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Evaluating Business Tax Credits: Reading Between the Lines

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State governments in New England and across the country commonly use business tax credits to promote economic development. Tax credits are preferences in the tax code that aim to induce some type of economic activity that would not have occurred—or would have occurred to a lesser degree—without the credits. They work by allowing businesses to reduce their tax liability dollar for dollar, based on the amount of the desired activity they undertake. See Table 1 (page 4) for a listing of selected business tax credits offered by New England States.

Whether business tax credits are successful at generating new economic activity—and whether they do so in a cost-effective manner—are important concerns, particularly in times of fiscal and economic stress. A number of studies have attempted to evaluate the benefits and costs of these types of incentives. However, policymakers and other stakeholders should not necessarily take the results of these studies at face value. Analysts must make a variety of assumptions and methodological choices when evaluating tax credits. While unavoidable, these decisions affect the magnitude of estimated impacts, and the conclusions one may draw from them. Therefore, it is important for stakeholders to understand the strengths and limitations of such studies when using them to inform the role of tax credits in economic development policy.

This policy brief provides guidelines for critically evaluating and interpreting empirical studies of state business tax credits. In so doing, it aims to help policymakers and other stakeholders to "read between the lines" of those studies.

What is the study trying to accomplish?

Evaluations of business tax credits usually try to answer one or more of four key questions: (1) Does the credit induce the targeted activity? (2) What is the credit's overall economic impact? (3) What is the credit's fiscal impact? (4) Is the credit cost-effective?

Stakeholders need to understand which of these questions a study is attempting to answer, and therefore what conclusions they might draw from its findings. Studies that examine only the first question are valuable, but they cannot fully capture a tax credit's costs and benefits. At the other end of the spectrum, studies that measure a credit's cost-effectiveness must consider both economic and fiscal impacts to be thorough.

Stakeholders should not necessarily take the results of studies of business tax credits at face value.

Does the study account for potential "windfalls"?

A windfall can occur when a firm receives a tax credit for activity that it would have undertaken even without the credit. When measuring a credit's overall economic impact, an analyst should ideally consider only activity that the credit induces—that is, activity that would not have occurred in the credit's absence. Unfortunately, we cannot directly observe what would have taken place in the credit's absence (sometimes referred to as the "counterfactual"). An analyst must therefore either assume

or estimate—usually using statistical techniques—the level of activity that is actually credit-induced.

If the analyst makes assumptions about the level of induced activity, he or she should provide some type of justification for those assumptions. An analyst who simply assumes that all activity subsidized by the credit is also induced by the credit—without providing any justification—could be overstating the credit's benefits. If the analyst uses statistical techniques to estimate a credit's impact, he or she should identify any potential biases, and explain how the methodology attempts to correct for them.

When measuring the impact of a state tax credit, analysts should consider only activity that would not have occurred without the credit.

Does the study account for the federal deductibility of state taxes?

State-level tax credits reduce a firm's state tax liability. However, because state taxes are deductible at the federal level, a state tax credit can actually increase a firm's federal tax liability, by reducing the federal deduction. An analyst may overstate the impact of a state tax credit if he or she considers only how much a firm saves on state taxes, rather than the firm's overall tax savings.

Does the study capture both direct and indirect effects?

Direct effects are changes in the economic activity of firms that receive a tax credit. Indirect effects are changes in the economic activity of others—including businesses, individuals, and the government—resulting from the credit. For example, if a firm hires more employees as result of a credit, a neighboring restaurant may see more lunch-time business. The added workers hired by the original firm represent a direct effect of the credit, while the growth in the restaurant's business is an indirect effect. Studies that evaluate a credit's effectiveness or cost-effectiveness based only on direct impacts are likely missing the whole picture. A thorough analysis will consider both types of effects.

Does the study include a balanced-budget adjustment?

All states except Vermont have some form of balanced-budget requirement. That means policymakers must usually offset any expected revenue loss associated with a tax credit—known as the "tax expenditure"—with increases in other taxes or spending cuts. Those adjustments can mute the overall economic benefits of a tax credit. An analyst should ideally account for any offsetting fiscal actions a state must take to maintain a balanced budget because of a tax credit. At the very least, the analyst should explain why a particular study does not need such an adjustment.

Does the study adjust for "leakages"?

"Leakages" occur when some of the economic benefits resulting from a tax credit extend beyond the borders of the state that issues the credit. For example, a firm that expands its production because of a tax credit may purchase some of its inputs from an out-of-state supplier. The dollars that are sent out of state are usually no longer available to cycle through the original state's economy.

