the net negative impacts do not necessarily imply that the tax expenditure is not desirable. Especially research credit encourages research and development activities that create new products and new technologies, the value of which is hard to measure before they go to market, and therefore it is also difficult for the model to capture the impact of research and development activities on the economy accurately.

**Table A5. Net Additional Revenue Impact of Research Credit\***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	-\$4,367	-\$8,755	-\$8,279	-\$9,284	-\$10,035

\* assuming the state government spending is cut by the same amount as the research tax credit to balance budget.

**Table A6. Net Economic Impacts of Research Credit by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-3,071	-2,731	-2,479	-3,226	-2,880
Impact on private non-farm employment	-67	267	466	633	892
Impact on GDP (\$000), real dollars (2012)	-\$191,000	-\$155,000	-\$129,000	-\$164,000	-\$128,000
Impact on personal income (\$000)	-\$204,000	-\$200,000	-\$195,000	-\$255,000	-\$242,000

\* assuming the state government spending is cut by the same amount as the research tax credit to balance budget.

**Other unquantified costs and benefits:**

Besides the additional costs and benefits quantified in the previous sections, there are other costs and benefits that are hard to quantify due to lack of data or other challenges. In this section we will enumerate some of these costs and benefits.

Ihlanfeldt and Sjoquist (2001), a published study for the state of Georgia, summarizes some of other costs and benefits as follows:

Loss of competitiveness. Providing tax credits to selected firms may diminish the competitiveness for existing similar firms.

Compliance costs. They think that the costs to the firm may be substantial.

Improved business climate. Tax incentive improves the perception of the business climate in the state and is used by site location specialists in screening alternative sites.

Synergistic or clustering effects. Tax incentive may attract a firm in an industry new to the state, which then serves as a magnet for attracting additional firms in the industry. Research credit is a great tax incentive for these and other social benefits.

Another hard to quantify cost is the administrative cost. The administrative cost attributable to the research credit should be relatively small because the Department of Revenue administers the credit with existing staff as part of its overall mission.

Another important but hard to quantify benefit for the research tax credit is that it contributes to the technological change and innovation. Technological change is an important factor of long-run productivity growth and increases in living standards.

### **Other issues related to costs and benefits**

The burden of a tax does not necessarily fall on those responsible for remitting the tax. It is known through economic theories that corporate taxes change the allocation of capital between corporations and noncorporate businesses and among states because capital would flee from states of higher corporate taxes if all other considerable factors are not significantly different.

Felix (2009) finds that labor bears a significant burden from the state corporate tax in the form of lower wages. Her study further suggests that a one-percentage-point increase in the marginal state corporate tax rate reduces wages by 0.14 to 0.36%, that labor's burden from the state corporate tax has trended upward over time due to increased global competition and increased competition among states to attract businesses, and that state corporate taxes reduce the wages of highly educated workers more than that of less-educated workers.

The research credit is a highly significant tax incentive that contributes to lower effective corporate and business tax rates. Hence, the findings in Felix (2009) imply that the research credit may have benefited workers who were employed by corporations receiving the credit in the form of higher wages, and also may have benefited the shareholders and clients of those corporations due to the growth of businesses.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Harbor Maintenance Tax Credit	<b>Annual cost:</b> \$1.4 - \$1.5 million	<b>Year of adoption:</b> 1996	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input checked="" type="checkbox"/> Job creation & maintenance <input checked="" type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				
<b>Harbor Maintenance Credit (TE 2.607)</b> The TERC strongly agrees that this credit is easily administered. We somewhat agree that it is claimed by its intended beneficiaries and it is a meaningful benefit to them. However, we somewhat disagree that its benefits justify its fiscal cost, or that it benefits small businesses, and we strongly disagree that it is claimed by a broad group of taxpayers or that it remains relevant today.				



The Harbor Maintenance credit is unique, as no other state provides a dollar-for-dollar offset of the federal harbor maintenance excise tax. It is claimed by a small number of filers. We conclude that while this credit does provide an incentive to use Massachusetts ports, we find it does not have a measurable benefit, and does not have any relevance today.

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Harbor Maintenance Tax Credit
<b>TAX EXPENDITURE NUMBER</b>	2.607
<b>TAX EXPENDITURE CATEGORY</b>	Credit against corporate excise
<b>TAX TYPE</b>	Corporate excise
<b>LEGAL REFERENCE</b>	M.G.L. c. 63, § 38P
<b>YEAR ENACTED</b>	1996
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$1.4 - \$1.5 million annually during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	79 -88 claims per year during tax years 2015-2018.
<b>AVERAGE TAXPAYER BENEFIT</b>	About \$12,400 - \$17,200 per claim during tax years 2015-2018

<p><b>Description of the Tax Expenditure:</b> Domestic and foreign corporations that are shippers, importers, or exporters are allowed to take a credit against the corporate excise for certain harbor maintenance taxes paid to the federal government.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> The promotion of the use of Massachusetts harbors by providing an offset for the federal excise paid by shippers with respect to their use of harbors in the Commonwealth</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> DOR is not aware of a similar expenditure in any other state.</p>

## INTRODUCTION

Domestic and foreign corporations that are shippers, importers, or exporters are allowed to claim a dollar-for-dollar credit against the corporate excise for certain harbor maintenance taxes paid to the federal government. To qualify for the credit the federal tax paid must be attributable to the shipment of break-bulk or containerized cargo by sea and ocean-going vessels through one of three designated Massachusetts ports. The allowable credit is not subject to the 50% limitation of G.L. c. 63, §32C. The credit may not reduce the taxpayer's corporate excise due below the minimum excise, currently \$456. The credit is not refundable or transferable. Unused credit may be carried forward for up to 5 years.

The expenditure was enacted on August 9, 1996, applicable to harbor maintenance tax paid on or after July 1, 1996.

## POLICY GOALS

The statute does not explicitly state the purpose of this tax expenditure. However, contemporaneous accounts of the enactment of the credit indicate that it was intended to promote the use of Massachusetts harbors by providing an offset for the federal excise paid by shippers with respect to their use of harbors in the Commonwealth.

## DIRECT COSTS

The revenue loss resulting from the expenditure is estimated to be \$1.4 - \$1.5 million per year during FY18-FY22. See Table 1. The estimates are based on several factors, including historical claims, economic forecasts, and related law changes.

**Table 1. Tax Revenue Loss Estimates for Harbor Maintenance Tax Credit**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$1.3	\$1.4	\$1.4	\$1.5	\$1.5

Table 2 below shows the number and amount of available, claimed, and shared credits in each year during the period 2015 through 2018. "Available credit" refers to the maximum amount of credit which a taxpayer can claim based on tax liability, provided there are no other restrictions. "Claimed credit" is the amount a taxpayer actually claimed. "Shared credit" is the amount of a taxpayer's credit that was used by other members of the taxpayer's combined group. "Count" refers to the number of credit claims.

During the tax years 2015 through 2018, the number of credits claimed or shared annually varied from 79 to 88, and the average claimed or shared amount ranged from \$12,400 to \$17,200 per year. The total amount of credit claimed or shared varied from 68% to 75% of the amount of credit available. This percentage is relatively high compared to other tax incentives. However, it still means that some taxpayers did not have enough tax liability to take full advantage of the credit.

**Table 2. Amount and Count of Harbor Maintenance Credit by Tax Year**

	2015		2016		2017		2018	
	Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count	Amount (\$000)	Count
Available Credit – A	\$1,541	109	\$1,613	107	\$1,728	105	\$1,817	102
Claimed plus Shared Credit – B	\$1,159	83	\$1,093	88	\$1,179	82	\$1,356	79
B/A	75.2%	76.1%	67.7%	82.2%	68.3%	78.1%	74.6%	77.5%
Average Claimed or Shared Amount	\$14.0	NA	\$12.4	NA	\$14.4	NA	\$17.2	NA

Source: Massachusetts Department of Revenue.

Notes: 1. 2017 and 2018 data are preliminary and subject to change.

2. Shared credits are very few or zeros and not disclosed following the confidentiality policy of DOR.

3. “NA”, not applicable.

## DIRECT BENEFITS

The credit is a dollar-for-dollar benefit to corporations moving goods through Massachusetts harbor facilities for certain harbor maintenance taxes paid to the federal government. It is limited to containerized and break-bulk cargo (or general cargo) and vehicle shipments, and cargo carried on sea and ocean-going vessels through Massachusetts ports. Hence the direct beneficiaries are corporations that are shippers, importers or exporters.

Tables 3-5 show the number of claimants and claim amounts by income level (Table 3), size of taxpayer by number of employees (Table 4), and industry (Table 5) for the 2017 tax year. For that year, 80.5% of claimants were corporations with less than 100 employees, and 83% of claimants were in the industries of manufacturing and wholesale trade.

The tax benefit per claimant averaged \$14,384, varying from \$4,335 for corporations with negative taxable income to \$82,380 for the corporations with \$10 million or more in taxable income. See Table 3 below. Looking at the tax benefit per claimant by number of employees, corporations with 5-49 employees had the lowest tax benefit per claimant, with

\$4,375 per claimant. Corporations of 200 or more employees had the highest, averaging \$40,390 per claimant. See Table 4. By industry, corporations in manufacturing had the lowest average claim with \$9,412, while corporations in the “Unmatched or others” industry had the highest with \$38,633. See Table 5.

**Table 3. 2017 Harbor Maintenance Tax Credit Claims by Taxable Income Level**

Taxable Income Range	Tax Liability after Credit (\$000)	Claimed or Shared Credit (\$000)	Number of Claimants	Percent of Total Number of Claimants	Tax Saving Per Claimant (\$)
Less than \$0	\$12	\$26	6	7.3%	\$4,335
0 to \$9,999	\$89	\$261	24	29.3%	\$10,871
\$10,000 to \$99,999	\$17	\$39	9	11.0%	\$4,370
\$100,000 to \$999,999	\$263	\$171	19	23.2%	\$9,025
\$1,000,000 to \$9,999,999	\$2,697	\$270	19	23.2%	\$14,202
\$10,000,000 or more	\$4,531	\$412	5	6.1%	\$82,380
Total or average	\$7,609	\$1,179	82	100.0%	\$14,384

Source: Department of Revenue (2017 corporate excise returns)

Note: The data are preliminary and subject to change.

**Table 4. 2017 Harbor Maintenance Tax Credit Claims by Taxpayer Size (Number of Employees)**

Reported Employees Range*	Tax Liability after Credit (\$000)	Claimed or Shared Credit (\$000)	Number of Claimants	Percent of Total Number of Claimants	Tax Saving Per Claimant (\$)
Less than 5	\$4,126	\$422	12	14.6%	\$35,136
5 to 49	\$616	\$192	44	53.7%	\$4,375
50 to 99	\$718	\$72	10	12.2%	\$7,228
100 to 199	\$459	\$89	6	7.3%	\$14,859
200 or more	\$1,689	\$404	10	12.2%	\$40,390
Total or average	\$7,609	\$1,179	82	100.0%	\$14,384

Source: Department of Revenue (2017 corporate excise returns)

Notes: 1. \* Information is based on number of employees as reported by taxpayers.

2. The data are preliminary and subject to change.

**Table 5. 2017 Harbor Maintenance Tax Credit Claims by Industry**

Industry	Tax Liability after Credit (\$000)	Claimed or Shared Credit (\$000)	Number of Claimants	Percent of Total Number of Claimants	Tax Saving Per Claimant (\$)
31-33 Manufacturing	\$487	\$179	19	23.2%	\$9,412
42 Wholesale Trade	\$2,893	\$528	49	59.8%	\$10,769
44-45 Retail Trade	\$982	\$202	7	8.5%	\$28,927
Unmatched* or others	\$3,247	\$270	7	8.5%	\$38,633
Total	\$7,609	\$1,179	82	100.0%	\$14,384

Source: Department of Revenue (2017 corporate excise returns)

Notes: 1. \*Unmatched means that we could not find some taxpayers in one or more of data sets to match.

2. The data are preliminary and subject to change.

## **EVALUATION: COMPARING COSTS AND BENEFITS**

In the previous sections, we reported the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>1</sup>) and direct benefits (to taxpayers who claim the benefits) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy, for example where a chain of businesses benefits when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services. The total benefits or costs to the whole economy are larger than the initial impacts. This phenomenon is called the “Multiplier Effect”.<sup>2</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI or IMPLAN. Given that the amount of direct costs and

<sup>1</sup> Spending on a specific tax incentive means less spending on other expenditure needs for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from these items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from these expenditure items.

<sup>2</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

benefits are small for this tax expenditure, less than \$2 million per year, DOR did not attempt to quantify such costs and benefits.

### **SIMILAR TAX EXPENDITURES OFFERED by OTHER STATES**

No other state provides a dollar-for-dollar offset of the federal harbor maintenance excise. However, several other states, including Georgia and Louisiana, provide credits for increasing imports and/or exports through their harbors.

#### **Note:**

Information provided in this report is based on directly, and in some cases, indirectly available information and data. Any new information or data will be reflected in the updated versions of this report in the future.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Life Sciences Tax Incentive Program	<b>Annual cost:</b> \$20 million up to a cap of \$30 million	<b>Year of adoption:</b> 2008	<b>Sunset date:</b> 2028	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input checked="" type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input checked="" type="checkbox"/> Job creation & maintenance <input checked="" type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input checked="" type="checkbox"/> Other: Investment			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



**Comments****Life Sciences Tax Incentive Program (TEs 2.617, 3.005)**

The TERC wants to call attention to the structure of this credit as we believe it is a good model of how a “grant-like” credit should be administered. The Legislature came up with a list of desirable characteristics and provided a suite of tax incentives which the expert board can then award. Having an expert group, between the recipient and the DOR, to certify and grant the credit greatly eases administration of the credit. We note several structural advantages of this arrangement:

- Expert-approved: Not an automatic credit;
- The annual amount is capped, which facilitates budgeting;
- The credit has a sunset provision; and
- It has a claw-back provision if recipient does not follow through.

Other grant-like credits might benefit from a similar structure. We note that the Historical Rehabilitation credit uses this model, while the Film credit does not.

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Life Sciences Tax Incentive Program (tax credits, corporate excise deduction, and sales tax exemption)
<b>TAX EXPENDITURE NUMBER</b>	2.617, 3.005
<b>TAX EXPENDITURE CATEGORY</b>	Credits against tax (personal income tax, corporate and business tax), corporate excise deduction, sales and use tax exemption
<b>TAX TYPE</b>	Personal income tax; corporate excise; sales and use tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 62, §§ 6(m), (n), (r), and (t); c.63, §§ 31M, 38M(k), 38U, 38W, 38V, and 38CC; c. 64H, § 6(xx)
<b>YEAR ENACTED</b>	2008 (St. 2008, c. 130) for the original life sciences tax credits, corporate excise deduction, and sales and use tax exemption; 2011 (St. 2011, c. 58, §§ 65, 70) for the Refundable Jobs Tax Credit; 2016 (St. 2016, c. 219, § 139) for the Angel Investor Tax Credit.
<b>REPEAL/EXPIRATION DATE</b>	All of the original life sciences tax incentives are set to expire on December 31, 2028. The other life sciences tax incentives do not have an expiration date.
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of from \$20 million up to a cap of \$30 million annually FY16-FY22
<b>NUMBER OF TAXPAYERS</b>	Typically, 20 to 30 selected Life Sciences companies annually.
<b>AVERAGE TAXPAYER BENEFIT</b>	Varies depending on credit.

<p><b>Description of the Tax Expenditure:</b> The Life Sciences Tax Incentive Program is a series of state tax credits, corporate excise deduction, and a sales and use tax exemption, capped at \$30 million annually, that is administered and awarded by the Massachusetts Life Sciences Center.</p>	<p><b>Is the purpose defined in the statute?</b> The preamble to the enacting legislation, St. 2008, c. 130, notes it was intended to “provide forthwith for the immediate investment in and expansion of the life sciences in the commonwealth.”</p>
<p><b>What are the policy goals of the expenditure?</b> The goal of the tax expenditures is to establish, develop, and promote the life sciences industry in Massachusetts.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> Both New York and Rhode Island provide limited tax incentives for businesses engaged in life sciences. In addition, Connecticut provides a credit similar to the Massachusetts angel investor credit.</p>

## INTRODUCTION

While often referred to as a singular “Life Science credit,” Massachusetts offers an array of life sciences tax incentives for the life sciences industry, which consist of multiple tax credits, a corporate excise deduction, and a sales and use tax exemption. The original tax incentives enacted in “An Act Providing for the Investment in and Expansion of the Life Sciences Industry in the Commonwealth,” (St. 2008, c. 130), include the following tax credits: the Life Sciences FDA User Fees Tax Credit, the Life Sciences Refundable Investment Tax Credit, and the Life Sciences Research Tax Credit (and also a modified version of the standard Research Tax Credit); as well as a corporate excise deduction allowing for the deduction of qualified clinical expenses for certain drugs that would not be fully deductible otherwise, and a sales and use tax exemption for materials used to construct a life sciences facility. Effective January 1, 2011, the Life Sciences Refundable Jobs Tax Credit was added to this program (St. 2011, c. 58, §§ 65, 70). Most recently, the Angel Investor Tax Credit was added to the ambit of life sciences tax incentives (St. 2016, c. 219, § 139).

While most of the tax credits are available to life sciences companies subject to either the personal income tax or the corporate excise, the Life Sciences Research Tax Credit and the modified version of the standard Research Tax Credit are available only to life sciences companies subject to a corporate excise, and the Angel Investor Tax Credit is only available to personal income taxpayers. Additional information about the scope of the life sciences tax incentives is provided in greater detail in the “Costs” section below.

The Life Sciences Tax Incentive Program is administered by the Massachusetts Life Sciences Center (MLSC). The MLSC is charged with reviewing and, as appropriate, approving applications from life sciences companies, which certifies them as eligible for various life sciences tax incentives. The life sciences tax incentives are available only to certified life sciences companies to the extent authorized by the MLSC. Prior to receiving any life sciences tax incentives, a company must be certified by the MLSC. To become a certified life sciences company, the company must apply to the MLSC by a date set by the MLSC. The company must be registered to do business in Massachusetts, maintain at least

10 full-time employees as of the end of the previous calendar year, and be in good standing with the Secretary of the Commonwealth and the Massachusetts Department of Revenue.<sup>1</sup>

In evaluating an applicant, the MLSC considers certain criteria, such as whether the applicant has shown it has the ability to create and retain jobs for five years, as well as general considerations including a wide geographic distribution of life sciences operations in Massachusetts, a wide distribution of life sciences technologies and industries supported by the MLSC, and diversity among businesses at different stages of product development and commercialization. The MLSC particularly encourages companies from outside Greater Boston to apply.

All of the life sciences tax incentives provided to a life sciences company are subject to recapture if the life sciences company's certification is revoked by the MLSC.

## **POLICY GOALS**

The intent of these tax expenditures is to foster the life sciences industry as a whole in Massachusetts by encouraging job creation and investment in the sector, while easing tax and administrative compliance burdens.

## **COSTS**

Originally, the amount of life sciences tax incentives that could be authorized annually was capped at \$25 million. However, in 2018 the cap was raised to \$30 million. The original life sciences tax incentives were set to expire on December 31, 2018 but have since been extended until December 31, 2028.<sup>2</sup>

The combined cost of all the life sciences tax incentives is limited by the cap. In any given year, the MLSC may only authorize life sciences tax incentives up to \$30 million, including any incentives carried forward and the current year cost of incentives allowed in previous years. M.G.L. c. 23I, § 5(d). Although it is not a requirement, in recent years the MLSC has authorized only about 80% of tax incentive allowed by the annual cap.

<sup>1</sup> For further details, see M.G.L. c. 23I, § 5(b) and Life Sciences Tax Incentive Program Solicitation No. 2019 TAX-01.

<sup>2</sup> See St. 2018, c. 112, § 4 and St. 2018, c. 112, § 10.

Below, a summary of the incentives is presented first, followed by a more detailed discussion of each individual incentive and its cost.

## **Life Sciences Tax Incentives**

### **1) Life Sciences Refundable Jobs Tax Credit**

Certified life sciences companies subject to either the personal income tax or the corporate excise may claim a Life Sciences Refundable Jobs Tax Credit. This particular credit has the largest tax impact of the life sciences tax incentives, with the MLSC authorizing this credit in amounts up to \$13.7 million annually. A life sciences company claiming the credit must commit to the creation of a minimum of 50 net new permanent full-time positions in Massachusetts.

If the credit claimed by a taxpayer exceeds the tax otherwise due, 90% of the balance of such credit may, at the option of the taxpayer and to the extent authorized by the MLSC, be refundable.

### **2) Life Sciences Research Tax Credit**

Certified life sciences companies subject to a corporate excise may claim a Life Sciences Research Tax Credit, equal to 10% of excess qualified research expenses, including expenditures for legally mandated clinical trial activities performed both inside and outside of Massachusetts, and 15% of basic research payments. The Life Sciences Research Tax Credit is not refundable. However, unused portions of the credit may be carried forward for 15 years. While the amounts vary from year to year, the average annual award for this credit has been \$3.5 million.

The Life Sciences Tax Incentive Program also modifies the Research Credit provisions in M.G.L. c. 63, § 38M to make the Research Credit refundable in certain circumstances for life sciences companies specifically. While the standard Research Credit is not ordinarily refundable, where a life science company's Research Credit exceeds the tax due, 90% of the balance of the credit may, at the option of the taxpayer and to the extent authorized by the MLSC, be refundable to the taxpayer. If the taxpayer does not opt to make the credit refundable, the credit may be carried forward for up to 15 years.

### **3) Life Sciences Refundable Investment Tax Credit**

Certified life sciences companies subject to the personal income tax or the corporate excise may claim a Life Sciences Refundable Investment Tax Credit equal to 10% of the cost of qualifying property acquired, constructed, reconstructed, or erected and used exclusively in Massachusetts. Annual awards of this credit are \$2.5 million on average.

If the credit exceeds the tax due, 90% of the balance of the credit may, at the option of the taxpayer and to the extent authorized by the MLSC, be refundable to the taxpayer for the tax year in which the qualified property giving rise to the credit is placed in service. If the taxpayer does not opt to make the credit refundable, the credit may be carried forward for up to 10 years.

#### **4) Life Sciences Refundable FDA User Fees Tax Credit**

Certified life sciences companies subject to either the personal income tax or the corporate excise may claim the Life Sciences Refundable FDA User Fees Tax Credit. The credit is equal to 100% of the user fees paid on or after June 16, 2008, to the US Food and Drug Administration (FDA) upon submission of an application to manufacture a human drug in Massachusetts. The amount of this credit awarded annually is negligible, averaging less than \$0.05 million annually. In many years, no claims of this credit are made at all.

The credit may be claimed in the tax year in which the application for licensure of an establishment to manufacture the drug is approved by the FDA. To be eligible for the credit, more than 50% of the research and development costs for the drug must have been incurred in Massachusetts. At the option of the taxpayer and to the extent authorized by the MLSC, where the credit exceeds the tax due, 90% of the balance of the excess credit is refundable.

#### **5) Angel Investor Tax Credit**

The MLSC is also responsible for determining whether taxpayers subject to the personal income tax credit qualify for the Angel Investor Tax Credit. The credit itself is equal to 20% of the amount of qualifying investments in a qualifying business, and 30% of the amount of qualifying investments made by a taxpayer investor in a qualifying business located in a "Gateway municipality," as defined in M.G.L. c. 23A, § 3A. A taxpayer cannot claim more than \$50,000 of the credit for a single calendar year. The credit may be taken in either the tax year of the initial investment or may be carried forward to any of the 3 subsequent taxable years, as long as the qualifying business maintains its principal place of business in Massachusetts. To date no amount of this credit has been claimed.

#### **6) Corporate Excise Deduction -Qualified Clinical Testing Expenses for Orphan Drugs**

A certified life sciences company subject to the corporate excise is allowed to deduct the full amount of expenses incurred for the clinical testing of certain drugs for which the company claimed the federal Orphan Drug Credit under Internal Revenue Code (IRC) § 45C. In Massachusetts, corporations subject to the corporate excise are generally allowed to deduct expenses that are deductible federally. M.G.L. c. 63, § 30.4. However, under federal law, a taxpayer claiming a credit for certain clinical testing expenses is prohibited from also deducting such expenses. IRC § 280C(b). This particular incentive allows a certified life

science company to deduct these clinical testing expenses as though they were deductible federally, thereby allowing the company to deduct the full amount of the expense in Massachusetts.

### 7) Sales and Use Tax Exemption

Purchases of tangible personal property made on behalf of a life sciences company to be used in the in the construction, alteration, remodeling, repair or remediation of research, development or manufacturing facilities and utility support systems are exempt from the Massachusetts sales and use tax. M.G.L. c. 64H, § 6(xx). Authorizations of this sales and use tax exemption are forecasted to be \$0.9 million annually on average.

### **Total Costs**

As previously noted, the MLSC generally has awarded less than the full amount of the credit allowed; we expect this pattern to continue at the new higher cap of \$30 million annually. This is reflected in the forecasted tax impact through FY22.

### **Actual and Forecast Tax Loss from Life Science Tax Incentives (\$millions)**

<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>
\$ 12.1	\$ 16.5	\$ 16.9	\$ 18.4	\$ 20.0

### **BENEFITS**

The direct costs and direct benefits are of any tax incentive are equal. When the Commonwealth issues credits to some taxpayers, the credits are the benefits to these taxpayers. However, some people will bear the cost in the same amount as reduced government spending or reduce tax incentives. These are the direct costs and benefits. Given that the dollar amounts of costs and benefits are equal, the impact of a tax incentive depends on how it changes behavior in the economy.

The Life Sciences Incentive Program provides a subsidy to certified life sciences companies in Massachusetts. Estimating the number of jobs directly supported by the program best demonstrates the direct effects of the program's expenditures. The average wage in the life



sciences industry is relatively high, averaging \$98,480 annually in 2019.<sup>3</sup> As a result, assessing the incentives in terms of direct jobs supported, the \$17.7 million spent in FY19 on the life sciences tax incentives would have supported only 180 jobs.

However, beyond the direct effects, the life sciences tax incentives may also be influential in attracting or retaining life sciences companies in Massachusetts. This aspect of the incentives is addressed in the “Evaluation” section.

## **EVALUATION: COMPARING COSTS AND BENEFITS**

The direct costs and benefits of the life sciences tax incentives are fairly easy to compare and evaluate. The \$20 to \$25 million spent annually on these incentives results in an expenditure of state funds that could be spent elsewhere. Since state spending tends to be captured by the local economy, the *direct* impacts of the substitution of the general expenditure of state funds with spending on the life sciences tax incentives likely has a minor negative impact on the local economy. The life sciences tax incentives may also promote inequity in the tax structure by diverting state resources to supporting life sciences jobs, which tend to be held by highly educated workers who generally do not need state support to be successful.

The indirect / economy-wide benefits generated by this program are more difficult to quantify, but may be sufficient to offset any negative impact. The life sciences tax incentives are intended to influence the locational decisions of life sciences companies. Given that the life sciences industry is relatively new and is still growing, the life sciences tax incentives may be contributing to the “clustering effect that has manifested in Massachusetts. This effect is a tendency for new companies to establish themselves near pre-existing companies in the same industry. If an area becomes known for a particular type of industry, it tends to attract workers with the necessary talents, further increasing the desirability of the area to new companies.<sup>4</sup>

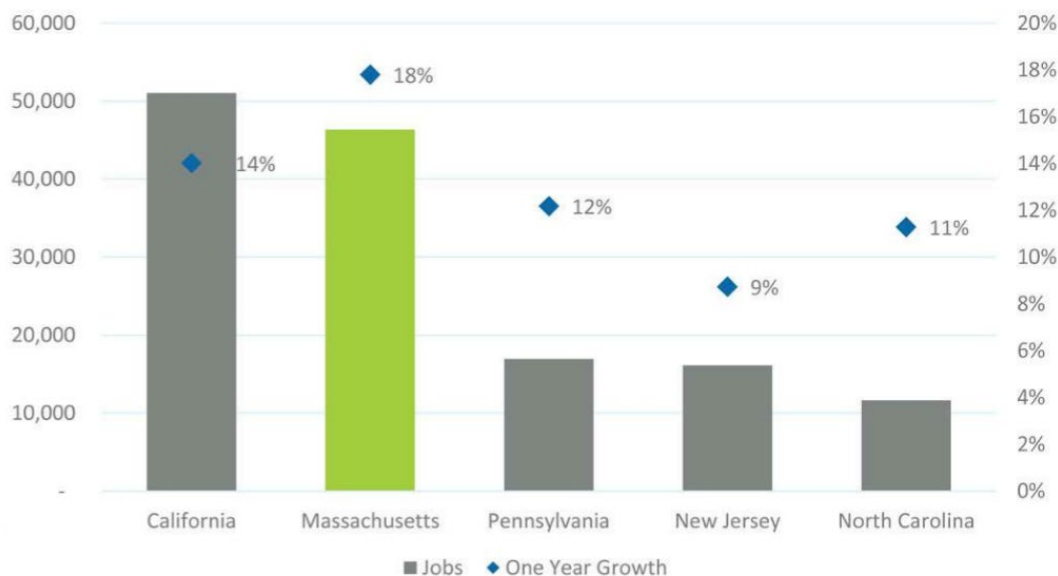
Life sciences companies have tended to “cluster” in a few areas around the country, and Massachusetts has without a doubt established itself as a leading state for the life sciences

<sup>3</sup> Bureau of Labor Statistics estimate of median wage for Biological scientists in Massachusetts, 2019. [https://www.bls.gov/oes/current/oes\\_ma.htm#19-0000](https://www.bls.gov/oes/current/oes_ma.htm#19-0000)

<sup>4</sup> See the Harvard Business School: “Clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field that are present in a nation or region. Clusters arise because they increase the productivity with which companies can compete. The development and upgrading of clusters is an important agenda for governments, companies, and other institutions.” <https://web.archive.org/web/20100513031423/http://www.isc.hbs.edu/econ-clusters.htm>

industry. Massachusetts stands out from other states when measuring the total number of jobs, annual investment, and growth in this industry, especially when examined on a per-capita basis. In the research and development subsector of the industry for example, Massachusetts has almost as many of these jobs as California, despite having less than one-fifth of that state’s population.

### 5 Leading States for Biotech R&D Jobs in 2019



Source: Privately owned companies, U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW)

<https://www.massbio.org/industry-snapshot/>

Given that Massachusetts has successfully established a life sciences cluster, to what extent is this attributable to the life sciences tax incentives as opposed to the other advantages, such as the cluster of universities and hospitals? This is addressed in the “Is the Incentive as Designed Accomplishing Its Purpose” section below.

### SIMILAR TAX EXPENDITURES OFFERED BY OTHER STATES

As part of this review, the life sciences company tax incentives of neighboring states were examined. While Connecticut, New York, and Rhode Island do have life sciences company tax incentives, they are smaller in scope, breadth, and in the total amount of incentives that can be authorized in a particular year. States with alternative life sciences clusters do not provide incentives specifically geared towards the life sciences industry, although New Jersey provides its own Angel Investor Credit.

### **Connecticut**

Connecticut also provides an Angel Investor Credit that can be claimed by income taxpayers. The credit is equal to 25% of an accredited investor's investments of not less than \$25,000 in the securities of a Connecticut business, capped at \$500,000 per accredited investor. Conn. Gen. Stat. § 12-704d(b). The credit is not refundable, but unused portions of the credit may be carried forward for up to 5 years, and the credit may be sold or transferred. *Id.* The amount of credits allowed to be authorized in one of Connecticut's fiscal years is capped at \$5,000,000. Conn. Gen. Stat. § 12-704d(e)(1). Each fiscal year, up to 75% of credits may be authorized on behalf of investments in emerging technology businesses, which includes life sciences businesses.

### **New Jersey**

New Jersey offers an Angel Investor Tax Credit to taxpayers subject to New Jersey's income tax or corporation business tax. Taxpayers are allowed, subject to the approval of the New Jersey Economic Development Authority, to claim a credit equal to 20% of the investment made in a New Jersey emerging technology business, which include life sciences companies. N.J. Stat. § 54A:4-13.a(1); N.J. Stat. § 54:10A-5.30.a(1). The amount of the credit is increased to 25% where the New Jersey emerging technology business is located in a qualified opportunity zone or is a certified minority or women owned business. N.J. Stat. § 54A:4-13.a(2); N.J. Stat. § 54:10A-5.30.a(2). Taxpayers may claim no more than \$500,000 of this credit with respect to a particular investment in a given tax year. Unused amounts of credit can be carried forward for up to 15 tax years. Altogether, this credit is capped at \$25 million annually.

### **New York**

In 2017, New York implemented a life sciences credit of its own, though only with respect to research and development costs. Under NY CLS Tax § 43, New York provides income and corporate tax credits pertaining to life sciences companies. A life sciences company that employs 10 or more people during the taxable year may apply a tax credit equal to 15% of the company's research and development costs made in New York. NY CLS Tax § 43(a)(2)(i). Life sciences companies employing fewer than 10 people may apply a credit equal to 20% of their research and development costs made in New York. This credit is fully refundable, may be used consecutively for up to 3 years, is capped at \$500,000 per taxpayer with a \$1.5 million lifetime cap for a particular taxpayer, and the total amount of credits allowed in a particular year is capped at \$10 million. The credit is also limited to new businesses, which are independent businesses that have been subject to tax for 5 years or less. NY CLS Tax § 210-B(f).

### **Rhode Island**

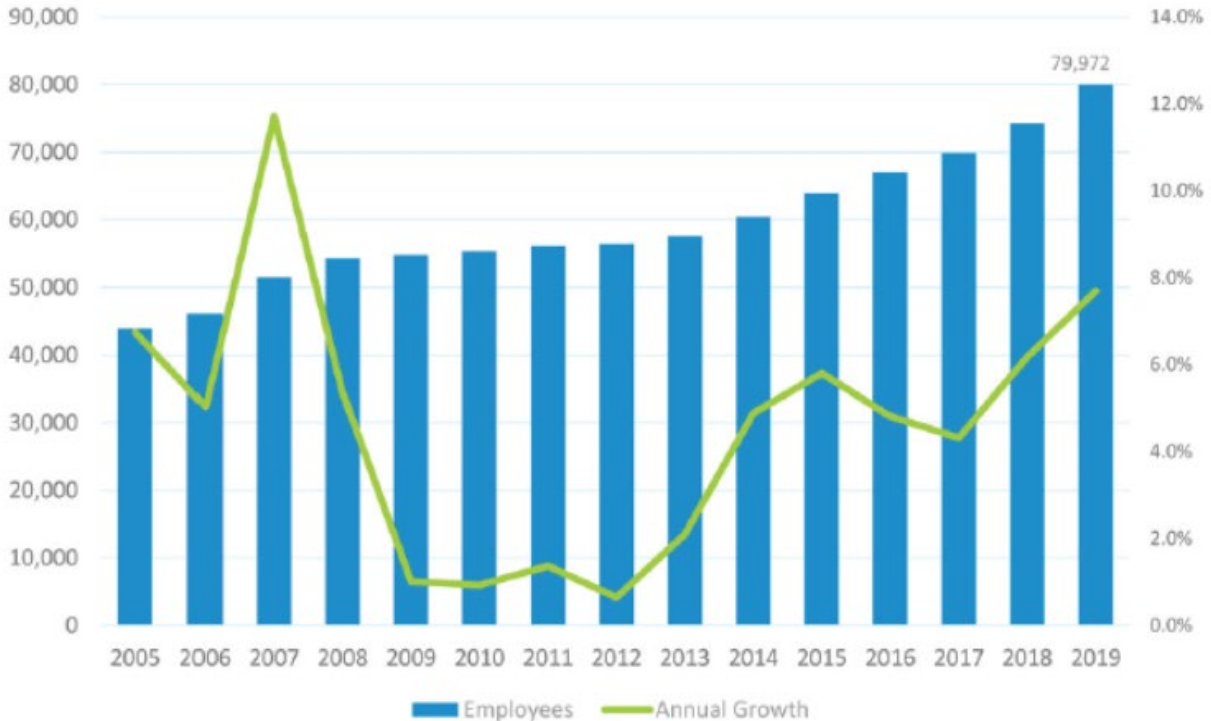
Rhode Island has a life sciences jobs incentive program. Upon certification by the I-195 redevelopment commission, a life sciences company's corporate tax rate is reduced by the aggregate amount of the life sciences company's (and subsidiaries) new employment. Life sciences companies may reduce their corporate tax liability by .20% for each unit of new employment for each taxable year up to a maximum reduction of 4%. R.I. Gen. Laws § 42-64.14-11(b). This program is set to expire on December 31, 2021. R.I. Gen. Laws § 42-64.14-21(a). Certified life sciences companies are also awarded Rhode Island's innovation investment tax credit, research and development expense credit, research and development property credit, and the elective deduction for research and development facilities. R.I. Gen. Laws § 42-64.14-9(c).

