

A Review of the Georgia Tax Credit for Qualified Research Expenses

Prepared for the Senate Study Committee on Special Tax Exemption

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Summary of Policy

The State of Georgia provides a tax credit of 10 percent of a business enterprise's¹ increase in qualified research expenses conducted in Georgia (O.C.G.A. § 48-7-40.12).

Findings

Based on data provided by Georgia Department of Revenue, taxpayers claimed approximately \$116 million in R&D credits between 2011 and 2014.

Evaluation Criteria

Measure	Score
Justification	+
Effectiveness	+
Efficiency	-
Equity	-/+
Return on Investment	N/A
Credit Structure and Administration	-
Budgetary Risk	-
Local Government Impact	None
Opportunity Costs	-

Suggested Policy Recommendations

- The state should consider requiring increased reporting of the firms claiming this credit in an effort to understand the employment gains associated with this tax credit.
- The state should explore the extent to which firms in Georgia might benefit from using the federal alternative simplified credit calculation at the state level.

¹ Any such business that is engaged in manufacturing, warehousing and distribution, processing, telecommunications, broadcasting, tourism, and research and development industries. Retail businesses are excluded.

Introduction

The purpose of this report is to review the Georgia Research and Development tax credit (R&D) as part of the work of the 2017 Senate Study Committee on Special Tax Exemption, chaired by Senator John Albers. The committee met several times during the summer and fall of 2017 to discuss the process of evaluating tax incentives. This is one of five reviews produced by the Fiscal Research Center in support of this committee.

Although not explicitly stated, this analysis assumes that the purpose of the tax incentive is to stimulate research and development activities within the state. The credit reduces the cost of these activities through the subsidy, thereby encouraging more activity. It is widely acknowledged that research activities create positive benefits for other businesses and for society as a whole. Because of these positive spillover effects do not only accrue to the business undertaking the research activity, there may be an underinvestment in these projects in the absence of government intervention. Providing the credit serves to address this underinvestment. It is important to note, though, that the credit is typically used to subsidize applied research activities conducted by private sector firms. This business R&D activity is likely to have less of a spillover effect than basic research activities.

There are many measures by which a tax incentive may be evaluated, but perhaps the most common is the return on investment. That is, an incentive is deemed successful if it provides a positive net return on investment or, stated differently, if the tax dollars generated from the activity exceed the cost of the tax incentive. While this is an important consideration, it may not be the only measure by which incentives should be judged. For instance, incentives that seek to alter behavior may not result in the generation of additional tax revenues but may still be considered worthwhile. Because administration and concerns of state budgeting are also important factors, the program is measured against several criteria. The criteria used in this evaluation were originally developed by Murray and Bruce (2017) and adapted for use by the Fiscal Research Center.

The report continues as follows: Section 1 describes the Georgia R&D tax credit and discusses the use of other incentives that are typically used in combination with the state tax credit. Section 2 presents information on the usage of the credit in Georgia and nationally. Section 3 provides information on R&D expenditures. Section 4 discusses previous analyses of the program which focus specifically on the effect of the credit on research activities. Section 5 concludes with the set of criteria by which the credit is measured, followed by recommendations for improvement and continuation of the program.

Section 1. State Tax Credit for Qualified Research Expenses

The State of Georgia provides a tax credit of 10 percent of a business enterprise's² increase in qualified research expenses conducted in Georgia (O.C.G.A. § 48-7-40.12). Restrictions and terms of the credit are as follows:

- a. The increase refers to the excess in qualified research expenses over a base amount, where the base amount means the product of the business enterprise's Georgia gross receipts in the current taxable year and the average of the ratios of its aggregate research expenses to Georgia gross receipts for the preceding three taxable years or 0.30, whichever is less.
- b. This credit is given to a Georgia business if it also claims and receives the federal research and development credit as defined in Section 41 of the Internal Revenue Code.
- c. The credit in any one taxable year is limited to 50 percent of the business's remaining Georgia net income tax liability after all other credits have been applied. If the amount of credit exceeds this limit, the excess credit might be used against payroll withholding³.
- d. Unused credits can be carried forward for 10 years.

