Evaluation of Tennessee's Business Tax Credits (2015-2018)

Prepared by the Center for Economic Research in Tennessee (CERT)

Tennessee Department of Economic and Community Development

January 14, 2021

Evaluation Authors and Collaborators:

Tennessee Department of Economic & Community Development

Sally Avery, Director, CERT *(lead author)*

Jeremy Stiles, Research Manager, CERT *(lead author)*

John Patten, Research Analyst, CERT

Paul VanderMeer, Assistant Commissioner of Administration

Debbie Clabo, Director of Tax

Kayla Hampton, Tax Information Analyst

Tennessee Department of Revenue

Stacy Gibson, Assistant Commissioner

Kirk Johnson, Statistical Research Specialist

Randy Hilliard, CPA, Tax Audit Supervisor

Zerihun Taddese, Statistical Programmer

Samantha Kennedy, Statistical Programmer

Jeff Bjarke, Director of Research

Contributing Agencies:

Tennessee Department of Economic & Community Development (ECD)

Tennessee Department of Revenue (TDOR)

Tennessee Department of Labor & Workforce Development (TDLWD)

Strategic Technology Solutions (STS) Division of the Tennessee Department of Finance and Administration

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INTRODUCTION

Economic development incentives are a vital tool in Tennessee's ability to recruit, retain, and support companies in every corner of our state. The recruitment and expansion of businesses generate positive economic and fiscal impacts in Tennessee's communities. These businesses create jobs and wages for Tennessee workers and generate economic output, and revenues for the state. Since 2014, Tennessee has taken steps to analyze business incentives to determine their effectiveness for our state. Members of the legislature and executive leadership recognized the importance of studying the impact of business tax credits and whether improvements could be made to enhance Tennessee's competitiveness among other states.

Strategic evaluation of Tennessee's business tax incentives was initiated through the state's selection by The PEW Charitable Trusts and the Center for Economic Competitiveness (CREC) to participate in a seven-state assessment of business incentives and policy in 2014. Tennessee's participation in the assessment resulted in the enactment of key improvements, including the removal of ten credits in 2015 that had outlived their usefulness, new provisions that made R&D equipment and back office positions eligible for tax incentives in order to better position the state's recruitment efforts in those fields, introducing a new transparency database for economic development grants,[1] and establishing a systematic process for evaluating Tennessee's tax incentives. In 2015, the state legislature directed the Tennessee Department of Economic & Community Development (ECD), in consultation with the Tennessee Department of Revenue (TDOR), to conduct a review of the state's business tax credits found in Tenn. Code Ann. §§ 67-4-2009, 67-4-2109, and 67-6-224 every four years.[2]

The economic development landscape is constantly evolving. Periodic review of the state's incentives will ensure that the state is staying ahead of the curve on new trends. This report fulfills the requirements outlined in Tenn. Code Ann. § 67-1-118.

This report was prepared by the Center for Economic Research in Tennessee (CERT), which is the research center within ECD. The evaluation was conducted by CERT in collaboration with ECD's Division of Tax and the Divisions of Audit and Research within TDOR. The Tennessee Department of Labor & Workforce Development (TDLWD) provided data that is central to the evaluation. The Strategic Technology Solutions (STS) division within the Tennessee Department of Finance and Administration provided data infrastructure and support to facilitate the secure sharing and evaluation of data. The evaluation was conducted using firm-level data from TDOR, TDLWD, and ECD.

The report is divided into four parts. **Part I** explains Tennessee's business tax credits, their purpose, and how businesses qualify for the incentives. The section also includes some contextual items regarding Tennessee's business tax credits, including similar tax incentives offered in other states.

[1] https://www.tn.gov/transparenttn/state-financial-overview/open-ecd.html

[2] Tennessee House Bill No. 291, Senate Bill No. 322, as enacted in Public Chapter 504 (2015).

Part II summarizes the tax credits claimed by businesses from 2015 to 2018.[3] The section includes information on foregone revenue to the state, number and characteristics of businesses claiming the credits, and the role of business tax credits in competitive economic development projects. **Part III** outlines the growth experienced by companies awarded credits and the projected economic and fiscal impacts of this growth on the Tennessee economy and state revenues. **Part IV** offers policy recommendations based on the results of the study and the report's conclusion.

HIGHLIGHTS

- From 2015 to 2018, Tennessee businesses claimed an average of $184.6 million in business tax credits each year, totaling $738.6 million in credits claimed across all four years.
- Approximately 2,700 firms claimed business tax credits over the four-year period.
- 90% of the claimed credits were either job tax or industrial machinery credits.
- Manufacturing was the largest industry sector by credits claimed over the four-year period, accounting for nearly 70% of all credits claimed.
- Employment at companies claiming business tax credits during the four years of 2015 to 2018 grew from 377,400 in 2014 to nearly 451,000 people in 2019 (19.5% rate of job growth over five years).
- Nearly 60% of ECD's projects during the years of 2011 through 2018 were with companies that claimed business tax credits during the four-year evaluation period (2015-2018). These projects include the creation of 114,200 new jobs and $26.2 billion in new capital investments across the state. Companies with ECD projects between 2011 and 2018 represent one fifth (21%) of all companies claiming business tax credits between 2015 and 2018 and 76% of credits claimed.
- The growth of companies receiving job tax and industrial machinery credits outpaced that of the average Tennessee business. The average job growth rate for all Tennessee companies during 2015 was 2.2%, compared to 8.1% growth among companies awarded job tax credits in 2015 and 4.7% growth among companies awarded industrial machinery credits in 2015.*
- Companies awarded job tax and industrial machinery credits provided higher wages than the average business in Tennessee. The 2015 average wage for all Tennessee companies was $45,667, compared to $64,090 for companies awarded job tax credits in 2015 (40% greater) and $62,085 for companies awarded industrial machinery credits in 2015 (36% greater). Their wages continued to exceed the statewide average wage in 2016 through 2019 by 34% to 43%.*
- Approximately 200 businesses were awarded $157.8 million in job tax credits in 2015. Total employment at this group of companies increased by 21.8% (or 29,500 direct net new jobs) over five years.
    - The estimated total impacts of this growth (including direct, indirect, and induced impacts) include 88,400 new jobs, $18.6 billion in new earnings for Tennessee workers, and $29.5 billion in contribution to gross state product (GDP) over five years.

[3] All annual data reported throughout this paper, unless noted otherwise, refer to fiscal years which begin July 1 and end June 30.