Companies not certified as life sciences companies may obtain a biotechnology investment tax credit. A company engaged in commercial biological research and development or manufacturing and sale of biotechnology products or active pharmaceutical ingredients and pays its employees that more than 30 hours a week a weekly wage equal or greater than 125% of the state's average annual wage are allowed a credit equal to 10% of the cost or tangible property, including buildings and structural components of buildings acquired, constructed, reconstructed, or leased with situs in Rhode Island and principally used in the production of biotechnology products after December 31, 2001. R.I. Gen. Laws § 44-31-1.1(a). The credit may be carried forward for up to 15 years in total, but unless it meets certain employment criteria, it may only carry forward the credit for 7 years. R.I. Gen. Laws § 44-31-1.1. R.I. Gen. Laws § 44-31-1.1(b)(1).

## **IS THE INCENTIVE AS DESIGNED ACCOMPLISHING ITS PURPOSE?**

Since the debut of the life sciences tax incentives in 2008, Massachusetts has seen rapid growth in the life sciences industry. However, it should be noted that Massachusetts had a significant life sciences industry prior to 2008. The table below shows that there were already over 40,000 jobs in the biopharma industry, an industry that constitutes a significant component of the Massachusetts life sciences industry as a whole, in Massachusetts in 2005. The table also shows that even during the 2009 recession, employment in this industry in Massachusetts continued to grow.

## Massachusetts Biopharma Employment, 2005 to 2019



Source: Privately owned companies, U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW)

<https://www.massbio.org/industry-snapshot/>

One way to evaluate the effectiveness of the life sciences tax incentives is to compare the life sciences industry job growth in Massachusetts with the nation as a whole. This comparison supports the conclusion that Massachusetts has been successful in establishing itself as an attractive location for the life sciences industry. Between 2010 and 2019, biotechnology employment in the US showed little overall growth, while the number of jobs in this industry in Massachusetts significantly increased. In 2016, the Boston Business Journal noted that Massachusetts was experiencing steady growth in this industry, despite declines elsewhere in the US.<sup>5</sup>

Outside of Massachusetts, a number of states have life sciences clusters that could be attractive alternatives to companies looking to start or expand. Silicon Valley in California is the most obvious location, but there are smaller clusters in North Carolina and New

<sup>5</sup> <https://www.bizjournals.com/boston/blog/bioflash/2016/08/drug-manufacturing-jobs-grow-in-mass-despite.html>

Jersey. While it is possible that the life sciences industry would have gravitated to Massachusetts even absent the life sciences tax incentives, the incentives are a visible commitment by the state to supporting the life sciences industry.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Exemption of Credit Union Income	<b>Annual cost:</b> \$21.5 - \$26.8 million	<b>Year of adoption:</b> Mass 1909/ Fed 1934	<b>Sunset date:</b> none	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input type="checkbox"/> Job creation & maintenance <input type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other: 'cooperative' nature of credit unions; customers 'lower income'	<i>Individual:</i> <input checked="" type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				
<b>Exemption of Credit Union Income (TE 2.701)</b>				
The TERC strongly agrees that it is easily administered and that it is beneficial to smaller businesses. We somewhat agree that this exemption provides a measurable and meaningful benefit. Less certain is if it reaches its intended recipients. If the intended beneficiaries are the credit unions, then we would agree. However, if the intended beneficiaries are the credit union's customers, it is less certain.				

Note that although all states and federal tax codes provide this exemption, its repeal is being debated at the federal level. Since all states do have this exemption, maintaining it does benefit competitiveness. Whether it is justified depends on which goal is intended: Benefit low income residents or benefit business competitiveness.



**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Exemption of Credit Union Income
<b>TAX EXPENDITURE NUMBER</b>	2.701
<b>TAX EXPENDITURE CATEGORY</b>	Exemption against the income measure of the corporate excise
<b>TAX TYPE</b>	Corporate excise
<b>LEGAL REFERENCE</b>	IRC, §501(c)(14)(A); M.G.L. c. 63, § 30
<b>YEAR ENACTED</b>	Massachusetts – 1909 (Chapter 419 of the Acts of 1909); Federal – 1934 (P.L. 86-354)
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$21.5 - \$26.8 million per year during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	157 (calendar year 2019)
<b>AVERAGE TAXPAYER BENEFIT</b>	About \$151,600 (calendar year 2019)

<p><b>Description of the Tax Expenditure:</b> Credit unions are member-owned financial cooperatives. The income of credit unions is exempt from state and federal taxation. However, as with other non-profits, unrelated business income of credit unions is subject to the corporate excise.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> The expenditure encourages the operation of credit unions, which, unlike other financial institutions, are member-owned, democratically-operated, not-for-profit organizations, generally managed by a volunteer Board of Directors, and have the specified mission of meeting the credit and savings needs of consumers, especially persons of modest means.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> Income generated by credit unions is exempt from federal taxation and taxation in all states that impose an income tax.</p>

## INTRODUCTION

Credit unions, which are member-owned financial cooperatives, are considered tax-exempt organizations for both federal and state income tax purposes and therefore are generally exempt from the income measure of the corporate excise. However, like other nonprofit entities, unrelated business income of credit unions is subject to the income measure of the corporate excise.

In 1909, the enactment of the Massachusetts Credit Union Act (Chapter 419 of the Acts of 1909) authorized the creation of Massachusetts chartered credit unions as tax-exempt entities. In 1934, the enactment of the Federal Credit Union Act, 12 USC § 1751, et seq., authorized the creation of federally chartered credit unions, which are exempt from federal income tax pursuant to 26 USC § 501(c)(14)(a).

## POLICY GOALS

While the statute does not explicitly state the purpose of this tax expenditure, the expenditure encourages the operation of credit unions, which, unlike other financial institutions, are member-owned, democratically-operated, not-for-profit organizations, generally managed by a volunteer Board of Directors, and have the specified mission of meeting the credit and savings needs of consumers, especially persons of modest means.

## DIRECT COSTS

The revenue loss resulting from this expenditure is estimated to be \$21.5 - \$26.8 million per year during FY18-FY22. See Table 1.

**Table 1. Tax Revenue Loss Estimates for Exemption of Credit Union Income**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$21.5	\$23.3	\$24.3	\$25.5	\$26.8

## DIRECT BENEFITS

The direct beneficiaries of the incentive are credit unions. Tables 2 and 3 show that, as of the end of 2019, there were 157 credit unions (64 state-chartered credit unions and 93 federally chartered credit unions according to the same data source) in Massachusetts. Except one, all of the credit unions had less than 500 employees. About 69 of them had less than 5 employees. They also had \$42.2 billion in total assets, \$260 million in net income,

3.2 million in current member, and 6,757 full time employees in Massachusetts. (Custom Query, n.d.) Table 3 shows that these key metrics have grown by more than 3% every year with a couple of exceptions.

**Table 2. Count of Credit Unions by Range of Employees in Massachusetts**

Number of Employees (2019)	Less than 5	5-9	10-49	50-99	100-199	200-499	500 and more	Total
Number of Credit unions	69	18	36	14	12	7	1	157

Source: National Credit Union Administration.

**Table 3. Some Key Statistics for Credit Unions in Massachusetts**

Year		2015	2016	2017	2018	2019
Total Assets	Amount (\$Million)	\$33,875	\$36,037	\$37,936	\$39,556	\$42,152
	Growth (%)		6.4%	5.3%	4.3%	6.6%
Net Income (Loss)	Amount (\$Million)	\$199	\$226	\$244	\$250	\$260
	Growth (%)		13.7%	7.7%	2.3%	4.2%
Number of Current Members	Count (Million)	2.7	2.8	\$2.9	3.1	3.2
	Growth (%)		4.1%	4.3%	4.9%	3.1%
Number of Full Time Employees	Count	5,893	6,004	6,260	6,538	6,757
	Growth (%)		1.9%	4.3%	4.4%	3.3%

Source: National Credit Union Administration.

## EVALUATION: COMPARING COSTS AND BENEFITS

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases tax to finance the credit union income exemption) and direct benefits (to credit unions) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy, for example where a chain of businesses benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods

and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>1</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. The Appendix shows one such attempt by DOR.

### **Similar Tax Expenditures Offered by Other States**

Section 122 of the *Federal Credit Union Act* (12 U.S.C. § 1768) provides that Federally chartered credit unions are exempt from all federal and state taxes except for local real property and personal property taxes. Furthermore, the overwhelming majority of states do not impose a tax on the income generated by state chartered credit unions. However, a small number of states do tax state chartered credit unions’ income. The following is a non-exhaustive list of states that, similar to Massachusetts, exempt state chartered credit union’s income from taxation: Arkansas, California, Colorado, Kansas, Louisiana, Maine, Mississippi, New Mexico, New York, Oregon, Rhode Island, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, West Virginia. However, most states (including Massachusetts) will tax the unrelated business income or non-income measure of credit unions.

In Maine sales to credit unions that are organized under the laws of that State are exempt from sales tax. This exemption remains in effect only for the time that federally chartered credit unions are, by reason of federal law, exempt from payment of state sales tax.

Vermont offers an exemption on deposits in Credit Unions. Deposits and shares in Vermont state-chartered credit unions are not subject to taxation.

New York offers an exemption from tax for New York State chartered credit unions if they had converted to a state charter from a federal charter on or after January 1, 2006.

California credit unions are exempt from state income and franchise taxes. Since credit unions are nonprofit, membership organizations, only their member income is generally exempt from tax. This provision also exempts their "nonmember" income (such as investment income on excess deposits or miscellaneous sources of income, such as ATM fees charged to nonmembers) from taxation.

Louisiana credit unions are exempt from all taxes except for taxes on immovable property owned. The shares of a credit union are not subject to a stock transfer tax when issued by the corporation or when transferred from one member to another. No fees, taxes, or any of

<sup>1</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

the stipulations as to capital stock set forth in general statutes for corporations apply to credit unions. The purpose of this exemption is to minimize the tax burden on these nonprofit organizations.

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York, E. (2019, October). *Repealing the Federal Tax Exemption for Credit Unions*. Retrieved from Tax Foundation: <https://taxfoundation.org/repealing-credit-union-exemption/>

## Appendix: Further Discussion on Costs and Benefits

The text of the report discussed the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>2</sup>) and direct benefits and beneficiaries (credit unions) of this tax expenditure. It also summarized the indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced, as well as other costs and benefits in more detail.

### Other costs and benefits: Indirect and Induced

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement assuming no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an **opportunity cost** to the Commonwealth. The opportunity cost to the state include not only the impact on the businesses and their employees that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is the impact on the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "Multiplier Effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI in the reference. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive is for a specific purpose, the reduced spending is assumed to be made according to the current composition of the Commonwealth's expenditure.

#### *Quantifying total costs (direct, indirect and induced)*

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A1 and A2 report the model results. The

<sup>2</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.

figures for 2018 and 2019 are estimates of forgone benefits (opportunity costs) that the Massachusetts economy experienced due to having the expenditure, and those for 2020, 2021 and 2022 are projections of forgone benefits that the Massachusetts economy will experience going forward. The effects are displayed as negative numbers as reduced spending has a negative impact on the state economy.

Tables A1 and A2 show that, the reduction in state government spending results in lost economic activities, with real state GDP declining by \$52 million-\$59 million and total employment declining by 607 – 668 jobs annually. Lost economic activities result in further loss of state revenues,<sup>3</sup> ranging from \$1.1 million to \$3.3 million annually. Note that the revenue impact reported in Table A1 does not include the estimated direct impact of the tax expenditure from Table 1, but only the additional indirect and induced impact.

**Table A1. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	-\$1,118	-\$2,461	-\$2,810	-\$3,100	-\$3,272

\* This table reports the lost revenues from the foregone economic activities as the state reduced government spending to finance the exemption of credit union income.

**Table A2. Economic Impacts due to Decreased Government Spending by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-607	-630	-668	-661	-647
Impact on private non-farm employment	-335	-347	-369	-360	-345
Impact on GDP (\$000), real dollars (2012)	-\$52,000	-\$55,000	-\$59,000	-\$59,000	-\$59,000
Impact on personal income (\$000)	-\$44,000	-\$50,000	-\$58,000	-\$62,000	-\$64,000

\* This table reports the lost economic activities as the state reduced government spending to finance the exemption of credit union income.

### *Indirect and Induced Benefits*

The incentive aims to reduce the costs of operating businesses, which in turn encourages the directly affected businesses to invest, expand, hire additional workers, etc. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy, or put another way, generate a “Multiplier Effect” (see

<sup>3</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 1.

discussion in the previous section) from the initial or direct benefits as reported in the text. As a result, the total benefits of the tax credit would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect and induced benefits, we again employed Tax-PI. A summary of the revenue impact of the exemption is reported in Table A3, and the economic benefit from the exemption is reflected in Table A4 below. The figures for 2018 and 2019 are estimates of benefits that the Massachusetts economy experienced and those for 2020, 2021 and 2022 are projections of the benefits that the Massachusetts economy will experience going forward.

Tables A3 and A4 show that the credit union income exemption results in more economic activities, with real state GDP increasing by \$31 - \$39 million and total employment increasing by 299 – 373 jobs annually. More economic activities result in more state revenues, ranging from \$0.7 million to \$2.2 million annually, which partially offsets the cost of this tax incentive.

**Table A3. Additional Revenue Impact of Exemption of Credit Union Income**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$679	\$1,527	\$1,814	\$2,056	\$2,203

**Table A4. Economic Impacts of Exemption of Credit Union Income by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	299	332	370	373	366
Impact on private non-farm employment	288	314	342	344	337
Impact on GDP (\$000), real dollars (2012)	\$31,000	\$34,000	\$38,000	\$39,000	\$39,000
Impact on personal income (\$000)	\$24,000	\$29,000	\$35,000	\$38,000	\$40,000

**Comparison of costs and benefits**

If we don't consider the opportunity cost of the tax incentive, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would occur if the Commonwealth used the tax incentive for other purposes. There can be numerous other purposes and examining them is beyond the scope of the current evaluation report.



Nonetheless, we reported net impacts of the tax incentive in Tables A5 and A6 below under the balanced budget requirement, which are the combined effects in Tables A1-A4.

Tables A5 and A6 show that the exemption of credit union income combined with a cut in state government spending results in less economic activities, with real state GDP decreasing by about \$20-21 million annually. The net impact on total employment is negative with total employment decreasing by 281 – 308 jobs annually. The impact on state revenues is also negative, decreasing from \$0.4 million to \$1.1 million annually.

Because the tax expenditure has its own specific purpose, the net negative impacts do not necessarily imply that the tax expenditure is not desirable.

**Table A5. Net Additional Revenue Impact of Exemption of Credit Union Income \***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	-\$439	-\$934	-\$996	-\$1,044	-\$1,069

\* assuming state government spending is cut by the same amount as the revenue loss due to the credit union income exemption to balance budget.

**Table A6. Net Economic Impacts of Exemption of Credit Union Income by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-308	-298	-298	-288	-281
Impact on private non-farm employment	-47	-33	-27	-16	-8
Impact on GDP (\$000), real dollars (2012)	-\$21,000	-\$21,000	-\$21,000	-\$20,000	-\$20,000
Impact on personal income (\$000)	-\$20,000	-\$21,000	-\$23,000	-\$24,000	-\$24,000

\* assuming state government spending is cut by the same amount as the revenue loss due to the credit union income exemption to balance budget.

### Other unquantified costs and benefits

Besides the additional costs and benefits quantified in the previous sections, there are other costs and benefits that are hard to quantify due to lack of data or other challenges. In this section we will enumerate some of these costs and benefits.

Ihlanfeldt and Sjoquist (2001), a published study for the state of Georgia, summarizes some of other costs and benefits as follows:

Loss of competitiveness. Providing tax incentive such as credits to selected firms may diminish the competitiveness for existing similar firms. In this case, credit unions have a significant competitive advantage compared to other financial institutions because of the exemption.

Compliance costs. The authors think that the costs to the firm may be substantial in general. However, the exemption applies to the entire income of credit unions, and the compliance costs should be virtually none or very little.

Improved business climate. Tax incentive improves the perception of the business climate in the state and is used by site location specialists in screening alternative sites.

Synergistic or clustering effects. Tax incentive may attract a firm in an industry new to the state, which then serves as a magnet for attracting additional firms in the industry.

On the other hand, York (2018), an article from Tax Foundation, pointed out that while the exemption was justified on the grounds that credit unions would serve customers of moderate means, restrict their customer base to people with a common bond, and provide services that were difficult to obtain at banks, nowadays the common bond weakened, anyone can join a credit union, and many services now offered by credit unions resemble those offered by banks.

Another hard to quantify cost is the administrative cost. The administrative cost attributable to this incentive should be relatively small because the Department of Revenue administers the exemption with existing staff as part of its overall mission.

### **Other issues related to costs and benefits**

The burden of a tax does not necessarily fall on those responsible for remitting the tax. It is known through economic theories that corporate taxes change the allocation of capital between corporations and noncorporate businesses and among states because capital would flee from states of higher corporate taxes if all other considerable factors are not significantly different.

Felix (2009) finds that labor bears a significant burden from the state corporate tax in the form of lower wages. Her study further suggests that a one-percentage-point increase in

the marginal state corporate tax rate reduces wages by 0.14% to 0.36%, that labor's burden from the state corporate tax has trended upward over time due to increased global competition and increased competition among states to attract businesses, and that state corporate taxes reduce the wages of highly educated workers more than that of less-educated workers.

The exemption of credit union income is significant to the direct beneficiaries. Hence, the findings imply that the incentive may have benefited workers who were employed by the unions in the form of higher wages. The incentive may have further benefited the members and clients of the credit unions due to the growth of businesses.



**Comments: Exemption for Newspapers and Magazines (TE 3.106)**

The TERC finds that the goal is to support the free exchange of ideas. Given that the news is largely online now, this TE is not as relevant as it once was but remains somewhat relevant today. Further, given that sales of electronic information (news and magazines) is not taxed, it would harm the competitiveness of print journalism to remove this exemption.

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Exemption for Newspapers and Magazines
<b>TAX EXPENDITURE NUMBER</b>	3.106
<b>TAX EXPENDITURE CATEGORY</b>	Exempt Products/Services
<b>TAX TYPE</b>	Sales and use tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 64H, § 6(m)
<b>YEAR ENACTED</b>	1967
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$21.4 - \$34.3 million per year during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	Buyers and Sellers of Newspapers and Magazines at the Retail Level
<b>AVERAGE TAXPAYER BENEFIT</b>	\$13 per Massachusetts Household in FY18.

<p><b>Description of the Tax Expenditure:</b> Sales of periodicals such as newspapers and magazines are exempt from the sales and use tax.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> The statute does not explicitly state the goal of this tax expenditure. We inferred that the goal is to encourage publication and readership of newspapers and magazines to enrich citizens' knowledge about current political, social, cultural, and sports events, and world affairs.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> Yes, including many neighboring states. However, some of the other states apply the exemption to newspapers but not magazines.</p>

## INTRODUCTION

Sales of periodicals such as newspapers and magazines are exempt from the sales and use tax.

## POLICY GOALS

To encourage publication and readership of newspapers and magazines to enrich citizens' knowledge about current political, social, cultural, and sports events, and world affairs.

## DIRECT COSTS

The revenue loss resulting from this tax expenditure is estimated to be \$21.4 - \$34.3 million per year during FY18-FY22. See Table 1.

**Table 1. Tax Revenue Loss Estimates for Sales Tax Exemption for Newspapers and Magazines**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$34.3	\$30.6	\$26.9	\$24.0	\$21.4

## DIRECT BENEFITS

The Massachusetts consumers and businesses that buy and sell newspapers and magazines at the retail level are the direct beneficiaries of the sales tax exemption. Buyers benefit from the sales tax exemption in the form of paying a lower “after tax price” while sellers benefit in the form of receiving a higher “before tax price.” The exact split of the direct benefits depends on the interaction of demand and supply and is often difficult to quantify. In addition, sellers are spared the administrative expense of collecting, reporting and remitting the sales tax.

Businesses selling newspapers and magazines at the retail level include publishers, dealers, and newsstands. According to the U.S. Census Bureau, in 2017, Massachusetts had 99 newspaper publishers, 123 periodicals publishers, 201 internet publishing and broadcasting and web search portals, and 21 news dealers and newsstands. Out-of-state businesses selling newspapers and magazines to Massachusetts residents and businesses are also direct beneficiaries.

For simplicity, we assume that the entire tax savings due to the sales tax exemption are passed on to buyers. Based on this assumption, Table 2 reports the distribution of estimated tax savings in FY18 among households in different income ranges. The table is based primarily on the 2018 Consumer Expenditure Survey data published by the U.S. Bureau of Labor Statistics and data from other sources such as Moody’s Analytics and the U.S. Census Bureau. The Consumer Expenditure Survey reports average annual expenditures on “reading” and number of households by different income groups. Please note that, although newspapers and magazines are purchased by both consumers (households) and businesses, the distribution of tax savings reported in Table 2 is for consumers (households) only.

According to Table 2, the average tax saving from the exemption is estimated to be \$12.58 per Massachusetts household in FY18, varying from \$7 for households with annual income of less than \$15,000, to \$26.96 for households with annual income of at least \$200,000. 15.83% of all tax savings went to the households with annual income of \$100,000 to \$149,999, while 5.28% went to households with annual income of \$40,000 to \$49,999. The tax savings reduced the households’ effective tax rate (the ratio of tax to income) by 0.02 percentage points on average. This reduction varied from 0.01 percentage point for the households with annual income of at least \$200,000 to 0.09 percentage points for households with annual income of less than \$15,000. On average, households with annual income of less than \$15,000 spent a much higher percentage of their income on newspapers and magazines than other income groups.

**Table 2. Estimated Distribution of Tax Savings to MA Households  
by Income Level in FY18**

Annual Income Range	Number of MA Households (Millions)	Tax Savings (Millions)	Average Tax Savings (\$)	Tax Savings Distribution	Change in Households’ Effective Tax Rate
Less than \$15,000	0.349	\$2.45	\$7.00	7.27%	-0.09%
\$15,000 to \$29,999	0.419	\$4.20	\$10.04	12.49%	-0.04%
\$30,000 to \$39,999	0.265	\$3.37	\$12.72	10.02%	-0.04%
\$40,000 to \$49,999	0.217	\$1.78	\$8.17	5.28%	-0.02%
\$50,000 to \$69,999	0.346	\$3.76	\$10.85	11.17%	-0.02%
\$70,000 to \$99,999	0.388	\$5.21	\$13.42	15.49%	-0.02%
\$100,000 to \$149,999	0.351	\$5.33	\$15.17	15.83%	-0.01%
\$150,000 to \$199,999	0.165	\$2.85	\$17.27	8.48%	-0.01%
\$200,000 to more	0.174	\$4.70	\$26.96	13.97%	-0.01%
Total	2.676	\$33.65	\$12.58	100.00%	-0.02%

Note: Numbers in the table are estimated by Massachusetts Department of Revenue.



## **EVALUATION: COMPARING COSTS AND BENEFITS**

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases taxes to finance the sales tax exemption for newspapers and magazines) and direct benefits (to buyers and sellers of newspapers and magazines at the retail level) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy derived from the tax expenditure, such as where a chain of businesses benefits when the employees working for the directly impacted businesses spend their additional wages and salaries attributable to the tax expenditure to buy goods and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>1</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. The Appendix shows one such attempt by DOR.

### **Similar Tax Expenditures Offered by Other States**

The sale, storage, use or other consumption of newspapers is exempt from the sales tax imposed by Rhode Island General Laws Chapter 44-18. In this context, newspapers are defined as “unbound publications printed on newsprint, which contains news, editorial comment, opinions, features, advertising, and other matters of public interest.” Newspapers do not include “a magazine, handbill, circular, flyer, sales catalog, or similar item unless the item is printed for and distributed as a part of a newspaper.”

Sales of newspapers are exempt from the sales tax in Connecticut, but periodicals are exempt if sold by subscription.

In Maine, newspapers and magazines are subject to sales tax.

In Vermont, the sale of newspapers is exempt (including newspapers that are given away and not sold).

<sup>1</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

The states of New York, New Jersey, Pennsylvania, and Maryland also have some form of sales tax exemption for newspapers and/or magazines.

## Appendix: Further Discussion on Costs and Benefits

The text of the report discusses the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>2</sup>) and direct benefits (to buyers and sellers of newspapers and magazines at the retail level) of this tax expenditure. It also summarizes indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced costs and benefits in more detail.

### Other costs and benefits: Indirect and Induced

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement, assuming no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an "**opportunity cost**" to the Commonwealth. The opportunity cost to the state includes not only the impact on the individuals and the businesses that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is the cost to the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "Multiplier Effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI<sup>3</sup>. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive has a specific purpose, the reduced spending is assumed to be proportionally distributed across the Commonwealth's current expenditures.

#### *Quantifying total costs (direct, indirect and induced)*

<sup>2</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.

<sup>3</sup> <https://www.remi.com/model/tax-pi/>

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A1 and A2 report the model results. The figures for 2018 and 2019 are estimates of forgone benefits (opportunity costs) that the Massachusetts economy experienced due to having the expenditure, and those for 2020, 2021 and 2022 are projections of forgone benefits that the Massachusetts economy will experience going forward. The effects are displayed as negative numbers as reduced spending has a negative impact on the state economy.

Tables A1 and A2 show that the reduction in state government spending results in lost economic activities, with real state GDP declining by \$47 million-\$78 million and total employment declining by 516 -906 jobs annually. Lost economic activities result in further loss of state revenues<sup>4</sup>, ranging from \$1.6 million to \$3.4 million annually. Note that the revenue impact reported in Table A2 does not include the estimated direct impact of the tax expenditure from Table 1, but only the additional indirect/induced impact.

**Table A1. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	-\$1,646	-\$3,421	-\$3,416	-\$3,267	-\$3,009

\* This table reports the lost revenues from the foregone economic activities as the state reduced government spending to finance the sales tax exemption for newspapers and magazines.

**Table A2. Economic Impacts due to Decreased Government Spending  
by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-906	-819	-726	-620	-516
Impact on private non-farm employment	-500	-452	-403	-337	-270
Impact on GDP (\$000), real dollars (2012)	-\$78,331	-\$71,350	-\$63,913	-\$55,339	-\$46,712
Impact on personal income (\$000)	-\$65,309	-\$66,156	-\$64,727	-\$60,579	-\$55,072

\*This table reports the lost economic activities as the state reduced government spending to finance the sales tax exemption for newspapers and magazines.

### *Indirect and Induced Benefits*

<sup>4</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 1.

The tax savings to buyers and sellers of newspapers and magazines at the retail level encourage directly affected consumers to buy more of other products and services and directly affected businesses to invest, expand, hire additional workers, etc. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy (including wholesalers, news syndicates, and printers of newspapers and magazines), or put another way, generate a “Multiplier Effect” (see discussion in the previous section) from the initial or direct benefits as reported in the text. As a result, the total benefits of the sales tax exemption for newspapers and magazines would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect/induced benefits, we again employed Tax-PI. A summary of the revenue impact of the sales tax exemption for newspapers and magazines is reported in Table A3, and the economic benefit from the sales tax exemption for newspapers and magazines is reflected in Table A4 below. The figures for 2018 and 2019 are estimates of benefits that the Massachusetts economy experienced and those for 2020, 2021 and 2022 are projections of the benefits that the Massachusetts economy will experience going forward.

Tables A3 and A4 show that, the sales tax exemption for newspapers and magazines results in more economic activities, with real state GDP increasing by \$19 million - \$31 million and total employment increasing by 191-323 jobs annually. More economic activities result in more state revenues, ranging from \$0.8 million to \$1.8 million annually, which partially offsets the cost of this tax incentive.

**Table A3. Additional Revenue Impact of Sales Tax Exemption for Newspapers and Magazines**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$782	\$1,703	\$1,797	\$1,724	\$1,543

**Table A4. Economic Impacts of Sales Tax Exemption for Newspapers and Magazines by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	310	323	297	247	191
Impact on private non-farm employment	296	303	274	224	170
Impact on GDP (\$000), real dollars (2012)	\$29,067	\$30,611	\$28,506	\$24,276	\$19,334

Impact on personal income (\$000)	\$25,784	\$29,375	\$29,667	\$27,397	\$23,662
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### Comparison of costs and benefits

Ignoring the opportunity cost of the tax incentive, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would be reaped if the Commonwealth used the dollars spent on the tax incentive for other purposes. Those dollars could be spent in many other ways, and examining them is beyond the scope of the current evaluation report. Nonetheless, we reported net impacts of the tax incentive in Tables A5 and A6 below under the balanced budget requirement, which are the combined effects in Tables A1-A4.

Tables A5 and A6 show that the sales tax exemption for newspapers and magazines combined with a cut in state government spending results in less economic activity, with real state GDP decreasing by \$27 million-\$49 million. The net impact on total employment is negative, decreasing by 326 – 596 jobs annually. The net additional impact on state revenues is also negative, decreasing by \$0.9 million to \$1.7 million annually.

Note that because the tax expenditure has a specific purpose (in this case, we infer that the goal is to encourage publication and readership of newspapers and magazines to enrich citizens’ knowledge about current political, social, cultural, and sports events, and world affairs), the net negative impacts on economic activity do not necessarily imply that the tax expenditure is not desirable.

**Table A5. Net Additional Revenue Impact of Sales Tax Exemption for Newspapers and Magazines\***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	-\$863	-\$1,718	-\$1,619	-\$1,543	-\$1,466

\* assuming state government spending is cut by the same amount as the revenue loss due to the sales tax exemption for newspapers and magazines to balance budget.

**Table A6. Net Economic Impacts of Sales Tax Exemption for Newspapers and Magazines by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-596	-495	-429	-373	-326

Impact on private non-farm employment	-204	-149	-129	-113	-100
Impact on GDP (\$000), real dollars (2012)	-\$49,267	-\$40,742	-\$35,409	-\$31,065	-\$27,379
Impact on personal income (\$000)	-\$39,528	-\$36,784	-\$35,063	-\$33,184	-\$31,412

\* assuming state government spending is cut by the same amount as the revenue loss due to the sales tax exemption for newspapers and magazines to balance budget.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Alcoholic Beverage Exemption	<b>Annual cost:</b> \$120.9 M - \$131.6 M	<b>Year of adoption:</b> 1967	<b>Sunset date:</b> None	
<b>Tax Type</b> (check all that apply): <input type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input checked="" type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input type="checkbox"/> Job creation & maintenance <input type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input checked="" type="checkbox"/> Other: Avoidance of double taxation			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Comments</b>				
<b>Exemption for Alcoholic Beverages (TE 3.201)</b>				
The TERC finds that, while at first look the exemptions for Motor Fuels and Alcoholic Beverages seem similar, a closer look at the application of these excise taxes shows significant differences. While the Motor Fuels tax seems well thought out, the Alcohol tax seems a historical accident, with tax amounts unrelated to current consumption patterns. As a result, while the structural tax expenditure does avoid double taxation and does benefit its				



intended beneficiaries (a broad group of taxpayers), we feel strongly that it does not justify the cost of this exemption. This excise tax raises less revenue than if the sales tax had been applied. Further, we note that most other states apply both an excise and a sales tax.

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Exemption for Alcoholic Beverages
<b>TAX EXPENDITURE NUMBER</b>	3.201
<b>TAX EXPENDITURE CATEGORY</b>	Exempt, Taxed under Another Excise
<b>TAX TYPE</b>	Sales and use tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 64H § 6(g)
<b>YEAR ENACTED</b>	1967. Repealed 2009. Reinstated 2010.
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$120.9 - \$131.6 million per year during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	Buyers and Sellers of Alcoholic Beverages at the Retail Level
<b>AVERAGE TAXPAYER BENEFIT</b>	\$43 per Massachusetts Household in FY18.

<p><b>Description of the Tax Expenditure:</b> Alcoholic beverages, except those sold as part of a meal, are exempt from sales tax. They are instead subject to an excise tax determined by volume rather than retail price under another provision of state law.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> DOR infers that the goal of the expenditure is to avoid double taxation of alcoholic beverages. Alcoholic beverages are subject to a separate excise under another provision of state law, M.G.L. c. 138, s. 21. The cost of that excise, generally paid by a manufacturer, is usually passed on to consumers. A sales tax on alcoholic beverages would also be borne by consumers.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> All the New England states, other than New Hampshire, and New York impose a sales tax on the sale of alcoholic beverages. New Hampshire does not have a sales tax. Nearly every state, other than the 5 states with no sales tax, imposes a sales tax on the sale of alcoholic beverages. Generally, every state either imposes an excise on alcoholic beverages or the sales are state controlled and so the state earns</p>

	<p>the revenue, so no additional excise is necessary. For example, Maine imposes an excise on beer and wine, but liquor can only be sold in a state owned or controlled store. The state sets the price of the liquor and receives all the profit, no excise is imposed.</p>
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## INTRODUCTION

Alcoholic beverages, except those sold as part of a meal, are exempt from sales tax. They are instead subject to an excise tax determined by volume rather than retail price.

The table below reports the current excise tax rates on alcoholic beverages.

**Table 1. Massachusetts Alcoholic Beverage Tax Rates**

Alcoholic Beverages Item	Tax Rate
Malt Beverages	\$3.30/31 gal. bbl.
Still Wine, including Vermouth	\$.55/wine gallon
Champagne and all other sparkling Wines	\$.70/wine gallon
Alcoholic Beverages, other than Malt Beverages, Wine and Vermouth, containing 15% or less of Alcohol by volume at 60 degrees Fahrenheit	\$1.10/wine gallon
Alcohol Beverages containing more than 15% of Alcohol but not more than 50% of Alcohol by volume at 60 degrees Fahrenheit	\$4.05/wine gallon
Alcoholic Beverages containing more than 50% of Alcohol by volume at 60 degrees Fahrenheit	\$4.05/proof gallon
Alcohol sold in containers of one gallon or less	\$4.05/proof gallon
Cider containing more than 3% but not more than 6% of Alcohol by weight at 60 degrees Fahrenheit	\$.03/wine gallon

The Department of Revenue (DOR) collected \$87.6 million in alcoholic beverages excise in Fiscal Year 2020. See Appendix I for more details.

In 2009, the Legislature repealed the sales tax exemption for alcoholic beverages as of August 1, 2009. St. 2009, c. 27. However, as the result of a referendum question on the November 2, 2010 ballot, this exemption was reinstated, effective for sales on or after January 1, 2011. St. 2010, c. 426.

## POLICY GOALS

DOR infers that the goal of the expenditure is to avoid double taxation of alcoholic beverages. Alcoholic beverages are subject to a separate excise under another provision of state law, M.G.L. c. 138, s. 21. The cost of that excise, generally paid by a manufacturer, is usually passed on to consumers. A sales tax on alcoholic beverages would be imposed at the retail level and therefore would also be borne by consumers.