Qualified research expenses include both in-house research expenses and contract research expenses. In-house research expenses include wages, supplies, and computer leasing expenses⁴. In the case of contract research, only 65 percent of payments for qualified research by a contractor individual is included, while 75 percent is included in the case of a qualified research consortium. The qualified research must be conducted for the purpose of discovering information that is technological in nature, which is intended to be useful in the development of a new or improved business component. Substantially all of the activity must relate to the process of experimentation with respect to a new or improved function, performance, reliability or quality⁵.

Federal Tax Credit for Research and Development

The Georgia R&D tax credit can only be claimed if the business enterprise claims and receives the federal R&D credit. The federal credit is 20 percent of qualifying expenditures. Taxpayers have two methods of applying the federal credit,

- a. In the first method, the base amount is the product of the business' fixed base percentage, which is the ratio of its research expenses to gross receipts for the 1984-1988 period, and the average of the taxpayer's gross receipts for the four preceding years⁶. The base must

² Any such business that is engaged in manufacturing, warehousing and distribution, processing, telecommunications, broadcasting, tourism, and research and development industries. Retail businesses are excluded.

³ As defined by O.C.G.A. § 48-7-103.

⁴ Indirect costs related to the research such as the research department's overhead expenses, depreciation on property used in research process, and general corporate overhead are not allowed to be included in QRE.

⁵ The research must also be in line with the criteria of IRC section 174. Certain activities are excluded from the definition of qualified research as per IRC Section 41(d)(4).

⁶ For taxpayers not in existence during 1984-1988 a modified rule is used to estimate the fixed base percentage.

be equal to 50 percent or more of a firm’s qualified research expense (QRE) in the current tax year.

- b. In the second method, taxpayers utilize an alternative simplified credit (ASC), which equals 14 percent of QRE that exceed a base amount, which is defined as 50 percent of the average QRE for the three preceding taxable years. The ASC rate is reduced to six percent if the taxpayer has no QRE in any of the three preceding taxable years.

It is important to note that corporate taxpayers can deduct QRE from their taxable income. However, they have to choose between reducing the amount of their deduction of research expenditures by the amount of the claimed credit, and electing a smaller credit, one that is decreased by a proportion equal to the maximum statutory corporate tax rate.

R&D Tax Credits in Other States

Table 1 provides a summary of the R&D credits available in other southeastern states.

Table 1. R&D credits in southeastern states

Southeastern States	R&D Credit	Limitations	Specifics
Alabama	No Credit	N/A	N/A
Arkansas	20%	100% of Tax Liability	33% rate for R&D in strategic value, via university, or within target business sector
Florida	10%	50% of Tax Liability	Only for target business sectors.
Georgia	10%	50% of Tax Liability	Excess R&D credit can be used against state payroll withholding.
Kentucky	No Credit ⁷	N/A	N/A
Louisiana	40% ⁸	Refundable tax credit	
Mississippi	No Credit	N/A	N/A
North Carolina ⁹	Expired in 2016	N/A	N/A
South Carolina	5%	50% of Tax Liability	Carry forward is 10 years
Tennessee	No Credit	N/A	N/A
Virginia	15%	% of first \$234,000 in Virginia QRE’s	If aggregate credit paid out exceeds the cap, each taxpayer

⁷ Five percent credit is available for the construction of qualified research facilities, but not for qualified research expenses.

⁸ For firms with more than 50 employees. For firms with fewer than 50 employees, the credit rate is lower.

⁹ The state provides a sales tax exemption for certain R&D activities.

			will receive a pro rata amount that is determined by the responsible department.
West Virginia	No Credit	N/A	N/A

The federal credit and most states offer an incremental tax credit such that only research expenditures over a defined base qualify for the credit. Specifications for computing the base of the tax credit vary widely amongst the above states. Amongst Georgia’s bordering states, Florida’s base amount is calculated as the average of the previous four tax years’ QREs. However, the South Carolina credit is applied to all QRE (ie. nonincremental). All other states that lie on Georgia’s border, currently, do not offer R&D tax credits (AL, TN, NC).