    - The estimated net fiscal benefits over five years of $373.6 million exceed the $157.8 million cost of the job tax credits awarded to companies in 2015. The state is estimated to receive a return on its investment in 2.7 years. For companies awarded job tax credits in 2016, 2017 and 2018, the estimated number of years for the state to receive a return on investment ranges from 2.2 to 2.9. These figures exclude assumptions for the share of growth directly attributable to the tax credit.
    - The exact share of realized growth that is attributable specifically to the credit cannot be definitively quantified with accuracy and varies from business to business. Evaluators implemented a sensitivity analysis to provide a full range of scenarios to account for different degrees to which the credits have influenced business investment decisions. For example, if the job tax credits awarded in 2015 were only responsible for 50% of the realized growth (14,750 direct net new direct jobs), the payback period would extend to 4.5 years.
- Nearly 1,600 businesses were awarded $180.3 million in industrial machinery credits in 2015. Total employment at this group of companies increased by 13.9% (or 40,600 direct net new jobs) over five years.
    - The estimated total impacts of this growth (including direct, indirect, and induced impacts) include 127,500 new jobs, $25.7 billion in new earnings for Tennessee workers, and $41.3 billion in contribution to gross state product (GDP) over five years.
    - The estimated net fiscal benefits over five years of $516.3 million exceed the $180.3 million cost of the industrial machinery credits awarded to companies in 2015. The state is estimated to receive a return on its investment in 2.4 years. For companies awarded industrial machinery credits in 2016, 2017 and 2018, the estimated number of years for the state to receive a return on investment ranges from 2.6 to 2.9. These figures exclude assumptions for the share of growth directly attributable to the credit.
    - The exact share of realized growth that is attributable specifically to the credit cannot be definitively quantified with accuracy and varies from business to business. Evaluators implemented a sensitivity analysis to provide a full range of scenarios to account for different degrees to which the credits have influenced business investment decisions. For example, if the industrial machinery credits awarded in 2015 were only responsible for 50% of the realized growth (20,300 direct net new direct jobs), the payback period would extend to 3.9 years.

* The results are consistent for companies awarded credits in 2016, 2017, and 2018. Full details for all years are included in report.

PART I: BUSINESS TAX CREDITS IN TENNESSEE

ECD and TDOR analyzed business tax credits claimed by companies over the four-year period of 2015 to 2018. The tax credits analyzed as determined by Tenn. Code Ann. §§ 67-4-2009, 67-4-2109, and 67-6-224 include:

- Job tax credits (JTC), including the standard job tax credit, the additional annual credits for enhancement counties and higher level investments, the job tax credit for hiring persons with disabilities, and the community resurgence job tax credit;
- Industrial machinery tax credit (IMC), including the standard industrial machinery credit and enhanced industrial machinery credit;
- Headquarters sales tax credit;
- Community investment tax credit; and
- Small business opportunity fund and rural opportunity fund tax credits

Information on each of these types of business tax credits is provided below.

TDOR has the authority to conduct audits or require the filing of additional information necessary to substantiate any business plans to determine whether companies have met all the requirements to qualify for the tax credits listed above. Additionally, TDOR may issue an assessment for any underpayment of tax if it determines upon audit that a company has not met all of the statutory requirements to qualify for any of these tax credits.

Job Tax Credit

The job tax credit is designed to encourage the recruitment and expansion of certain business enterprises that result in the creation of new jobs in the state. To qualify for the job tax credit, companies must create the required number of new jobs and make the required amount of capital investment within specified time frames. The specific requirements for each type of job tax credit are set forth in Tennessee law.

The various statutory job tax credit programs are summarized below. To qualify under any of these programs, companies must submit a Job Tax Credit Business Plan and obtain approval from TDOR before any credit can be claimed.

Standard Job Tax Credit

The Standard Job Tax Credit provides a credit of $4,500 per job that can be used to offset up to 50% of a company's annual franchise and excise taxes. If the tax due is less than the credit created, the amount of the excess credit may be carried forward for up to 15 years. The company must create at least 25 qualified jobs within a 36-month period and invest at least $500,000 in a qualified business enterprise.

Effective for tax years ending on or after July 1, 2016, qualifications for Standard Job Tax Credit vary based upon tier. A company may now qualify for Standard Job Tax Credit if it creates at least 20 qualified new jobs in a Tier 3 enhancement county or 10 qualified new jobs in a Tier 4 enhancement county within a 60-month period and invests at least $500,000 in a qualified business enterprise. The same carry-forward of 15 years applies.

Qualified jobs are generally new permanent employment positions providing employment in a qualified business enterprise for at least 12 consecutive months. Qualified jobs generally must be fulltime (at least thirty-seven and one-half (37½) hours per week) and offer minimum health care.

Additional Annual Credit for Enhancement Counties

The Additional Annual Credit for Enhancement Counties Job Tax Credit provides an additional annual credit for businesses locating or expanding in designated Tier 2, Tier 3, or Tier 4 Enhancement counties. The credit can offset up to 100% of franchise and excise tax liability. Qualifications for this program vary based on tier:

- In Tier 2 counties: three-year annual credit of $4,500 per job with no carry forward. The company must create at least 25 new full-time qualified jobs within a 36-month period and invest at least $500,000 in a qualified business enterprise.
- In Tier 3 counties: five-year annual credit of $4,500 per job with no carry forward. The company must create at least 20 new full-time qualified jobs within a 60-month period and invest at least $500,000 in a qualified business enterprise.
- In Tier 4 counties: five-year annual credit of $4,500 per job with no carry forward. The company must create at least 10 new full-time qualified jobs within a 60-month period and invest at least $500,000 in a qualified business enterprise.

The Additional Annual Credit for Enhancement Counties and the Additional Annual Credit for Higher Investment, described below, are mutually exclusive. Taxpayers that qualify for both credits must choose between these credits.

Additional Annual Credit for Higher Level Investments ("Super Credit")

The Additional Annual Credit for Higher Level Investments ("Super Credit") provides an additional annual credit for recruitments and expansions involving investments of $10,000,000 or more and new job creation of 100 or more. Qualifications for this program vary based upon the investment and job creation amounts as follows:

- Investment of $10,000,000: three-year annual credit of $5,000 per job with no carry forward. Company must qualify as a headquarters facility as defined in Tenn. Code Ann. § 67-6-224 and create at least 100 new qualified jobs that pay at least 150% of the state Average Occupational Wage.
- Investment of $100,000,000: three -year annual credit of $5,000 per job with no carry forward. Company must create at least 100 new qualified industrial wage jobs, which pay at least 100% of the state Average Occupational Wage.
- Investment of $250,000,000: six-year annual credit of $5,000 per job with no carry forward. Company must create at least 250 new qualified industrial wage jobs, which pay at least 100% of the state Average Occupational Wage.

- Investment of $500,000,000: 12-year annual credit of $5,000 per job with no carry forward. Company must create at least 500 new qualified industrial wage jobs, which pay at least 100% of the state Average Occupational Wage.
- Investment of $1,000,000,000: 20-year annual credit of $5,000 per job with no carry forward. Company must create at least 500 new qualified industrial wage jobs, which pay at least 100% of the state Average Occupational Wage.

The Additional Annual Credit for Higher Level Investments and the Additional Annual Credit for Enhancement Counties are mutually exclusive. Taxpayers that qualify for both credits must choose between these credits.

Job Tax Credit for Hiring Persons with Disabilities

The Tennessee Job Tax Credit for Hiring Persons with Disabilities is designed to increase the hiring of persons with disabilities. The credit is available to companies who establish either full-time or part-time net new job(s) for persons with disabilities who are receiving state services directly related to their disabilities. The credit is $2,000 for each qualified part-time job created and $5,000 for each qualified full-time job created and can be used to offset up to 50% of a company's annual franchise and excise taxes. If the tax due is less than the credit created, the amount of the excess credit may be carried forward for up to 15 years. No capital investment is required.

If the statutory requirements are met, a company may claim this credit in addition to the Standard Job Tax Credit.

Community Resurgence Job Tax Credit

The Community Resurgence Job Tax Credit was enacted in 2015 and designed to encourage job creation in high-poverty areas of the state. The credit provided is $2,500 per full-time qualified job that pays the state's average occupational wage in high-poverty area according to the American Community Survey. A high poverty area is currently defined as a Census Tract with 30% or higher poverty rate. The credit can be used to offset up to 50% of a company's annual franchise and excise taxes. If the tax due is less than the credit created, the amount of the excess credit may be carried forward for up to 15 years.