## DIRECT COSTS

The revenue loss resulting from this tax expenditure is estimated to be \$120.9- \$131.6 million per year during FY18-FY22. See Table 2.

**Table 2. Tax Revenue Loss Estimates for Sales Tax Exemption  
for Alcoholic Beverages**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$120.9	\$123.2	\$124.8	\$127.5	\$131.6

## DIRECT BENEFITS

The Massachusetts consumers and businesses who buy and sell alcoholic beverages at retail are the direct beneficiaries of the sales tax exemption. Buyers benefit from the sales tax exemption in the form of paying a lower “after tax price” while sellers benefit from the sales tax exemption in the form of receiving a higher “before tax price”. The exact split of the direct benefits depends on the interaction of demand and supply and is often difficult to quantify.

Businesses in many industries sell alcoholic beverages at the retail level, including supermarkets, convenience stores, beer, wine, and liquor stores, electronic shopping and mail-order houses, etc. Among all these industries, “beer, wine, and liquor stores” is the largest industry selling alcoholic beverages. According to the Massachusetts Alcoholic Beverages Control Commission (ABCC)<sup>1</sup>, in calendar year 2018, ABCC issued 12,925 retail alcohol licenses. According to the U.S. Census Bureau, Massachusetts had 1,359 beer, wine, and liquor stores in 2017.

For simplicity, we assume that the entire tax savings due to the sales tax exemption is passed on to buyers. Based on this assumption, Table 3 reports the distribution of estimated tax saving in FY18 among households in different income ranges. The table is based primarily on the 2018 Consumer Expenditure Survey data published by the U.S. Bureau of Labor Statistics and data from other sources such as Moody’s Analytics and the Massachusetts Department of Revenue. The Consumer Expenditure Survey reports average annual expenditures on alcoholic beverages and number of households by different income groups. Please note that, although alcoholic beverages are purchased by both consumers (households) and businesses, the distribution of tax savings reported in Table 3 is for consumers (households) only.

According to Table 3, the average tax savings from the exemption is estimated to be \$42.90 per Massachusetts household in FY18, varying from \$13.99 for households with annual income of \$15,000 to \$29,999, to \$151.14 for households with annual income of at least \$200,000. By percentage, 22.96% of all tax savings went to households with annual income

<sup>1</sup> <https://www.mass.gov/doc/fiscal-year-2019-annual-report/download>

of at least \$200,000 while 4.5% went to households with annual income of less than \$15,000. The tax savings reduced the households' effective tax rate (the ratio of tax to income) by 0.05 percentage points on average, but the reduction was much higher for households with annual income of less than \$15,000. For this group, the effective tax rate was reduced by 0.19 percentage points, more than three times the average reduction of 0.05 percentage points for all households. The reason for this difference is that the average household in this bracket spent a much higher percentage of their income on alcoholic beverages.

**Table 3. Estimated Distribution of Tax Savings to MA Households by Income Level in FY18**

Annual Income Range	Number of MA Households (Millions)	Tax Savings (Millions)	Average Tax Savings (\$)	Tax Savings Distribution	Change in Households' Effective Tax Rate
Less than \$15,000	0.349	\$5.17	\$14.80	4.50%	-0.19%
\$15,000 to \$29,999	0.419	\$5.86	\$13.99	5.11%	-0.06%
\$30,000 to \$39,999	0.265	\$6.36	\$24.01	5.55%	-0.07%
\$40,000 to \$49,999	0.217	\$6.13	\$28.21	5.34%	-0.06%
\$50,000 to \$69,999	0.346	\$13.05	\$37.71	11.37%	-0.06%
\$70,000 to \$99,999	0.388	\$16.27	\$41.91	14.18%	-0.05%
\$100,000 to \$149,999	0.351	\$22.08	\$62.90	19.24%	-0.05%
\$150,000 to \$199,999	0.165	\$13.49	\$81.61	11.75%	-0.05%
\$200,000 to more	0.174	\$26.35	\$151.14	22.96%	-0.05%
Total	2.676	\$114.77	\$42.90	100.00%	-0.05%

Source: Estimated by Massachusetts Department of Revenue.

### **EVALUATION: COMPARING COSTS AND BENEFITS**

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases tax to finance the sales tax exemption for alcoholic beverages) and direct benefits (to buyers and sellers of alcoholic beverages at retail) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy, for example where a chain of businesses benefit when the employees

working for the directly impacted businesses spend their wages and salaries to buy goods and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>2</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. Appendix II shows one such attempt by DOR.

### **Similar Tax Expenditures Offered by Other States**

All the New England states, excluding Massachusetts and New Hampshire, impose a sales tax on the sale of alcoholic beverages. Alaska, Delaware, Montana, New Hampshire, and Oregon do not have a general sales tax.

The tables and charts below from Federation of Tax Administration(FTA) (<https://www.taxadmin.org/>) and Tax Foundation (<https://taxfoundation.org/>) provide information on state alcoholic beverages tax rates and sales tax exemption comparison.

In evaluating the Massachusetts sales tax exemption relative to the rules in other states, it may be helpful to consider how the Massachusetts alcoholic beverages excise tax rates compare to those in other states. The Tax Foundation ranked Massachusetts 36<sup>th</sup> in distilled spirits excise tax rate with a rate of \$4.05 per gallon (the state with the highest tax rate was ranked 1<sup>st</sup>); 33<sup>rd</sup> in wine excise tax rate with a rate of \$0.55 per gallon; and 44<sup>th</sup> in beer excise tax rate with a rate \$0.11 per gallon. See the state tax comparison maps below following the FTA’s three state alcoholic beverages tax rate tables.

<sup>2</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

**STATE TAX RATES ON DISTILLED SPIRITS**

(January 1, 2020)

STATE	EXCISE TAX RATES (\$ per gallon)	GENERAL SALES TAX APPLIES	OTHER TAXES
Alabama	see footnote (1)	Yes	
Alaska	\$12.80	n.a.	under 21% - \$2.50/gallon
Arizona	3.00	Yes	
Arkansas	2.50	Yes	under 5% - \$0.50/gallon, under 21% - \$1.00/gallon; \$0.20/case; 3% off- 14% on-premise retail taxes over 50% - \$6.60/gallon
California	3.30	Yes	
Colorado	2.28	Yes	
Connecticut	5.94	Yes	under 7% - \$2.71/gallon
Delaware	4.50	n.a.	25% or less - \$3.00/gallon
Florida	6.50	Yes	under 17.259% - \$2.25/gallon, over 55.780% - \$9.53/gallon
Georgia	3.79	Yes	\$0.83/gallon local tax
Hawaii	5.98	Yes	
Idaho	see footnote (1)	Yes	
Illinois	8.55	Yes	under 20% - \$1.39/gallon; \$2.68/gallon in Chicago and \$2.50/gallon in Cook County
Indiana	2.68	Yes	under 15% - \$0.47/gallon
Iowa	see footnote (1)	Yes	
Kansas	2.50	--	8% off- and 10% on-premise retail tax
Kentucky	1.92	Yes	under 6% - \$0.25/gallon; \$0.05/case and 11% wholesale tax
Louisiana	3.03	Yes	
Maine	see footnote (1)	Yes	
Maryland	1.50	Yes	9% sales tax
Massachusetts	4.05		under 15% - \$1.10/gallon, over 50% alcohol - \$4.05/proof gallon; 0.57% on private club sales
Michigan	see footnote (1)	Yes	
Minnesota	5.03	--	\$0.01/bottle (except miniatures) and 9% sales tax
Mississippi	see footnote (1)	Yes	
Missouri	2.00	Yes	
Montana	see footnote (1)	n.a.	
Nebraska	3.75	Yes	
Nevada	3.60	Yes	5% to 14% - \$0.70/gallon, 15% to 22% - \$1.30/gallon
New Hampshire	see footnote (1)	n.a.	
New Jersey	5.50	Yes	
New Mexico	6.06	Yes	
New York	6.44	Yes	under 24% - \$2.54/gal.; additional \$1.00/gal. in New York City
North Carolina	see footnote (1)	Yes (2)	
North Dakota	2.50	--	7% state sales tax
Ohio	see footnote (1)	Yes	
Oklahoma	5.56	Yes	13.5% on-premise
Oregon	see footnote (1)	n.a.	
Pennsylvania	see footnote (1)	Yes	
Rhode Island	5.40	Yes	
South Carolina	2.72	Yes	\$5.36/case and 9% surtax; additional 5% on-premise tax
South Dakota	3.93	Yes	under 14% - \$0.93/gallon; 2% wholesale tax
Tennessee	4.40	Yes	15% on-premise; under 7% - \$1.10/gallon.
Texas	2.40	Yes	6.7% on-premise and \$0.05/drink on airline sales
Utah	see footnote (1)	Yes	
Vermont	see footnote (1)	no	10% on-premise sales tax
Virginia	see footnote (1)	Yes	
Washington (3)	14.27	--	\$9.24/gal. on-premise; 20.5% retail sales tax, 13.7% sales tax to on-premise
West Virginia	see footnote (1)	Yes	
Wisconsin	3.25	Yes	\$0.03/gallon administrative fee
Wyoming	see footnote (1)	Yes	

Dist. of Columbia      1.50      --      9% off- and on-premise sales tax

U.S. Median      \$3.77

Source: Compiled by FTA from state sources.

Notes:

n.a. = not applicable. These 5 states do not have a general sales tax.

(1) In 17 states, the government directly controls the sales of distilled spirits. Revenue in these states is generated from various taxes, fees, price mark-ups, and net liquor profits.

(2) General sales tax applies to on-premise sales only.

(3) Washington privatized liquor sales effective June 1, 2012.



**STATE TAX RATES ON WINE**

(January 1, 2020)

STATE	EXCISE	GENERAL	OTHER TAXES
	TAX RATES	SALES TAX	
	(\$ per gallon)	APPLIES	
Alabama	\$1.70	Yes	\$0.26/gallon local; over 16.5% - \$9.16/gallon
Alaska	2.50	n.a.	
Arizona	0.84	Yes	over 24% - \$4.00/gallon
Arkansas	0.75	Yes	under 5% - \$0.25/gallon; \$0.05/case; 3% off- and 10% on-premise
California	0.20	Yes	sparkling wine - \$0.30/gallon
Colorado	0.28	Yes	
Connecticut	0.79	Yes	over 21% - \$1.98/gallon; sparkling - \$1.94/gallon
Delaware	1.63	n.a.	
Florida	2.25	Yes	over 17.259% - \$3.00/gallon, sparkling wine \$3.50/gallon
Georgia	1.51	Yes	over 14% - \$2.54/gallon; \$0.83/gallon local tax
Hawaii	1.38	Yes	sparkling wine - \$2.12/gallon, wine coolers - \$0.85/gallon
Idaho	0.45	Yes	
Illinois	1.39	Yes	over 20% - \$8.55/gallon; (\$0.36 - \$0.89/gallon in Chicago; (\$0.24 - \$0.45)/gallon in Cook County
Indiana	0.47	Yes	over 21% - \$2.68/gallon
Iowa	1.75	Yes	under 5% - \$0.19/gallon
Kansas	0.30	--	over 14% - \$0.75/gallon; 8% off- and 11% on-premise
Kentucky	0.50	Yes	10.0% wholesale
Louisiana	0.76	Yes	14% to 24% - \$1.32/gallon, over 24% and sparkling wine - \$2.08/gallon
Maine	0.60	Yes	over 15.5% - sold through state stores, sparkling wine - \$1.25/gallon; 7% on-premise sales tax
Maryland	0.40	--	9% sales tax
Massachusetts	0.55		sparkling wine - \$0.70/gallon;
Michigan	0.51	Yes	over 16% - \$0.76/gallon
Minnesota	0.30	--	14% to 21% - \$0.95/gallon, under 24% and sparkling wine - \$1.82/gallon; over 24% - \$3.52/gallon; \$0.01/bottle (except miniatures) and 9% sales tax
Mississippi	0.35	Yes	sparkling wine and champagne - \$1.00/gallon;
Missouri	0.42	Yes	includes additional charges
Montana	1.02	n.a.	over 16% - sold through state stores
Nebraska	0.95	Yes	over 14% - \$1.35/gallon
Nevada	0.70	Yes	14% to 22% - \$1.30/gallon, over 22% - \$3.60/gallon
New Hampshire	0.30	n.a.	
New Jersey	0.875	Yes	
New Mexico	1.70	Yes	
New York	0.30	Yes	
North Carolina	1.00	Yes	over 17% - \$1.11/gallon
North Dakota	0.50	--	over 17% - \$0.60/gallon; 7% sales tax
Ohio	0.30	Yes	over 14% to 21% - \$0.98/gal, vermouth - \$1.08/gal, sparkling wine - \$1.48/gal
Oklahoma	0.72	Yes	sparkling wine - \$2.08/gallon; 13.5% on-premise
Oregon	0.67	n.a.	over 14% - \$0.77/gallon
Pennsylvania	see footnote (1)	Yes	
Rhode Island	1.40	Yes	sparkling wine - \$0.75/gallon
South Carolina	0.90	Yes	\$0.18/gallon additional tax
South Dakota	0.93	Yes	14% to 20% - \$1.45/gallon, over 21% and sparkling wine - \$2.07/gallon; 2% wholesale tax
Tennessee	1.21	Yes	15% on-premise
Texas	0.204	Yes	over 14% - \$0.408/gallon and sparkling wine - \$0.516/gallon; 6.7% on-premise and \$0.05/drink on airline sales
Utah	see footnote (1)	Yes	
Vermont	0.55	Yes	over 16% - sold through state store, 10% on-premise sales tax
Virginia	1.51	Yes	under 4% - \$0.2565/gallon and over 14% - sold through state stores
Washington	0.87	Yes	over 14% - \$1.75/gallon
West Virginia	1.00	Yes	5% local tax
Wisconsin	0.25	Yes	over 14% - \$0.45/gallon
Wyoming	see footnote (1)	Yes	
Dist. of Columbia	0.30	--	9% off- and on-premise sales tax; over 14% - \$0.40/gal; Sparkling - \$0.45/gal.
U.S. Median	0.73		

Source: Compiled by FTA from state sources.

Notes:

n.a. = not applicable. These 5 states do not have a general sales tax.

(1) All wine sales are through state stores. Revenue in these states is generated from various taxes, fees, price mark-ups, and net profits.

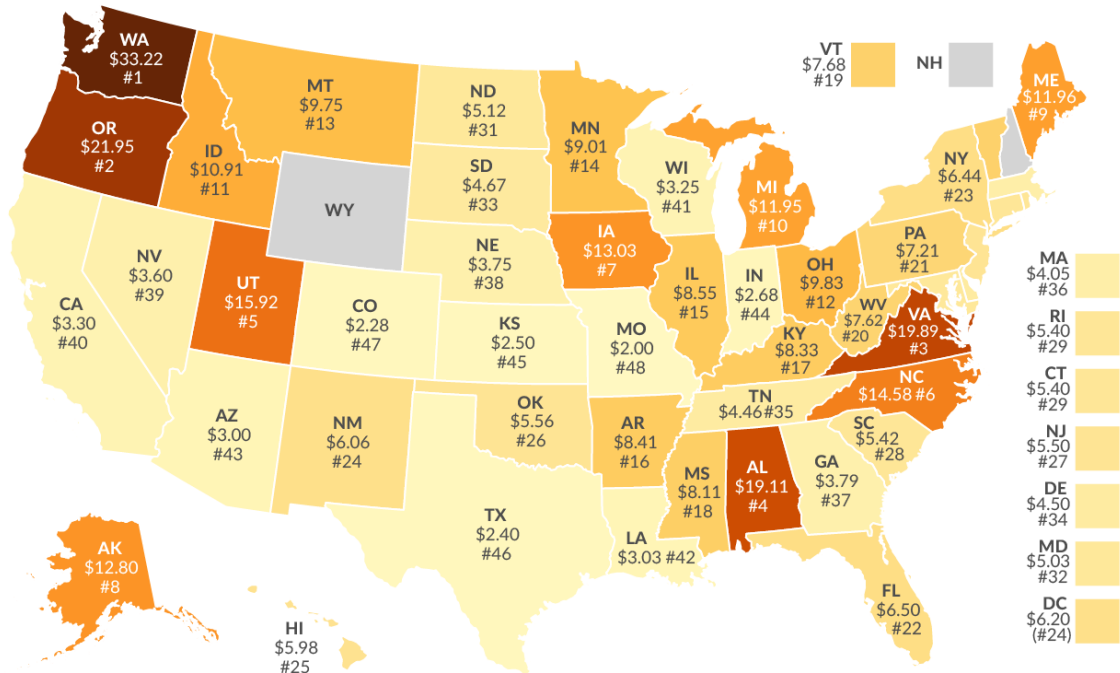
<b>STATE TAX RATES ON BEER</b> (January 1, 2020)			
	EXCISE TAX RATES (\$ per gallon)	GENERAL SALES TAX APPLIES	OTHER TAXES
Alabama	\$0.53	Yes	\$0.52/gallon local tax statewide
Alaska	1.07	n.a.	
Arizona	0.16	Yes	
Arkansas	0.23	Yes	3% off- 10% on-premise tax
California	0.20	Yes	
Colorado	0.08	Yes	
Connecticut	0.24	Yes	
Delaware	0.26	n.a.	
Florida	0.48	Yes	
Georgia	0.32	Yes	\$0.53/gallon local tax
Hawaii	0.93	Yes	\$0.54/gallon draft beer
Idaho	0.15	Yes	over 4% - \$0.45/gallon
Illinois	0.231	Yes	\$0.29/gallon in Chicago and \$0.09/gallon in Cook County
Indiana	0.115	Yes	
Iowa	0.19	Yes	
Kansas	0.18	--	8% off- and 10% on-premise
Kentucky	0.08	Yes	10.0% wholesale tax
Louisiana	0.40	Yes	\$0.048/gallon local tax
Maine	0.35	Yes	7% on-premise saales tax
Maryland	0.09	--	9% sales tax
Massachusetts	0.11		0.57% on private club sales
Michigan	0.20	Yes	
Minnesota	0.148	--	under 3.2% - \$0.077/gallon, 9% sales tax
Mississippi	0.4268	Yes	
Missouri	0.06	Yes	
Montana	0.14	n.a.	
Nebraska	0.31	Yes	
Nevada	0.16	Yes	
New Hampshire	0.30	n.a.	
New Jersey	0.12	Yes	
New Mexico	0.41	Yes	
New York	0.14	Yes	additional \$0.12/gallon in New York City
North Carolina	0.6171	Yes	
North Dakota	0.16	--	7% state sales tax, bulk beer \$0.08/gal.
Ohio	0.18	Yes	
Oklahoma	0.40	Yes	under 3.2% - \$0.36/gallon; 13.5% on-premise
Oregon	0.08	n.a.	
Pennsylvania	0.08	Yes	
Rhode Island	0.11	Yes	\$0.04/case wholesale tax
South Carolina	0.77	Yes	
South Dakota	0.27	Yes	
Tennessee	1.29	Yes	Excise Barrelage Tax and Wholesale Tax
Texas	0.194	Yes	14.95% on-premise and \$0.05/drink on airline sales
Utah	0.4226	Yes	over 3.2% - sold through state store
Vermont	0.265	Yes	more than 6% alcohol - \$0.55; 10% on-premise sales tax
Virginia	0.2565	Yes	
Washington	0.26	Yes	
West Virginia	0.18	Yes	
Wisconsin	0.06	Yes	
Wyoming	0.02	Yes	
Dist. of Columbi	0.09	Yes	9% off- and on-premise sales tax
U.S. Median	\$0.20		

Source: Compiled by FTA from state sources.

Note: n.a. = not applicable. These 5 states do not have a general sales tax.

# How High are Distilled Spirits Taxes in Your State?

State Distilled Spirits Excise Tax Rates (Dollars per Gallon), as of January 2020



Note: Rates are those applicable to off-premise sales of 40% alcohol by volume (a.b.v.) distilled spirits in 750ml containers. At the federal level, spirits are subject to a tiered tax system. For 2019-2020, federal rates are \$2.70 per proof gallon on the first 100,000 gallons per calendar year, \$13.34/proof gallon for more than 100,000 gallons but less than 22,230,000 and \$13.50/proof gallon for more than 22,230,000 gallons. D.C.'s rank does not affect states' ranks, but the figure in parentheses indicates where it would rank if included. The alcohol excise tax provisions of the Tax Cuts and Jobs Act have been extended through Dec. 31, 2020.

AK, CA, CT, DE, FL, GA, IL, IN, LA, MD, MA, NV, NY, ND, RI, SD, TX: Different rates also applicable to alcohol content, place of production, size of container, or place purchased (on- or off-premise or on board airlines).

AL, ID, IA, ME, MI, MS, MT, NH, NC, OH, OR, PA, UT, VT, VA, WV, WY: Control states, where the government controls all sales. Products can be subject to ad valorem mark-up as well as excise taxes.

KY: Rates include the wholesale tax rate of 11%, converted to a gallonage excise tax rate.

AR, MN, SC, TN: Rates include case fees and/or bottle fees which may vary with size of container.

AR, MD, MN, ND, SD, WA, DC: Rates include sales taxes specific to alcoholic beverages.

WA: Includes the retail (17%) and distributor (5%/10%) license fees, converted into a gallonage excise tax rate.

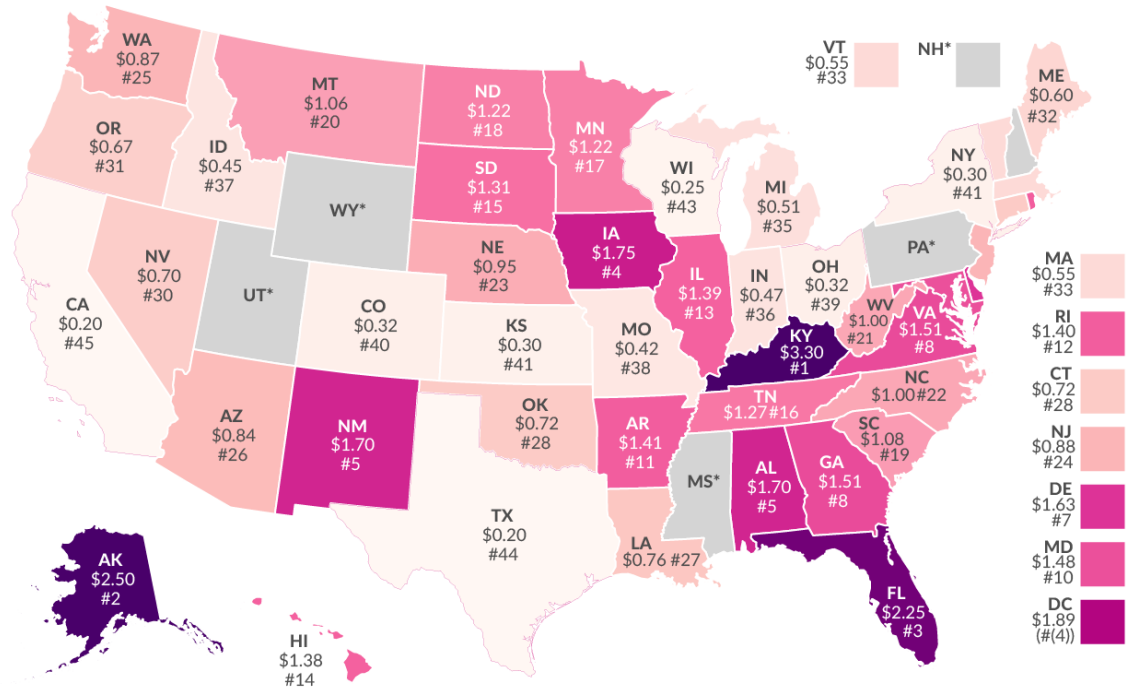
Sources: Distilled Spirits Council of the United States; Alcohol and Tobacco Tax and Trade Bureau.

State Distilled Spirits Excise Tax Rates (Dollars per Gallon), as of January 2020



# How High are Wine Taxes in Your State?

State Wine Excise Tax Rates (Dollars per Gallon), as of January 2020



Note: Rates are those applicable to off-premise sales of 11% alcohol by volume (a.b.v.) non-carbonated wine in 750ml containers. Federal rates vary by alcohol content and type of wine, ranging up to \$3.15 for 21-24 percent alcohol and \$3.40 for sparkling wine. D.C.'s rank does not affect states' ranks, but the figure in parentheses indicates where it would rank if included.

AL, AZ, CA, CO, CT, FL, GA, HI, ID, IL, IN, IA, KS, LA, ME, MA, MI, MS, MT, NE, NV, NH, NM, NC, ND, OH, OK, OR, RI, SC, SD, TX, VT, VA, WA, WV, WI, DC: Different rates also applicable to alcohol content, place of production, size of container, place purchased (on- or off-premise or on board airlines) or type of wine (carbonated, vermouth, etc.)

\*MS, NH, PA, UT, WY: Control states, where the government controls all sales. Products can be subject to a valorem mark-up as well as excise taxes.

KY: Rates include wholesale tax rate of 10%, converted to a gallonage excise tax rate.

AR, MN, TN: Rates include case fees and/or bottle fees which may vary with size of container.

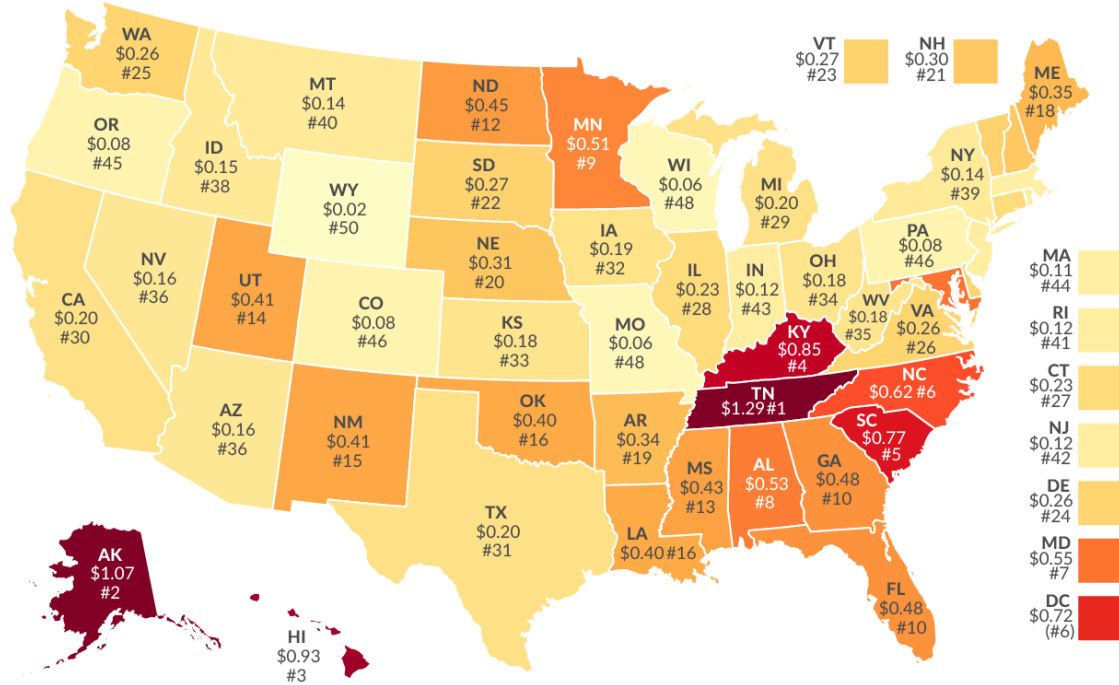
AR, MD, MN, SD, DC: Rates include sales taxes specific to alcoholic beverages.

Sources: Distilled Spirits Council of the United States; Alcohol Tax and Trade Bureau.



# How High are Beer Taxes in Your State?

State Beer Excise Tax Rates (Dollars per Gallon), 2020



Note: Rates are those applicable to off-premise sales of 4.7% a.b.v. beer in 12-ounce containers. At the federal level, beer is subject to differing tax rates. Small domestic brewers are taxed between \$0.11/gallon and \$0.516/gallon. All other brewers are taxed at rates between \$0.516/gallon and \$0.58/gallon. D.C.'s rank does not affect states' ranks, but the figure in parentheses indicates where it would rank if included. Different rates are also applicable in FL, GA, HI, ID, IA, KS, MN, NC, ND, OH, OK, TX, UT, VA, WA, and WI according to alcohol content, place of production, size of container, or place purchased (on- or off-premise or onboard airlines). Rates include the statewide local rates in AL (\$0.52) and GA (\$0.53). They include sales taxes specific to alcoholic beverages in AR, MD, MN, and D.C. Rates in AR and RI include case fees and/or bottle fees which may vary with the size of container. Rates include the wholesale rate in Kentucky (10%) and Tennessee (\$35.60/barrel), converted into a gallonage excise tax rate.

Sources: Distilled Spirits Council of the United States; state revenue departments; Tax Foundation.



TAX FOUNDATION

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## Appendix I: Statistics on Alcoholic Beverage Excise Tax, by Alcohol Type

In FY20, DOR collected \$87.6 million in excise tax from the sale of 160 million gallons of alcohol. Table A1 below reports the gallonage and revenue breakdown by types of alcohol products.

**Table A1. Alcoholic Beverage Gallons and Revenue for FY20**

	Malt	Still Wine	Champagne	Alcoholic Beverage 15% or Less	Alcoholic Beverage 15-50%	Alcoholic Beverage 50% or More	Alcohol sold in container of 1 gallon or less	Cider	Total
Gallons (in millions)	113.75	26.61	1.78	1.24	14.14	0.22	0.00	2.34	160.07
% Share	71.06%	16.62%	1.11%	0.78%	8.83%	0.13%	0.00%	1.46%	100%
Revenue (in millions of \$)	\$12.11	\$14.63	\$1.24	\$1.37	\$57.27	\$0.87	\$0.00	\$0.07	\$87.57
% Share	13.83%	16.71%	1.42%	1.56%	65.40%	1.00%	0.00%	0.08%	100%

## Appendix II: Further Discussion on Costs and Benefits

The text of the report discusses the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>3</sup>) and direct benefits (to buyers and sellers of alcoholic beverages at the retail level) of this tax expenditure. It also summarizes indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced costs and benefits in more detail.

### Other costs and benefits: Indirect and Induced

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement, assuming no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an **"opportunity cost"** to the Commonwealth. The opportunity cost to the state includes not only the impact on the individuals and businesses that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is the cost to the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "Multiplier Effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI<sup>4</sup>. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive has a specific purpose, the reduced spending is assumed to be proportionally distributed across the Commonwealth's current expenditures.

#### *Quantifying total costs (direct, indirect and induced)*

<sup>3</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.

<sup>4</sup> <https://www.remi.com/model/tax-pi/>

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A2 and A3 report the model results. The figures for 2018 and 2019 are estimates of forgone benefits (opportunity costs) that the Massachusetts economy experienced due to having the expenditure, and those for 2020, 2021 and 2022 are projections of forgone benefits that the Massachusetts economy will experience going forward. The effects are displayed as negative numbers as reduced spending has a negative impact on the state economy.

Tables A2 and A3 show that the reduction in state government spending results in lost economic activities, with real state GDP declining by \$276 million-\$292 million and total employment declining by 3,170 -3,322 jobs annually. Lost economic activities result in further loss of state revenues,<sup>5</sup> ranging from \$5.8 million to \$16.2 million annually. Note that the revenue impact reported in Table A2 does not include the estimated direct impact of the tax expenditure from Table 2, but only the additional indirect/induced impact.

**Table A2. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	-\$5,799	-\$12,812	-\$14,376	-\$15,461	-\$16,152

\* This table reports the lost revenues from the foregone economic activities as the state reduced government spending to finance the sales tax exemption for alcoholic beverages.

**Table A3. Economic Impacts due to Decreased Government Spending by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-3,195	-3,280	-3,322	-3,252	-3,170
Impact on private non-farm employment	-1,762	-1,808	-1,839	-1,772	-1,685
Impact on GDP (\$000), real dollars (2012)	-\$276,000	-\$286,000	-\$292,000	-\$290,000	-\$287,000
Impact on personal income (\$000)	-\$230,000	-\$262,000	-\$289,000	-\$305,000	-\$317,000

\*This table reports the lost economic activities as the state reduced government spending to finance the sales tax exemption for alcoholic beverages.

### *Indirect and Induced Benefits*

<sup>5</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 2.



The tax savings to buyers and sellers of alcoholic beverages at the retail level encourages directly affected consumers to buy more of other products and services and directly affected businesses to invest, expand, hire additional workers, etc. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy (including wholesalers, importers, and producers of alcoholic beverages), or put another way, generate a “Multiplier Effect” (see discussion in the previous section) from the initial or direct benefits as reported in the text. As a result, the total benefits of the sales tax exemption for alcoholic beverages would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect/induced benefits, we again employed Tax-PI. A summary of the revenue impact of the sales tax exemption for alcoholic beverages is reported in Table A4, and the economic benefit from the sales tax exemption for alcoholic beverages is reflected in Table A5 below. The figures for 2018 and 2019 are estimates of benefits that the Massachusetts economy experienced and those for 2020, 2021 and 2022 are projections of the benefits that the Massachusetts economy will experience going forward.

Tables A4 and A5 show that the sales tax exemption for alcoholic beverages results in more economic activity, with real state GDP increasing by \$98 million - \$128 million and total employment increasing by 1,165-1,454 jobs annually. More economic activity results in more state revenues, ranging from \$3.7 million to \$10.7 million annually, which partially offsets the cost of this tax incentive.

**Table A4. Additional Revenue Impact of Sales Tax Exemption for Alcoholic Beverages**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$3,656	\$8,279	\$9,602	\$10,362	\$10,713

**Table A5. Economic Impacts of Sales Tax Exemption for Alcoholic Beverages by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	1,165	1,384	1,454	1,415	1,327
Impact on private non-farm employment	1,114	1,299	1,349	1,299	1,208
Impact on GDP (\$000), real dollars (2012)	\$98,000	\$119,000	\$128,000	\$127,000	\$121,000

Impact on personal income (\$000)	\$91,000	\$119,000	\$136,000	\$145,000	\$147,000
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### Comparison of costs and benefits

Ignoring the opportunity cost of the tax incentive, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would be reaped if the Commonwealth used the dollars spent on the tax incentive for other purposes. Those dollars could be spent in many other ways, and examining them is beyond the scope of the current evaluation report. Nonetheless, we reported net impacts of the tax incentive in Tables A6 and A7 below under the balanced budget requirement, which are the combined effects in Tables A2-A5.

Tables A6 and A7 show that the sales tax exemption for alcoholic beverages combined with a cut in state government spending results in less economic activity, with real state GDP decreasing by \$164 million-\$178 million. The net impact on total employment is negative, decreasing by 1,838 – 2,030 jobs annually. The net additional impact on state revenues is also negative, decreasing by \$2.1 million to \$5.4 million annually.

Note that because the tax expenditure has a specific purpose (in this case, the avoidance of double taxation of alcoholic beverages), the net negative impacts do not necessarily imply that the tax expenditure is not desirable.

**Table A6. Net Additional Revenue Impact of Sales Tax Exemption for Alcoholic Beverages \***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	-\$2,144	-\$4,536	-\$4,778	-\$5,104	-\$5,437

\* assuming state government spending is cut by the same amount as the revenue loss due to the sales tax exemption for alcoholic beverages to balance budget.