Section 2. Usage of the Tax Credit

State credit

Table 2 shows the utilization of the state tax credit for years 2011-2014. There has been a sharp increase in the utilization of this credit in 2014, the majority of which was taken against employee withholding. This is likely a result of an overall uptick in R&D expenditures as the economy recovers from the recession and the ability of the credit to be taken against withholding in some cases. In 2009, the state modified the calculation for the base of the credit and allowed firms in the first five years of operations to take the credit against employee withholding. Based on the data that is available from DOR, we do not know if the \$68 million for 2014 represents a one-time value of the credit utilization or a new trend in the value of claims for the credit.

Table 2. Georgia R&D Credit utilized by tax year (\$ in millions)

	2011	2012	2013	2014
R&D Credit	\$14.7	\$13.8	\$20.1	\$67.7

Source: Georgia Department of Revenue

Table 3. Estimated utilization for FY2016-FY2018

	2016	2017	2018
R&D Credit	\$28	\$29	\$31

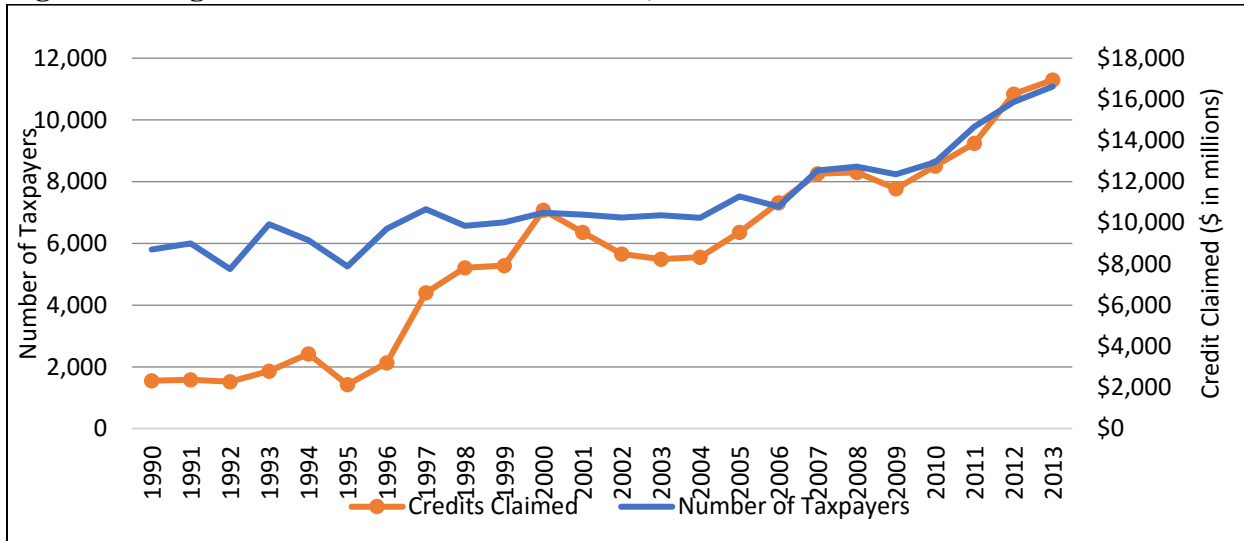
Source: Georgia Tax Expenditure Report for FY2018, Fiscal Research Center

Federal Credit

The federal credit was permanently extended as of January 1, 2015. Prior to this, the credit had expired and was extended, typically retroactively, multiple times over the past decade. This lack of permanency of the federal credit, and by extension the state credit, may have resulted in a stifling of research activities.

Figure 1 shows the upward trend in the number of corporate tax credits claimed and the number of taxpayers claiming the federal tax credit over the 1990-2013 period.