If the statutory requirements are met, a company may claim this credit in addition to the Standard Job Tax Credit.

Adventure Tourism Job Tax Credit

The Adventure Tourism Job Tax Credit was enacted in 2017 and was designed to encourage adventure tourism job creation within an adventure tourism zone. The credit provided is $4,500 per qualified job. After July 2017, a job may qualify for this credit if the majority of job duties involve adventure tourism duties, as defined in Tenn. Code Ann. § 11-11-203, and are performed in an adventure tourism district. Qualified adventure tourism jobs do not require minimum health care and may be seasonal or part-time jobs. Such seasonal or part-time jobs are counted as one-half of one job for purposes of calculating the credit due. The number of new jobs required varies based upon tier as does the associated adventure tourism annual credit.

Industrial Machinery Tax Credit

The industrial machinery credit is designed to encourage the recruitment and expansion of certain business enterprises including manufacturing, warehousing and distribution, and headquarters and call centers. For the purposes of this credit, industrial machinery is defined by Tenn. Code Ann. § 67-6-102.

Standard Industrial Machinery Tax Credit

The Standard Industrial Machinery Credit amount is 1% of the purchase price of the industrial machinery and generally can be used to offset up to 50% of a company's annual franchise and excise taxes. If the tax due is less than the credit created, the amount of the excess credit may be carried forward for up to 15 years.

The purchases qualifying for industrial machinery credit vary by industry:

- Manufacturing industries: machinery, apparatus and equipment with parts, appurtenances and accessories, repair parts, and third-party labor.
- Warehousing and distribution: material handling equipment and racking systems, with a minimum of $10 million capital investment within 36 months.
- Headquarters and call centers: computer, network, software, or peripheral computer devices purchased in making required capital investment for job tax credits.

A company is not required to file a business plan to claim the standard industrial machinery credit.

If a credit has been claimed on the purchase of any industrial machinery that is sold or removed from the state prior the end of its useful life, TDOR recaptures the amount of the credit equal to the percentage of the remaining useful life of the industrial machinery. Companies must calculate the recapture and report it on their annual returns.

Enhanced Industrial Machinery Credit

The Enhanced Industrial Machinery Credit may be from 3% to 10% of the purchase price of industrial machinery depending upon the level of total capital investment. To qualify for the credit, companies must submit an Enhanced Industrial Machinery Credit Business Plan and obtain approval from TDOR before any Enhanced Industrial Machinery Credit can be claimed.

The percentages of the credit allowed to a company are shown in the table below:

Capital Investment	% of Credit
$100 million	3%
$250 million	5%
$500 million	7%
$1 billion	10%

Like the Standard Industrial Machinery Credit, if Enhanced Industrial Machinery Credit has been claimed on the purchase of any industrial machinery that is sold or removed from the state prior the end of its useful life, TDOR recaptures the amount of the credit equal to the percentage of the remaining useful life of the industrial machinery. Companies must calculate the recapture and report it on their annual returns.

Companies cannot claim both the Standard Industrial Machinery Credit and the Enhanced Industrial Machinery Credit on the same property purchased.

Headquarters Sales Tax Credit

The headquarters sales tax credit is designed to encourage the recruitment or expansion of qualified headquarters facilities in the state. To qualify for the credit, companies must establish a national or international headquarters facility in the state, create 100 new full-time headquarters jobs that pay at least 150% of the state's average occupational wage, and invest at least $10 million. To qualify for the credit, companies must file an Application for Headquarters Facility Sales and Use Tax Credit and receive approval from TDOR. Companies must also submit claims for credit with documentation to TDOR, separate from the tax return, and receive TDOR approval of the amount to be claimed prior to using the credit to offset any sales and use tax due on its monthly returns. Under current law, there is not a specific time frame in which a taxpayer must submit a claim for headquarters sales tax credit. Any approved amounts of headquarters sales tax credit may continue to be claimed against a company's monthly sales and use tax liability until there is no remaining balance.

The amount of credit is equal to 6.5% of the 7% Tennessee state sales or use tax paid on the purchase price of qualified tangible personal property that is directly related to the creation of the new jobs and used exclusively in the headquarters facility. The new full-time headquarters staff employees must be located and employed at the headquarters facility. The qualified headquarters facility generally must also continue to be used as a headquarters for at least 16 years (10 years from the end of a six-year investment period.

Community Investment Tax Credit

The community investment tax credit is designed to encourage financial institutions to make qualified loans, investments, grants, or contributions to eligible housing entities to support the construction or preservation of affordable housing for low-income Tennesseans. Eligible housing entities include non-profits, the Tennessee Housing Development Agency (TDHA), public housing authorities, or development districts.

The funds must be used by such organizations for eligible activities including, but not limited to, the creation or preservation of affordable housing or help obtaining affordable housing. Examples of such activities include the financing or construction of single and multi-family housing, down-payment assistance, pre-purchase counseling, or operation or technology support for nonprofit organizations that provide or plan for such housing opportunities.

Credit amounts include:

- 5% of a qualified loan or qualified long-term investment, or 3% annually of the unpaid principal balance of a qualified loan made to an eligible housing entity for any eligible activity as of December 31 of each year for the life of the loan or 15 years, whichever is earlier.
- 10% of a grant, contribution, or qualified low-rate loan made to an eligible housing entity for any eligible activity, or 5% annually of the unpaid principal balance of a qualified low-rate loan made to an eligible housing entity for any eligible activity as of December 31 of each year for the life of the loan or 15 years, whichever is earlier.

Financial institutions must provide the following to eligible housing entities to receive the credits:

- Qualified loans are defined as a loan of at least 2% below the prime rate when the loan is approved
- Qualified low-rate loans are defined as loans 4% below the prime rate when then the loan is approved
- Qualified long-term investments, which are an equity investment made for a period of more than five years to an eligible housing entity
- Grants or Contributions

Unused tax credits that are applied one time may be carried forward for a period of 15 years after the tax year in which the credit originated. Unused tax credits that are applied annually may not be carried forward beyond the tax year in which the credit originated.

Rural Opportunity Fund Credit and Small Business Opportunity Fund Credit

This credit is designed to encourage financial institutions to make contributions to the Tennessee Rural Opportunity Fund or the Tennessee Small Business Opportunity Fund. Financial institutions will qualify for this credit only upon contributing to one of the two funds, which are both administered by Southeast Community Capital Corporation (d/b/a Pathway Lending). The credit is 10% of the contribution amount and can be taken each year for 10 years, beginning with the year the contribution was made.

Pathway Lending administers the funds to provide loans to small and rural businesses in Tennessee which often otherwise lack access to such loan capital. As a certified Community Development Financial Institution (CDFI), Pathway Lending provides capital resources to businesses in low-income, rural and other underserved markets.

Contributions to these funds (and their associated credit benefits) also facilitate financial institutions' compliance with Community Reinvestment Act (CRA) requirements to serve and invest in low-income communities. The tax incentive serves to influence banks to direct their CRA investments towards rural economic development and support for small businesses.