The detailed models of state economies that analysts commonly use to estimate the overall economic impact of tax credits are designed to account for many of these routine leakages. However, an analyst may sometimes need to make explicit adjustments. This may be particularly true for analyses of film tax credits. Those credits often subsidize salaries paid to cast and crew—including "above-the-line" employees such as starring actors, directors, and producers—who often do not reside in the state. These individuals are likely to leave the state after filming ends without spending a large portion of their earnings within its borders. An analyst can account for this by excluding all or some of the salary payments to these individuals when estimating the overall economic effect of a film tax credit.

Does the study account for changes in both government revenue and spending?

An expansion of economic activity that results from a tax credit can lead to new revenues for a state. For example, newly-created jobs can mean additional income tax revenues in states with a personal income tax. These revenues can offset the initial or "gross" cost of a tax credit. Tax credits can also lead to changes in

government spending. For instance, a higher employment rate stemming from a tax credit may mean that fewer people need safety net services provided by the state. On the other hand, new jobs could lead to population growth, with a corresponding need for more public services such as education and police protection. Ideally, when calculating the net cost of a tax credit, an analyst should consider all types of fiscal impacts.

How does the study measure employment effects?

Analysts often attempt to gauge the cost-effectiveness of a tax credit by estimating the net cost—in terms of foregone revenue—per job created. That estimate may vary depending on whether an analyst measures jobs as full-time equivalents or counts the total number of full- and part-time jobs. While neither approach is "wrong," an analyst should specify what measure of employment he or she is using. Otherwise, interpreting the results of a study and comparing them with those of other studies can be difficult.

Does the study estimate the effects of a tax credit over time?

Some models are capable of projecting a tax credit's impact over multiple periods. This can be useful in determining whether effects take time to manifest or whether they persist over time. Studies that address both long-term and short-term effects can thus paint a fuller picture of a credit's impact and cost-effectiveness.

Does the study include sensitivity analyses?

An analyst ideally will perform his or her analysis multiple times, under different sets of assumptions. These "sensitivity analyses" can show how results would change under different conditions. If a study's results remain fairly consistent under a reasonable range of assumptions, stakeholders can have more confidence in the findings.

Does the study compare the cost-effectiveness of a business tax credit with that of other economic development initiatives?

In an ideal world, analysts would compare the cost-effectiveness of business tax credits with that of other programs or policies with similar goals. This would allow policymakers to determine which approach provides the biggest bang for the buck. Head-to-head comparisons in a single study may also allow more methodological consistency—and thus an "apples-to-apples" assessment—than cross-study comparisons.

Are the study's assumptions and methodology transparent?

An analyst should lay out his or her assumptions and methodology as clearly as possible, and justify the choices he or she has made. An analyst evaluating a particular credit in one state may be justified in making certain assumptions that would not be reasonable in a study of the same type of credit in another state. This could be due to differences in the provisions of the two credits, or differences in the economic conditions or tax structures of the two states. For these reasons, stakeholders should not automatically assume that the findings of a study in one state would yield the same results in another state, even if the study is well-conducted.

Perhaps the most important question about a study of state business tax credits is: Are its assumptions and methodology transparent?

Conclusion

Of all the questions to ask about studies of state business tax credits, the last is perhaps the most important: Are the study's assumptions and methodology transparent? If the analyst communicates these clearly, stakeholders can evaluate the reasonableness and relevance of the study findings, and policymakers can make well-informed trade-offs among competing demands on a state's fiscal resources.

Table 1: Selected business tax credits offered by New England states

	Targeted economic activity			
State	**Investment**	**Research & Development (R&D)**	**Job creation**	**Film production**
Connecticut	• Fixed Capital Investment Credit • Film Infrastructure Investment Tax Credit • Machinery and Equipment Expenditure Credit	• R&D Expenses Credit • Research & Experimental Expenditures Credit	• Jobs Creation Tax Credit	• Film and Digital Media Production Tax Credit • Digital Animation Production Credit
Maine	• Jobs and Investment Tax Credit • High-Technology Investment Credit	• Research Expense Tax Credit • Super R&D Expense Tax Credit	• Jobs and Investment Tax Credit	• Certified Media Production Credit
Massachusetts	• Investment Tax Credit • Life Sciences Investment Tax Credit	• Research Tax Credit	• Job Creation Incentive Payment	• Payroll/Production Credits for Motion Picture Production
New Hampshire		• R&D Tax Credit		
Rhode Island	• Investment Tax Credit • R&D Property Credit • Biotechnology Investment Tax Credit	• R&D Expense Credit		• Motion Picture Production Company Tax Credit
Vermont	• Vermont Employment Growth Incentive (VEGI)	• R&D Tax Credit	• Vermont Employment Growth Incentive (VEGI)	

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This policy brief summarizes *State Business Tax Incentives: Examining Evidence of their Effectiveness*, a discussion paper by Jennifer Weiner, a policy analyst at the New England Public Policy Center. The full paper is available at http://www.bos.frb.org/economic/neppc