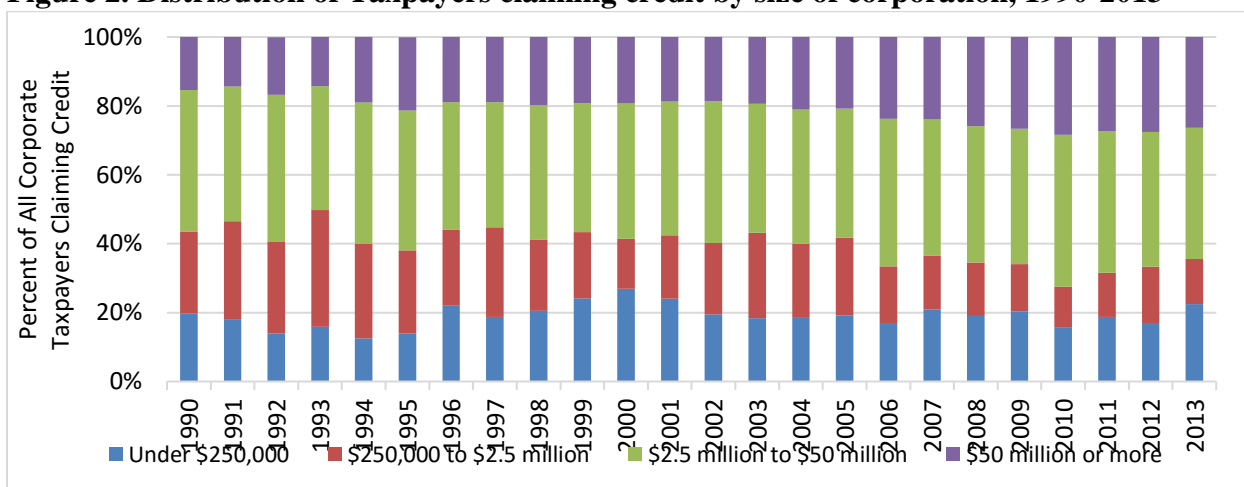
Figure 1. Usage of the Federal R&D Tax credit, 1990-2013.



Source: Internal Revenue Service, Statistics of Income. Information includes corporate tax filers only.

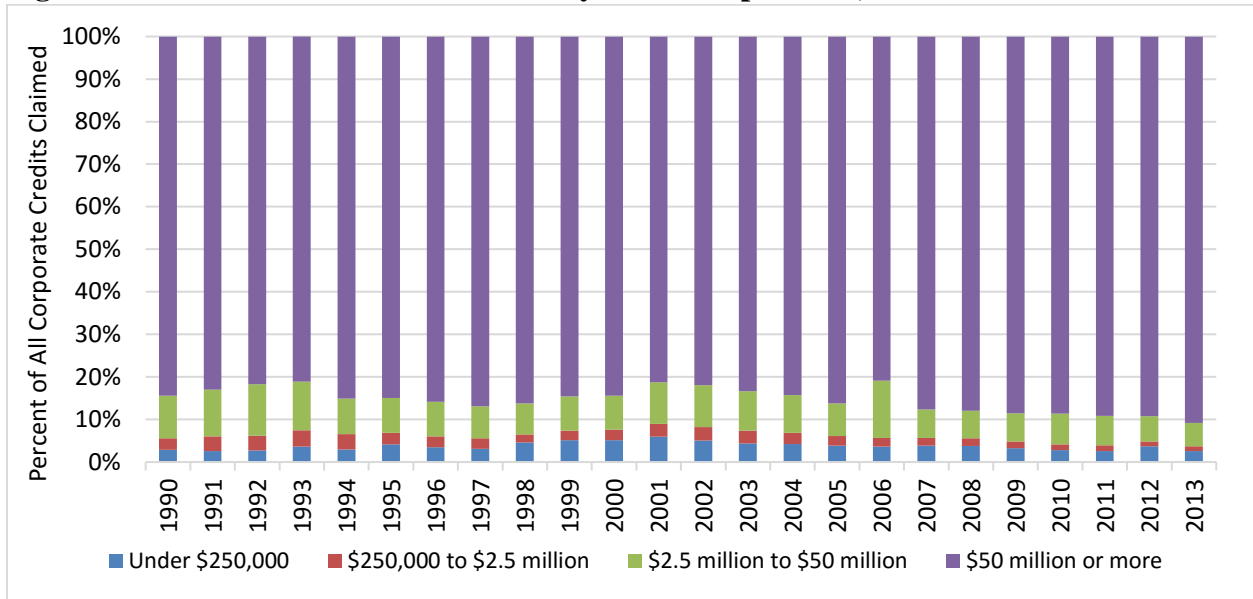
Figure 2 displays the distribution of corporate taxpayers claiming the federal R&D tax credit by size of business receipts. Most corporations claiming the credit have receipts of at least \$2.5 million. Figure 3 shows the distribution of credits claimed by size of business receipts. Typically 80 percent or more of all R&D credits are claimed by corporate taxpayers with receipts of \$50 million or more.