Setting the Context

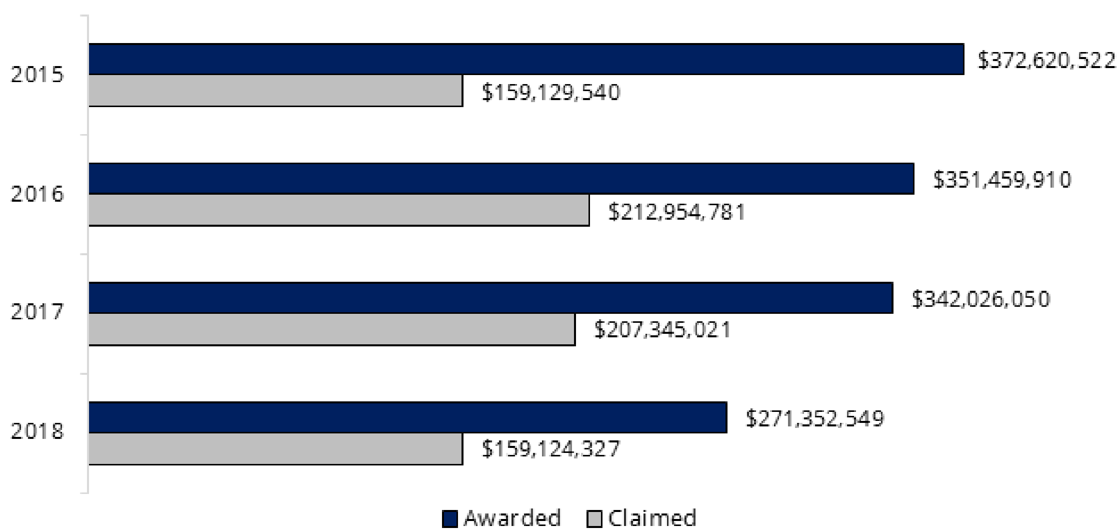
The following section provides some key items that build understanding of Tennessee's business tax credits and similar tax incentives offered in states with which Tennessee frequently competes for business growth.

Business Tax Credits: Awarded vs. Claimed, 2015-2018

The business tax credits addressed in this evaluation are predominantly credits that companies can use to reduce the amount of franchise and excise taxes they pay to the state. These business tax credits are awarded when a company meets the statutory requirements for the individual credit as described in this report. A company generally can claim the credit in the year awarded or in following years.[4] Credits are claimed when a company uses awarded credit to satisfy some or all of the tax due in a given year. The point at which the credit is claimed is the time at which the cost is incurred to the state.

On an annual basis, the total amount of business tax credits awarded generally exceeds the amount claimed. During the four-year period of 2015 to 2018, taxpayers were awarded $1.3 billion[5] in business tax credits, which is 81.1% higher than amount claimed over the same period ($738.6 million).

Figure 1: Value of Credits Awarded and Claimed by Year



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[4] Many of these credits can be carried forward for up to fifteen years. An evaluation of 21 years of data from 1998 through 2001 indicates that companies typically claim job tax credits in three years (median) and industrial machinery credits in one year (median).

[5] The total amount of credits awarded presented in this report includes the amount of approved claims for the headquarters sales tax credit. Unlike the other tax credits in this evaluation, headquarters sales tax credit can only be claimed on a tax return after a company submits a claim for credit to TDOR, separate from the tax return, and receives TDOR approval of the specific amount to be claimed.

A variety of factors contribute to the variance in amount awarded and amount claimed. Generally, the amount claimed by a company in any given year is limited by the amount of tax due for that year. Thus, for some companies, the amount awarded will exceed the amount of tax due at that time. Additionally, from year to year a company's tax responsibility will vary depending upon its business activity. For example, changes in a company's property ownership or sales may affect the amount of tax due. Companies also may not be able to claim credits awarded to them after restructuring or reorganization, as Tennessee's business tax credits are not transferrable.

Changes in the law may also result in an increase or decrease in a company's tax responsibility and contribute to the variance in amount of credits awarded and claimed each year. For example, the Revenue Modernization Act of 2015 and the IMPROVE Act of 2017 introduced changes in how companies apportion taxable income to the state. These changes have likely reduced the amount of tax owed by manufacturers or other companies with significant property or payroll in Tennessee.[6] As a result of these, or other statutory changes, some taxpayers could potentially be awarded more credit than can be claimed.

Credits Not Analyzed

This report provides an evaluation of active business tax credits in Tenn. Code Ann. §§ 67-4-2009, 67-4-2109, and 67-6-224.

In preparation for each legislative session, the tax policy teams at ECD and TDOR collaborate to improve the effectiveness of the state's tax credits. This collaboration helps to develop and advance recommendations that will improve Tennessee's business tax climate. As a result, some tax credits have been discontinued during previous legislative sessions. Companies that were awarded discontinued credits prior to the statutory changes may still claim unexpired awards, however new credits are no longer available. This report does not provide an analysis of the discontinued credits.[7] In addition, tax credits not offered as incentives, but rather as offsets for paying another Tennessee tax,[8] are excluded from this evaluation.

The Brownfield Tax Credit is included in the statutes guiding this report, with approximately $1 million in credits claimed during the reporting period. However, due to the low number of businesses claiming the credit, and due to recent legislative changes, an analysis of the brownfield tax credit was not included in this study. ECD, TDOR, and the Tennessee Department of Environment and Conservation (TDEC) recognized that the brownfield credit's restrictive guidelines made it difficult for taxpayers to obtain a credit award. During the 2020 legislative session, the departments worked with the Governor's Legislative and Policy team to advance legislation amending the credit.

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[6] The Revenue Modernization Act of 2015 changed the state apportionment factor by triple-weighting the sales factor for tax years beginning on or after July 1, 2016. The IMPROVE Act of 2017 subsequently added the opportunity for qualifying manufacturers to elect to use a single sales apportionment factor for tax years beginning on or after January 1, 2017.

[7] Discontinued credits include the Headquarters Relocation Credit, Green Energy Tax Credit, Loss Carryover Credit, and Qualified Environmental Credit, which have already been repealed by statute.

[8] Credits offered as offsets include credits against Tennessee franchise and excise taxes based upon the Gross Premiums Tax Credit or Tennessee Income Tax Credit also paid by the company.

The changes to the credit took effect on July 1, 2020 with the intent that it will encourage additional business investment in brownfield sites. The brownfield tax credit will be analyzed in future evaluations as data becomes available.

State-by-State Comparison

Tennessee consistently competes with several states for economic development projects, including Alabama, California, Georgia, Kentucky, Michigan, Mississippi, North Carolina, South Carolina, and Texas. Most of these competitor states offer tax incentives for both industrial machinery investments and job creation, which increases the level of competition for economic development projects. CERT studied the presence of tax incentives available for industrial machinery, job creation and headquarters operations in each of these nine competing states.

For industrial machinery, all of the states analyzed incentivize company purchases of industrial machinery through sales tax exemptions,[9] corporate income tax credits, and/or property tax exemptions. While all but one of the competing states listed above offer job tax credits for economic development projects, they vary significantly by state. It appears in conducting the research that North Carolina seems to be the only competitor state that does not offer a job tax credit. Headquarters tax credits are offered in the states of Kentucky, Mississippi, and South Carolina.

With the level of competition continuously increasing for economic development projects, it is important to maintain effective tax credits to ensure the state is best positioned for encouraging job growth and business investment in Tennessee.