**Table A7. Net Economic Impacts of Sales Tax Exemption for Alcoholic Beverages by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-2,030	-1,896	-1,868	-1,838	-1,841
Impact on private non-farm employment	-648	-510	-491	-473	-476

Impact on GDP (\$000), real dollars (2012)	-\$178,000	-\$167,000	-\$165,000	-\$164,000	-\$166,000
Impact on personal income (\$000)	-\$139,000	-\$144,000	-\$153,000	-\$160,000	-\$170,000

\* assuming state government spending is cut by the same amount as the revenue loss due to the sales tax exemption for alcoholic beverages to balance budget.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Motor fuels exemption from sales tax	<b>Annual cost:</b> \$536.7-\$549M	<b>Year of adoption:</b> pre-1967	<b>Sunset date:</b> None	
<b>Tax Type</b> (check all that apply): <input type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input checked="" type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input type="checkbox"/> Job creation & maintenance <input type="checkbox"/> Investment <input type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input checked="" type="checkbox"/> Other: Structural; Avoidance of double tax	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input checked="" type="checkbox"/> Other: Structural; Avoidance of double tax			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Comments</b>				
<b>Exemption for Motor Fuels (TE 3.202)</b>				
The TERC strongly agrees that this is a relevant tax expenditure that justifies its fiscal cost, and that it is claimed by a broad group that includes lower income taxpayers. The TERC notes that it is reasonable to exempt from the sales tax an item that is already subject to an excise tax. This avoids double taxation and, as with a sales tax, an excise tax is ultimately bourn by the consumer of the product. In the case of this excise tax, It is also dedicated				

revenue regime that links these collections to transportation infrastructure.

A key consideration in evaluating this exemption: Is the revenue collected by the excise tax comparable to the sales tax? In the case of the motor fuels tax, we note that, while fuel prices have fluctuated over the years, at current price levels the excise tax of 24-cents per gallon results in a higher tax than would result from the 6.25% sales tax rate. (Note that a wholesale fuel price of \$3.84 per gallon would result in a sales tax of 24-cents.)

MA's rate is in the middle of the pack; a few states also assess a sales tax.

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Exemption for Motor Fuels
<b>TAX EXPENDITURE NUMBER</b>	3.202
<b>TAX EXPENDITURE CATEGORY</b>	Exempt, Taxed under Another Excise
<b>TAX TYPE</b>	Sales and use tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 64H § 6(g)
<b>YEAR ENACTED</b>	1967. Last amended in 2010
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$536.7 - \$549.0 million per year during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	Buyers and Sellers of Motor Fuels at the Retail Level
<b>AVERAGE TAXPAYER BENEFIT</b>	\$185 per Massachusetts Household in FY18.

<p><b>Description of the Tax Expenditure:</b> Motor fuels are exempt from sales and use tax. They are instead subject to an excise tax determined by price per gallon under another provision of state law.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> DOR infers that the goal of the expenditure is to avoid double taxation of motor fuels. Motor fuels are subject to a separate excise under another provision of state law, M.G.L. c. 64A. The cost of that excise, generally paid by a distributor, is usually passed on to consumers. A sales tax on motor fuels would also be borne by consumers.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> Yes. See the link below to a list of federal and state motor fuels taxes issued by the U.S. Energy Information Administration and updated in February 2020.</p>

## INTRODUCTION

Motor fuels are exempt from sales and use tax. They are instead subject to an excise determined by tax per gallon rather than the retail price under another provision of state law.

Effective July 31, 2013, the tax rate on gasoline and diesel is \$0.24 per gallon and the tax is included in the price charged at the retail level. Other fuels are taxed at different tax rates as shown in the following link: <https://www.mass.gov/doc/massachusetts-fuels-excise-rate-table-4th-quarter-2020/download>. In Fiscal Year 2020, the Department of Revenue (DOR) collected \$707.9 million from motor fuels tax excluding jet fuel tax and \$31.2 million from jet fuel tax, which is a local option tax.

## POLICY GOALS

DOR infers that the goal of the expenditure is to avoid double taxation of motor fuels. Motor fuels are subject to a separate excise under another provision of state law, M.G.L. c. 64A. The cost of that excise, generally paid by distributors, is usually passed on to consumers. A sales tax on motor fuels would be imposed at the retail level and therefore would also be borne by consumers.

The following is a link to a list of Federal and state motor fuels taxes/excises as of February 2020 and issued by the U.S. Energy Information Administration:

<https://www.eia.gov/petroleum/marketing/monthly/xls/fueltaxes.xls>. All fifty states, the five United State possessions and the District of Columbia impose various levies on petroleum products. While the terminology varies from state to state, the chart shows the maximum amount each state charges and can serve as a comparative basis for evaluation.

## DIRECT COSTS

The revenue loss resulting from this tax expenditure is estimated to be \$536.7 - \$549.0 million per year during FY18-FY22. See Table 1.

**Table 1. Tax Revenue Loss Estimates for Sales Tax Exemption  
for Motor Fuels**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$549.0	\$568.0	\$545.2	\$539.1	\$536.7

## DIRECT BENEFITS

The Massachusetts consumers and businesses who buy and sell motor fuels at the retail level are the direct beneficiaries of the sales tax exemption. Buyers benefit from the sales tax exemption in the form of paying a lower “after tax price” while sellers benefit from the sales tax exemption in the form of receiving a higher “before tax price”. The exact split of the direct benefits depends on the interaction of demand and supply and is often difficult to quantify.

Businesses selling motor fuels at the retail level are mainly gas stations. According to U.S. Census Bureau, in 2017, Massachusetts had 1,419 “Gasoline stations with convenience stores” and 639 “Other gasoline stations”<sup>1</sup>.

For simplicity, we assume that the entire tax saving due to the sales tax exemption is passed on to buyers. Based on this assumption, Table 2 reports the distribution of estimated tax saving in FY18 among households in different income ranges. The table is based primarily on the 2018 Consumer Expenditure Survey data published by the U.S. Bureau of Labor Statistics and data from other sources such as Moody’s Analytics and the Massachusetts Department of Revenue. The Consumer Expenditure Survey reports average annual expenditures on “gasoline, other fuels, and motor oil” and number of households by different income groups. Please note that, although motor fuels are purchased by both consumers (households) and businesses, the distribution of tax savings reported in Table 2 is for consumers (households) only.

According to Table 2, the average tax savings from the exemption is estimated to be \$185.27 per Massachusetts household in FY18, varying from \$83.64 for households with annual income of less than \$15,000, to \$298.89 for households with annual income of at least \$200,000. By percentage, 18.89% of all tax savings went to the households with annual income of \$100,000 to \$149,999 while 5.89% went to households with annual income of less than \$15,000. The tax savings reduced the households’ effective tax rate (the ratio of tax to income) by 0.24 percentage points on average. This reduction varied from 0.09 percentage points for the households with annual income of at least \$200,000 to 1.1 percentage points for households with annual income of less than \$15,000. On average, households with annual income of less than \$15,000 spent a much higher percentage of their income on motor fuels than other income groups.

<sup>1</sup> These numbers are counts of “establishments”, not counts of “firms”.



**Table 2. Estimated Distribution of Tax Savings to MA Households  
by Income Level in FY18**

Annual Income Range	Number of MA Households (Millions)	Tax Savings (Millions)	Average Tax Savings (\$)	Tax Savings Distribution	Change in Households' Effective Tax Rate
Less than \$15,000	0.349	\$29.21	\$83.64	5.89%	-1.10%
\$15,000 to \$29,999	0.419	\$44.78	\$106.92	9.03%	-0.48%
\$30,000 to \$39,999	0.265	\$40.06	\$151.12	8.08%	-0.44%
\$40,000 to \$49,999	0.217	\$36.72	\$168.86	7.41%	-0.38%
\$50,000 to \$69,999	0.346	\$65.41	\$188.98	13.20%	-0.32%
\$70,000 to \$99,999	0.388	\$85.97	\$221.40	17.34%	-0.27%
\$100,000 to \$149,999	0.351	\$93.63	\$266.74	18.89%	-0.22%
\$150,000 to \$199,999	0.165	\$47.81	\$289.32	9.64%	-0.17%
\$200,000 to more	0.174	\$52.12	\$298.89	10.51%	-0.09%
Total	2.676	\$495.70	\$185.27	100.00%	-0.24%

Source: Estimated by Massachusetts Department of Revenue.

The consumer side of direct beneficiaries can also be looked at from a rider's point of view. According to MassDOT<sup>2</sup>, with an estimated population of over 6.79 million Massachusetts residents, about 80% (over 5.42 million) are of driving age (16 and over), while about 70% of all residents (4.75 million) are licensed drivers. The Federal Highway Administration at the U.S. Department of Transportation reported that there were 2.2 million private and commercial automobiles (including taxicabs) registered in Massachusetts in 2018.<sup>3</sup>

### **EVALUATION: COMPARING COSTS AND BENEFITS**

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases taxes to finance the sales tax exemption for motor fuels) and direct benefits (to buyers and sellers of motor fuels at the retail level) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly

<sup>2</sup><https://www.mass.gov/doc/massachusetts-transportation-facts/download#:~:text=With%20an%20estimated%20population%20of,and%202015%20UMass%20Dona hue%20Institute>

<sup>3</sup><https://www.fhwa.dot.gov/policyinformation/statistics/2018/mv1.cfm>

impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy, for example where a chain of businesses benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>4</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. The Appendix shows one such attempt by DOR.

### **Similar Tax Expenditures Offered by Other States**

Different states approach excise tax on motor fuels based on their revenue requirements and other tax policy goals. For example, Arkansas adds environmental fee with sales tax on gas; California includes prepaid sales tax in gas excise tax; Florida, Hawaii, Michigan, and West Virginia add additional sales tax on top of gas tax.

The tables and charts below from the Federation of Tax Administration (<https://www.taxadmin.org/>) and Tax Foundation (<https://taxfoundation.org/>) may be useful for some additional information on states’ motor fuel tax rates and sales tax exemption comparison.

In the July 2020 report, Tax Foundation ranked Massachusetts 33<sup>rd</sup> with motor fuel tax rate including fees of 26.54 cents per gallon (The state with the highest tax rate was ranked 1<sup>st</sup>).

<sup>4</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

State Motor Fuel Tax Rates (January 1, 2020)										
	GASOLINE			DIESEL FUEL			GASOHOL			Notes
	Excise	Fee/Tax	Total	Excise	Fee/Tax	Total	Excise	Fee/Tax	Total	
Alabama /1 /9	24.0		24.0	25.0		25.0	24.0		24.0	
Alaska	8.0	0.95	8.95	8.0	0.95	8.95	8.0	0.95	8.95	Refining Surcharge
Arizona	18.0	1.0	19.0	26.0	1.0	27.0	18.0	1.0	19.0	/8 LUST Tax
Arkansas	21.5	3.3	24.8	22.5	6.3	28.8	21.5	3.3	24.8	Environmental fee, W. Sales Tax
California	47.3	6.0	53.3	36.0	32.0	68.0	47.3	6.0	53.3	Includes prepaid sales tax /7
Colorado	22.0		22.0	20.5		20.5	22.0		22.0	
Connecticut	25.0		25.0	46.5		46.5	25.0		25.0	Plus a 8.1% Petroleum tax (gas)
Delaware	23.0		23.0	22.0		22.0	23.0		23.0	Plus 0.9% GRT
Florida /2	18.3	16.096	34.396	19.3	13.9	33.2	18.3	16.096	34.396	Sales tax added to excise /2
Georgia /5	27.9		27.9	31.3		31.3	27.9		27.9	/5 Local sales tax additional
Hawaii /1	16.0		16.0	16.0		16.0	16.0		16.0	Sales tax additional
Idaho	32.0	1	33.0	32.0	1	33.0	32.0	1	33.0	Clean Water Fee
Illinois /1/5	38.0	1.1	39.1	45.5	1.1	46.6	38.0	1.1	39.1	Sales tax add., env. & LUST fee /3
Indiana /5	30.0		30.0	49.0		49.0	30.0		30.0	Sales tax additional
Iowa	30.5		30.5	32.5		32.5	29.0		29.0	
Kansas	24.0	0.03	24.03	26.0	0.03	26.03	24.0	0.03	24.03	Inspection fees
Kentucky	24.6	1.4	26.0	21.6	1.4	23.0	24.6	1.4	26.0	Environmental fee /4 /3
Louisiana	20.0	0.001	20.001	20.0	0.001	20.001	20.0	0.001	20.001	Inspection fee
Maine	30.0		30.0	31.2		31.2	30.0		30.0	
Maryland /5	36.7		36.7	37.45		37.45	36.7		36.7	/5
Massachusetts	24.0		24.0	24.0		24.0	24.0		24.0	
Michigan	26.3		26.3	26.3		26.3	26.3		26.3	Sales tax additional
Minnesota	28.5	0.1	28.6	28.5	0.1	28.6	28.5	0.1	28.6	Inspect fee
Mississippi	18.0	0.4	18.4	18.0	0.4	18.4	18.0	0.4	18.4	Environmental fee
Missouri	17.0	0.42	17.4	17.0	0.42	17.4	17.0	0.3	17.3	Inspection & Load fees
Montana	32.0		32.0	29.45		29.45	32.0		32.0	
Nebraska	29.3	0.9	30.2	29.3	0.3	29.6	29.3	0.9	30.2	Petroleum fee /5
Nevada /1	23.0	0.805	23.805	27.0	0.75	27.75	23.0	0.805	23.805	Inspection & cleanup fee
New Hampshire	22.2	1.625	23.825	22.2	1.625	23.825	22.2	1.625	23.825	Oil discharge cleanup fee
New Jersey	10.5	30.9	41.4	13.5	35.0	48.5	10.5	30.9	41.40	Petroleum fee
New Mexico	17.0	1.875	18.875	21.0	1.875	22.875	17.0	1.875	18.875	Petroleum loading fee
New York	8.05	17.4	25.45	8.0	15.65	23.65	8.05	17.4	25.5	Petroleum Tax, Sales tax additional
North Carolina	36.1	0.25	36.35	36.1	0.25	36.35	36.1	0.25	36.35	/5 Inspection tax
North Dakota	23.0		23.0	23.0		23.0	23.0		23.0	
Ohio	38.5		38.5	47.0		47.0	38.5		38.5	
Oklahoma	19.0	1.0	20.0	19.0	1.0	20.0	19.0	1.0	20.0	Environmental fee
Oregon /1	36.0		36.0	36.0		36.0	36.0	1.0	37.0	
Pennsylvania	57.6		57.6	74.1		74.1	57.6	1.0	58.6	Oil franchise tax only /5
Rhode Island /5	34.0	1	35.0	34.0	1	35.0	34.0	1	35.0	LUST tax
South Carolina /9	22.0	0.75	22.75	22.0	0.75	22.75	22.0	0.75	22.75	Inspection fee & LUST tax
South Dakota /1	28.0	2	30.0	28.0	2	30.0	26.6	2	28.6	Inspection fee (gasohol E10)
Tennessee /1	26.0	1.4	27.4	27.0	1.4	28.4	26.0	1.4	27.4	Petroleum Tax & Envir. Fee
Texas	20.0		20.0	20.0		20.0	20.0		20.0	
Utah	31.1		31.1	31.1		31.1	31.1		31.1	/4
Vermont /5	12.1	18.71	30.81	28.0	4.0	32.0	12.1	18.71	30.81	Cleanup Fee & Trans. Fee
Virginia /1	16.2		16.2	20.2		20.2	16.2		16.2	/6
Washington	49.4		49.4	49.4		49.4	49.4		49.4	0.5% privilege tax
West Virginia	20.5	15.2	35.7	20.5	15.2	35.7	20.5	15.2	35.7	Sales tax added to excise
Wisconsin	30.9	2.0	32.9	30.9	2.0	32.9	30.9	2.0	32.9	Petroleum Insp. Fee
Wyoming	23.0	1	24.0	23.0	1	24.0	23.0	1	24.0	License tax
Dist. of Columbia	23.5		23.5	23.5		23.5	23.5		23.5	
Federal	18.3	0.1	18.4	24.3	0.1	24.4	18.3	0.1	18.4	LUST tax

SOURCE: Compiled by FTA from various sources. Fee/Taxes column is for comparison purposes and does not include all taxes/fees levied.

/1 Tax rates do not include local option taxes. In AL, 1 - 3 cents; HI, 8.8 to 18.0 cent; IL, 5 cents in Chicago and 6 cents in Cook county (gasoline only); NV, 4.0 to 9.0 cents; OR, 1 to 5 cents; SD and TN, one cent; and VA 2.1%.

/2 Local taxes for gasoline and gasohol vary from 0 cents to 6.0 cents. Includes Inspection Fee, SCETS, & Statewide Local Tax.

/3 Carriers pay an additional surcharge equal to IL-14.9 cents, KY-2% (g) 4.7% (d).

/4 Tax rate is based on the average wholesale price and is adjusted annually. The actual rates are: KY, 9%; and UT, 16.5%.

/5 Portion of the rate is adjustable based on maintenance costs, sales volume, cost of fuel to state government, or inflation.

/6 Large trucks pay an additional (d) 3.5 cents (g) 12.6 cents. Actual rates (g) 5.1%, (d) 6%.

/7 California Gasoline subject to 2.25% sales tax. Diesel subject to a 13% sales tax.

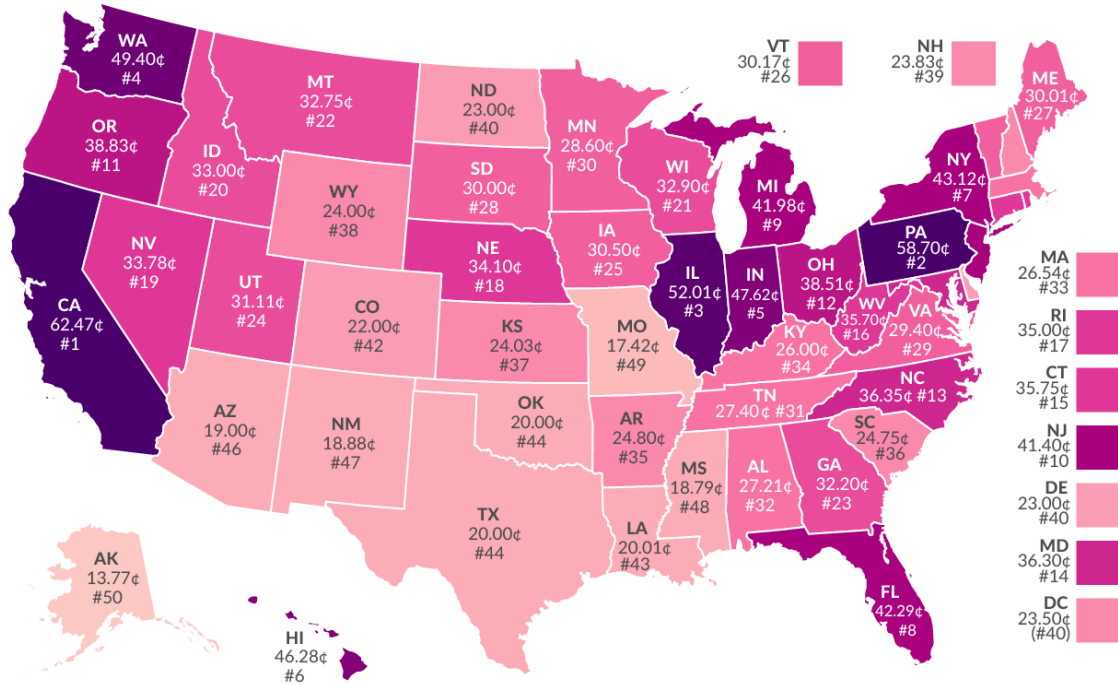
/8 Diesel rate specified is the fuel use tax rate on large trucks. Small vehicles are subject to 18 cent tax rate.

/9 On July 1, 2020, SC tax will increase to 24 cents. On October 1, 2020, AL tax will increase to 26 cents (g) and 27 cents (d).

HIGH	57.6			74.1			57.6			
LOW	8.0			8.0			8.0			
MEDIAN	24.0			26.0			24.0			
average	25.9									

# How High Are Gas Taxes in Your State?

Total State Taxes and Fees on Gasoline, July 2020 (cents per gallon)



Note: These rates do not include the 18.4 cent/gallon federal excise tax rate on gas. The American Petroleum Institute has developed a methodology for determining the average tax rate on a gallon of fuel. Rates may include any of the following: excise taxes, environmental fees, storage tank taxes, other fees or taxes, and general sales taxes. In states where gasoline is subject to the general sales tax, or where the fuel tax is based on average sale price, the average rate determined by API is sensitive to changes in the price of gasoline. D.C.'s rank does not affect states' ranks, but the figure in parentheses indicates where it would rank if included. Data as of July 2020.

Source: American Petroleum Institute, "Notes to State Motor Fuel Excise and Other Taxes."



## Appendix: Further Discussion on Costs and Benefits

The text of the report discusses the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>5</sup>) and direct benefits (to buyers and sellers of motor fuels at the retail level) of this tax expenditure. It also summarizes indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced costs and benefits in more detail.

### Other costs and benefits: Indirect and Induced

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement, assuming no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an "**opportunity cost**" to the Commonwealth. The opportunity cost to the state includes not only the impact on the individuals and the businesses that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is the cost to the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "Multiplier Effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI<sup>6</sup>. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive has a specific purpose, the reduced spending is assumed to be proportionally distributed across the Commonwealth's current expenditures.

#### *Quantifying total costs (direct, indirect and induced)*

<sup>5</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.

<sup>6</sup> <https://www.remi.com/model/tax-pi/>

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A1 and A2 report the model results. The figures for 2018 and 2019 are estimates of forgone benefits (opportunity costs) that the Massachusetts economy experienced due to having the expenditure, and those for 2020, 2021 and 2022 are projections of forgone benefits that the Massachusetts economy will experience going forward. The effects are displayed as negative numbers as reduced spending has a negative impact on the state economy.

Tables A1 and A2 show that the reduction in state government spending results in lost economic activities, with real state GDP declining by \$1,169 million-\$1,316 million and total employment declining by 12,929 -15,103 jobs annually. Lost economic activities result in further loss of state revenues,<sup>7</sup> ranging from \$26.3 million to \$67.9 million annually. Note that the revenue impact reported in Table A2 does not include the estimated direct impact of the tax expenditure from Table 1, but only the additional indirect/induced impact.

**Table A1. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	-\$26,295	-\$58,524	-\$64,612	-\$67,071	-\$67,913

\*This table reports the lost revenues from the foregone economic activities as the state reduced government spending to finance the sales tax exemption for motor fuels.

**Table A2. Economic Impacts due to Decreased Government Spending by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-14,496	-15,103	-14,543	-13,787	-12,929
Impact on private non-farm employment	-7,990	-8,323	-8,054	-7,510	-6,852
Impact on GDP (\$000), real dollars (2012)	-\$1,253,000	-\$1,316,000	-\$1,280,000	-\$1,230,000	-\$1,169,000
Impact on personal income (\$000)	-\$1,044,000	-\$1,206,000	-\$1,272,000	-\$1,304,000	-\$1,310,000

\*This table reports the lost economic activities as the state reduced government spending to finance the sales tax exemption for motor fuels.

### *Indirect and Induced Benefits*

<sup>7</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 1.

The tax savings to buyers and sellers of motor fuels at the retail level encourages directly affected consumers to buy more of other products and services and directly affected businesses to invest, expand, hire additional workers, etc. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy (including wholesalers, importers, and producers of motor fuels), or put another way, generate a “Multiplier Effect” (see discussion in the previous section) from the initial or direct benefits as reported in the text. As a result, the total benefits of the sales tax exemption for motor fuels would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect/induced benefits, we again employed Tax-PI. A summary of the revenue impact of the sales tax exemption for motor fuels is reported in Table A3, and the economic benefit from the sales tax exemption for motor fuels is reflected in Table A4 below. The figures for 2018 and 2019 are estimates of benefits that the Massachusetts economy experienced and those for 2020, 2021 and 2022 are projections of the benefits that the Massachusetts economy will experience going forward.

Tables A3 and A4 show that, the sales tax exemption for motor fuels results in more economic activities, with real state GDP increasing by \$870 million - \$1,227 million and total employment increasing by 10,203-13,786 jobs annually. More economic activities result in more state revenues, ranging from \$53.6 million to \$137.1 million annually, which partially offsets the cost of this tax incentive.

**Table A3. Additional Revenue Impact of Sales Tax Exemption for Motor Fuels**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$53,629	\$118,759	\$132,714	\$136,874	\$137,080

**Table A4. Economic Impacts of Sales Tax Exemption for Motor Fuels by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	10,203	13,261	13,786	13,078	11,755
Impact on private non-farm employment	9,705	12,407	12,729	11,929	10,591
Impact on GDP (\$000), real dollars (2012)	\$870,000	\$1,159,000	\$1,227,000	\$1,187,000	\$1,088,000
Impact on personal income (\$000)	\$880,000	\$1,222,000	\$1,382,000	\$1,436,000	\$1,412,000

## Comparison of costs and benefits

Ignoring the opportunity cost of the tax incentive, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would be reaped if the Commonwealth used the dollars spent on the tax incentive for other purposes. Those dollars could be spent in many other ways, and examining them is beyond the scope of the current evaluation report. Nonetheless, we reported net impacts of the tax incentive in Tables A5 and A6 below under the balanced budget requirement, which are the combined effects in Tables A1-A4.

Tables A5 and A6 show that the sales tax exemption for motor fuels combined with a cut in state government spending results in less economic activity, with real state GDP decreasing by \$45 million-\$385 million. The net impact on total employment is negative, decreasing by 738 – 4,323 jobs annually. The net additional impact on state revenues is positive, increasing by \$27.2 million to \$69.5 million annually.

Note that because the tax expenditure has a specific purpose (in this case, the avoidance of double taxation of motor fuels), the net negative impacts on economic activity (real state GDP) do not necessarily imply that the tax expenditure is not desirable.

**Table A5. Net Additional Revenue Impact of Sales Tax Exemption for Motor Fuels\***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	\$27,201	\$59,966	\$67,808	\$69,477	\$68,908

\* assuming state government spending is cut by the same amount as the revenue loss due to the sales tax exemption for motor fuels to balance budget.

**Table A6. Net Economic Impacts of Sales Tax Exemption for Motor Fuels by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-4,323	-1,868	-787	-738	-1,186
Impact on private non-farm employment	1,687	4,060	4,648	4,392	3,729
Impact on GDP (\$000), real dollars (2012)	-\$385,000	-\$160,000	-\$56,000	-\$45,000	-\$82,000
Impact on personal income (\$000)	-\$167,000	\$13,000	\$106,000	\$129,000	\$101,000

\* assuming state government spending is cut by the same amount as the revenue loss due to the sales tax exemption for motor fuels to balance budget.



## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Exemption for Materials, Tools, Fuels and Machinery Used in Manufacturing	<b>Annual cost:</b> \$630.5 - \$643.3 million	<b>Year of adoption:</b> 1967	<b>Sunset date:</b> None	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i>	<i>Individual:</i>			
<input checked="" type="checkbox"/> Job creation & maintenance	<input type="checkbox"/> Relief of poverty			
<input checked="" type="checkbox"/> Investment	<input type="checkbox"/> Progressivity/assistance to low earners			
<input checked="" type="checkbox"/> Competitiveness/Strategic	<input type="checkbox"/> Access to opportunity			
<input type="checkbox"/> Health/Environment/Social Justice	<input type="checkbox"/> Health/Environment/Social Justice			
<input checked="" type="checkbox"/> Other: Avoid double taxation	<input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Comments (TE 3.302)**

The intent of the tax expenditure is to avoid double-taxation by providing a sales tax exemption on components of manufacturing, placing a sales tax only on the final product. This expenditure supports competitiveness and jobs retention goals, as a number of other states have a similar tax expenditure.

While seemingly straightforward, administering the tax expenditure can be challenging as it has generated a good deal of litigation and auditing, turning on the question of what should be included. For example, a manufacturer may buy office supplies and claim them as eligible for the exemption as being part of the manufacturing process. The TERC suggests a broad legislative review of the application of the sales tax, noting that certain business sectors are afforded exemptions, such as commercial fisheries and agricultural production.

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Exemption for Materials, Tools, Fuels and Machinery Used in Manufacturing
<b>TAX EXPENDITURE NUMBER</b>	3.302
<b>TAX EXPENDITURE CATEGORY</b>	Exempt Component of a Product or Consumed in Production
<b>TAX TYPE</b>	Sales and use tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 64H, § 6(r) and (s)
<b>YEAR ENACTED</b>	1967 (Chapter 757 of the Acts of 1967, § 1)
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$630.5 - \$643.3 million per year during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	Buyers and Sellers who buy and sell exempt items
<b>AVERAGE TAXPAYER BENEFIT</b>	Annual tax saving of about \$104,000 per business who buy exempt items

<p><b>Description of the Tax Expenditure:</b> Materials, tools, fuels and machinery, and replacement parts, used directly and exclusively in manufacturing are exempt from sales tax if they become components of a product to be sold, or are consumed or directly used in the manufacturing process.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> To encourage industrial expansion in Massachusetts, spur economic development, and to ensure that tax is imposed only once, on consumers who</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> A large majority of the states that impose a sales tax exempt purchases of manufacturing machinery and equipment. Among these states are New York,</p>

purchase the finished retail product, rather than multiple times on companies during production.

Connecticut, Rhode Island, Pennsylvania, Virginia. However, it is less common for states to exempt materials, tools, fuel, and replacement parts.

## INTRODUCTION

Materials, tools, fuels, machinery, and replacement parts, used in manufacturing, are exempt from sales tax if they (i) become components of a product to be sold or (ii) are consumed or are directly and exclusively used in the manufacturing process. The exemption relates to raw materials and property that is used to convert raw materials into a manufactured product. In order for property to fall within the manufacturing exemption, it must be used directly and exclusively in an industrial plant in the actual manufacture of tangible personal property to be sold.

## POLICY GOALS

This tax expenditure aims to encourage industrial expansion and spur economic development in Massachusetts by reducing operating costs for manufacturers. It also seeks to avoid pyramiding of sales taxes. Without the exemption, the tax on items used in the manufacturing process will be reflected in the price of the product sold to the ultimate consumer, resulting in consumers bearing the burden of multiple layers of tax.

## DIRECT COSTS

The revenue loss resulting from this tax expenditure is estimated to be \$630.5 - \$643.3 million per year during FY18-FY22. See Table 1.

**Table 1. Tax Revenue Loss Estimates for Sales Tax Exemption for Materials, Tools, Fuels, and Machinery Used in Manufacturing**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$630.5	\$633.7	\$636.9	\$640.1	\$643.3

## DIRECT BENEFITS

The Massachusetts businesses who buy and sell exempt products (Materials, Tools, Fuels, and Machinery) used in manufacturing are the direct beneficiaries of the sales tax exemption. Buyers benefit from the sales tax exemption in the form of paying a lower “after tax price” while sellers benefit from the sales tax exemption in the form of receiving a higher “before tax price”. The exact split of the direct benefits depends on the interaction of demand and supply and is often difficult to quantify. Out-of-state businesses who sell the exempt products to Massachusetts businesses also benefit from this sales tax exemption.

According to the U.S. Census Bureau, in 2017, Massachusetts had 6,143 manufacturing firms with 6,437 establishments. These firms employed 231,593 people generating \$15.7 billion in annual payroll and \$82.3 billion in annual sales. See Table 2 below. Please also see Appendix 1 for more facts about the manufacturing sector in Massachusetts.

**Table 2. Key Facts about Massachusetts Manufacturing Sector**

2017 NAICS Code	Number of Firms	Number of Establishments	Annual Payroll (\$1,000)	Number of Employees	Sales, Value of Shipments, or Revenue (\$1,000)	Value Added (\$1,000)
31-33	6,143	6,437	\$15,749,394	231,593	\$82,308,451	\$45,306,135

Source: U.S. Census Bureau, 2017 Economic Census

If we assume that the entire tax saving due to the sales tax exemption is passed on to buyers and on average 6,200 buyers used this tax exemption annually, the average tax saving would be about \$104,000 in FY22 (= \$643.3 million divided by 6,200).

### **EVALUATION: COMPARING COSTS AND BENEFITS**

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases taxes to finance the sales tax exemption for materials, tools, fuels, and machinery used in manufacturing) and direct benefits (to buyers and sellers of exempt items) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy derived from the tax expenditure, such as where a chain of businesses benefits when the employees working for the directly impacted businesses spend their additional wages and salaries attributable to the tax expenditure to buy goods and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>1</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. Appendix 2 shows one such attempt by DOR.

<sup>1</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

Besides the economic costs and benefits discussed so far, one may also want to consider the factor of negative externality when evaluating this tax expenditure. Negative externalities occur when the production and/or consumption of a good or service exerts a negative effect on a third party independent of the transaction. For example, manufacturing plants may cause noise and air pollution during the manufacturing process. By encouraging manufacturing activities, this tax expenditure may aggravate the problem of negative externality such as noise and pollution if there are no other policies to offset the impact.

Please note that the tax expenditure has a specific purpose. The goal is to encourage industrial expansion in Massachusetts, spur economic development, and to ensure that tax is imposed only once, on consumers who purchase the finished retail product, rather than multiple times on companies during production.

It is difficult to quantify how much this tax expenditure encourages industrial expansion in Massachusetts and spurs economic development in the state. However, given the size of tax savings to taxpayers and wide use of this exemption in other states<sup>2</sup>, the tax expenditure almost certainly helps improve the state's business tax climate<sup>3</sup> and helps maintain or increase the state's competitiveness, thus helping attract new production facilities and retaining existing plants.

If a business must pay sales tax on manufacturing equipment and raw materials, then that tax becomes part of the price of manufactured goods produced with that equipment and materials. The business must then collect sales tax on its own products, with the result that a tax is being charged on a price that already contains taxes. This tax pyramiding invariably results in some industries being taxed more heavily than others, which violates the principle of neutrality and causes economic distortions. From the standpoint of avoiding tax pyramiding, this tax expenditure meets the policy goal.

### **Similar Tax Expenditures Offered by Other States**

While most states exempt manufacturing machinery from their sales tax, Alabama, Hawaii, Kentucky, Mississippi, Nevada, New Mexico, North Dakota, South Dakota, and the District of Columbia are exceptions. Hawaii taxes not just the machinery businesses use to manufacture goods, but also the raw materials used in manufacturing. New Mexico and South Dakota tax a large number of business inputs compared to the rest of the country.

Table 3 below gives the state tax treatment of sales tax bases including manufacturing machinery and manufacturing raw materials, followed by a map on the next page.

<sup>2</sup> See Table 3 in next section.

<sup>3</sup> See Appendix 3 for State Business Tax Climate Index developed by the Tax Foundation.