Figure 2. Distribution of Taxpayers claiming credit by size of corporation, 1990-2013



Source: Internal Revenue Service, Statistics of Income. Information includes corporate tax filers only.

Figure 3. Distribution of credits claimed by size of corporation, 1990-2013



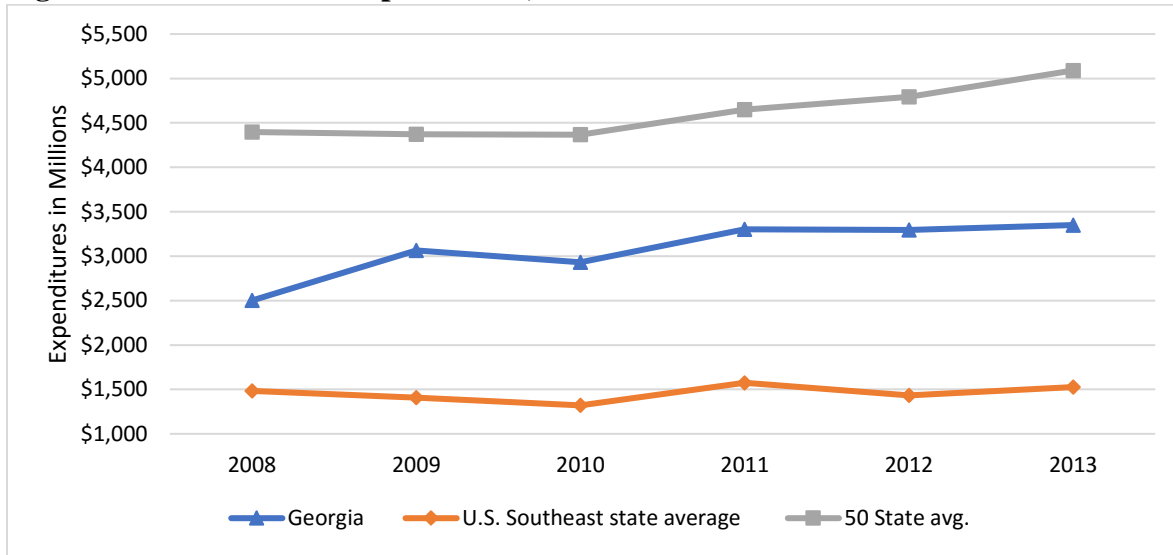
Source: Internal Revenue Service, Statistics of Income. Information includes corporate tax filers only.

Section 3. R&D expenditures

Figure 4 shows the trends in business R&D expenditures for Georgia, the US, and the average for southeastern states over the 2008-2013 period.¹⁰ Georgia consistently outperforms the southern state average over this time period. About 72 percent of all business R&D in Georgia is performed in the industries of information, finance and insurance, computer and electronic products, chemical, and transportation.

¹⁰ The southeastern states include North Carolina, South Carolina, Tennessee, Virginia, West Virginia, Mississippi, Louisiana, Kentucky, Florida, Arkansas, and Alabama.

Figure 4. Business R&D Expenditures, 2008-2013



Source: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Industrial Research and Development and Business R&D and Innovation Survey (various years)

Section 4. Effect of the R&D Credit

Although not explicated stated in statute, it is assumed that the purpose of the provision is to encourage R&D activities within the state. The extent to which this occurs has been studied globally, for the US, and for the states. For instance, Bloom et al. (2002) analyzed R&D credits in nine OECD countries over 1979-1997 and found that a 10 percent reduction in the cost of R&D stimulates just over a 1 percent increase in the level of R&D in the short-run, and just under a 10 percent increase in R&D activity in the long-run. Gupta et al. (2012) found that a \$1 increase in the federal tax credit resulted in a \$2.08 increase in R&D spending nationally. Rao (2016) examined the effect of the U.S. federal R&D credit between 1981-1991 using IRS data and found that a 10 percent reduction in the cost of R&D led to an increase in the ratio of R&D spending to sales of approximately 20 percent in the short-run for the average firm.