<u>Industrial Machinery Tax Incentives Available in Nine Competitor States</u>

- Georgia, North Carolina, South Carolina, and Texas exempt machinery used in the manufacturing process from sales and use taxes.
- Alabama and California allow for manufacturers to claim a partial sales tax credit on equipment purchases.
- Michigan provides property tax exemptions for land and equipment purchases related to the manufacturing process.
- Kentucky directly incentivizes projects involving industrial machinery by providing a corporate income tax credit to companies that invest at least $2.5 million in machinery and equipment. Total credits can cover up to 100% of a company's corporate income tax liability.
- Georgia incentivizes industrial machinery purchases by providing tax credits between 1% and 5% of the costs of these purchases. These credits can equal up to 50% of the corporate income tax liability and can be carried forward 10 years.
- Mississippi offers a tax credit to existing manufacturers that have operated in Mississippi for two or more years. The credit is calculated as 5% of the eligible project investment not to exceed $1,000,000 and can offset 50% of the income tax liability.

[9] In addition to the industrial machinery credits analyzed in this report, Tennessee offers a sales tax exemption for industrial machinery purchased in the state.

Job Tax Incentives Available in Nine Competitor States

- Georgia's job tax credit is available to non-retail businesses and is based on the number of jobs created and the tier in which the company is located. Georgia offers higher incentives for projects located in opportunity zones, "mega projects" (4,500 net new jobs or more), and projects that result in high quality job creation.
- South Carolina's Traditional Annual Job Tax Credit offers between $1,500 and $8,000 for each job that eligible companies create.
- California's New Employment Credit is available to businesses that hire a qualified full-time employee and pays or incurs qualified wages attributable to work performed by the qualified full-time employee. The size of the credit is determined by the employee's wage.
- The Alabama Job Act provides credits up to 3% of annual wages for each new job. Alabama also has financial incentives for job creation by small businesses.
- Texas's Enterprise Zone Program creates a sales tax and use fund available to companies that create full-time jobs in these zones.
- Kentucky and Michigan have the most limited job tax credits among competitive states. Kentucky's Unemployment Tax Credit offers to up to $100 against a company's corporate income tax liability for hiring unemployed individuals. Michigan offers small cash incentives for high-quality job creation in the state.
- Mississippi's job tax credit can be used by businesses operating in certain industry sectors with the size of credit and requirements based on county tier designations.

Headquarters Tax Incentives Available in Nine Competitor States

- Companies that establish or relocate headquarters to South Carolina can claim an income tax credit equal to 20% of the project costs. Eligible companies must create at least 40 new jobs and invest $50,000 or more in the project. The carry forward for these credits is 10 years, or 15 years if the project results in the creation of 75 or more net new jobs.
- Kentucky's Business Investment Program offers income tax credits to businesses that establish or relocate a headquarters location to Kentucky. The credit amount is up to 5% of each new employee's annual wages. Qualifying businesses must create at least 10 net new jobs and invest at least $100,000. (This program includes but is not limited to headquarters.)
- Mississippi offers an exemption and income tax credit for the creation or expansion of a national or regional headquarters in the state. The tax credit is equal to between $500 and $2,000 per eligible position and may be applied to the reduction of the entity's corporate income tax liability.

See Appendix A for detailed information on tax incentives available for industrial machinery, job creation and headquarters operations in Alabama, California, Georgia, Kentucky, Michigan, Mississippi, North Carolina, South Carolina, and Texas.

PART II: TAX CREDITS CLAIMED (2015-2018)

Between 2015 and 2018, nearly 2,700 companies claimed $738.6 million in business tax credits, with approximately 90% in the form of job tax or industrial machinery credits. This equates to an average of $184.6 million in business tax credits claimed on average each year.

The value of credits claimed each year ranged from $159.1 million in 2015 and 2018 to $213.0 million in 2016. The number of unique taxpayers claiming credits over the four-year period ranged from 1,940 to 2,031 in 2018 and 2017, respectively.

Figure 2: Value of Credits Claimed by Year, 2015-2018

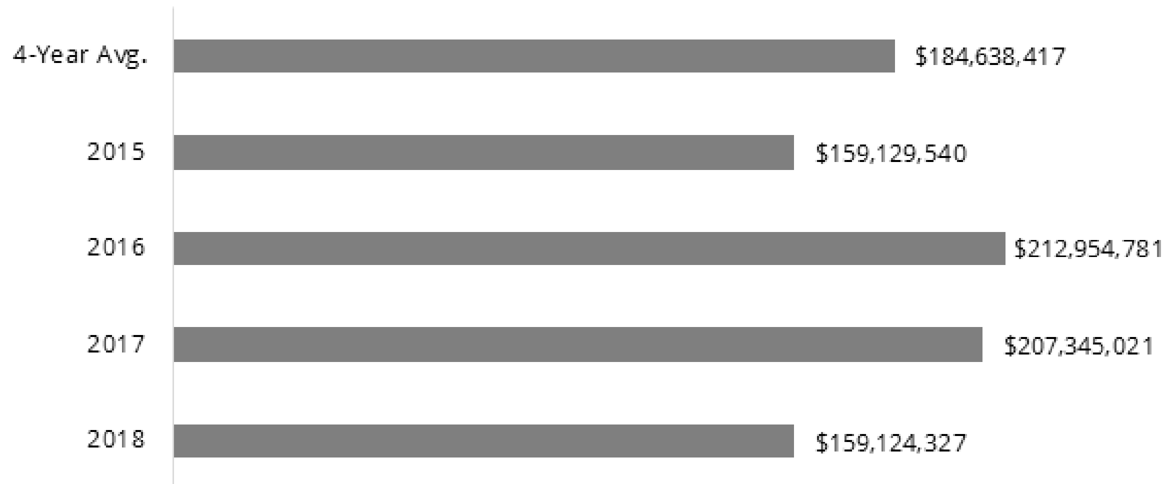
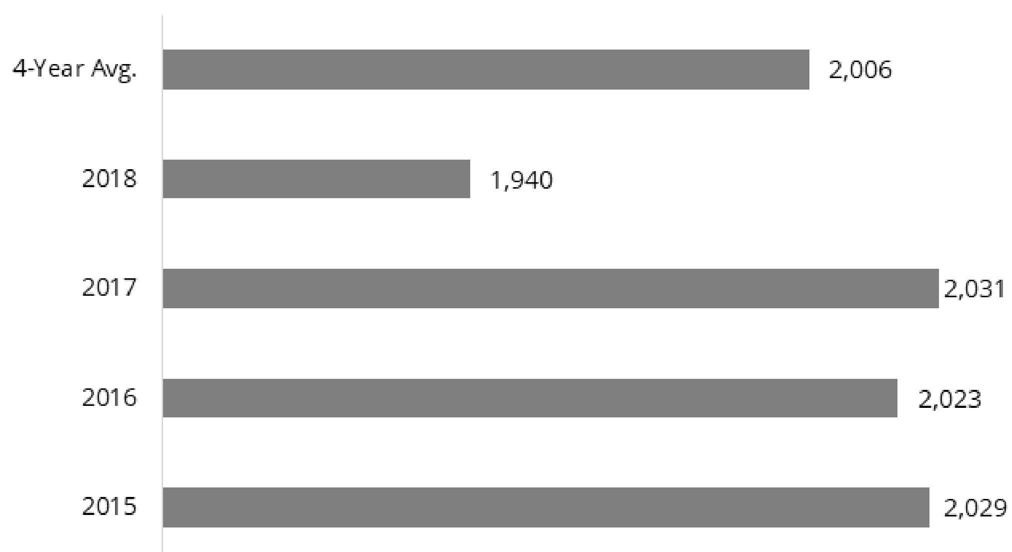


Figure 3: Number of Businesses Claiming Credits by Year, 2015-2018



Taxpayers and Credits Claimed by Credit Type

The industrial machinery credits account for 45.1% of claimed credits between 2015 and 2018. Businesses claimed $333.3 million in industrial machinery credits during the four-year period, or $83.3 million on average each year. Approximately 2,430 companies claimed industrial machinery credits during the four-year period, or 1,760 companies on average each year. Industrial machinery credits include the Standard Industrial Machinery Credit (average of $31.7 million claimed annually) and the Enhanced Industrial Machinery Credit (average of $51.6 million claimed annually).