**Table 3. State Sales Tax Bases: Exemptions for Business-to-Business Transactions (as of July 1, 2019)**

State	Specific Exemption	Farm Equipment	Office Equipment	Manufacturing Machinery	Manufacturing Raw Materials	Business Fuel and Utilities	Business Lease and Rentals	Information Services
Alabama	No	Taxable	Taxable	Taxable	Exempt	Exempt	Taxable	Taxable
Alaska	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Arizona	No	Exempt	Taxable	Exempt	Exempt	Taxable	Taxable	Exempt
Arkansas	No	Exempt	Taxable	Exempt	Exempt	Taxable	Taxable	Exempt
California	No	Taxable	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Colorado	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Connecticut	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Taxable
Delaware	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Florida	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Georgia	No	Exempt	Taxable	Exempt	Exempt	Taxable	Taxable	Exempt
Hawaii	No	Taxable	Taxable	Taxable	Taxable	Taxable	Taxable	Taxable
Idaho	No	Exempt	Taxable	Exempt	Exempt	Exempt	Exempt	Exempt
Illinois	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Indiana	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Iowa	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Kansas	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Kentucky	No	Exempt	Taxable	Taxable	Exempt	Exempt	Taxable	Exempt
Louisiana	No	Taxable	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Maine	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Maryland	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
<b>Massachusetts</b>	<b>No</b>	<b>Exempt</b>	<b>Taxable</b>	<b>Exempt</b>	<b>Exempt</b>	<b>Exempt</b>	<b>Taxable</b>	<b>Exempt</b>
Michigan	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Minnesota	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Mississippi	No	Partial	Taxable	Taxable	Exempt	Taxable	Taxable	Exempt
Missouri	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Montana	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Nebraska	No	Exempt	Taxable	Exempt	Exempt	Exempt	Exempt	Exempt
Nevada	No	Exempt	Taxable	Taxable	Exempt	Taxable	Taxable	Exempt
New Hampshire	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
New Jersey	No	Exempt	Taxable	Exempt	Exempt	Taxable	Taxable	Taxable
New Mexico	No	Taxable	Taxable	Taxable	Exempt	Exempt	Taxable	Taxable
New York	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Taxable
North Carolina	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
North Dakota	No	Partial	Taxable	Taxable	Exempt	Taxable	Taxable	Exempt
Ohio	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Taxable
Oklahoma	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Oregon	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Pennsylvania	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Rhode Island	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
South Carolina	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Taxable
South Dakota	No	Taxable	Taxable	Taxable	Exempt	Taxable	Taxable	Taxable
Tennessee	No	Exempt	Taxable	Exempt	Exempt	Taxable	Taxable	Exempt
Texas	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Taxable
Utah	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Vermont	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Virginia	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Washington	No	Taxable	Taxable	Exempt	Exempt	Taxable	Taxable	Taxable
West Virginia	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Taxable
Wisconsin	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
Wyoming	No	Exempt	Taxable	Exempt	Exempt	Exempt	Taxable	Exempt
District of Columbia	No	Taxable	Taxable	Taxable	Exempt	Exempt	Taxable	Taxable

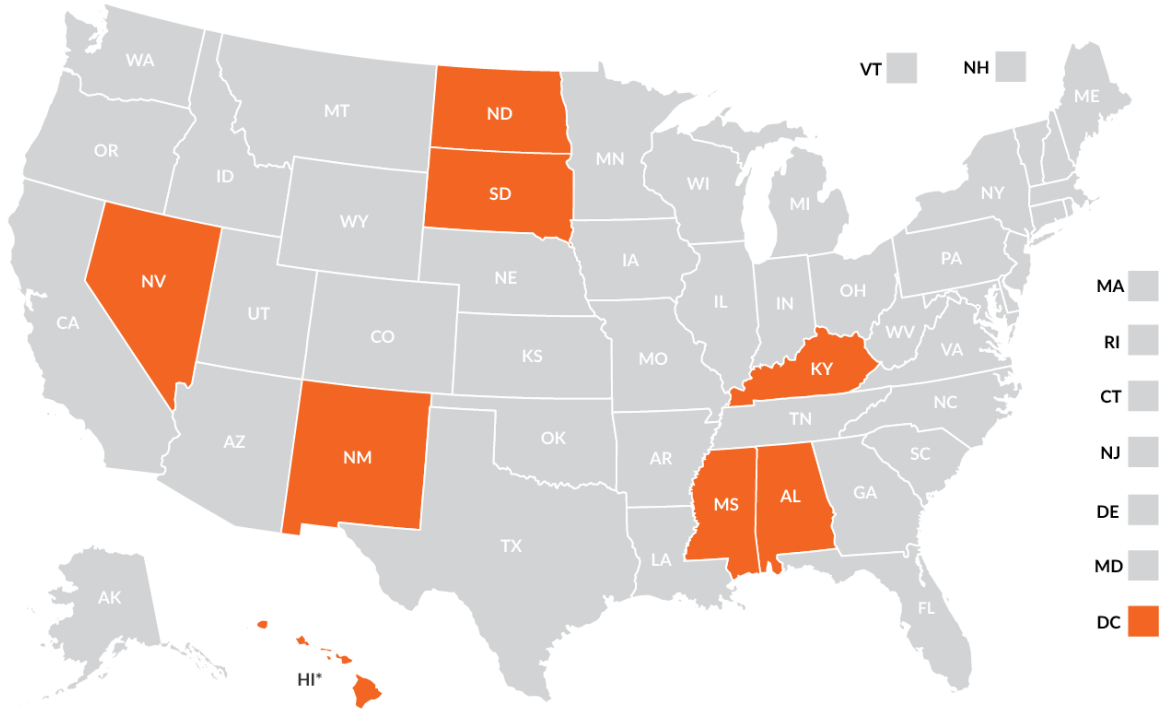
Note: States with no sales tax (DE, MT, NH, and OR) are listed as “not applicable” (n.a.). Alaska has a local options sales tax.

Sources: Tax Foundation; Bloomberg Tax; state statutes.



# Does Your State Tax Manufacturing Machinery?

Sales Taxes on Manufacturing Machinery, 2019



Note: DE, MT, NH, and OR have no sales tax. Alaska has a local option sales tax.  
 \*Hawaii taxes both manufacturing machinery and manufacturing raw materials.  
 Source: Tax Foundation; Commerce Clearing House; state statutes.

- Taxes Manufacturing Machinery
- Does Not Tax Manufacturing Machinery

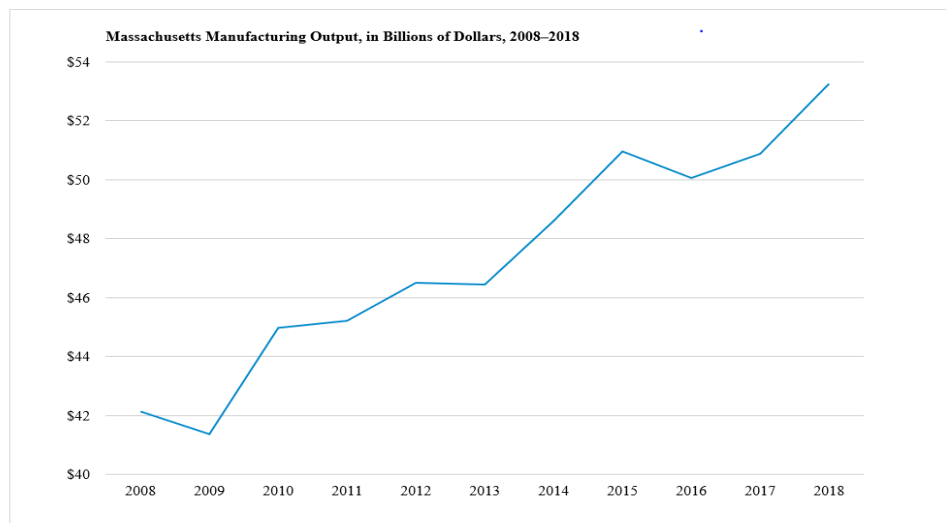
## Appendix 1: 2019 Massachusetts Manufacturing Facts

The following data are reproduced from the website of the National Association of Manufacturers:<sup>4</sup>

Manufacturers in Massachusetts account for 9.39% of the total output in the state, employing 6.70% of the workforce. Total output from manufacturing was \$53.26 billion in 2018. In addition, there were an average of 244,000 manufacturing employees in Massachusetts in 2018, with an average annual compensation of \$101,933.54 in 2017.

### Manufacturing Output and Firms

Total Manufacturing Output (\$billions, 2018)	\$53.26
(Percent share of total gross state product)	9.39%
Manufacturing Firms in Massachusetts (2016)	6,239



### Employment and Compensation

Manufacturing Employment (2018)	244,000
(Percent share of nonfarm employment)	6.70%
Average Annual Compensation (Manufacturing, 2017)	\$101,933.54
(Nonfarm Businesses, 2017)	\$61,980.83

<sup>4</sup> <https://www.nam.org/state-manufacturing-data/2019-massachusetts-manufacturing-facts/>

Sources: U.S. Bureau of Economic Analysis and the U.S. Census Bureau

## Massachusetts Export Facts

Manufacturers help to drive Massachusetts's economy, with \$25.42 billion in manufactured goods exports in 2018. That same year, \$8.09 billion in exports was with the free trade agreement (FTA) partners. This helps create jobs in the state, and 30.90% of its employment stemmed from exports in 2011. Small businesses comprised 89.00% percent of all exporters in Massachusetts.

## Manufacturing Exports

Manufactured Goods Exports (\$billions, 2018)	\$25.42
(Percent share of total goods exports)	93.65%
Growth in Manufactured Goods Exports (2010–2018)	2.35%
U.S. Jobs Supported by Goods Exports (2016)	101,223
Employment from Manufacturing Exports (Export share of manufacturing jobs, 2011)	30.90%
Small Business Share of Total Exporters (2015)	89.00%
Manufactured Goods to Free Trade Agreement Partners (\$billions, 2018)	\$8.09
(Percent of total exports, 2018)	31.82%
Total Manufactured Goods Exports to Canada and Mexico (NAFTA, 2018)	\$4.99
Top Five Export Markets (Percent of total manufactured goods exports, 2018)	19.65%
Canada	10.25%
China	9.88%
Mexico	9.76%
Germany	7.38%
Japan	5.69%

Sources: International Trade Administration, U.S. Census Bureau

## Appendix 2: Further Discussion on Costs and Benefits

The text of the report discusses the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>5</sup>) and direct benefits (to buyers and sellers of materials, tools, fuels and machinery, and replacement parts used directly and exclusively in manufacturing) of this tax expenditure. It also summarizes indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced costs and benefits in more detail.

### **Other costs and benefits: Indirect and Induced**

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement, assuming no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an **"opportunity cost"** to the Commonwealth. The opportunity cost to the state includes not only the impact on the individuals and the businesses that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is the cost to the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "Multiplier Effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI<sup>6</sup>. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive has a specific purpose, the reduced spending is assumed to be proportionally distributed across the Commonwealth's current expenditures.

#### *Quantifying total costs (direct, indirect and induced)*

<sup>5</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.

<sup>6</sup> <https://www.remi.com/model/tax-pi/>

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A2-1 and A2-2 report the model results. The figures are estimates or projections of forgone benefits (opportunity costs) that the Massachusetts economy experiences due to having the expenditure. The effects are displayed as negative numbers as reduced spending has a negative impact on the state economy.

Tables A2-1 and A2-2 show that the reduction in state government spending results in lost economic activities, with real state GDP declining by \$1,401 million-\$1,492 million and total employment declining by 15,492 -16,953 jobs annually. Lost economic activities result in further loss of state revenues<sup>7</sup>, ranging from \$30.2 million to \$80.4 million annually. Note that the revenue impact reported in Table A2-1 does not include the estimated direct impact of the tax expenditure from Table 1, but only the additional indirect/induced impact.

**Table A2-1. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	-\$30,192	-\$66,279	-\$73,684	-\$78,431	-\$80,425

\* This table reports the lost revenues from the foregone economic activities as the state reduced government spending to finance the sales tax exemption for certain products used in manufacturing.

**Table A1-2. Economic Impacts due to Decreased Government Spending by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-16,646	-16,864	-16,953	-16,331	-15,492
Impact on private non-farm employment	-9,175	-9,294	-9,385	-8,893	-8,220
Impact on GDP (\$000), real dollars (2012)	-\$1,439,000	-\$1,470,000	-\$1,492,000	-\$1,457,000	-\$1,401,000
Impact on personal income (\$000)	-\$1,198,000	-\$1,350,000	-\$1,477,000	-\$1,536,000	-\$1,560,000

\*This table reports the lost economic activities as the state reduced government spending to finance the sales tax exemption for certain products used in manufacturing.

### *Indirect and Induced Benefits*

<sup>7</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 1.

The tax savings to buyers and sellers of exempt products used in manufacturing encourage directly affected buyers and sellers to expand business activities, hire additional employees, rent or purchase additional office or production facility, or make other investments, etc. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy, or put another way, generate a “Multiplier Effect” (see discussion in the previous section) from the initial or direct benefits as reported in the text. As a result, the total benefits of this sales tax would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect/induced benefits, we again employed Tax-PI. A summary of the revenue impact of the sales tax exemption for materials, tools, fuels and machinery, and replacement parts used directly and exclusively in manufacturing is reported in Table A2-3, and the economic benefit from this sales tax exemption is reflected in Table A2-4 below. The figures are estimates or projections of benefits that the Massachusetts economy experiences.

Tables A2-3 and A2-4 show that, the sales tax exemption for materials, tools, fuels and machinery, and replacement parts used directly and exclusively in manufacturing results in more economic activities, with real state GDP increasing by \$1,455 million - \$1,764 million and total employment increasing by 13,162-15,539 jobs annually. More economic activities result in more state revenues, ranging from \$28.1 million to \$89.0 million annually, which partially offsets the cost of this tax incentive.

**Table A2-3. Additional Revenue Impact of Sales Tax Exemption for Certain Products used in Manufacturing**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$28,061	\$64,361	\$76,159	\$84,274	\$88,985

**Table A2-4. Economic Impacts of Sales Tax Exemption for Certain Products used in Manufacturing by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	13,162	14,730	15,539	15,429	14,879
Impact on private non-farm employment	12,645	13,902	14,519	14,305	13,708
Impact on GDP (\$000), real dollars (2012)	\$1,455,000	\$1,629,000	\$1,735,000	\$1,764,000	\$1,751,000
Impact on personal income (\$000)	\$1,004,000	\$1,239,000	\$1,423,000	\$1,533,000	\$1,594,000

## Comparison of costs and benefits

Ignoring the opportunity cost of the tax incentive, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would be reaped if the Commonwealth used the dollars spent on the tax incentive for other purposes. Those dollars could be spent in many other ways, and examining them is beyond the scope of the current evaluation report. Nonetheless, we reported net impacts of the tax incentive in Tables A2-5 and A2-6 below under the balanced budget requirement, which are the combined effects in Tables A2-1 to A2-4.

Tables A2-5 and A2-6 show that the sales tax exemption for materials, tools, fuels and machinery, and replacement parts used directly and exclusively in Manufacturing combined with a cut in state government spending results in more economic activity, with real state GDP increasing by \$13 million-\$347 million. The net impact on total employment is negative, decreasing by 645 – 3,520 jobs annually. However, the net impact on private non-farm employment is positive, increasing by 3,438-5,460 jobs annually. The net additional impact on state revenues is mixed, from a decrease of \$2.2 million to an increase of \$8.3 million annually.

Note that in general the tax expenditure has a positive net impact on economic activities (real GDP) though it has net negative impacts on some economic variables for some years like employment and personal income. In addition, the tax expenditure has a specific purpose (in this case, the goal is to encourage industrial expansion in Massachusetts, spur economic development, and to ensure that tax is imposed only once, on consumers who purchase the finished retail product, rather than multiple times on companies during production) that we should consider when evaluating this tax expenditure.

**Table A2-5. Net Additional Revenue Impact of Sales Tax Exemption for Certain Products used in Manufacturing\***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	-\$2,230	-\$2,126	\$2,256	\$5,618	\$8,319

\* assuming state government spending is cut by the same amount as the revenue loss due to the sales tax exemption for certain products used in manufacturing to balance budget.

**Table A2-6. Net Economic Impacts of Sales Tax Exemption for Certain Products used in Manufacturing by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-3,520	-2,168	-1,447	-933	-645

Impact on private non-farm employment	3,438	4,578	5,104	5,384	5,460
Impact on GDP (\$000), real dollars (2012)	\$13,000	\$155,000	\$240,000	\$304,000	\$347,000
Impact on personal income (\$000)	-\$198,000	-\$115,000	-\$58,000	-\$7,000	\$29,000

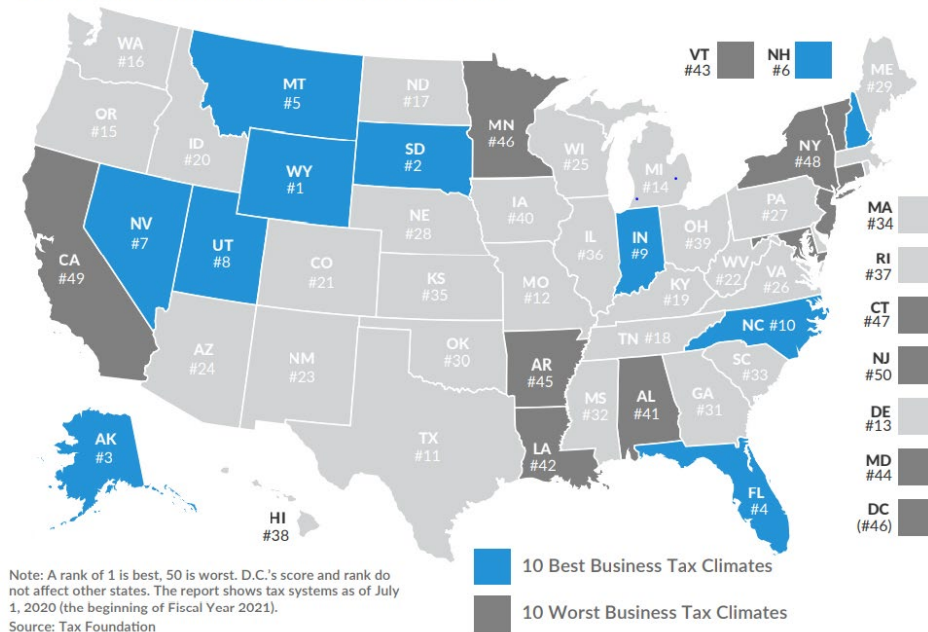
\* assuming state government spending is cut by the same amount as the revenue loss due to the sales tax exemption for certain products used in manufacturing to balance budget.



## Appendix 3: State Business Tax Climate Index

According to the Tax Foundation<sup>8</sup> 2021 State Business Tax Climate Index report, Massachusetts sales tax is ranked 12th, and income tax is ranked 11th. See the following chart and tables from that report. The competitive Massachusetts sales tax climate index may attract new production facilities and retain existing plants, which may mitigate the impact of tax distortions and foster economic growth.

**2021 State Business Tax Climate Index**



<sup>8</sup> <https://taxfoundation.org/>

## 2021 State Business Tax Climate Index Ranks and Component Tax Ranks

State	Overall Rank	Corporate Tax Rank	Individual Income Tax Rank	Sales Tax Rank	Property Tax Rank	Unemployment Insurance Tax Rank
Alabama	41	23	30	50	19	14
Alaska	3	26	1	5	22	45
Arizona	24	22	17	40	11	8
Arkansas	45	34	41	46	25	23
California	49	28	49	45	14	21
Colorado	21	10	14	36	32	41
Connecticut	47	27	44	26	50	22
Delaware	13	50	42	2	4	3
Florida	4	6	1	21	13	2
Georgia	31	7	36	27	24	39
Hawaii	38	18	47	30	9	25
Idaho	20	29	26	9	3	48
Illinois	36	36	13	38	48	43
Indiana	9	12	15	20	2	27
Iowa	40	46	40	14	38	37
Kansas	35	31	24	37	30	13
Kentucky	19	19	18	13	21	49
Louisiana	42	35	32	49	23	4
Maine	29	37	22	8	40	33
Maryland	44	33	45	18	43	34
Massachusetts	34	38	11	12	44	50
Michigan	14	20	12	10	35	18
Minnesota	46	45	46	28	31	32
Mississippi	32	13	27	32	37	5
Missouri	12	3	23	24	8	7
Montana	5	21	25	3	28	20
Nebraska	28	32	21	15	41	11
Nevada	7	25	5	44	5	47
New Hampshire	6	41	9	1	47	44
New Jersey	50	48	50	42	46	31
New Mexico	23	9	31	41	1	9
New York	48	15	48	43	45	38
North Carolina	10	4	16	22	26	10
North Dakota	17	8	20	29	12	12
Ohio	39	42	43	34	6	6
Oklahoma	30	11	33	39	29	1
Oregon	15	49	38	4	16	36
Pennsylvania	27	43	19	17	15	40
Rhode Island	37	39	29	25	42	30
South Carolina	33	5	34	31	34	24
South Dakota	2	1	1	33	20	42
Tennessee	18	24	8	47	33	26
Texas	11	47	6	35	36	16
Utah	8	14	10	23	7	17
Vermont	43	44	39	16	49	15
Virginia	26	16	35	11	27	46
Washington	16	40	6	48	18	19
West Virginia	22	17	28	19	10	28
Wisconsin	25	30	37	7	17	35
Wyoming	1	1	1	6	39	29
District of Columbia	46	17	45	34	49	37

Note: A rank of 1 is best, 50 is worst. Rankings do not average to the total. States without a tax rank equally as 1. DC's score and rank do not affect other states. The report shows tax systems as of July 1, 2020 (the beginning of Fiscal Year 2021).  
Source: Tax Foundation.

**State Business Tax Climate Index (2014–2021)**

State	Prior Year Ranks						2020		2021		2020-2021 Change	
	2014	2015	2016	2017	2018	2019	Rank	Score	Rank	Score	Rank	Score
Alabama	40	40	41	38	40	40	40	4.50	41	4.47	-1	-0.03
Alaska	4	4	3	3	3	3	3	7.27	3	7.28	0	0.01
Arizona	22	24	22	21	22	24	23	5.15	24	5.13	-1	-0.02
Arkansas	41	41	45	42	42	45	44	4.37	45	4.39	-1	0.02
California	48	48	48	48	48	49	49	4.01	49	4.00	0	-0.01
Colorado	24	23	21	22	21	19	21	5.19	21	5.18	0	-0.01
Connecticut	47	47	47	47	47	47	47	4.21	47	4.24	0	0.03
Delaware	17	16	14	19	19	12	13	5.47	13	5.44	0	-0.03
Florida	5	5	4	4	4	4	4	6.86	4	6.89	0	0.04
Georgia	29	32	35	33	33	35	32	4.93	31	4.97	1	0.04
Hawaii	33	30	31	25	27	38	37	4.67	38	4.66	-1	-0.01
Idaho	16	17	18	18	17	20	20	5.22	20	5.20	0	-0.02
Illinois	36	38	29	26	31	36	36	4.80	36	4.75	0	-0.05
Indiana	9	9	9	7	7	10	10	5.59	9	5.58	1	-0.01
Iowa	45	43	44	44	44	44	45	4.34	40	4.50	5	0.16
Kansas	26	26	27	30	29	30	35	4.83	35	4.88	0	0.04
Kentucky	30	35	33	36	36	21	19	5.22	19	5.23	0	0.00
Louisiana	35	37	38	46	46	42	41	4.47	42	4.46	-1	-0.01
Maine	28	33	37	34	34	28	30	4.98	29	4.99	1	0.01
Maryland	39	39	39	39	39	41	42	4.44	44	4.42	-2	-0.01
Massachusetts	25	28	26	29	25	27	34	4.91	34	4.92	0	0.01
Michigan	11	13	15	14	15	17	14	5.41	14	5.42	0	0.01
Minnesota	46	46	46	45	45	46	46	4.26	46	4.26	0	0.00
Mississippi	27	29	30	32	32	29	31	4.96	32	4.96	-1	0.00
Missouri	15	18	20	16	16	15	15	5.36	12	5.45	3	0.09
Montana	6	6	6	6	6	5	5	6.08	5	6.07	0	0.00
Nebraska	38	27	28	31	30	25	27	5.01	28	5.00	-1	-0.01
Nevada	3	3	5	5	5	6	7	5.91	7	5.90	0	-0.01
New Hampshire	8	8	7	8	8	7	6	6.04	6	6.05	0	0.00
New Jersey	49	50	50	50	50	50	50	3.29	50	3.34	0	0.04
New Mexico	23	25	25	28	26	26	24	5.09	23	5.17	1	0.07
New York	50	49	49	49	49	48	48	4.03	48	4.06	0	0.03
North Carolina	34	11	11	10	10	11	11	5.51	10	5.51	1	0.01
North Dakota	20	20	19	20	20	16	17	5.28	17	5.29	0	0.01
Ohio	42	42	42	41	41	39	38	4.66	39	4.64	-1	-0.02
Oklahoma	21	22	24	24	24	31	29	4.98	30	4.97	-1	-0.01
Oregon	10	10	10	11	11	9	8	5.75	15	5.42	-7	-0.34
Pennsylvania	31	31	32	27	28	32	28	5.00	27	5.01	1	0.01
Rhode Island	43	44	40	40	38	37	39	4.65	37	4.68	2	0.03
South Carolina	32	34	34	35	35	33	33	4.91	33	4.92	0	0.01
South Dakota	2	2	2	2	2	2	2	7.42	2	7.42	0	0.00
Tennessee	13	14	16	13	13	18	18	5.27	18	5.25	0	-0.02
Texas	12	12	12	12	12	13	12	5.50	11	5.46	1	-0.04
Utah	7	7	8	9	9	8	9	5.62	8	5.60	1	-0.03
Vermont	44	45	43	43	43	43	43	4.43	43	4.45	0	0.01
Virginia	18	21	23	23	23	23	25	5.08	26	5.04	-1	-0.04
Washington	14	15	13	15	14	14	16	5.34	16	5.33	0	-0.01
West Virginia	19	19	17	17	18	22	22	5.18	22	5.17	0	-0.01
Wisconsin	37	36	36	37	37	34	26	5.05	25	5.06	1	0.01
Wyoming	1	1	1	1	1	1	1	7.62	1	7.72	0	0.10
District of Columbia	47	47	46	48	48	47	46	4.30	46	4.32	0	0.02

Note: A rank of 1 is best, 50 is worst. All scores are for fiscal years. DC's score and rank do not affect other states.  
Source: Tax Foundation.

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Exemption for Materials, Tools, Fuels and Machinery Used in Research and Development	<b>Annual cost:</b> \$95M	<b>Year of adoption:</b> 1977	<b>Sunset date:</b> n/a	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i>	<i>Individual:</i>			
<input type="checkbox"/> Job creation & maintenance	<input type="checkbox"/> Relief of poverty			
<input checked="" type="checkbox"/> Investment	<input type="checkbox"/> Progressivity/assistance to low earners			
<input checked="" type="checkbox"/> Competitiveness/Strategic	<input type="checkbox"/> Access to opportunity			
<input type="checkbox"/> Health/Environment/Social Justice	<input type="checkbox"/> Health/Environment/Social Justice			
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comment: (TE 3.303)</b> As the DOR report makes clear, MA is truly a national leader in R&D, an activity that generally merits subsidization by the state given its positive spillover effects. Thus, reducing the tax burden on R&D activities (much of which is tied to manufacturing) is consistent with both the Commonwealth's strengths and more general principles of good policy. The TERC notes that the claimants of this credit are neither a broad nor low-income group of businesses. As with the exemption for manufacturing, administration of this TE is complicated by litigation of the definition of a research expense.				

This tax expenditure may cause unnecessary complexity, given the existence of the targeted R&D tax credit. That credit directly rewards increases in R&D activity, whereas this sales tax exemption does not. While R&D is a critical economic engine for Massachusetts, given that there is a Research Credit (previously reviewed by the Commission), it may be worthwhile for the legislature to simplify by combining the two.

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Exemption for Materials, Tools, Fuels and Machinery Used in Research and Development
<b>TAX EXPENDITURE NUMBER</b>	3.303
<b>TAX EXPENDITURE CATEGORY</b>	Exempt Component of a Product or Consumed in Production
<b>TAX TYPE</b>	Sales and use tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 64H, § 6(r) and (s)
<b>YEAR ENACTED</b>	(1977) Chapter 620 of the Acts of 1977
<b>REPEAL/EXPIRATION DATE</b>	None
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$82.8 - \$95.1 million per year during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	Buyers and Sellers who buy and sell exempt items
<b>AVERAGE TAXPAYER BENEFIT</b>	Annual tax saving of about \$17,300 per business who buy exempt items

<p><b>Description of the Tax Expenditure:</b> Materials, tools, fuels, machinery, and replacement parts used directly and exclusively in research and development by manufacturing or research and development corporations are exempt from sales tax.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure. We inferred that the purpose is to encourage research and development activity in Massachusetts.</p>
<p><b>What are the policy goals of the expenditure?</b> To encourage research and development activity by providing companies with a sales tax exemption for the purchase of</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> Yes. However, the majority of states only exempt purchases of machinery or equipment used directly and exclusively in</p>

materials, machinery and other items used in research and development.

research and development. It is less common for states to allow the credit for purchases of **all** materials, tools, fuels, and replacement parts used directly and exclusively in research and development

## INTRODUCTION

This tax expenditure exempts purchases of materials, tools, fuels and machinery, and replacement parts used directly and exclusively in research and development (R&D) in Massachusetts by manufacturing or research and development corporations. Corporations need not apply for classification as manufacturing or research and development corporations in order to qualify for the exemption. Rather, it is sufficient that the corporations meet the statutory definition of a manufacturing or research and development corporation.<sup>1</sup>

## POLICY GOALS

The goal of the tax expenditure is to encourage research and development activity in Massachusetts by allowing certain research and development and manufacturing corporations to make tax-free purchases of machinery, materials, tools, fuels, repair parts, and other items used in research and development in Massachusetts. The exemption encourages the purchase of such items and saves such companies capital they can use to otherwise expand their business activities in Massachusetts, such as increasing the capital available to hire additional employees, rent or purchase additional office, manufacturing, or laboratory space, or make other investments in Massachusetts.

## DIRECT COSTS

The revenue loss resulting from this tax expenditure is estimated to be \$82.8 - \$95.1 million per year during FY18-FY22. See Table 1.

**Table 1. Tax Revenue Loss Estimates for Sales Tax Exemption for Materials, Tools, Fuels, and Machinery Used in Research and Development**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$82.8	\$88.4	\$92.3	\$94.2	\$95.1

## DIRECT BENEFITS

The businesses that buy and sell exempt products (materials, tools, fuels, and machinery) used in research and development conducted in Massachusetts are the direct beneficiaries of the sales tax exemption. Buyers benefit from the sales tax exemption in the form of paying a lower “after tax price” while sellers benefit from the sales tax exemption in the

<sup>1</sup> <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleIX/Chapter63/Section42B>



form of receiving a higher “before tax price”. The exact split of the direct benefits depends on the interaction of demand and supply and is often difficult to quantify.

Eligible buyers are the manufacturing or research and development corporations that conduct research and development in Massachusetts. However, data on eligible buyers who actually used this sales tax exemption in a year is not available. But the data presented below give a rough estimate of buyers who might have used this exemption.

According to the U.S. Census Bureau, in 2017, Massachusetts had 1,259 scientific research and development firms.<sup>2</sup> These firms employed 60,061 people generating \$8.2 billion in annual payroll and \$17.5 billion in annual sales.

Table 2 reports the number of corporations who self-reported on their corporate tax returns as a classified manufacturing corporation or a research and development corporation. These corporations are eligible for the sales tax exemption. Table 2 does not reflect the additional corporations that are eligible for the exemption but have not applied for manufacturing classification or did not identify as research and development corporations on their returns. Therefore, the actual number of taxpayers who used this tax exemption may be higher than the numbers reported in Table 2.

**Table 2. Number of Corporations Self-Reporting as a Classified Manufacturing Corporation or a R&D Corporation on Corporate Tax Return**

Tax Year	2014	2015	2016	2017	2018
Classified Manufacturing Corporation	4,255	4,215	4,304	4,217	3,899
Research and Development Corporation	1,181	1,318	1,244	1,388	1,479
Total	5,436	5,533	5,548	5,605	5,378

Source: Department of Revenue (corporate excise return)

Note: The data for tax year 2018 are preliminary and subject to change.

If we assume that the entire tax saving due to the sales tax exemption is passed on to buyers and on average 5,500 buyers used this tax exemption annually, the average tax saving per buyer would be about \$17,300 in FY22 (=\$95.1 million divided by 5,500).

## **EVALUATION: COMPARING COSTS AND BENEFITS**

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases taxes to finance the sales tax exemption for materials, tools, fuels, and machinery used in research and development) and direct benefits (to

<sup>2</sup> Firms in the industry with 4-digit NAICS of 5417.

buyers and sellers of exempt items) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy derived from the tax expenditure, such as where a chain of businesses benefits when the employees working for the directly impacted businesses spend their additional wages and salaries attributable to the tax expenditure to buy goods and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>3</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. Appendix 1 shows one such attempt by DOR.

However, the modeling presented in Appendix 1 does not incorporate the positive externalities generated by business research and development. Positive externalities occur when there is a positive gain on both the private level and social level. Research and development conducted by a company can have positive externalities. Research and development increases the private profits of a company but also has the added benefits of increasing the general level of knowledge within a society and promoting economic growth through its positive effect on innovation and productivity. Since positive externalities cannot be paid for through the market, government intervention, such as subsidy (or public funding to research and development), is often viewed as necessary. The sales tax exemption for materials, tools, fuels, machinery used in the research and development can also be viewed as a tax policy, along with other policies, to encourage an activity that has positive externalities. However, to quantify the effectiveness of policies, especially a single policy, in encouraging research and development is challenging. In Appendix 2, we present some data on business research and development in Massachusetts without attempting to identify the impact of the sales tax exemption for materials, tools, fuels, machinery used in the research and development. We also present a report showing how research contributes to Massachusetts innovation economy.

<sup>3</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

## Similar Tax Expenditures Offered by Other States

Most states provide a sales tax exemption for the purchase of qualified machinery and equipment used in the manufacturing and research and development process. The following discussion sets out some examples.

Ohio exempts business from the entire state and county sales tax for purchases of qualified machinery and equipment used primarily for research and development. This exemption provides significant savings for companies undertaking research and development activities in Ohio. The exemption applies to machinery and equipment included in research and development activity in both direct and pure research. Direct research refers to research conducted to design, create or formulate new or better products, equipment or processes. Pure research refers to scientific or technological inquiry and experimentation in the physical sciences.

In New York, purchases of tangible personal property for use or consumption directly and predominantly in research and development in the experimental or laboratory sense can be made without paying sales tax.

In California, manufacturers and certain research and developers may qualify for a partial exemption of sales and use tax on certain manufacturing and research and development equipment purchases and leases.

There is a 100 percent sales tax exemption for qualified research and development equipment and property purchased in Indiana.

]

## Appendix 1: Further Discussion on Costs and Benefits

The text of the report discusses the direct costs (to the Commonwealth, or more specifically, to the Massachusetts residents or businesses who benefit from state expenditures<sup>4</sup>) and direct benefits (to qualified buyers and sellers of materials, tools, fuels and machinery, and replacement parts used directly and exclusively in research and development) of this tax expenditure. It also summarizes indirect and induced costs and benefits associated with this tax expenditure. This appendix will discuss the indirect and induced costs and benefits in more detail.

### Other costs and benefits: Indirect and Induced

#### *Indirect and Induced Costs*

Regardless of its size, the existence of a specific tax incentive means less revenue for other spending given the Commonwealth's balanced budget requirement, assuming no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an **"opportunity cost"** to the Commonwealth. The opportunity cost to the state includes not only the impact on the individuals and the businesses that directly benefit from those expenditure items (this is called "direct impact"), but also the indirect impact on the chain of businesses that provide intermediate products and services to the directly impacted businesses (this is called "indirect impact"). In addition, there is the cost to the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services (this is called "induced impact"). The total forgone benefits to the whole economy are larger than the initial forgone benefits. This phenomenon is called the "Multiplier Effect".

To estimate the total forgone benefits of the reduced spending, we employed Tax-PI, an economic analysis tool for evaluating the total fiscal and economic effects of tax policy changes. Tax-PI is built on over 30 years of experience in modeling the economic effects of tax policy changes, according to MODELS: TAX-PI<sup>5</sup>. The popularity of the model has grown substantially since it was introduced. Note that while the tax incentive has a specific purpose, the reduced spending is assumed to be proportionally distributed across the Commonwealth's current expenditures.

#### *Quantifying total costs (direct, indirect and induced)*

<sup>4</sup> Spending on a specific tax incentive means less spending on other expenditure items for the Commonwealth under balanced budget requirement if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is an opportunity cost to the Commonwealth, which, more specifically, is borne by the Massachusetts residents or businesses who benefit from those expenditure items.