Research on R&D credits at the state level have more mixed findings. Wu (2005) analyzed data from 13 States¹¹ from 1979-1995 and found the state R&D tax credit had a positive impact on R&D activity. Wu (2008) also analyzed 49 states over 1994-2002 and found that the existence of a state tax credit had a positive impact on the size of the high technology business sector within that state, as measured by the number of the state's high-technology establishments relative to its population or total business establishments. Ho (2006) studied state R&D tax credits using a quasi-experimental approach where states with no R&D credits were compared against states with R&D credits. The major findings of this study were that the credits positively affect the increase in R&D spending and employment and that the positive effects on R&D spending were widespread across all industries and different sized firms, while positive effects of employment

¹¹ Alabama, Arizona, California, Colorado, Connecticut, Florida, Illinois, Massachusetts, New Jersey, New York, Ohio, Pennsylvania, and Virginia.

were limited to large firms in high-technology industries. Wilson (2009) studied all U.S. states from 1981-2004 and found that R&D state tax credits increase R&D spending in the long-run in states with a generous tax credit but also found a corresponding drop in expenditures from other states, suggesting that the aggregate effect of state R&D credits on national R&D expenditures is zero.

Section 5. Evaluation of the R&D Credit

Justification

It has long been accepted that R&D activities are an example of a classic public good for which the benefits accrue not only to those engaged in the activity but to others in society. As such, a subsidy is required to incentivize an optimal level of this activity. Therefore, from this perspective there is a justification for some type of government support.

Effectiveness

Based on the research on R&D credits in general, the subsidy stimulates additional research and development activities. In addition, there is some evidence that states compete with each other for research activities. This indicates that the subsidy could be responsible for attracting more activity to Georgia from other states. Assuming that the increase in activity equates to increased employment in R&D industries, these jobs tend to offer higher than average wages.

Efficiency

Because the credit is incremental in nature and complex in structure, it likely creates an incentive to adjust the timing of activities and classification of expenses to maximize the credit. We found no research to indicate the degree to which this may be occurring.

Equity

The credit is available to all firms, regardless of size or location. In its current structure, the value of the credit decreases with the size of the firm's gross receipts. This may place some firms at a disadvantage if they also have high costs and therefore low profits.

Return on Investment

Our research did not find an analysis that measured the return on investment for this tax credit. Based on the information we found on the effectiveness of the credit, it is possible that this credit results in some additional research activities in the state. These activities will likely result in increased employment and are typically associated with higher wages. The increased tax revenue from these wages and consumption would serve to offset some, but not all, of the incentive.

Credit Structure and Administration

The credit is incremental in its structure and as such is designed to reward research activity over an historical base amount for each company. On the other hand, this adds greatly to its complexity. The federal credit allows a base calculation that is a function of a firm's qualified

research expenses of the past three years. This form of the credit (also referred to as the ASC method or the alternative simplified credit) is simpler to compute and still maintains the incremental nature of the credit.

Budgetary Risk

Under the current structure of the credit, there is no annual limitation on credits awarded by the state. On the one hand, a lack of a limitation increases the power of the credit because firms are assured of receiving the credit for qualified research activities. On the other hand, this lack of a cap, increases the budgetary risk to the state. Because under certain conditions the credits can be taken against employee withholding, there are fewer credits carried forward which results in less of an outstanding liability for the state in future years.

Local Government Impact

There are no direct local government impacts from this credit.

Opportunity Costs

This credit faces the same opportunity costs of other credits evaluated for this study committee. The credit represents a loss of state revenue which equates either to an increase in state tax rates or a reduction in state spending.

Suggested Policy Recommendations

- The state should consider requiring increased reporting of the firms claiming this credit, in an effort to understand the employment gains associated with this tax credit.
- The state should explore the extent to which firms in Georgia might benefit from using the alternative simplified credit calculation at the state level.

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