Job tax credits account for 44.5% of the credits claimed between 2015 and 2018. Businesses claimed $328.8 million in job tax credits during the four-year period, or $82.2 million on average each year. Approximately 530 companies claimed job tax credits during the four-year period, or 400 on average each year. Job tax credits include the Standard Job Tax Credit (average of $40.0 million claimed annually), the additional annual credits for enhancement counties (average of $18.7 million claimed annually) and high investment (average of $23.5 million claimed annually), the Community Resurgence Credit (average of $65,136 claimed annually), and the Job Tax Credit for Hiring Persons with Disabilities (average of $9,943 claimed annually).

Businesses claimed $58.6 million in community investment credits during the four-year period, representing 7.9% of all credits claimed. The average annual value claimed was $14.7 million, however the amount claimed trended upwards each year, with a total of $18.4 million claimed in 2015 and 2016 compared to a total of $40.2 million claimed in 2017 and 2018. There were approximately 60 businesses that claimed community investment credits between 2015 and 2018.

The headquarters sales tax credits account for 2.0% ($14.7 million) of credits claimed during the four-year period. Approximately $3.7 million in headquarters sales tax credits were claimed each year. In total, 14 businesses claimed the credit between 2015 and 2018.

Small business & rural opportunity fund credits represented $3.1 million (0.4%) of the credits claimed during the evaluation period. The amount claimed ranged from $664,692 in 2016 to $980,918 in 2018. Only 17 businesses claimed these credits between 2015 and 2018.

Figure 4: Average Annual Value of Credits Claimed by Credit Type, 2015-2018

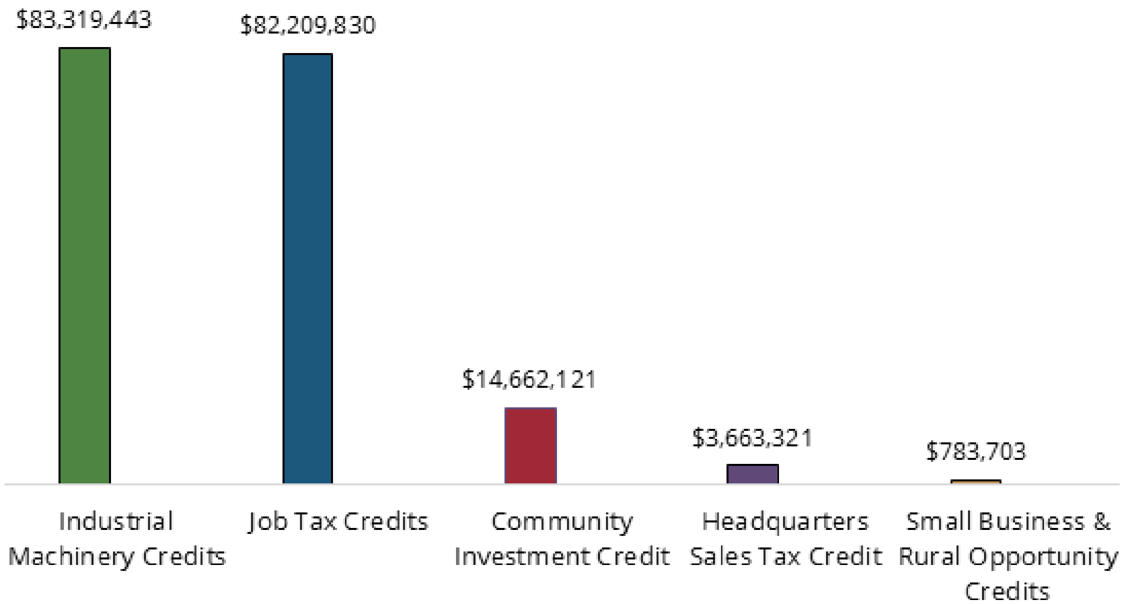


Figure 5: Value of Credits Claimed by Year and Credit Type, 2015-2018 (millions)

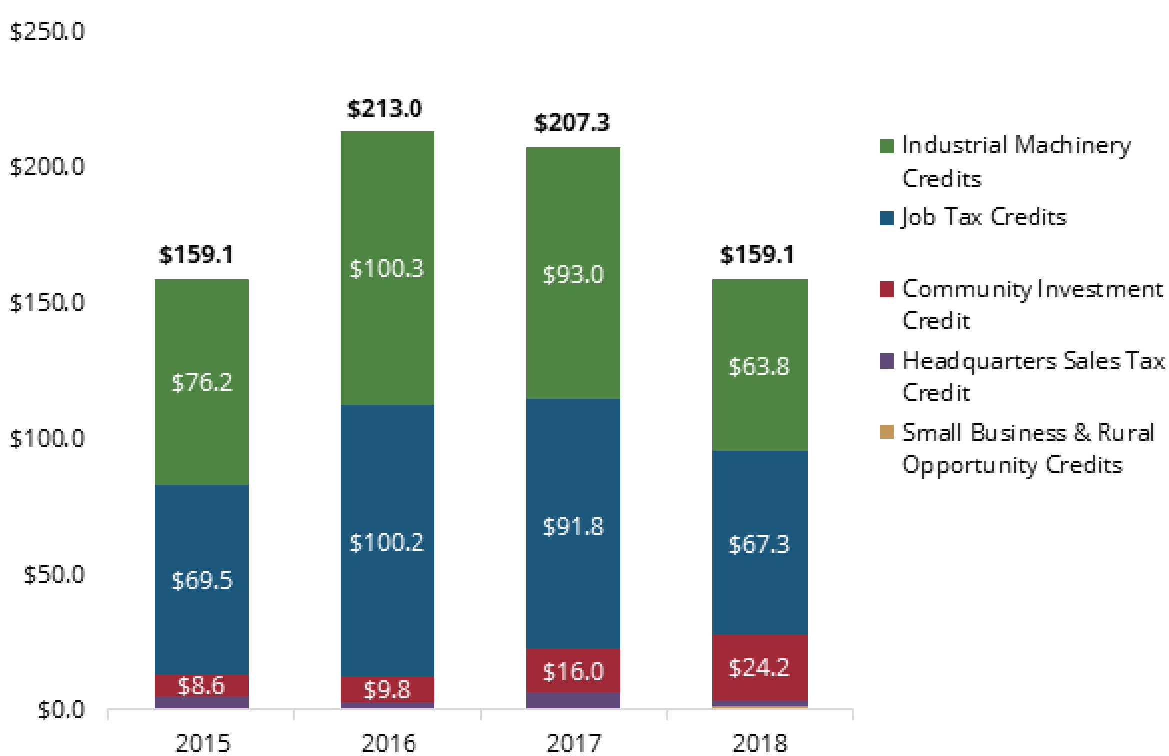


Figure 6: Number of Taxpayers Claiming Credits by Year and Credit Type, 2015-2018[10]