<sup>5</sup> <https://www.remi.com/model/tax-pi/>

The period of study is limited to the five years from 2018 through 2022, for which we prepared input data to run the model. Tables A1-1 and A1-2 report the model results. The figures are estimates or projections of forgone benefits (opportunity costs) that the Massachusetts economy experiences due to having the expenditure. The effects are displayed as negative numbers as reduced spending has a negative impact on the state economy.

Tables A1-1 and A1-2 show that the reduction in state government spending results in lost economic activities, with real state GDP declining by \$189 million-\$216 million and total employment declining by 2,188 -2,450 jobs annually. Lost economic activities result in further loss of state revenues<sup>6</sup>, ranging from \$4.0 million to \$11.8 million annually. Note that the revenue impact reported in Table A1-1 does not include the estimated direct impact of the tax expenditure from Table 1, but only the additional indirect/induced impact.

**Table A1-1. Additional Revenue Impact due to Decreased Government Spending\***

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	-\$3,972	-\$8,974	-\$10,408	-\$11,353	-\$11,793

\* This table reports the lost revenues from the foregone economic activities as the state reduced government spending to finance the sales tax exemption for certain products used in research and development.

**Table A1-2. Economic Impacts due to Decreased Government Spending by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-2,188	-2,350	-2,450	-2,401	-2,296
Impact on private non-farm employment	-1,206	-1,295	-1,356	-1,309	-1,222
Impact on GDP (\$000), real dollars (2012)	-\$189,000	-\$205,000	-\$216,000	-\$214,000	-\$208,000
Impact on personal income (\$000)	-\$158,000	-\$187,000	-\$212,000	-\$224,000	-\$230,000

\*This table reports the lost economic activities as the state reduced government spending to finance the sales tax exemption for certain products used in research and development.

### *Indirect and Induced Benefits*

The tax savings to buyers and sellers of exempt products used in research and development encourage directly affected buyers and sellers to expand business activities,

<sup>6</sup> Including both tax and non-tax revenues but excluding the revenue loss reported in Table 1.

hire additional employees, rent or purchase additional office or laboratory space, or make other investments, etc. Such decisions would increase demand for goods and services provided by other individuals and businesses in the economy, or put another way, generate a “Multiplier Effect” (see discussion in the previous section) from the initial or direct benefits as reported in the text. As a result, the total benefits of this sales tax exemption would be larger than the initial or direct benefits.

*Quantifying total benefits (direct, indirect and induced)*

To quantify the total benefits, including indirect/induced benefits, we again employed Tax-PI. A summary of the revenue impact of the sales tax exemption for materials, tools, fuels and machinery, and replacement parts used directly and exclusively in research and development is reported in Table A1-3, and the economic benefit from this sales tax exemption is reflected in Table A1-4 below. The figures are estimates or projections of benefits that the Massachusetts economy experiences.

Tables A1-3 and A1-4 show that, the sales tax exemption for materials, tools, fuels and machinery, and replacement parts used directly and exclusively in research and development results in more economic activities, with real state GDP increasing by \$190 million - \$257 million and total employment increasing by 1,719-2,242 jobs annually. More economic activities result in more state revenues, ranging from \$3.7 million to \$12.9 million annually, which partially offsets the cost of this tax incentive.

**Table A1-3. Additional Revenue Impact of Sales Tax Exemption for Certain Products used in Research and Development**

Fiscal Year	2018	2019	2020	2021	2022
Additional revenue impact (\$000)	\$3,666	\$8,645	\$10,639	\$12,063	\$12,915

**Table A1-4. Economic Impacts of Sales Tax Exemption for Certain Products used in Research and Development by Selected Economic Measure**

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	1,719	2,029	2,215	2,242	2,184
Impact on private non-farm employment	1,652	1,916	2,073	2,082	2,015
Impact on GDP (\$000), real dollars (2012)	\$190,000	\$224,000	\$248,000	\$256,000	\$257,000
Impact on personal income (\$000)	\$131,000	\$170,000	\$202,000	\$221,000	\$233,000

## Comparison of costs and benefits

Ignoring the opportunity cost of the tax incentive, total benefits are greater than costs. Considering the opportunity cost means asking what benefits would be reaped if the Commonwealth used the dollars spent on the tax incentive for other purposes. Those dollars could be spent in many other ways, and examining them is beyond the scope of the current evaluation report. Nonetheless, we reported net impacts of the tax incentive in Tables A1-5 and A1-6 below under the balanced budget requirement, which are the combined effects in Tables A1-1 to A1-4.

Tables A1-5 and A1-6 show that the sales tax exemption for materials, tools, fuels and machinery, and replacement parts used directly and exclusively in research and development combined with a cut in state government spending results in more economic activity, with real state GDP increasing by \$1 million-\$49 million. The net impact on total employment is negative, decreasing by 112 – 469 jobs annually. However, the net impact on private non-farm employment is positive, increasing by 445-792 jobs annually. The net additional impact on state revenues is mixed, from a decrease of \$0.3 million to an increase of \$1.1 million annually.

Note that in general the tax expenditure has a positive net impact on economic activities (real GDP) though it has net negative impacts on some economic variables for some years like employment and personal income. In addition, as discussed in the text, the analysis in this appendix does not take into account the positive externalities of research and development. Such positive externalities are very important for promoting economic growth. That may be why governments adopt various policies, including this tax expenditure, to encourage research and development activity.

**Table A1-5. Net Additional Revenue Impact of Sales Tax Exemption for Certain Products used in Research and Development \***

Fiscal Year	2018	2019	2020	2021	2022
Net additional revenue impact (\$000)	-\$307	-\$332	\$228	\$707	\$1,118

\* assuming state government spending is cut by the same amount as the revenue loss due to the sales tax exemption for certain products used in research and development to balance budget.

**Table A1-6. Net Economic Impacts of Sales Tax Exemption for Certain Products used in Research and Development by Selected Economic Measure\***

Calendar Year	2018	2019	2020	2021	2022
Impact on total employment	-469	-321	-235	-159	-112

Impact on private non-farm employment	445	621	717	772	792
Impact on GDP (\$000), real dollars (2012)	\$1,000	\$20,000	\$32,000	\$42,000	\$49,000
Impact on personal income (\$000)	-\$27,000	-\$17,000	-\$10,000	-\$3,000	\$3,000

\* assuming state government spending is cut by the same amount as the revenue loss due to the sales tax exemption for certain products used in research and development to balance budget.



## Appendix 2: Business R&D in Massachusetts and Index of the Massachusetts Innovation Economy

### Business R&D in Massachusetts compared with other states

2017 business R&D in Massachusetts totaled \$23.7 billion. See the table below from a publication by National Science Foundation (NSF).<sup>7</sup>

TABLE 4. Funds spent for business R&D performed in the United States, by state and source of funds: 2017  
(Millions of U.S. dollars)

State	All R&D <sup>a</sup>	Paid for by the company	Paid for by others	State	All R&D <sup>a</sup>	Paid for by the company	Paid for by others
United States	400,100	339,036	61,065	Montana	133	114	18
Alabama	1,896	968	928	Nebraska	592	470	122 i
Alaska	912	905	7	Nevada	624	439	186
Arizona	6,338	4,476	1,862	New Hampshire	1,361	754	607 i
Arkansas	466	442	24	New Jersey	16,405	13,228	3,177
California	132,473	120,111	12,362	New Mexico	802	298	503 i
Colorado	4,703	3,828	875	New York	15,671	13,430	2,241
Connecticut	8,694	6,423	2,272	North Carolina	10,246	7,502	2,744 i
Delaware	2,048	1,445 i	603	North Dakota	304	276	28
District of Columbia	406	279	127	Ohio	9,769	6,697	3,071
Florida	6,463	4,496	1,966 i	Oklahoma	833	775	58
Georgia	6,450	5,085	1,365 i	Oregon	7,691	7,426	265
Hawaii	169	105	64	Pennsylvania	10,986	9,576	1,410
Idaho	1,747	1,527	220	Rhode Island	730	657	73
Illinois	14,399	12,743	1,655 i	South Carolina	1,370	1,212	158
Indiana	6,283	5,394	889	South Dakota	199	189	10
Iowa	2,938	2,195	743	Tennessee	1,407	1,172	235
Kansas	2,212	1,486	726 i	Texas	21,002	17,752	3,250
Kentucky	983	758	225	Utah	2,846	2,171	675
Louisiana	297	243	53	Vermont	253	241	11
Maine	292	257	35	Virginia	4,332	2,659	1,674 i
Maryland	5,595	3,106	2,488 i	Washington	21,462	20,820	642
Massachusetts	23,655	18,912	4,743	West Virginia	212	182	30
Michigan	21,042	19,101	1,941	Wisconsin	5,436	4,777	659
Minnesota	7,146	6,633	513	Wyoming	87 i	82 i	5
Mississippi	266	221	45	Undistributed funds <sup>b</sup>	2,181	1,561	620
Missouri	5,299 i	3,433	1,866 i				

i = more than 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

<sup>a</sup> All R&D is the cost of domestic R&D paid for by the respondent company and others outside of the company and performed by the company.

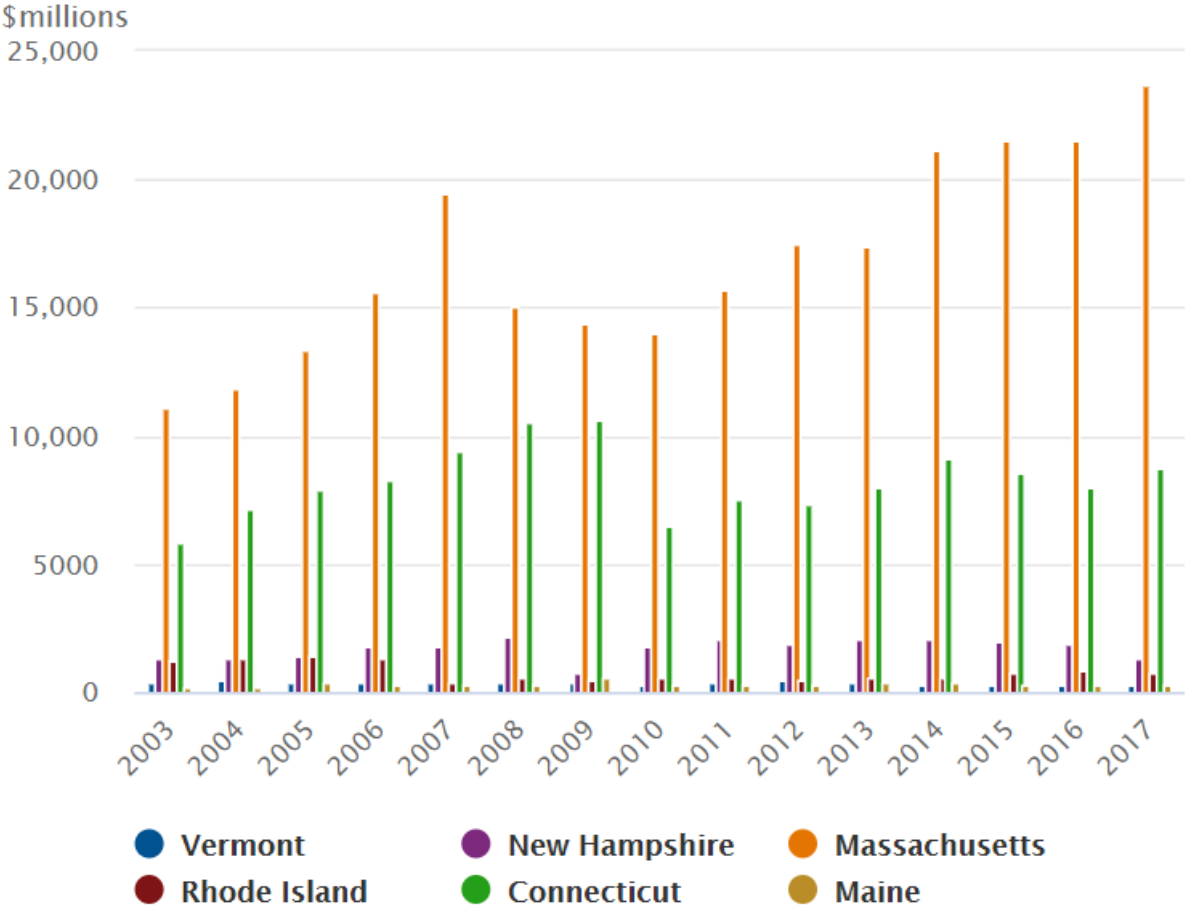
<sup>b</sup> Includes data reported that were not allocated to a specific state by multi-establishment companies. For single-establishment companies, data reported were allocated to the state in the address used to mail the survey form.

NOTES: Detail may not add to totals because of rounding. Statistics are representative of companies located in the United States that performed or funded R&D. Excludes data for federally funded research and development centers.

SOURCE: National Center for Science and Engineering Statistics, National Science Foundation, and U.S. Census Bureau, Business Research and Development Survey, 2017.

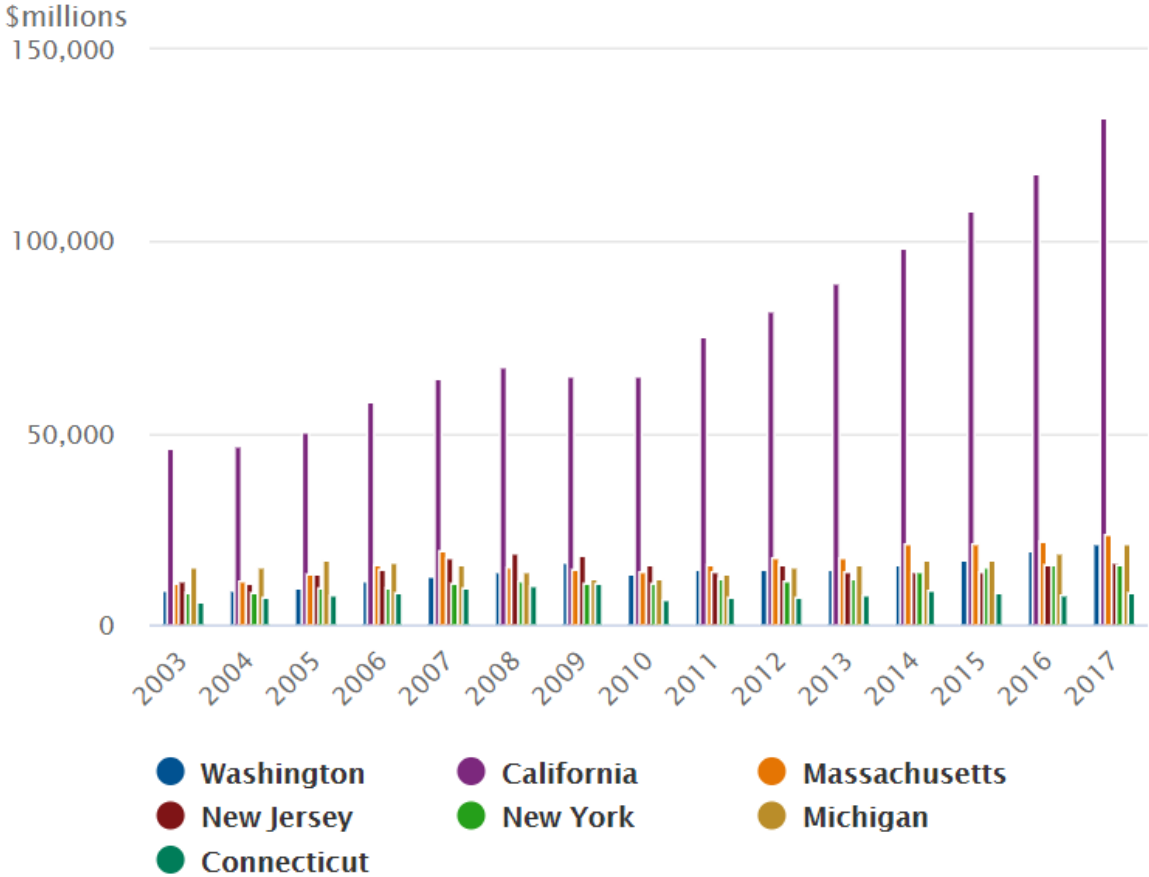
<sup>7</sup> <https://www.nsf.gov/statistics/2019/nsf19326/nsf19326.pdf>

Business R&D performance in New England States in 2017 (\$ Millions)



Source: National Science Foundation

Business R&D performance in MA, WA, CA, NJ, NY, MI, and CT in 2017 (\$ Millions)



Source: National Science Foundation

## Index of the Massachusetts Innovation Economy

The 2019 Edition of the Index of the Massachusetts Innovation Economy (<https://masstech.org/index>) published by the Innovation Institute at the Massachusetts Technology Collaborative ranked Massachusetts 1<sup>st</sup> among 10 leading technology states. See the table below.

2019 Leading Technology States (LTS)	
State	LTS Selection Score
Massachusetts	2.27
California	2.17
Pennsylvania	1.99
New York	1.82
Ohio	1.62
Minnesota	1.55
Illinois	1.50
Connecticut	1.42
Texas	1.40
North Carolina	1.40

Every year, the Index compares Massachusetts' performance on several metrics (talent, research, capital) to a group of "Leading Technology States" (LTS). The LTS have economies with a significant level of economic concentration and size in the 11 key sectors that compose the Innovation Economy (IE) in Massachusetts (see below). The Index accounts for three metrics deemed representative of not only the intensity of the Innovation Economy, but also the size and breadth of a state's Innovation Economy and evaluates them simultaneously.

### Eleven Key Innovation Economy Sectors

- Advanced Materials
- Biopharmaceuticals & Medical Devices
- Business Services
- Computer and Communications Hardware
- Defense Manufacturing and Instrumentation
- Diversified Industrial Manufacturing
- Financial Services
- Healthcare Delivery

- Postsecondary Education
- Scientific, Technical, and Management Services
- Software and Communications Services

Besides talent and capital, one of the three pillars forming the driving force of the Innovation Economy is research. Massachusetts received more R&D investment (\$30.9B) as a % of GDP (5.7%) than any of the LTS in 2016 and received the most federal funding for R&D relative to GDP (0.6%) as well. Massachusetts had both the most Technology Patents per capita of any of the LTS (871 per million residents in 2018) and the most Science & Engineering academic articles per doctorate holder in academia of any of the LTS and internationally (1,328 per 1,000 doctorate holders in 2017).

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Exemption for Vessels, Materials, Tools, Fuels, and Machinery Used in Commercial Fishing	<b>Annual cost:</b> \$15M	<b>Year of adoption:</b> 1967	<b>Sunset date:</b> n/a	
<b>Tax Type</b> (check all that apply): <input checked="" type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input checked="" type="checkbox"/> Job creation & maintenance <input type="checkbox"/> Investment <input checked="" type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:	<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:			
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comment: (TE 3.309)</b> A narrowly targeted tax expenditure such as this always merit some skepticism. However, the commercial fishing industry is a 'key cluster' targeted by the state government in its strategic economic plan. This TE has significant benefits outside the commercial fishing industry, as it supports the Commonwealth's tourism industry and contributes to the region's cultural history. Neighboring states have similar policies, consistent with these arguments.				

**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Exemption for Vessels, Materials, Tools, Fuels, and Machinery Used in Commercial Fishing
<b>TAX EXPENDITURE NUMBER</b>	3.309
<b>TAX EXPENDITURE CATEGORY</b>	Exempt Products that are consumed and used directly and exclusively in the production of an exempt item
<b>TAX TYPE</b>	Sales and use tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 64H, §§ 6(o), (r), and (s)
<b>YEAR ENACTED</b>	1967 (Chapter 757 of the Acts of 1967, § 1)
<b>REPEAL/EXPIRATION DATE</b>	None.
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$12.7 - \$15.0 million per year during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	Buyers and Sellers who buy and sell exempt items
<b>AVERAGE TAXPAYER BENEFIT</b>	About \$4,500 per commercial fishing business

<p><b>Description of the Tax Expenditure:</b> Vessels, materials, tools, fuels, and machinery, and replacement parts which are consumed and used directly and exclusively in commercial fishing are exempt from sales tax.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> To (i) encourage and support commercial fishing activity in Massachusetts and (ii) avoid imposing a tax at the intermediate stages in the economic process of producing food, an exempt item, by exempting purchases of vessels, machinery and consumables used directly and exclusively in commercial fishing.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> Yes. Most coastal states or states near large freshwater fishing areas offer similar exemptions.</p>

## INTRODUCTION

Vessels, materials, tools, fuels, and machinery, including replacement parts, used in commercial fishing are exempt from sales tax if they are consumed or directly used in commercial fishing.

## POLICY GOALS

The exemption is intended to encourage and support the Massachusetts commercial fishing industry by exempting equipment and materials (e.g., vessels, fuels and other supplies and equipment) used directly and exclusively in commercial fishing activities. Furthermore, food is generally exempt from sales and use tax in Massachusetts. By exempting property used in commercial fishing (e.g., vessels, materials, tools, fuels, and machinery, including replacement parts), Massachusetts avoids imposing a tax at the intermediate stages in the economic process of producing food, which would lead to ultimately taxing an exempt item.

## DIRECT COSTS

The revenue loss resulting from this tax expenditure is estimated to be \$12.7 - \$15.0 million per year during FY18-FY22. See Table 1.

**Table 1. Tax Revenue Loss Estimates for Sales Tax Exemption for Vessels, Materials, Tools, Fuels, and Machinery Used in Commercial Fishing**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$12.7	\$13.2	\$13.8	\$14.4	\$15.0

## DIRECT BENEFITS

The Massachusetts businesses that buy and sell exempt products (vessels, materials, tools, fuels, and machinery) used in commercial fishing are the direct beneficiaries of the sales tax exemption. Buyers benefit from the sales tax exemption in the form of paying a lower “after tax price” while sellers benefit from the sales tax exemption in the form of receiving a higher “before tax price”. The exact split of the direct benefits depends on the interaction of demand and supply and is often difficult to quantify. Out-of-state businesses that sell the exempt products to Massachusetts commercial fishing businesses also benefit from this sales tax exemption.

According to the U.S. Census Bureau, in 2012, Massachusetts had 3,121 businesses in the commercial fishing industry, including businesses with or without paid employees. If we



assume that the entire tax saving due to the sales tax exemption is passed on to buyers, the average tax saving per year to commercial fishing businesses is estimated to be about \$4,500.

## **EVALUATION: COMPARING COSTS AND BENEFITS**

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases taxes to finance the sales tax exemption for vessels, materials, tools, fuels, and machinery used in commercial fishing) and direct benefits (to buyers and sellers of exempt items) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy derived from the tax expenditure, such as where a chain of businesses benefits when the employees working for the directly impacted businesses spend their additional wages and salaries attributable to the tax expenditure to buy goods and services. The total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>1</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. Given that the amount of direct costs and benefits are small for this tax expenditure, less than \$20 million per year, DOR did not attempt to quantify such costs and benefits.

The indirect benefits of this tax expenditure include that to consumers. The exemption results in a lower retail cost of food purchased for human consumption, such that the price of seafood purchased for human consumption will not include tax previously imposed on materials used to catch the fish. The indirect benefits also include that to the entire seafood industry, which comprises the commercial fishing sector, seafood processors and dealers, seafood wholesalers and distributors, importers, and seafood retailers. The appendix provides some data for the seafood industry compiled by the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce.

<sup>1</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

Besides the economic costs and benefits discussed so far, this tax expenditure may have other costs or benefits. For example, by encouraging commercial fishing, this tax expenditure may have a negative impact on environment by aggravating the problem of overfishing if there are no other policies to offset this impact. Overfishing is a classic example of “negative externality” or “tragedy of the commons”.<sup>2</sup> According to the Food Empowerment Project, the commercial fishing industry has been depleting fish populations around the world for decades, driving many species toward extinction. Scientists estimate that the fishing industry kills between 0.97 and 1.97 trillion wild fish worldwide every year, further straining fragile oceans and other waterways that are already poisoned by pollution from oil spills, agricultural runoff and immense amounts of garbage.<sup>3</sup>

### Similar Tax Expenditures Offered by Other States

All states that border Massachusetts, which impose sales tax, provide for some form of exemption for purchases related to commercial fishing:

- In Connecticut, Conn. Gen. Stat. §12-412(40) exempts from sales and use taxes any vessel used exclusively in commercial fishing and any machinery or equipment used on a commercial fishing vessel if the purchaser qualifies for and has been issued a Fisherman Tax Exemption Permit by the Department of Revenue Services (DRS).
- Maine exempts sales of vessels, depreciable machinery and equipment used in commercial fishing. This exemption is detailed in Maine Revenue Services, Sales, Fuel, and Special Tax Division, Instructional Bulletin No. 59.
- Per N.Y. Tax Law § 1115 (24), New York exempts sales of fishing vessels used directly and predominantly in the harvesting of fish for sale, and property used by or purchased for the use of such vessels for fuel, provisions, supplies, maintenance and repairs.
- The Rhode Island sales and use tax does not apply to the sale of and the storage, use or other consumption in this state of vessels which are in excess of five (5) net tons and which are used exclusively for commercial fishing. The exemption also applies to the nets, cables, tackle, and other fishing equipment appurtenant to or used in connection with the commercial fishing of said vessels. Property purchased for the use of such vessels and other watercraft including provisions, supplies, and material for the maintenance and/or repair of such vessels or watercraft is also exempt.
- In 23 VAC 10-210-351, Vermont generally exempts all materials and machinery used directly in commercial fishing.

<sup>2</sup> <https://www.investopedia.com/terms/t/tragedy-of-the-commons.asp>

<sup>3</sup> <https://foodispower.org/animals-of-the-sea-2/commercial-fishing/>

Several other states, e.g., Louisiana and Washington, also have similar sales tax incentive for commercial fishing activities.

## Appendix: Some Statistics on the Seafood Industry

Composed of commercial fishing, suppliers that service commercial fishing, marine aquaculture, fish processing and wholesaling, and retail and food service sales, the seafood industry covers many activities in the commonwealth's coastal cities and towns. The seafood industry accounts for less than two percent of the commonwealth's labor force but is an important component of coastal communities such as New Bedford, Gloucester, and some of the towns on Cape Cod. Fishing also retains important links to tourism and the appeal of coastal life.

The tables and charts in the rest of this section are taken from the 2016 Fisheries Economics of the United States report (<https://www.fisheries.noaa.gov/content/fisheries-economics-united-states-2016>) published by NOAA. The tables and charts contain some key data on sales, income, total landings, etc. for the United States, the New England area, and Massachusetts.

In 2016, Massachusetts was ranked 4th in terms of total seafood industry sales, which totaled \$7.7 billion, 5.3% of total US sales. Seafood industry in Massachusetts also created 87,201 jobs with imports or 55,384 jobs without imports.

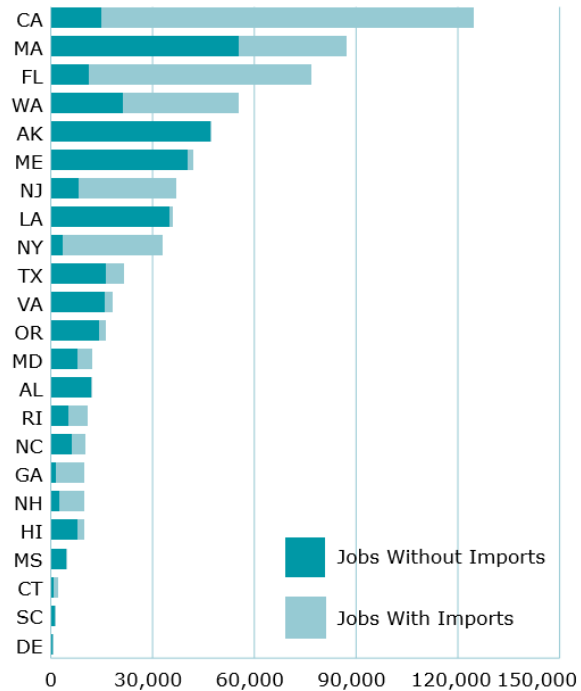
**Table 5. U.S. Seafood Industry Economic Impacts Trends (\$ billions)**

	2012	2013	2014	2015	2016
Jobs	1,270,141	1,350,627	1,394,833	1,179,848	1,190,092
Sales	\$140.70	\$142.20	\$153.30	\$144.19	\$144.29
Income	\$38.70	\$39.80	\$42.00	\$39.74	\$39.90
Value Added	\$59.00	\$60.30	\$64.10	\$60.57	\$60.76
Total Revenue	\$5.29	\$5.55	\$5.53	\$5.22	\$5.34

**Table 6. Sales, Income and Value-Added Impacts Generated by the U.S. Seafood Industry, 2016 (\$ millions)**

State	Sales	Income	Value Added
U.S.	\$144,293	\$39,905	\$60,758
California	\$22,776	\$4,912	\$8,141
Florida	\$16,874	\$3,172	\$5,659
Washington	\$7,464	\$2,004	\$3,048
Massachusetts	\$7,663	\$1,999	\$3,045
Alaska	\$3,895	\$1,654	\$2,074
New Jersey	\$6,226	\$1,413	\$2,282
New York	\$4,412	\$950	\$1,567
Maine	\$2,582	\$856	\$1,236
Louisiana	\$2,022	\$752	\$1,023
Texas	\$2,091	\$597	\$899
Virginia	\$1,435	\$464	\$660
Oregon	\$1,190	\$416	\$584
New Hampshire	\$1,511	\$348	\$558
Georgia	\$1,554	\$344	\$567
Maryland	\$1,241	\$335	\$504
Rhode Island	\$1,375	\$335	\$529
North Carolina	\$985	\$276	\$411
Hawai'i	\$867	\$269	\$392
Alabama	\$555	\$220	\$288
Mississippi	\$218	\$87	\$113
Connecticut	\$387	\$83	\$137
South Carolina	\$118	\$39	\$55
Delaware	\$136	\$26	\$44

**Graph 1. Jobs supported by the U.S. Seafood Industry (With and Without Imports), 2016**



**Table 7. Commercial Fisheries Landings Revenue by Region, 2016 (\$ millions)**

Region	Landings Revenue	Region	Landings Revenue
U.S.	\$5,337.10	Pacific	\$688.90
North Pacific	\$1,609.60	Mid-Atlantic	\$550.30
New England	\$1,325.90	South Atlantic	\$190.90
Gulf of Mexico	\$912.10	Western Pacific	\$118.10

**2016 Economic Impacts of the New England Seafood Industry (thousands of dollars)**

	Landings Revenue	With Imports				Without Imports			
		#Jobs	Sales	Income	Value Added	#Jobs	Sales	Income	Value Added
Connecticut	15,087	2,306	387,244	83,307	137,449	808	53,328	18,277	25,482
Maine	633,014	41,960	2,581,806	855,773	1,236,431	40,246	2,300,020	795,211	1,136,921
Massachusetts	550,755	87,201	7,662,911	1,998,842	3,045,410	55,384	2,318,125	851,027	1,161,180
New Hampshire	33,215	9,922	1,511,091	348,439	558,040	2,577	160,077	59,239	81,009
Rhode Island	93,872	10,828	1,375,375	334,588	528,970	5,193	332,575	120,271	168,541

**2016 Economic Impacts of the Massachusetts Seafood Industry (thousands of dollars)**

	#Jobs	With Imports			Without Imports			
		Sales	Income	Value Added	#Jobs	Sales	Income	Value Added
Total Impacts	87,201	7,662,911	1,998,842	3,045,410	55,384	2,318,125	851,027	1,161,180
Commercial Harvesters	11,490	1,008,163	317,973	467,913	11,490	1,008,163	317,973	467,913
Seafood Processors & Dealers	6,698	966,228	368,384	478,963	1,586	228,715	87,200	113,375
Importers	12,994	4,015,577	643,573	1,224,124	0	0	0	0
Seafood Wholesalers & Distributors	2,762	488,166	159,524	216,451	1,003	177,294	57,937	78,612
Retail	53,257	1,184,777	509,387	657,960	41,306	903,952	387,917	501,281

The following table is for Massachusetts:

**Total Landings Revenue & Landings Revenue of Key Species/Species Groups (thousands of dollars)<sup>1</sup>**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total Revenue	420,004	399,822	400,473	478,691	571,583	616,466	565,739	523,410	524,112	550,755
Finfish & Other	109,089	121,567	113,973	126,262	132,388	126,152	93,961	103,615	99,325	99,112
Shellfish	310,915	278,254	286,500	352,430	439,195	490,314	471,779	419,795	424,787	451,643
<b>Key Species</b>										
American lobster	51,258	45,418	42,731	50,330	53,302	53,357	61,662	68,376	78,290	82,007
Atlantic herring	8,265	11,342	15,062	10,251	8,802	11,529	10,750	9,432	8,787	7,559
Atlantic mackerel	4,736	4,265	4,528	1,487	137	654	1,223	2,421	1,926	2,426
Clams, all other	15,680	15,255	16,745	17,966	19,154	37,294	28,311	26,484	27,502	39,140
Cod & haddock	32,043	38,696	33,684	45,210	43,397	26,123	14,083	18,440	17,577	17,919
Eastern oyster	4,559	5,496	6,432	8,225	9,066	12,071	13,896	19,575	22,742	22,631
Flounders	22,095	20,924	19,645	19,975	22,025	25,058	20,612	17,949	17,340	17,203
Goosefish	14,380	14,035	9,902	9,922	13,431	13,596	8,870	10,028	10,251	11,294
Ocean quahog clam	10,100	9,575	10,710	8,981	7,995	NA	10,229	9,814	9,063	NA
Sea scallop	218,292	189,891	197,280	252,253	330,944	364,864	334,205	271,373	264,933	281,445

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b> Exemption for Vending Machines Sales	<b>Annual cost:</b> \$1.3 - \$1.4M	<b>Year of adoption:</b> 1967 and 1977	<b>Sunset date:</b>	
<b>Tax Type</b> (check all that apply): <input type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input checked="" type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i>		<i>Individual:</i>		
<input type="checkbox"/> Job creation & maintenance		<input type="checkbox"/> Relief of poverty		
<input type="checkbox"/> Investment		<input type="checkbox"/> Progressivity/assistance to low earners		
<input type="checkbox"/> Competitiveness/Strategic		<input type="checkbox"/> Access to opportunity		
<input type="checkbox"/> Health/Environment/Social Justice		<input type="checkbox"/> Health/Environment/Social Justice		
<input checked="" type="checkbox"/> Other: Easing compliance costs on de minimis sales		<input type="checkbox"/> Other:		
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments (TE 3.602)</b>				
While it is likely that there are fewer vending machines than when the expenditure was adopted in 1977, this TE remains relevant as it would be impractical for the vendor to charge sales tax at point of sale. As an exclusion, it is easily administered. The saving may be relevant or not, depending on				

if the beneficiary is seen as the consumer or the vendor. It might be the case in the future that if all sales tax is processed electronically with bar codes and payments are electronic, that the compliance cost would be so small this exemption would not be needed.



**MASSACHUSETTS TAX EXPENDITURES  
EVALUATION SUMMARY**

**EVALUATION YEAR: 2020**

<b>TAX EXPENDITURE TITLE</b>	Exemption for Vending Machines Sales
<b>TAX EXPENDITURE NUMBER</b>	3.602
<b>TAX EXPENDITURE CATEGORY</b>	Sales and use tax exemptions
<b>TAX TYPE</b>	Sales and use tax
<b>LEGAL REFERENCE</b>	M.G.L. c. 64H § 6(h) and (t)
<b>YEAR ENACTED</b>	Exemption for snacks and candy sold by a vending machine was enacted in 1977, (St. 1977, c. 363A § 45); the exemption for items sold for 10 cents or less was enacted in 1967 (St. 1967, c. 757 § 1).
<b>REPEAL/EXPIRATION DATE</b>	None.
<b>ANNUAL REVENUE IMPACT</b>	Tax loss of \$1.3 - \$1.4 million per year during FY18-FY22
<b>NUMBER OF TAXPAYERS</b>	Buyers and Sellers who buy and sell exempt items through vending machines
<b>AVERAGE TAXPAYER BENEFIT</b>	\$0.5 per Massachusetts Household in FY18.