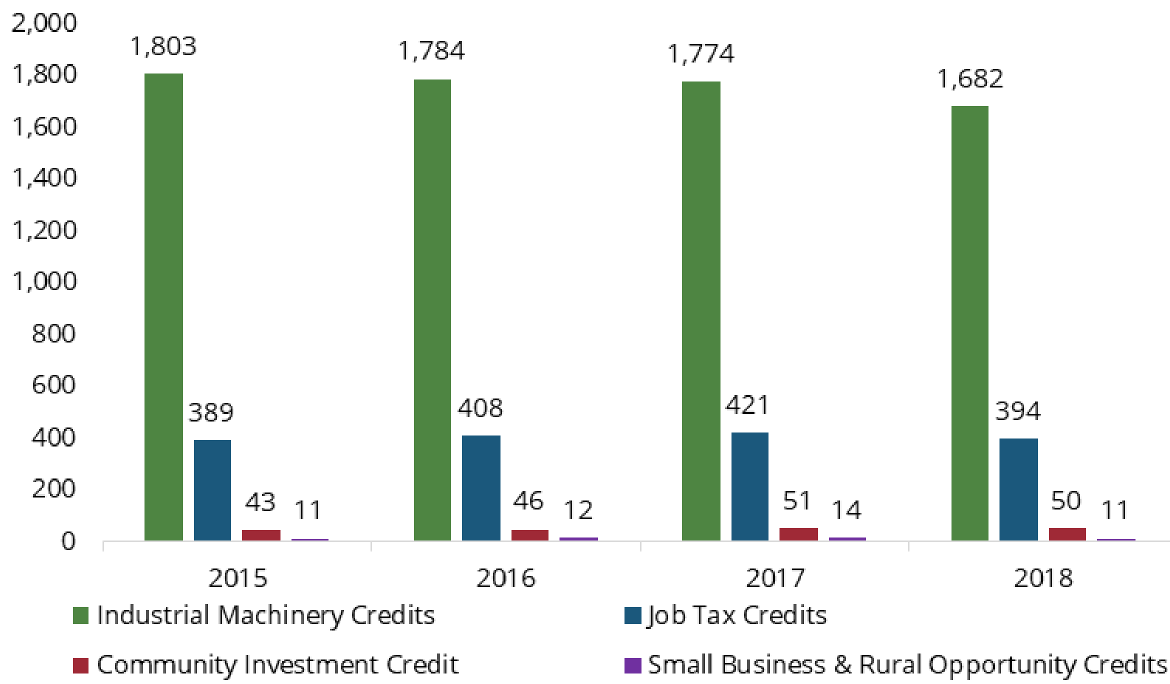


Figure 7: Business Tax Credits Claimed by Credit Type, 2015-2018

Credit Type	2015	2016	2017	2018	4-Year Avg.	4-Year Total
Job Tax Credits	$69,524,310	$100,193,343	$91,842,177	$67,279,491	$82,209,830	$328,839,321
Industrial Machinery Credits	$76,214,027	$100,260,594	$92,963,653	$63,839,498	$83,319,443	$333,277,771
Headquarters Sales Tax Credits	$4,097,500	$2,038,723	$5,718,665	$2,798,393	$3,663,321	$14,653,282
Community Investment Credits	$8,606,683	$9,797,430	$16,018,344	$24,226,027	$14,662,121	$58,648,484
Small Business & Rural Opportunity Fund Credits	$687,019	$664,692	$802,181	$980,918	$783,703	$3,134,810
Total	**$159,129,540**	**$212,954,781**	**$207,345,021**	**$159,124,327**	**$184,638,417**	**$738,553,668**

[10] With fewer than 10 companies claiming the headquarters sales tax credit in any given year, the data are suppressed to protect taxpayer confidentiality and excluded from this visualization.

Figure 8: Number of Taxpayers Claiming Business Tax Credits by Credit Type, 2015-2018

Credit Type	2015	2016	2017	2018	4-Year Avg.	Total Unique Entities
Job Tax Credits	389	408	421	394	403	531
Industrial Machinery Credits	1,803	1,784	1,774	1,682	1,761	2,432
Headquarters Sales Tax Credits	Not Avail.	Not Avail.	Not Avail.	Not Avail.	Not Avail.	14
Community Investment Credits	43	46	51	50	48	62
Small Business & Rural Opportunity Fund Credits	11	12	14	11	12	17
Total Unique Entities	**2,029**	**2,023**	**2,031**	**1,940**	**2,006**	**2,681**

Figure 9: Business Tax Credits Claimed by Credit Type (Detail), 2015-2018

Credit Type (Detail)	2015	2016	2017	2018	4-Year Avg.	4-Year Total
Job Tax Credits						
Job Tax Credit	$31,134,925	$55,195,123	$45,653,438	$28,060,112	$40,010,899	$160,043,598
Additional Annual Credit - Enhancement County	$15,312,392	$20,627,542	$21,928,035	$16,773,547	$18,660,379	$74,641,516
Additional Annual Credit - High Investment	$23,076,845	$24,340,064	$24,064,955	$22,372,027	$23,463,473	$93,853,892
Job Tax Disabilities Credit	$148	$30,613	$8,961	$50	$9,943	$39,772
Community Resurgence Credit	--	--	$186,789	$73,755	$65,136	$260,544
Industrial Machinery Credits						
Industrial Machinery Credit	$31,525,383	$30,658,598	$33,331,795	$31,256,899	$31,693,169	$126,772,674
Enhanced Industrial Machinery Credit	$44,688,644	$69,601,995	$59,631,859	$32,582,599	$51,626,274	$206,505,097
Headquarters Sales Tax Credits						
Headquarters Sales Tax Credit	$4,097,500	$2,038,723	$5,718,665	$2,798,393	$3,663,320	$14,653,282
Community Investment Credits						
Community Investment Credit	$8,606,683	$9,797,430	$16,018,344	$24,226,027	$14,662,121	$58,648,484
Small Business & Rural Opportunity Fund Credits						
Rural Opportunity Fund Credit	$316,139	$237,248	$266,263	$320,000	$284,913	$1,139,650
Small Business Opportunity Fund Credit	$370,880	$427,444	$535,918	$660,918	$498,790	$1,995,160
Total	**$159,129,540**	**$212,954,781**	**$207,345,021**	**$159,124,327**	**$184,638,417**	**$738,553,668**

Figure 10: Number of Taxpayers[11] Claiming Business Tax Credits by Credit Type (Detail), 2015-2018

Credit Type (Detail)	2015	2016	2017	2018	4-Year Avg.	Total Unique Entities Over 4 Years
Job Tax Credits						
Job Tax Credit	325	332	346	316	330	490
Additional Annual Credit - Enhancement County	85	85	87	75	83	146
Additional Annual Credit - High Investment	13	12	13	13	13	21
Job Tax Disabilities Credit	Not Avail.	Not Avail.	Not Avail.	Not Avail.	Not Avail.	Not Avail.
Community Resurgence Credit	--	--	Not Avail.	Not Avail.	Not Avail.	Not Avail.
Industrial Machinery Credits						
Industrial Machinery Credit	1,771	1,744	1,736	1,642	1,723	2,395
Enhanced Industrial Machinery Credit	35	42	41	40	40	50
Headquarters Sales Tax Credits						
Headquarters Sales Tax Credit	Not Avail.	Not Avail.	Not Avail.	Not Avail.	Not Avail.	14
Community Investment Credits						
Community Investment Credit	43	46	51	50	48	62
Small Business & Rural Opportunity Fund Credits						
Rural Opportunity Fund Credit	Not Avail.	Not Avail.	10	Not Avail.	Not Avail.	13
Small Business Opportunity Fund Credit	Not Avail.	Not Avail.	Not Avail.	Not Avail.	Not Avail.	Not Avail.
Total Unique Entities	**2,029**	**2,023**	**2,031**	**1,940**	**2,006**	**2,681**

[11] Figures 8 and 10 provide the number of *unique* taxpayers claiming business tax credits. A firm claiming multiple types of credits within a credit group (for example a Standard Job Tax Credit and an Additional Annual Credit for High Investment) will be reported multiple times in Figure 10. Summing the data in Figure 10 will not provide the totals reported in Figure 8, where each unique taxpayer is only counted one time for each group of credits.