<p><b>Description of the Tax Expenditure:</b> Vending machine sales of items costing ten cents or less are exempt from sales tax. In addition, sales through vending machines which exclusively sell snacks and candy with a sales price of less than three dollars and fifty cents are exempt from the sales tax on meals.</p>	<p><b>Is the purpose defined in the statute?</b> The statute does not explicitly state the purpose of this tax expenditure.</p>
<p><b>What are the policy goals of the expenditure?</b> The goal of the tax expenditure is to facilitate sales of snacks and candy when sold by a vending machine that exclusively sells such items, as well as sales of other low cost items when sold by a vending machine more generally, thereby easing the compliance burden on such de minimis sales.</p>	<p><b>Are there other states with a similar Tax Expenditure?</b> Yes, Connecticut and New York provide similar tax expenditures, while Maine, New Hampshire, and Vermont provide limited versions of this tax expenditure in certain circumstances.</p>

## INTRODUCTION

All retail sales of tangible personal property in Massachusetts are subject to a 6.25% sales tax, unless otherwise exempt. M.G.L. c. 64H, § 2. Massachusetts currently exempts tangible personal property when sold by a coin operated vending machine at ten cents or less, provided the retailer is primarily engaged in making such sales and keeps records satisfactory to the commissioner. M.G.L. c. 64H, § 6(t).

Massachusetts also exempts sales of food products, including certain snacks and candy, from tax. However, sales of “meals,” defined as food or beverage “prepared for human consumption and provided by a restaurant,” are taxable. M.G.L. c. 64H, § 6(h). A “restaurant” is defined as “any eating establishment where food, food products, or beverages are provided and for which a charge is made” and includes vending machines. Nevertheless, a vending machine that sells only snacks or candy with a sales price of less than \$3.50 is excluded from the definition of a restaurant, and thus the sale of such items from such vending machines is exempt from tax.

The current amount of the sales and use tax exemption for sales of snacks and candy from a vending machine was raised to the current \$3.50 figure in 2000 (St. 2000, c. 209).

## POLICY GOALS

The tax expenditure is intended to exempt certain items purchased from vending machines from tax. When the Massachusetts sales and use tax was first codified and made permanent in 1967, purchases of certain low-cost goods from vending machines were intended to be exempt when sold for ten cents or less. In the 53 years since the enactment of this tax expenditure, the amount of the exemption has not changed.

The tax expenditure is generally intended to ease the compliance burden for vending machine operators with respect to sales of certain items from vending machines, where it may be difficult for tax to be reliably collected. Moreover, the exemption facilitates sales of snacks and candy when sold by vending machines that exclusively sell such items, as well as sales of certain low-cost items when sold by a vending machine more generally.

## DIRECT COSTS

The revenue loss resulting from this tax expenditure is estimated to be \$1.3 - \$1.4 million per year during FY18-FY22. See Table 1.

**Table 1. Tax Revenue Loss Estimates for Sales Tax Exemption  
for Certain Vending Machine Sales**

Fiscal Year	2018	2019	2020	2021	2022
Estimated Revenue Loss (\$Million)	\$1.3	\$1.3	\$1.3	\$1.3	\$1.4

## DIRECT BENEFITS

The Massachusetts consumers and businesses that buy and sell exempt items through vending machines are the direct beneficiaries of the sales tax exemption. Buyers benefit from the sales tax exemption in the form of paying a lower “after tax price” while sellers benefit from the sales tax exemption in the form of receiving a higher “before tax price”. The exact split of the direct benefits depends on the interaction of demand and supply and is often difficult to quantify. In addition, vending machine operators benefit from the tax expenditure by not incurring administrative costs associated with collecting tax for certain vending machine sales, where accurately collecting tax may face unique challenges.

According to the U.S. Census Bureau, in 2017, Massachusetts had 66 “Vending machine operators.”

For simplicity, we assume that the entire tax savings due to the sales tax exemption are passed on to buyers. Based on this assumption, Table 2 reports the distribution of estimated tax savings in FY18 among households in different income ranges. The table is based primarily on the 2018 Consumer Expenditure Survey data published by the U.S. Bureau of Labor Statistics and data from other sources such as Moody’s Analytics and the Massachusetts Department of Revenue.

According to Table 2, the average tax saving from the exemption is estimated to be \$0.48 per Massachusetts household in FY18, varying from \$0.29 for households with annual income of less than \$15,000, to \$0.83 for households with annual income of at least \$200,000. 16.95% of all tax savings went to the households with annual income of \$100,000 to \$149,999, while 6.35% went to households with annual income of \$40,000 to \$49,999. The tax savings reduced Massachusetts households’ effective tax rate (the ratio of tax to income) by 0.0006 percentage points on average. This reduction varied from 0.0003 percentage points for the households with annual income of at least \$200,000 to 0.0038 percentage points for households with annual income of less than \$15,000. On average, households with annual income of less than \$15,000 spent a much higher percentage of their income on exempt items sold through vending machines.

**Table 2. Estimated Distribution of Tax Savings to MA Households by Income Level in FY18**

Annual Income Range	Number of MA Households (Millions)	Tax Savings (Millions)	Average Tax Savings (\$)	Tax Savings Distribution	Change in Households' Effective Tax Rate
Less than \$15,000	0.349	\$0.100	\$0.29	7.89%	-0.0038%
\$15,000 to \$29,999	0.419	\$0.139	\$0.33	10.95%	-0.0015%
\$30,000 to \$39,999	0.265	\$0.110	\$0.41	8.62%	-0.0012%
\$40,000 to \$49,999	0.217	\$0.081	\$0.37	6.35%	-0.0008%
\$50,000 to \$69,999	0.346	\$0.156	\$0.45	12.29%	-0.0008%
\$70,000 to \$99,999	0.388	\$0.204	\$0.53	16.05%	-0.0006%
\$100,000 to \$149,999	0.351	\$0.216	\$0.61	16.95%	-0.0005%
\$150,000 to \$199,999	0.165	\$0.121	\$0.73	9.54%	-0.0004%
\$200,000 to more	0.174	\$0.144	\$0.83	11.35%	-0.0003%
Total	2.676	\$1.272	\$0.48	100.00%	-0.0006%

Note: Numbers in the table are estimated by Massachusetts Department of Revenue.

## EVALUATION: COMPARING COSTS AND BENEFITS

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases taxes to finance the sales tax exemption for Certain Vending Machine Sales) and direct benefits (to buyers and sellers of exempt items) of this tax expenditure. Since the direct costs to the Commonwealth are the direct benefits to taxpayers, they are equal.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) results from any overall change in the economy derived from the tax expenditure, such as where a chain of businesses benefits when the employees working for the directly impacted businesses spend their additional wages and salaries attributable to the tax expenditure to buy goods and services. As a result, the total benefits or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect.”<sup>1</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. Given that the amount of direct costs and benefits are small for this tax expenditure, less than \$2 million per year, DOR did not attempt to quantify such costs and benefits.

<sup>1</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

## Similar Tax Expenditures Offered by Other States

Massachusetts is not alone in providing sales and use tax exemption for certain items sold by a vending machine. Connecticut provides a more generous exemption, exempting items sold for fifty cents or less from a vending machine. Conn. Gen. Stat. § 12-412(27)(a). Meals sold through vending machines, regardless of price, and meals sold through “honor boxes” are exempt as well. Conn. Gen. Stat. § 12-412(27)(b).

New York also provides a similar expenditure. Until May 31, 2021, sales of candy, fruit drinks, and soft drinks when sold from a vending machine for \$1.50 or less are exempt from tax. See NY CLS Tax § 1115(a)(1). Tangible personal property sold in a vending machine for \$.50 or less is also exempt from tax if the retailer is primarily engaged in making such sales and keeps sufficient records. NY CLS Tax § 1115(a)(13-a).

Other states provide lesser exemptions. In Maine, sales of products for internal human consumption when sold through coin-operated vending machines by a person earning more than 50% of that person's retail gross receipts from the sale of tangible personal property at vending machines are exempt from tax. 36 M.R.S.A. § 1752(5-A). In New Hampshire, sales of single serving beverages by a vending machine are exempt as long they are not sold in conjunction with other food vending machines or in conjunction with a meal sold by a restaurant. RSA 78-A:6 - C. IX.

Rhode Island generally does not exempt items sold from a vending machine. However, vending machine sales are exempt from the local meals and beverage tax. R.I. Gen. Laws § 44-18-18.1(c)(2). In Vermont, food or beverage sold from a vending machine are taxable when the vending machine is located within a restaurant. Vermont, Reg. 1.9202(15)-2. Sales of bottled or canned drinks from a vending machine in a grocery store, for example, are not subject to tax.

# Appendix D

## Template for Evaluating Expenditures

<b>Name of Expenditure:</b>	<b>Annual cost:</b>	<b>Year of adoption:</b>	<b>Sunset date:</b>	
<b>Tax Type</b> (check all that apply): <input type="checkbox"/> Corporate <input type="checkbox"/> Personal Income <input type="checkbox"/> Sales <input type="checkbox"/> Other				
<b>Goal of expenditure</b> (check all that apply):				
<i>Business:</i> <input type="checkbox"/> Job creation & maintenance <input type="checkbox"/> Investment <input type="checkbox"/> Competitiveness/Strategic <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:		<i>Individual:</i> <input type="checkbox"/> Relief of poverty <input type="checkbox"/> Progressivity/assistance to low earners <input type="checkbox"/> Access to opportunity <input type="checkbox"/> Health/Environment/Social Justice <input type="checkbox"/> Other:		
<b>Measurement and Effectiveness Ratings:</b>				
<i>Which best reflects your opinion on each statement?</i>	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
We can measure the overall benefit toward achieving the goal(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE's benefit justifies its fiscal cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by its intended beneficiaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is claimed by a broad group of taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE amount claimed per taxpayer is meaningful as an incentive/benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is relevant today	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The TE is easily administered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Business only</i>				
-The TE is beneficial to smaller businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Individuals only</i>				
-The TE benefits lower income taxpayers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments</b>				

# Appendix E

## Tax Expenditure Review Commission Meeting Minutes

Tax Expenditure Review Commission Public Meeting Minutes  
Thursday, October 31, 2019  
Saltonstall Building  
100 Cambridge Street, Second Floor  
Boston, MA 02114  
9:00AM

Commission Members in Attendance:

Chairman Christopher Harding, MA Department of Revenue  
Auditor Suzanne Bump, MA Auditor  
Senator Adam Hinds, Senate Revenue Committee Chair  
Representative Mark Cusack, House Revenue Committee Chair  
Representative Randy Hunt, Designee, House Minority Leader  
Sally Peacock, Designee, MA Treasurer  
David Sullivan, Designee, Senate Ways and Means Committee  
Hirak Shah, Designee, Senate Minority Leader  
Professor Michelle Hanlon, Governor's Appointee  
Professor Matt Weinzierl, Governor's Appointee

Commission Members Absent:

Representative Aaron Michlewitz, House Ways and Means Committee

List of Documents:

Meeting Agenda  
Department of Revenue Presentation – Tax Expenditures Overview  
Proposed Tax Expenditure Review Schedule  
Proposed Tax Expenditure Review Evaluation Schedule  
H4820 – Enabling Legislation  
Report of the Tax Expenditure Review Commission – 2012

Chairman Harding recognized a quorum and called the meeting to order at 9:05AM. Chairman Harding requested a vote to allow remote participation in Commission meetings. A favorable vote was unanimous. At 9:08AM Senator Hinds joined the meeting remotely.

Chairman Harding indicated that the purpose of the meeting was to lay the foundation for the Commission, clarifying that while the Department of Revenue has suggestions to offer, it is the role of the full Commission to determine how it will proceed and fulfill its mission.

Chairman Harding asked for members of the press to identify themselves. Hearing none, Chairman Harding put the public on notice that the meeting was being recorded for purposes of minutes. Once the minutes are completed, the recording will be deleted.



Kevin Brown, General Counsel, MA Department of Revenue, provided the Commission with an overview of the MA Public Meeting Law. G.L. c. 30A, §§18-25. Counselor Brown stated that all Commission members should have received a copy of the Open Meeting Law, as well as an Acknowledgement of Receipt, which must be signed and submitted to the Chairman. Counselor Brown further stated that meeting materials will be posted on the Tax Expenditure Review Commission website. [www.mass.gov/info-details/tax-expenditure-review-commission](http://www.mass.gov/info-details/tax-expenditure-review-commission). Additionally, meeting notices will be posted at least two days prior to the Commission meeting.

Counselor Brown clarified that meetings are open to the public and all materials submitted to the Commission are public. Commission members may discuss the Commission one on one, but not in a group setting, as all Commission deliberations must be held during public meetings.

Chairman Harding requested that each member introduce themselves and share their goals for the Commission.

Hirak Shah is Legal Counsel to Senate Minority Leader Bruce Tarr. Mr. Shah stated that his presence is due to Designee Greg Sullivan traveling out of state. Mr. Shah added that Minority Leader Tarr hopes for due diligence by the Commission.

Sally Peacock is the Controller for the Massachusetts Water Protection Fund. Ms. Peacock stated that she and Treasurer Goldberg are hoping to further promote government transparency.

Auditor Bump stated that as a member of the 2012 Tax Expenditure Review Commission, she hopes for a greater impact with actual implementation of Commission recommendations. Kerri—Ann Hanley, Policy and Communications Analyst, will serve as Auditor Bump's Designee when needed.

David Sullivan explained that he was part of the 2012 Commission staff. At the time, Mr. Sullivan served as General Counsel to the Executive Office of Administration and Finance, more recently serving as General Counsel to the Senate President. Mr. Sullivan stated that the issue of tax expenditures in general needs closer examination.

Professor Weinzierl is a tax theorist and economist at Harvard Business School. After reviewing the 2012 Commission materials, he was impressed with the level of discussion among the members. Professor Weinzierl expressed hope for the current Commission to produce actionable items helpful to the Governor and legislators.

Representative Hunt is the state representative for the 5<sup>th</sup> Barnstable District, as well as a Certified Public Accountant. Representative Hunt offered that the 2012 Commission produced excellent recommendations that were not implemented. He expressed hope for the current Commission to produce solid recommendations that will be followed.

Professor Hanlon is a Certified Public Accountant and a Professor at MIT Sloan School of Management and a former economist for former US House Speaker Paul Ryan. Professor Hanlon shared that she found the 2012 Commission materials impressive, but is curious about what happened after the fact.

Senator Hinds is the state senator for the counties of Berkshire, Hampshire, Franklin and Hampden. Senator Hinds offered that the clear goal of the Commission is to determine why each expenditure exists, which is an often a gray area.

Chairman Harding read the statutory provisions pertaining to the mission and purpose of the Commission. Auditor Bump asked if DOR has a budget for the Commission. Chairman Harding responded that while DOR does not have a Commission budget, the Department's role is to provide analysis to support the goals and objectives of the Commission. Chairman Harding also shared that DOR's Office of Tax Policy Analysis is processing numerous legislative and other external requests.

David Sullivan discussed the history of the 2012 Tax Expenditure Review Commission, which was created in response to the Great Recession. The 2012 Commission recommendations included reviewing each tax expenditure when proposed, in order to ensure effectiveness before signing into law; periodically reviewing each existing tax expenditure; and creating a tax expenditure office within Administration and Finance. The recommendations were not fully or permanently implemented.

Kazim Ozyurt, Chief Economist and Director of the DOR Office of Tax Policy Analysis, provided an overview of the Massachusetts Tax Expenditure Budget. Dr. Ozyurt's presentation included a history of the budget, summary information on the FY2020 budget, goals of tax expenditures, and means of evaluating them.

As points of consideration, Commission members were provided DOR's Proposed Tax Expenditure Review Schedule and Proposed Tax Expenditure Review Evaluation Schedule. Members discussed the proposals and other approaches as well, such as first reviewing expenditures topical among legislators (ie: film tax credit 2023 sunset). Members also discussed the implications of federal code conformity on state tax expenditures.

Chairman Harding asked that Commission members consider ways to categorize and measure the review of tax expenditures for final determination at the next meeting. Members agreed to meet next in December.

Chairman Harding referred to the statutory provision that requires a biennial March Commission report to the Legislature, suggesting a status report for March 2020 and a comprehensive report in March 2021. Commission members voted unanimously to provide a comprehensive report to the Legislature in March 2021.

Members also discussed a meeting schedule for 2020, voting unanimously to focus on January, July, September and December meetings. Commissioner Harding opened the meeting up for questions from Commission members and members of the public. Hearing none, Commissioner Harding concluded the meeting of the Tax Expenditure Review Commission at 10:46AM.

Tax Expenditure Review Commission Public Meeting Minutes  
Friday, December 13, 2019  
Saltonstall Building  
100 Cambridge Street, Second Floor  
Boston, MA 02114  
9:00AM

Commission Members in Attendance:

Philippe Mauldin, Designee, MA Department of Revenue  
Auditor Suzanne Bump, MA Auditor  
Danielle Allard, Designee, Senate Chair, Revenue Committee  
Conor O'Shaughnessy, Designee, House Minority Leader  
Sue Perez, Designee, MA Treasurer  
David Sullivan, Designee, Senate Ways and Means Committee  
KC Fussell, Designee, Senate Minority Leader  
Greg Sullivan, Designee, House Minority Leader  
Professor Michelle Hanlon, Governor's Appointee  
Professor Matt Weinzierl, Governor's Appointee

Commission Members Absent:

Representative Aaron Michlewitz, House Ways and Means Committee  
Representative Mark Cusack, House Revenue Committee Chair

List of Documents:

Meeting Agenda  
Draft Minutes, October 31, 2019 Commission Meeting  
Department of Revenue Presentation – Expenditure Categories and Measures  
Department of Revenue Attachment – Tax Expenditure Type  
Office of the State Auditor Memo – Expenditure Categories and Measures  
Office of the State Auditor Attachment – NAICS Codes List

Chairman Mauldin recognized a quorum and called the meeting to order at 9:04AM. Hearing no members of the press identify themselves, Chairman Mauldin put the public on notice that the meeting will be recorded for purposes of minutes. Once the minutes are completed, the recording will be deleted.

Chairman Mauldin requested that Commission members provide any changes to the October 31, 2019 draft meeting minutes. Hearing none, Commission members voted unanimously to approve the October 31, 2019 meeting minutes.

Chairman Mauldin gave an overview of meeting goals in accordance with the agenda: identify and agree upon tax expenditure review categories as well as evaluation measures and determine the feasibility and content of a proposed March 2020 report. Chairman Mauldin emphasized the need for simplicity and efficiency, as well as a reporting structure that is understandable for external audiences.

Auditor Bump stated that the analysis of each tax expenditure has multiple dimensions, referencing the memo on Expenditure Categories and Measures and a NAICS Codes\* list provided to Commission members by the Auditor in advance of this meeting. Chairman Mauldin noted that the NAICS codes are an expansion of how tax expenditures are reported in House 1 and House 2, but are more aligned with business rather than personal exemptions.

Sue Perez suggested reviewing by tax type and budget function. Ms. Perez stressed the need for a relatable approach that everyday taxpayers can understand when reviewing Commission reports.

David Sullivan suggested reporting electronically as much as possible, as well as making the data sortable. Professor Weinzierl stated that knowing what other states offer for tax expenditures would be helpful but time-consuming. Kevin Brown, Department of Revenue General Counsel, expressed concern for researching other states since they do not mirror Massachusetts law. Auditor Bump stated that major accounting firms that practice in multiple states may have an index available that reflects out of state tax expenditures. Ms. Perez stated that knowledge of other states would be helpful, but not necessarily as a review category.

Greg Sullivan stated that it is the mission of the Commission to take a deep look at how tax expenditures are administered, their effectiveness, and their fiscal impact. Legislators may believe that knowledge of tax expenditures that other states are and are not offering would add value to the Commission's reporting, but the amount of work may be overwhelming. Law firms may have resources available for the Commission to draw upon. Chairman Mauldin requested that members identify external resources.

Chairman Mauldin referred to the DOR handout listing tax expenditures by type and asked members to discuss reviewing them by the following categories: 1) personal income; 2) transferable/refundable; 3) business; and 4) corporate. Members expressed concern that some tax expenditures fall into several of the four categories (ie: capital gains).

Kazim Ozyurt, Chief Economist and Director of the DOR Office of Tax Policy Analysis, stated that the five year review of each expenditure (required by the enabling legislation) may be most simply organized in a series of five groupings. The Commission would need to determine where to place each expenditure then additional evaluation measures (ie: NAICS codes) could be incorporated within the review process.

Chairman Mauldin requested a vote to review tax expenditures by 1) tax type and 2) tax category. A favorable vote was unanimous.

Members discussed reviewing federal tax expenditures that Massachusetts follows where it is not decoupled from the federal code. David Sullivan and Greg Sullivan recommended that federal tax expenditures not be entirely excluded by the Commission given how closely tied they are to current legislative deliberations (ie: the House and Senate recently debated decoupling from section 163j of the federal code). Kevin Brown suggested that if federal tax expenditures are reviewed, those with the greatest revenue impact be prioritized.

Chairman Mauldin requested a vote that the primary focus of the Commission's reporting be on Massachusetts tax expenditures, with a secondary focus on federal tax expenditures that have a revenue impact on the Commonwealth. A favorable vote was unanimous.

Greg Sullivan asked that the Commission be cognizant of what it asks of DOR and utilize readily available information (ie: the annual Tax Expenditure Budget that DOR produces). David Sullivan stated that the enabling legislation for the Commission is clear that existing tax expenditures be reviewed, rather than those being proposed.

Professor Michelle Hanlon stated that the Commission can improve transparency by adding a level of rigor to the tax expenditure adoption process. However, some measures included in the enabling legislation will be difficult to expand upon (ie: job creation while Massachusetts is nearly at full employment).

Professor Wienzierl stated that part of the Commission's mission is to help legislators identify and solve problems with direct spending on numerous tax expenditures. Professor Hanlon suggested working groups form within the Commission to further focus on certain matters (ie: effectiveness measures).

David Sullivan stated that the 2012 Tax Expenditure Review Commission recommended that the legislature identify the following for newly proposed expenditures: 1) purposes; 2) goals; 3) metrics; and 4) sunset clauses. However, the recommendations have proven difficult to implement when tax expenditures continue to be proposed as budget amendments. Mr. Sullivan suggested the four 2012 recommendations be restated in the current Commission's reports.

Members discussed how best to explain the purpose and intent of each existing tax expenditure, as required by the enabling legislation. Researching the video and print histories of each expenditure discussion is not feasible. Ms. Perez recommended that when applicable, the Commission acknowledge when no clear purpose is identifiable.

Members discussed the possible issuance of a March 2020 report and a "test run" on several tax expenditures. Auditor Bump asked if doing so presupposes a review model has already been built and suggested a report describing the Commission's approach.

Chairman Mauldin requested a vote on whether the Commission will issue a report in March 2020 to reflect a review template. David Sullivan asked if this is feasible. Dr. Ozyurt replied that he would like the opportunity to discuss this with his staff and agreed to report back at the next Commission meeting.

Chairman Mauldin requested a vote that the Commission will not impose unreachable deadlines but will move forward with building a review template using certain tax expenditures, such as the Motion Picture Credit, the Life Sciences Credit and the Charitable Deduction anticipated to be effective January 1, 2021. A favorable vote was unanimous.

Commission members discussed next steps, including groupings of tax expenditures for a five-year review rotation, a potential “test run” review of certain expenditures, and workload assistance from Commission members and external resources.

Commissioner Mauldin opened the meeting up for questions from Commission members and members of the public. Hearing none, Commissioner Mauldin concluded the meeting of the Tax Expenditure Review Commission at 11:05AM.

\*North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.

Tax Expenditure Review Commission Public Meeting Minutes  
Friday, February 7, 2020  
Saltonstall Building  
100 Cambridge Street, Second Floor  
Boston, MA 02114  
9:00AM

Commission Members in Attendance:

Chairman Kevin Brown, MA Department of Revenue  
Auditor Suzanne Bump, MA Auditor  
Representative Randy Hunt, Designee, House Minority Leader  
Sue Perez, Designee, MA Treasurer  
David Sullivan, Designee, Senate Ways and Means Committee  
Greg Sullivan, Designee, Senate Minority Leader  
Professor Michelle Hanlon, Governor's Appointee  
Professor Matt Weinzierl, Governor's Appointee

Commission Members Absent:

\*Senator Adam Hinds, Co-Chair, Joint Committee on Revenue  
Representative Mark Cusack, Co-Chair, Joint Committee on Revenue  
Aaron Michlewitz, Chairman, House Ways and Means Committee

List of Documents:

Meeting Agenda  
Draft Minutes – December 13, 2019 Meeting  
Tax Expenditure Evaluation – Draft Report  
Proposed List of Tax Expenditures for Review  
Existing Tax Expenditures Originated from Federal Law  
Auditor Bump – Request for Data Sources

Chairman Brown recognized a quorum and called the meeting to order at 9:00AM. Chairman Brown announced each member present and recognized a quorum.

Chairman Brown asked for members of the press to self-identify; one meeting attendee did so. Chairman Brown put the public on notice that the meeting was being recorded for purposes of minutes. Once the minutes are approved, the recording will be deleted.

Chairman Brown requested that Commission members provide any changes to the December 13, 2019 draft meeting minutes. Hearing none, Commission members voted unanimously to approve the December 13, 2019 meeting minutes.

*\*Due to a meeting phone system issue, Senator Hinds' attempts to participate remotely were unsuccessful.*

During the December 13, 2019 meeting, members discussed whether the Commission should review all existing Massachusetts tax expenditures originated from conformity to federal code, or those most economically impactful. Chairman Brown referred to a color-coded handout that distinguishes tax expenditures with an impact of over \$50 million.

David Sullivan and Greg Sullivan expressed support for reviewing all tax expenditures, regardless of their origin. Representative Hunt suggested a qualitative review, such as first reviewing tax expenditures with obvious intent, followed by a review of those with unclear intent. Given that a number may be in effect for years and to the benefit of few, their economic impact may be significant.

Auditor Bump and members of her staff suggested grouping by type of analysis (ie: economic growth) and to save resources, initially eliminating expenditures with unclear intent. Representative Hunt restated his concern for excluding certain expenditures. Auditor Bump responded that multiple analyses could delay the review process. David Sullivan suggested members be mindful of DOR's workload, while providing the Governor and Legislature with the most helpful findings (ie: first review expenditures with the largest economic impact).

Sue Perez expressed concern for DOR's bandwidth given that members seemed to be moving toward grouping expenditures by goal rather than tax type. Representative Hunt stated that it would be helpful to the Legislature to review the goals of each tax expenditure. Sue Perez responded that the database previously provided by DOR is comprehensive and was presumably utilized by Auditor Bump's staff when developing their recommendation.

Greg Sullivan stated that a comparison of what is and is not offered in other states would be helpful to legislators. Chairman Brown responded that exploring other states' tax expenditures creates not only a workload issue but could also insert the Commission into policy judgements.

David Sullivan offered to assist DOR with reviewing the legislative history of tax expenditures with unclear intent. Chairman Brown thanked David Sullivan for his offer and asked Kazim Ozyurt, DOR's Chief Economist, to share any concerns with reviewing tax expenditures based on categories within the state's annual Tax Expenditure Budget (TEB). Dr. Ozyurt responded that it will not be feasible for some expenditures to be reviewed in the first year due to lack of data.

Members discussed selecting expenditures most timely and helpful for legislators and the Governor, such as those related to transportation and economic development. Chairman Brown stated that the Commission seems to be moving toward a consensus of organizing the review process by TEB categories, beginning with economic development expenditures with the highest revenue impact.

Members reviewed the handout from DOR listing the tax expenditures within each of the TEB categories. Members voted to focus the first year of review on Commerce, Energy and Research & Development categories, beginning with those with the greatest revenue impact. The vote was unanimous.

Auditor Bump inquired about the data sources DOR uses, noting that she wants to be sure the sources are objective. Kazim Ozyurt referred to the handout provided to the Commission at the request of Auditor Bump, which lists DOR's most utilized sources beyond its own readily available data.



Chairman Brown clarified that due to the Open Meeting Law, members can only meet in pairs. Professors Hanlon and Weinzierl offered to discuss and make recommendations on methodological approaches for reviewing tax expenditures.

Chairman Brown stated that a proposed method of analysis will be shared with Commission members prior to the next meeting. Chairman Brown concluded the Tax Expenditure Review Commission meeting at 11:24AM.

Tax Expenditure Review Commission Public Meeting Minutes  
Friday, May 1, 2020  
Saltonstall Building  
100 Cambridge Street, Second Floor  
Boston, MA 02114  
9:00AM

Commission Members in Attendance:

Chairman Kevin Brown, MA Department of Revenue  
Auditor Suzanne Bump, MA Auditor  
Senator Adam Hinds, Joint Revenue Committee, Senate Co-Chair  
Representative Randy Hunt, Designee, House Minority Leader  
Sue Perez, Designee, MA Treasurer  
David Sullivan, Designee, Senate Ways and Means Committee  
Greg Sullivan, Designee, Senate Minority Leader  
Professor Michelle Hanlon, Governor's Appointee  
Ryan Sterling, Designee, Joint Revenue Committee, House Co-Chair  
Tim Sheridan, Designee, House Ways and Means Committee

Commission Members Absent:

Professor Matthew Weinzierl, Governor's Appointee

List of Documents:

Meeting Agenda  
Draft Minutes – February 7, 2020 Meeting  
Tax Expenditure Database (Master Database, Year 1 List, Commerce/Energy Tax Expenditures)

For the purposes of the first Commission meeting being held via video and teleconference due to the COVID-19 State of Emergency, members were asked to announce themselves. A quorum was recognized by Chairman Brown and the meeting was called to order at 9:02AM.

Chairman Brown advised that the meeting is public but due to the COVID-19 State of Emergency, public participation would be limited to listening without posing questions during the meeting. Chairman Brown put the public on notice that the meeting was being recorded for purposes of minutes. Once the minutes are approved, the recording will be deleted.

Chairman Brown requested that Commission members provide any changes to the February 7, 2020 draft meeting minutes. Hearing none, Commission members voted unanimously to approve the February 7, 2020 meeting minutes.

During the last meeting members agreed to prioritize a list of tax expenditures for the first round of review within the categories of Commerce, Energy, and Research & Development. DOR subsequently circulated a proposed list.

David Sullivan thanked the DOR team and called the list topical and helpful. In recently speaking with legislators three additional tax expenditures came up as topics of interest: Net Carryover (2.203); Vehicle Trade-In (3.606); and Container Exemption (3.410). Mr. Sullivan clarified that interest from legislators does not indicate policy positions nor that review need be within the first round. Greg Sullivan offered support for review of the Net Carryover tax expenditure during the first round given the federal government's recent interest in a "carry back" provision.

Kazim Ozyurt, DOR Chief Economist, and Chairman Brown expressed flexibility with moving some tax expenditures into the first-year review, but the scope of the Commission's review process is limited to existing tax expenditures. Analysis of what Massachusetts may adopt will not be included.

Members voted to approve the first-year review list of tax expenditures for review, with the addition of Net Carryover (2.203). The vote was unanimous.

Professor Michelle Hanlon presented a draft Evaluation Framework prepared with Commission member Professor Matt Weinzierl. The presentation included suggestions on a methodological approach for reviewing tax expenditures and how to convey findings in a reader-friendly, informative manner. Fields for review would include Broad Purpose, Jobs and Growth, Support for Poor, Health and Environment, Enforceability, Fiscal Costs, and Claimants.

Auditor Suzanne Bump thanked the professors for an easily comprehensible presentation and stated her interest in learning the populations that are utilizing each tax expenditure (ie: large vs. small employers). Professor Hanlon responded that this information would also be helpful to legislators.

Members discussed the benefits of using a dynamic approach, such as the Regional Economic Model (REMI). Dr. Ozyurt stated that DOR uses this approach but also works within statutory guidelines (ie: annual film tax credit report) so there needs to be flexibility in the review process.

Members came to a consensus to follow the approach suggested by Professors Hanlon and Weinzierl for the first-year review of tax expenditures. Dr. Ozyurt agreed to gradually share results with members throughout the ongoing review process is ongoing. Chairman Brown concluded the meeting at 10:12AM.

Tax Expenditure Review Commission Public Meeting Minutes  
Thursday, October 1, 2020  
Via Teleconference  
1:00PM

Commission Members in Attendance:

Chairman Kevin Brown, MA Department of Revenue  
Auditor Suzanne Bump, MA Auditor  
Senator Adam Hinds, Joint Revenue Committee, Senate Co-Chair  
Representative Mark Cusack, Joint Revenue Committee, House Co-Chair  
Representative Randy Hunt, Designee, House Minority Leader  
Sue Perez, Designee, MA Treasurer  
Professor Matthew Weinzierl, Governor's Appointee  
David Sullivan, Designee, Senate Ways and Means Committee  
Greg Sullivan, Designee, Senate Minority Leader  
Tim Sheridan, Designee, House Ways and Means Committee

Commission Members Absent:

Professor Michelle Hanlon, Governor's Appointee

List of Documents:

1. Meeting Agenda
2. Draft Minutes – May 1, 2020 Meeting
3. Draft Tax Expenditure Review Reports:
  - 1.020 - Exemption of Income from the Sale, Lease, or Transfer of Certain Patents
  - 1.201 - Capital Gains Deduction for Collectibles
  - 1.413 - Exemption of Interest on Savings in Massachusetts Banks
  - 1.421 - Deduction for Clean Fuel Vehicles and Certain Refueling Property
  - 1.601 - Renewable Energy Source Credit (tax credit)
  - 1.613 and 2.615 - Medical Device User Fee Credit
  - 2.602 - Investment Tax Credit
4. DOR Presentation: Recommended Next Steps

For the purposes of the second Commission meeting being held via video and teleconference due to the COVID-19 State of Emergency, members were asked to announce themselves. A quorum was recognized by Chairman Brown and the meeting was called to order at 9:10AM.

Chairman Brown advised that the meeting is public but due to the COVID-19 State of Emergency, public participation is limited to listening without posing questions during the meeting. Chairman Brown put the public on notice that the meeting was being recorded for purposes of minutes. Once the minutes are approved, the recording will be deleted.

Chairman Brown requested that Commission members provide any changes to the May 1, 2020 draft meeting minutes. Hearing none, Commission members voted unanimously to approve the May 1, 2020 meeting minutes.

During the May 1 meeting members agreed that DOR would begin reviewing the tax expenditures that had been selected for the March 2021 tax expenditure report. In advance of today's meeting, members were forwarded seven draft reports.

Chairman Brown stated that reviewing the first seven proved to be a significant undertaking given the learning curve of the process and unexpected change of circumstances due to the pandemic, which further strained DOR's resources. Given these factors, DOR staff believes that the reports reflect the highest level of detail possible but welcomes feedback on how to improve upon the drafts and those going forward. The seven draft reports do not yet include measures to "score" the tax expenditures.

Additional draft reports will be sent to Commission members before future meetings, which may need to be scheduled more frequently given the workload required to complete a March 2021 report.

David Sullivan shared his appreciation for DOR's efforts and the level of detail provided in the draft reports. Mr. Sullivan asked if there is a way to determine if a credit has spurred investment, for example, or whether investment would have been regardless of the credit being available to investors. Dr. Kazim Ozyurt, DOR Chief Economist, and Chairman Brown responded that while this information would be valuable, it is difficult to speculate on the impact of tax expenditures on taxpayer behavior.

Mr. Sullivan and Professor Weinzierl suggested that comparisons with what other states do and do not offer for tax expenditures could provide insight into the impact of those offered in Massachusetts. Gregory Sullivan stated that a state by state comparison would be difficult to conduct, but Pew Research and the Federal Reserve may have tax expenditure breakdowns by state.

Chairman Brown stated that DOR does not have the resources to provide a cross-state comparison, beyond which is already provided in the template. Perhaps a deeper analysis could be conducted on several of the largest tax expenditures once review of the first batch is complete.

Representative Randy Hunt stated there is difficulty with comparing Massachusetts with states with similar GDP's but different industry bases. Additionally, if states offer tax expenditures like those offered by the federal government, the overall state impact will be greater.

Auditor Bump suggested that use of industry codes (NAICS) in draft reports would be helpful in determining business size and type impacted by business tax expenditures. Chairman Brown and Dr. Ozyurt responded that going forward and to the extent possible, codes could be included.

Members discussed how best to make the Commission's findings publicly accessible, including underlying data. Chairman Brown and Dr. Ozyurt responded that there may be issues of confidentiality with certain data, and impacted taxpayers must not be easily identifiable, but encouraged members with additional tax expenditure data to share it with DOR. Additionally, DOR will have an internal conversation with its web team to determine how best to make information readily available and downloadable.

Senator Adam Hinds offered appreciation for the thoroughness of the draft reports, adding that perhaps the Commission should more clearly state the difficulty in identifying the objective of each reviewed tax expenditure. Chairman Brown responded that the 2012 Tax Expenditure Review Commission recommended requiring clearer legislative objectives at the bill filing stage. This was not implemented by the legislature so DOR must be as objective as possible in its analyses.

Professor Weinzierl suggested that members provide criteria to help objectively "grade" each tax expenditure, then develop an aggregate to help better reflect the Commission's findings. Chairman Brown requested that within two weeks each member submit a few criteria for business and personal income tax expenditures, for compilation by DOR and discussion at the next Commission meeting.

Members agreed to schedule the next meeting with four to five weeks.

Chairman Brown concluded the meeting at 10:12AM.

Tax Expenditure Review Commission Public Meeting Minutes  
Thursday, November 5, 2020  
Via Teleconference  
1:00PM

Commission Members in Attendance:

Chairman Kevin Brown, MA Department of Revenue  
Auditor Suzanne Bump, MA Auditor  
Senator Adam Hinds, Joint Revenue Committee, Senate Co-Chair  
Representative Randy Hunt, Designee, House Minority Leader  
Sue Perez, Designee, MA Treasurer  
Professor Michelle Hanlon, Governor's Appointee  
Professor Matthew Weinzierl, Governor's Appointee  
Jacob Blanton, Designee, Senate Ways and Means Committee  
Greg Sullivan, Designee, Senate Minority Leader  
KC Fussell, Designee, House Ways and Means Committee

Commission Members Absent:

Representative Mark Cusack, Joint Revenue Committee, House Co-Chair

List of Documents:

1. Meeting Agenda
2. Draft Minutes – October 1, 2020 Meeting
3. Evaluation Outline
4. Draft Tax Expenditure Review Reports:
  - 2.701 - Exemption of Credit Union Income
  - 2.607 - Harbor Maintenance Tax Credit
  - 2.604 - Research Credit
  - 1.611, 2.614, 3.004 - Film Production Incentives
  - 1.610, 2.610 - Massachusetts Historic Rehabilitation Tax Credit

For the purposes of the third Commission meeting being held via video and teleconference due to the COVID-19 State of Emergency, members were asked to announce themselves. A quorum was recognized by Chairman Brown and the meeting was called to order at 1:04PM.

Chairman Brown advised that the meeting is public but due to the COVID-19 State of Emergency, public participation is limited to listening without posing questions during the meeting. Chairman Brown put the public on notice that the meeting is recorded for purposes of minutes. Once the minutes are approved, the recording will be deleted.

Chairman Brown requested that Commission members provide any changes to the October 1 draft meeting minutes. Hearing none, Commission members voted unanimously to approve the October 1, 2020 meeting minutes.

During the October 1 meeting members agreed to provide DOR with suggested criteria for purposes of creating a “scoring template” reflective of the Commission’s evaluation of each tax expenditure. Chairman Brown thanked members for forwarding their suggestions, which had considerable overlap. Chairman Brown compiled the criteria into an evaluation outline, which separates personal income from business expenditures. Chairman Brown suggested that members discuss the outline and reach consensus on criteria to be used to measure the effectiveness of each tax expenditure and whether the goal(s) of each are being met.

Auditor Bump commented that the outline reflects that members seem to be going in the same direction in terms of evaluation criteria but asked for further clarification on the effectiveness measures. Dr. Kazim Ozyurt, DOR’s Chief Economist, stated that he had recently had conversations with both Professor Hanlon and Professor Weinzierl regarding effectiveness measures. Professor Weinzierl stated that applying rigorous estimates across different tax expenditures would be challenging and labor-intensive. Members discussed a range of measures, including foregone revenue from the presence of the tax expenditure, jobs retained or lost due to the tax expenditure, and an overall numerical ranking (ie: from 1 to 4) of each.

Commission members reviewed the outline in detail and discussed ways to capture unique components of each tax expenditure within a uniform review template that is helpful but does not replace the policy-making process. Representative Hunt stated that it would be helpful to legislators if the Commission points out clear “pros and cons” of tax expenditures and quantifies them to the extent possible. Chairman Brown agreed that this would be consistent with the mission of the Commission, which was created by policymakers. Additionally, a summary of the Commission’s work can be provided in the March 2021 report.

As an example of the review process going forward, members discussed the draft review of the Film Tax Credit that DOR had produced. The Commission evaluated the Film Tax Credit’s goals, such as investment and job creation, and effectiveness measures, such as ease of administration and impact on intended beneficiaries.

Members agreed that the assignments of tax expenditures for evaluation among pairs of members should begin. Chairman Brown stated that DOR staff would provide a “scoring” template that is



reflective of member feedback, as well as tax expenditure assignments and the next batch of draft reviews.

Members agreed to schedule the next meeting within four to five weeks.

Chairman Brown concluded the meeting at 10:51AM.

Tax Expenditure Review Commission Public Meeting Minutes  
Thursday, December 10, 2020  
Via Teleconference  
1:00PM

Commission Members in Attendance:

Chairman Kevin Brown, MA Department of Revenue  
Auditor Suzanne Bump, MA Auditor  
Representative Mark Cusack, Joint Revenue Committee, House Co-Chair  
Representative Randy Hunt, Designee, House Minority Leader  
Danielle Allard, Designee, Joint Revenue Committee, Senate Co-Chair  
Sue Perez, Designee, MA Treasurer  
Professor Michelle Hanlon, Governor's Appointee  
Professor Matthew Weinzierl, Governor's Appointee  
David Sullivan, Designee, Senate Ways and Means Committee  
Greg Sullivan, Designee, Senate Minority Leader  
KC Fussell, Designee, House Ways and Means Committee

List of Documents:

1. Meeting Agenda
2. Draft Minutes – November 5, 2020 Meeting
3. Tax Evaluation Expenditure Ranking Assignment Spreadsheet

Members were asked to announce themselves. A quorum was recognized by Chairman Brown and the meeting via teleconference was called to order at 1:02PM.

Chairman Brown advised that the meeting is public but due to the COVID-19 State of Emergency, public participation is limited to listening without posing questions during the meeting. Chairman Brown put the Commission and public on notice that the meeting is recorded for purposes of minutes. Once the minutes are approved, the recording will be deleted.

Chairman Brown requested that Commission members provide any changes to the November 5, 2020 draft meeting minutes. Hearing none, members voted unanimously to approve the November 5, 2020 meeting minutes.

Members had previously agreed on a "scoring template" reflective of the evaluation of each tax expenditure, with the caveat that members would continue to offer further revisions. Chairman Brown thanked Professors Hanlon and Weinzierl for helpful feedback that DOR incorporated. Professor Hanlon stated that their goal was to further standardize the template and distinguish between personal and corporate tax expenditures. Professor Weinzierl requested that members share feedback on the revised wording the professors had suggested in their attempt to provide further clarity for both reviewers and readers.

Chairman Brown asked for a discussion regarding the measurability of tax expenditure benefits. The annual fiscal cost is more measurable than identifying the benefits to the Commonwealth and intended beneficiaries. Auditor Bump stated that when reviewing with Sue Perez, they considered whether other benefits were measurable by meeting the goal, such as job creation.

Following discussion of the measurability of benefits and goals being met, Chairman Brown asked for a consensus on the template, subject to change should it be less applicable to the review of future tax expenditures. Members agreed to broaden the template language addressing benefits, as well as include a brief summary on each report to allow further explanation of the evaluation process and Commission's conclusions.

Auditor Bump raised the challenge of measuring whether the intended beneficiaries are, in fact, benefiting given that many business tax expenditures are transferable. Chairman Brown agreed, noting that intended beneficiaries benefit from selling credits, but third-party purchasers also benefit from discounted purchases. Members agreed to include in the March 2021 report a discussion of the challenges associated with evaluating whether transferable credits are reaching intended beneficiaries.

David Sullivan and Chairman Brown led a discussion of the Harbor Maintenance Tax Credit, which they had previously reviewed together as co-assignees. The credit is available to importers and exporters of cargo in Commonwealth harbors to offset a federal tax imposed upon shipments. It is claimed by 60-80 taxpayers and it does not appear that other states offer this type of credit, which makes the legislative intent difficult to identify.

Members utilized the Harbor Maintenance Credit discussion as an opportunity to further revise the review template and agreed to adding the annual fiscal cost to the state and recommending sunset provisions where applicable. Members voted to approve the Harbor Maintenance Tax Credit review with a change in the tax benefit measurability.

Auditor Bump and Sue Perez led a discussion of the Medical Device User Fee Credit, which they had previously reviewed together as co-assignees. This transferable credit is for fees paid to the Federal Drug Administration for marketing new or upgraded existing technologies. It has been claimed by four large companies even though business size is not a requirement. The credit also does not appear to be offered by other states.

Members discussed the challenges of measuring whether the cost to the Commonwealth is offset by jobs creation, particularly where only four large taxpayers have claimed the credit. Sue Perez stated that perhaps the bigger companies have the resources to hire employees to research the availability of tax credits. Members voted to approve the Medical Device User Fee Credit review with minor adjustments reflective of the discussion.

Professor Hanlon and Greg Sullivan led a discussion of the Investment Tax Credit. The credit is for one to three percent of the cost of investments in qualified properties. Roughly 2,500 taxpayers claim the credit at an average value of \$57,000. The federal government does not offer this credit but rather, offers bonus depreciation, which is more easily administrable. 39 other states offer a similar tax credit, which reflects that competitiveness was a policy goal. Members voted to approve the Investment Tax Credit review with adjustments relative to competitiveness and overall benefit.

David Sullivan and Professor Weinzierl led a discussion of the Film Tax Credit. This transferable credit is for roughly twenty five percent of payroll and production costs. On average, 89% of the credits are sold and the average taxpayer benefits \$480,000 per project. A similar credit is offered in 31 other states, as well as DC, Puerto Rico and the Virgin Islands, but this number has recently declined from 44 states.

The Massachusetts Film Tax Credit has a sunset date of January 2023, and has vocal supporters both for and against it. The REMI Model is applied to policies to evaluate a number of impacts, including economic development. When applied to the Massachusetts Film Tax Credit, the model reflects strong jobs creation and competitiveness in terms of productions being filmed in-state; however, these benefits are offset by the \$100,000 cost of each largely non-permanent job relative to the annual fiscal cost to the Commonwealth. Additionally, the credit is often to the benefit of non-resident film industry employees.

Dr. Kazim Ozyurt explained that the REMI Model also reflects favorably when applied to the credit because DOR has specific information relative to credit applicants, such as number of employees. Also, the credit has arguably created a more permanent film industry in Massachusetts. Chairman Brown stated that there was some pre-existing film industry, such as several non-profits based in the Commonwealth.

Members discussed whether there are more efficient ways to encourage a new and permanent industry, such as subsidizing a film studio in Massachusetts, which would eliminate the credits administrative burden, keep more spending in-state and encourage more permanent jobs. Members voted to approve the Film Tax Credit review with a summary expanding upon the Commission's discussion of whether the benefits justify the cost.

Members agreed to vote at the next meeting on the structure of the template, which will be further tweaked to reflect today's discussion. A meeting will be scheduled for the first half of January 2021.

Chairman Brown concluded the meeting at 3:04PM.

Tax Expenditure Review Commission Public Meeting Minutes  
Friday, January 8, 2021  
Via Teleconference  
1:00PM

Commission Members in Attendance:

Chairman Kevin Brown, MA Department of Revenue  
Auditor Suzanne Bump, MA Auditor  
Chairman Adam Hinds, Joint Revenue Committee, Senate Co-Chair  
Sue Perez, Designee, MA Treasurer  
Professor Michelle Hanlon, Governor's Appointee  
Professor Matthew Weinzierl, Governor's Appointee  
David Sullivan, Designee, Senate Ways and Means Committee  
Conor O'Shaughnessy, Designee, House Minority Leader

Commission Members Absent:

Representative Mark Cusack, Joint Revenue Committee, House Co-Chair  
Senator Bruce Tarr, Senate Minority Leader  
Chairman Aaron Michlewitz, House Ways and Means Committee

List of Documents:

1. Meeting Agenda
2. Draft Minutes – December 10, 2020 Meeting
3. Tax Evaluation Expenditure Ranking Assignment Spreadsheet

Members were asked to announce themselves. A quorum was recognized by Chairman Brown and the meeting via teleconference was called to order at 1:05PM.

Chairman Brown advised that the meeting is public but due to the COVID-19 State of Emergency, public participation is limited to listening without posing questions during the meeting. Chairman Brown put the Commission and public on notice that the meeting is recorded for purposes of minutes. Once the minutes are approved, the recording will be deleted.

Chairman Brown requested that Commission members provide any changes to the December 10, 2020 draft meeting minutes. Hearing none, members voted unanimously to approve the December 10, 2020 meeting minutes.

During the December 10, 2020 meeting members agreed on a "scoring template" reflective of the evaluation of each tax expenditure, with the inclusion of a discussion summary section. Members voted to approve the template for use in evaluating tax expenditures, with the caveat that changes may be made to better reflect the review of certain tax expenditures.

Auditor Bump led a discussion of the Massachusetts Historic Rehabilitation Tax Credit that was reviewed in collaboration with Chairman Cusack. David Sullivan stated that the credit is administered similarly to a grant program given that the Massachusetts Historical Commission must approve applications. Members discussed recommending that the credit be converted to and administered as a grant program, declining to do so given that grant programs are subject to annual funding by the legislature. Members voted to approve the Massachusetts Historic Rehabilitation Tax Credit review as presented.

Chairman Hinds led a discussion of the Renewable Energy Source Tax Credit that was reviewed in collaboration with Chairman Cusack. Members discussed the credit not being particularly beneficial to low-income earners given that over 60% of claimants report a gross annual income that exceeds \$100,000. Members also discussed the credit as a source of jobs creation. Members voted to approve the Renewable Energy Source Tax Credit review with the addition of Jobs Creation as a goal.

Sue Perez and Chairman Brown led a discussion of the Exemption of Interest on Savings in Massachusetts Banks. Members discussed the value and relevance of the benefit given the average claimant earns a \$5.00 credit and no other bordering states offer it. Additionally, the credit was adopted in 1974 when bank savings accounts earned roughly 5% annual interest. Members voted to approve the review of the Exemption of Interest on Savings in Massachusetts Banks with the change to Strongly Disagree with whether it is relevant today.

Senator Hinds and Chairman Brown led a discussion of the review of the Deduction for Clean Fuel Vehicles and Certain Refueling Property. Members discussed the relevance of the expenditure given that it is tied to a federal statute that was repealed in 2014. Additionally, to qualify for the credit a taxpayer would have to own a qualifying vehicle model by 2006. Members voted to approve the review of the Deduction for Clean Fuel Vehicles and Certain Refueling Property as presented.

Professor Hanlon led a discussion of her review of the Exemption of Credit Union Income, which applies to 157 taxpayers (credit unions) at an annual cost of approximately \$21M - \$25M. This type of expenditure is commonly offered by other states. There is related pushback at the federal level by non-credit union banking institutions that credit unions are able to robustly compete for customers given the relaxation of credit union restrictions. Members voted to approve the review of the Exemption of Credit Union Income, with the addition of a comment regarding the federal level changes favorably impacting their competitiveness.

Professor Weinzierl led a discussion of the Research Credit that was reviewed in collaboration with Representative Randy Hunt, former designee for the House Minority Leader. Members discussed the difficulty with identifying jobs creation as a goal and benefit, which may be due in part to impacted taxpayers employing higher income earners. Additionally, the beneficiaries are generally long-term investors. The credit costs between \$200-\$400M annually with six to ten percent of intended beneficiaries claiming it, though they do range from small to large businesses. Members voted to approve the Research Credit review with the change from Strongly Agree to Somewhat Agree whether the benefit justifies the cost of the expenditure, as well as the addition of a comment acknowledging the uncertainty of measuring the benefit.

Members agreed to schedule another meeting for late January. Chairman Brown concluded the meeting at 3:04PM.

Tax Expenditure Review Commission Public Meeting Minutes  
Friday, January 29, 2021  
Via Teleconference  
10:00PM

Commission Members in Attendance:

Chairman Kevin Brown, MA Department of Revenue  
Auditor Suzanne Bump, MA Auditor  
Chairman Adam Hinds, Joint Revenue Committee, Senate Co-Chair  
Ryan Sterling, Designee, Joint Revenue Committee, House Co-Chair  
Sue Perez, Designee, MA Treasurer  
Professor Michelle Hanlon, Governor's Appointee  
Professor Matthew Weinzierl, Governor's Appointee  
David Sullivan, Designee, Senate Ways and Means Committee  
William Burke, Designee, House Minority Leader

Commission Members Absent:

Greg Sullivan, Designee, Senate Minority Leader  
Chairman Aaron Michlewitz, House Ways and Means Committee

List of Documents:

1. Meeting Agenda
2. Draft Minutes – January 8, 2021 Meeting
3. Tax Evaluation Expenditure Ranking Assignment Spreadsheet

Members were asked to announce themselves and welcomed William Burke to his first meeting as Designee for House Minority Leader Bradley Jones. A quorum was recognized by Chairman Brown and the meeting via teleconference was called to order at 10:04AM.

Chairman Brown advised that the meeting is public but due to the COVID-19 State of Emergency, public participation is limited to listening without posing questions during the meeting. Chairman Brown put the Commission and public on notice that the meeting is recorded for purposes of minutes. Once the minutes are approved, the recording will be deleted.

Chairman Brown requested that Commission members provide any changes to the January 8, 2021 draft meeting minutes. Hearing none, members voted unanimously to approve the January 8, 2021 meeting minutes.

Professor Hanlon led a discussion of the Net Operating Loss Carryover (NOL) that was reviewed in collaboration with Chairman Brown. Members discussed the benefits to start-ups that have a long runway before profitability and determined that jobs creation should be added to the "scoring chart."

The NOL had previously had a five-year carry forward, but most states follow the 20-year carry forward in line with the federal NOL tax expenditure. However, Massachusetts does not have a carry-back provision as federal law provides. Members voted to approve the review with the addition of “jobs creation” and comment that this is consistent with federal code.

David Sullivan led a discussion of Small Business Corporations (S-Corps). Members discussed distinctions between the federal and state treatment of S-Corps, as well as the more favorable tax treatment of LLPs and LLCs. Members voted to approve the Small Business Corporations review with the addition of comments on the disconnect between entities formed as S-Corps versus LLPs and LLCs, as well as the appropriateness of applying the S-Corps structure to larger businesses that may be closely held.

Auditor Bump and Senator Hinds led a discussion of Exclusion of Income from Business-Related Meals and Entertainment. Members discussed there being some challenge with administering the Exclusion, such as when the owner of a business is also an employee, given that the Exclusion from income is for employees. Members voted to approve the review as presented.

Sue Perez and Professor Weinzierl led a discussion of the Life Sciences Tax Incentive Program. Members discussed the uniqueness of the Program given that it is not administered by the Department of Revenue and offers a suite of incentives, such as corporate excise and sales tax deductions. David Sullivan stated that the 2012 Tax Expenditure Review Commission favored the model of this Program because it must be applied for and has a sunset. Auditor Bump stated that the model also has an accountability feature, given the claw back provision. If job creation did not occur as the applicant maintained it would, the incentive is rescinded. Members voted to approve the Life Sciences Tax Incentive Program review with additional comments regarding it being a favorable model.

Chairman Brown led a discussion of the Motor Fuels Exemption from Sales Tax. Motor fuels are exempt from sales and use tax but are subject to an excise tax per gallon. Members voted to approve the Motor Fuels Exemption from Sales Tax review as presented.

Chairman Brown led a discussion of the Alcoholic Beverages Exemption review. Alcoholic beverages, except those sold as part of a meal, are exempt from sales tax but are subject to an excise tax by volume rather than retail price. As a result, alcoholic beverages are taxed at a lower rate than if they were subject to the sales tax. Members voted to approve the review as presented, with additional comments on the inequity of there being no retail sales tax on alcohol but significant retail sales taxes on marijuana and tobacco.

Auditor Bump led a discussion of the Exemption for Property Subject to Local Taxation, which she reviewed with Representative Cusack. The Exemption reduces the capital costs of doing business by excluding assets such as land and vehicles that are taxed locally. Members discussed the confusing interrelationship between state and local taxes that the Exemption creates. Members voted to approve the Exemption for Property Subject to Local Taxation review with a change from Strongly Agree to Somewhat Agree that its benefits justify the Exemption’s costs, removal of Investment as a goal, and additional comments on whether non-income measures should be taxed at all.

Chairman Brown led a discussion on the Capital Gain Deduction for Sale of Collectibles. In the absence of the Deduction, Collectibles would be taxed at 12% as are short-term capital gains. Additionally, the Deduction favors high-income taxpayers. Members voted to approve the review as presented, with an



additional comment on its unusual structure given the Deduction reduces the rate to 6%, just above the 5% Massachusetts income tax rate.

Chairman Brown led a discussion of the Income Exclusion for Sale of Certain Patents. To qualify the patents must support energy conservation or alternative energy. However, the Exclusion has never been granted. Members voted to approve the Income Exclusion for Sale of Certain Patents review as presented.

Members agreed to schedule another meeting for mid-February. Chairman Brown concluded the meeting at 3:04PM.

Tax Expenditure Review Commission Public Meeting Minutes  
Friday, February 12, 2021  
Via Teleconference  
10:00AM

Commission Members in Attendance:

Chairman Kevin Brown, MA Department of Revenue  
Auditor Suzanne Bump, MA Auditor  
Chairman Adam Hinds, Joint Revenue Committee, Senate Co-Chair  
Ryan Sterling, Designee, Joint Revenue Committee, House Co-Chair  
Professor Matthew Weinzierl, Governor's Appointee  
David Sullivan, Designee, Senate Ways and Means Committee  
Greg Sullivan, Designee, Senate Minority Leader

Commission Members Absent:

Chairman Aaron Michlewitz, House Ways and Means Committee  
Sue Perez, Designee, MA Treasurer  
Professor Michelle Hanlon, Governor's Appointee  
William Burke, Designee, House Minority Leader

List of Documents:

1. Meeting Agenda
2. Draft Minutes – January 29, 2021 Meeting
3. Tax Evaluation Expenditure Ranking Assignment Spreadsheet

Members were asked to announce themselves and a quorum was recognized by Chairman Brown. The meeting via teleconference was called to order at 10:05AM.

Chairman Brown advised that the meeting is public, but due to the COVID-19 State of Emergency, public participation is limited to listening without posing questions during the meeting. Chairman Brown put the Commission and public on notice that the meeting is recorded for purposes of minutes. Once the minutes are approved, the recording will be deleted.

Chairman Brown requested that Commission members provide any changes to the January 29, 2021 draft meeting minutes. Hearing none, members voted unanimously to approve the January 29, 2021 meeting minutes with a correction to the start time.

Chairman Brown provided an overview of his thoughts on the outline of the report due to the legislature next month. Chairman Brown suggested providing background on the development

of the review template, the process by which members reviewed and discussed each tax expenditure, and a summary of recommendations reflective of the actual review templates, which would also be included. More detail would be provided on tax expenditures that received negative reviews by members. Members had previously agreed to also include a discussion of transferable credits.

David Sullivan led a discussion on the Exemption for Materials, Tools, Fuels and Machinery Used in Manufacturing. The intent of the tax expenditure is to avoid double-taxation by providing tax exemptions on components of manufacturing, then placing a sales tax on the final product only. Since a number of other states have a similar tax expenditure, there are competitiveness and jobs retention goals.

Chairman Brown stated that administering the tax expenditure can be challenging and has generated a good deal of litigation and auditing. For example, a manufacturer may buy office supplies and claim them as eligible for the exemption as being part of the manufacturing process. Professor Weinzierl stated that given that certain business sectors are afforded exemptions, such as commercial fisheries and agricultural production, the Commission might want to suggest a broad legislative review of the application of the sales tax. Members voted to approve the review template with a change from ease of administering to Somewhat Disagree, and the inclusion of a note of explanation.

Chairman Brown led a discussion of the Unequal Weighting of Sales, Payroll and Property in Apportionment Formula (e.g. Single Sales Factor), as reviewed by Professor Hanlon and William Burke. The original three-factor formula was developed in Massachusetts over a century ago with the goal of avoiding taxation by multiple states where corporations are doing business. The weighted formula consisted of taking a fraction of payroll costs, tangible property, and sales location to determine how much income is taxable. In recent years Massachusetts and other states have dropped the property and payroll factors. The shift toward weighting the sales factor exclusively has a significant revenue cost. Members agreed that more information is needed before they are ready to vote on this tax expenditure. Dr. Kazim Ozyurt, DOR Chief Economist, agreed to provide a breakdown of the costs of double-weighted sales versus single-weighted sales for manufacturers and mutual funds.

Professor Weinzierl led a discussion on Exemption for Materials, Tools, Fuels and Machinery Used in Research and Development (R&D), which he reviewed with Sue Perez. While R&D is a critical economic engine for Massachusetts, there is already the Research Credit (previously reviewed by the Commission), so it may be worthwhile for the legislature to simplify by combining the two. Members voted to approve the review with a change of ease of administration to Somewhat Disagree and claimed by a broad group of taxpayers to Somewhat

Disagree, as well as noting that the data is limited on determining the level of success of the R&D industry but for this tax expenditure.

Auditor Bump led a discussion of the Exemption for Newspapers and Magazines. Members agreed that the goal is to support the free exchange of ideas. Given that the news is largely online now, members discussed the relevance of this expenditure and voted to approve the review with a change to Somewhat Agree that it is relevant today.

Professor Weinzierl and Greg Sullivan led a discussion of the Exemption for Vessels, Materials, Fuels, and Machinery Used in Commercial Fishing. The industry is identified in the Administration's strategic economic plan as a "key cluster" due to its tourism draw and cultural history. Members voted to approve the review as presented.

Senator Hinds led a discussion of the Economic Development Incentive Program (EDIP) Credit reviewed by Chairman Cusack. The EDIP is for incentivizing investment in projects. The average benefit per claimant is \$100,000. Claimants are typically companies of 100 or fewer employees, so the benefit is impactful on whether a project moves forward or not. The EDIP was noted by the 2012 Tax Expenditure Review Commission as a well-structured model. Members voted to approve the review with the addition of competitiveness as a goal and note that beneficiaries may be limited due to an annual funding cap in the state budget.

Auditor Bump led the discussion of the Exemption for Coin-Operated Vending Machines, as reviewed by Professor Hanlon and William Burke. There are likely fewer vending machines than when the expenditure was adopted in 1977; however, it remains impractical for the owner to charge sales tax at point of sale. Members voted to approve the review with a change to Somewhat Disagree that the expenditure provides a meaningful benefit because it does do so for the vendor.

Members agreed to schedule another meeting for mid-February. Chairman Brown concluded the meeting at 12:04PM.

Tax Expenditure Review Commission Public Meeting Minutes  
Thursday, February 25, 2021  
Via Teleconference  
9AM

Commission Members in Attendance:

Chairman Kevin Brown, MA Department of Revenue  
Auditor Suzanne Bump, MA Auditor  
Chairman Adam Hinds, Joint Revenue Committee, Senate Co-Chair  
Ryan Sterling, Designee, Joint Revenue Committee, House Co-Chair  
Professor Matthew Weinzierl, Governor's Appointee  
David Sullivan, Designee, Senate Ways and Means Committee  
Greg Sullivan, Designee, Senate Minority Leader  
Sue Perez, Designee, MA Treasurer  
William Burke, Designee, House Minority Leader

Commission Members Absent:

Chairman Aaron Michlewitz, House Ways and Means Committee  
Professor Michelle Hanlon, Governor's Appointee

List of Documents:

1. Meeting Agenda
2. Draft Minutes – February 12, 2021 Meeting
3. Draft Tax Expenditure Review Commission March 2021 Report to Legislature

Members were asked to announce themselves and a quorum was recognized by Chairman Brown. The meeting via teleconference was called to order at 9:05AM.

Chairman Brown advised that the meeting is public, but due to the COVID-19 State of Emergency, public participation is limited to listening without posing questions during the meeting. Chairman Brown put the Commission and public on notice that the meeting is recorded for purposes of minutes. Once the minutes are approved, the recording will be deleted.

Chairman Brown requested that Commission members provide any changes to the February 12, 2021 draft meeting minutes. Members voted to approve the February 12, 2021 meeting minutes with a correction to the start time of the meeting.

Chairman Brown discussed delaying the report to the legislature, which is due Monday, March 1, 2021. Members agreed it is important that all members have the opportunity to review the

draft report that was provided to them this week. A letter will be sent to the legislature explaining the brief delay.

Dr. Kazim Ozyurt, Department of Revenue (DOR) Chief Economist, discussed the REMI model appendix that was provided to members. DOR proposed moving the REMI discussion out of the tax expenditure summaries to an appendix to be included in the report to the legislature. Chairman Brown explained the goal of providing readers with a clear understanding of the economic evaluation. Professor Weinzierl expressed his support for this plan; an appendix may draw more attention to the Commission's analysis. Members agreed to inserting the REMI model discussion as a report appendix.

Chairman Brown discussed the layout of the draft report. Professor Weinzierl expressed his support for the draft with a suggestion for a table noting which tax expenditures fell into "Strongly Agree" and "Strongly Disagree". David Sullivan stated that the report is well-drafted and highlights which tax expenditures raised most concern for the Commission. He suggested noting that, where applicable, the 2012 Commission also expressed the same concerns. Greg Sullivan suggested that keeping the report concise may encourage readership. Senator Hinds stated that he refiled a bill proposing action on the Commission's recommendations (HD2447 - *An Act Promoting Accountability in Tax Expenditures*). Unfortunately the recommendations of the 2012 Commission were not acted upon by the legislature. Chairman Brown stated that an updated draft report will be provided to the Commission, with the inclusion of suggested changes and additions.

Chairman Brown and Will Burke led a discussion of the Unequal Weighting of Sales, Payroll and Property in Apportionment Formula (e.g. Single Sales Factor), as reviewed by Professor Michelle Hanlon and William Burke. During the February 12, 2021 meeting, Commission members agreed to delay a vote on the review template until Dr. Ozyurt could provide economic impact data. The original three-factor formula was developed in Massachusetts over a century ago with the goal of avoiding taxation by multiple states where corporations are doing business. The weighted formula consisted of taking a fraction of payroll costs, tangible property, and sales location to determine how much income is taxable. In recent years Massachusetts and other states have dropped the property and payroll factors. The shift toward weighting the sales factor exclusively has a significant revenue cost.

Mr. Burke discussed the template he reviewed with Professor Hanlon. Chairman Brown stated that there is considerable litigation pertaining to this tax expenditure related to income associated with mutual fund services and their other income, as well as which companies qualify as manufacturers. As a result, Chairman Brown suggested changing ease of administration from Strongly Agree to Somewhat Agree.

David Sullivan stated that while it is a policy matter for the legislature to determine, it remains unclear why mutual fund providers are afforded this benefit. Massachusetts is not a leader in this industry. However, the 1996 lobbying campaign was significant and based on jobs retention. David suggested lowering “Strongly Agree” to “Somewhat Agree” that the cost is worth benefit.

Chairman Brown and Dr. Ozyurt discussed how mutual funds were more prevalent in the 1990s. There has been a decline in their economic value to the Commonwealth. Sue Perez stated that she agrees with David Sullivan that this tax expenditure should be highlighted in the Commission’s report as it is unclear why it continues to be provided given the decline of mutual funds’ value to Massachusetts. Greg Sullivan agreed. Senator Hinds suggested noting the arbitrariness of this tax expenditure. Members agreed that the report should include a write-up of the Commission’s concerns with this expenditure.

Kevin Brown stated that perhaps if the Commission looked at this tax expenditure in two parts, the ratings may be different. For example, the relevance today for mutual funds versus manufacturers may be different than when the expenditure was adopted. As a result, Chairman Brown offered to include a summary of this in the report. Members voted to move benefit justifies cost to “Somewhat Agree” and ease of administration to “Somewhat Agree, as well as include a note about the Commission’s discussion of the arbitrariness of the benefit to the mutual fund industry.

Chairman Brown reviewed next steps for one more meeting to vote on the report in a final draft. Additionally, Dr. Ozyurt will provide an overview of the next round of tax expenditures the Commission will be reviewing.

Members agreed to schedule another meeting for mid-February. Chairman Brown concluded the meeting at 1013AM.

# Appendix F

## **Economic Impact Analysis Model and Its Use in TERC Reports:**

In this appendix, we explain why we use an economic impact analysis model for the evaluation of a tax expenditure. As explained below, a tax expenditure generates not only direct impact, but also multiplier impact or multiplier effect. An economic impact analysis model is used to measure the total impact including the direct impact and the multiplier impact.

On the one hand, a tax expenditure generates direct benefits to some taxpayers in the form of lower production or capital cost, or higher disposable income, or lower consumer price, etc. On the other hand, because the Commonwealth must balance its budget, spending on a tax expenditure means fewer funds available to spend on other expenditure items if there is no increase in state revenues. Reduced spending on other expenditure items means forgone benefits from those items. This is a direct cost<sup>1</sup> to the Commonwealth, which is ultimately borne by the Massachusetts residents or businesses that would have benefitted from additional spending on those other expenditure items. The direct costs to the Commonwealth in the form of other foregone benefits are equal to the direct benefits to taxpayers of the particular tax expenditure.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with a tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) is felt by the chain of businesses that benefit when the employees working for the directly impacted businesses spend their wages and salaries to buy goods and services. Accordingly, the total benefits and/or costs to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.<sup>2</sup>

To measure these indirect and induced costs and benefits, economists often need to utilize models of economic impact analysis. There are three widely-utilized such models: (1) REMI (Regional Economic Models, Inc.); (2) RIMS-II (Regional Input-Output Modeling System); and (3) IMPLAN (Impact Analysis for Planning). The citation in footnote 2 provides a comparison of these three models. DOR has used REMI models for economic and fiscal impact analysis for years. So, for the evaluation of a tax expenditure, we used REMI’s Tax-PI model.<sup>3</sup>

<sup>1</sup> Called “Opportunity Cost” in economics.

<sup>2</sup> For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

<sup>3</sup> REMI’s Tax-PI is a versatile tool for evaluating the total fiscal and economic impacts of tax policy changes. Tax-PI is a ready-to-use dynamic fiscal and economic impact model which captures the direct, indirect, and



induced fiscal and economic impacts of taxation and other policy changes over multiple years. The model integrates input-output, computable general equilibrium, econometric and economic geography methodologies. For an introduction of Tax-PI, please see the following linked file:  
<https://www.remi.com/wp-content/uploads/2020/07/Estimating-Economic-Fiscal-Impacts-in-Tax-PI.pdf>