Credits Claimed by Industry[12]

Evaluators analyzed the industries of companies claiming business tax credits to provide insight on the types of operations the credits support in practice.

Manufacturing was the largest industry sector for claimed credits over the four-year period, accounting for $460.3 million of all claimed credits. The manufacturing sector accounted for nearly 70% of all claimed credits with no other industry sector accounting for more than 8%. Tennessee's manufacturing sector (excluding benefits) had an average annual wage of $60,305 in 2019, which is 17% greater than the statewide average wage of $51,702.[13] Advanced manufacturing industries tend to offer even more competitive wages. Manufacturing sub-sectors with the largest total amount claimed over the four-year period include Transportation Equipment Manufacturing ($218.1 million), Chemical Manufacturing ($51.3 million), Food Manufacturing ($35.1 million), and Nonmetallic Mineral Product Manufacturing ($22.1 million).

The second largest industry sector by credits claimed was Management of Companies and Enterprises. Businesses in this sector claimed $51.7 million, representing 7.6% of business tax credits claimed between 2015 and 2018. Notably, this industry sector includes headquarters facilities located in Tennessee and is often characterized by high wages and highly competitive site selection processes. In Tennessee, the average annual wage (excluding benefits) for companies in this sector was $115,448 in 2019, which was 123% greater than the state's average wage.

Other sectors with significant shares of credits claimed include Transportation and Warehousing ($34.2 million, 5.1%) and Finance and Insurance ($34.4 million, 5.1%). Businesses in these sectors also provide above-average wages in Tennessee.

[12] The data provided in this section are for TDOR taxpayer entities that the evaluators were able to match to TDLWD employment records. More information on the matching process can be found in the "Methodology and Key Analysis Components" section of this report.
[13] Source for calendar year 2019 wages of Tennessee businesses: Quarterly Census of Employment and Wages (QCEW), U.S. Bureau of Labor Statistics.

Figure 11: Value of Credits Claimed by Industry Sector, 2015-2018 (millions)

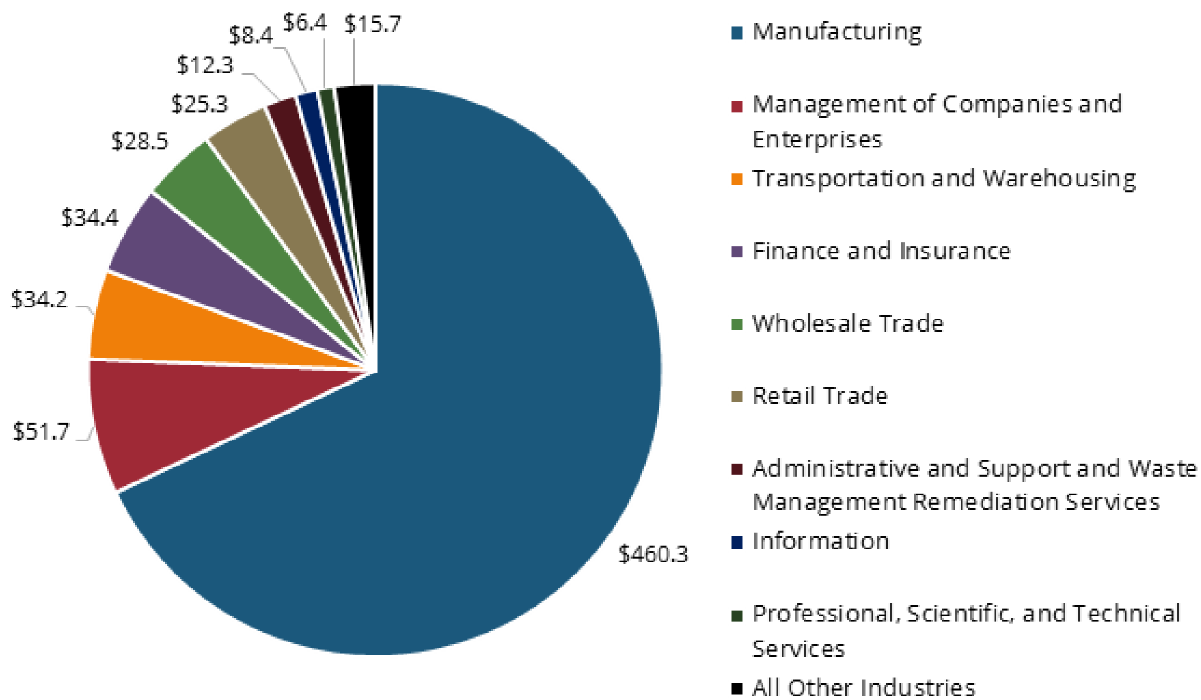


Figure 12: Value of Credits Claimed by Manufacturing Sub-Sector, 2015-2018

Manufacturing Industry Sector (NAICS)	Number Entities Claiming Credits	Credits Claimed (4-Year Total)
Food Manufacturing (311)	97	$35,125,882
Beverage and Tobacco Product Manufacturing (312)	43	$7,328,961
Textile Mills (313)	24	$5,677,363
Textile Product Mills (314)	11	$1,775,412
Apparel Manufacturing (315)	18	$925,782
Leather and Allied Product Manufacturing (316)	Not Avail.	$164,226
Wood Product Manufacturing (321)	100	$5,233,219
Paper Manufacturing (322)	58	$14,347,886
Printing and Related Support Activities (323)	85	$2,553,429
Petroleum and Coal Products Manufacturing (324)	Not Avail.	$815,337
Chemical Manufacturing (325)	106	$51,315,639
Plastics and Rubber Products Manufacturing (326)	133	$21,545,137
Nonmetallic Mineral Product Manufacturing (327)	101	$22,129,384
Primary Metal Manufacturing (331)	66	$15,457,445
Fabricated Metal Product Manufacturing (332)	306	$18,421,334
Machinery Manufacturing (333)	157	$13,753,283
Computer and Electronic Product Manufacturing (334)	24	$2,990,698
Electrical Equipment, Appliance, and Component Manufacturing (335)	48	$12,727,757
Transportation Equipment Manufacturing (336)	174	$218,132,371
Furniture and Related Product Manufacturing (337)	39	$3,736,992
Miscellaneous Manufacturing (339)	76	$6,100,329
Total	**1,679**	**$460,257,862**

Employment Levels of Companies Claiming Business Tax Credits[14]

Companies claiming business tax credits during the four years of 2015 to 2018 employed nearly 451,000 people in Tennessee in 2019. The collective employment of these 2,485 businesses increased from approximately 377,400 in 2014, representing a 19.5% rate of job growth over five years.

Figure 13: Average Annual Employment of Companies Claiming Business Tax Credits in 2015-2018

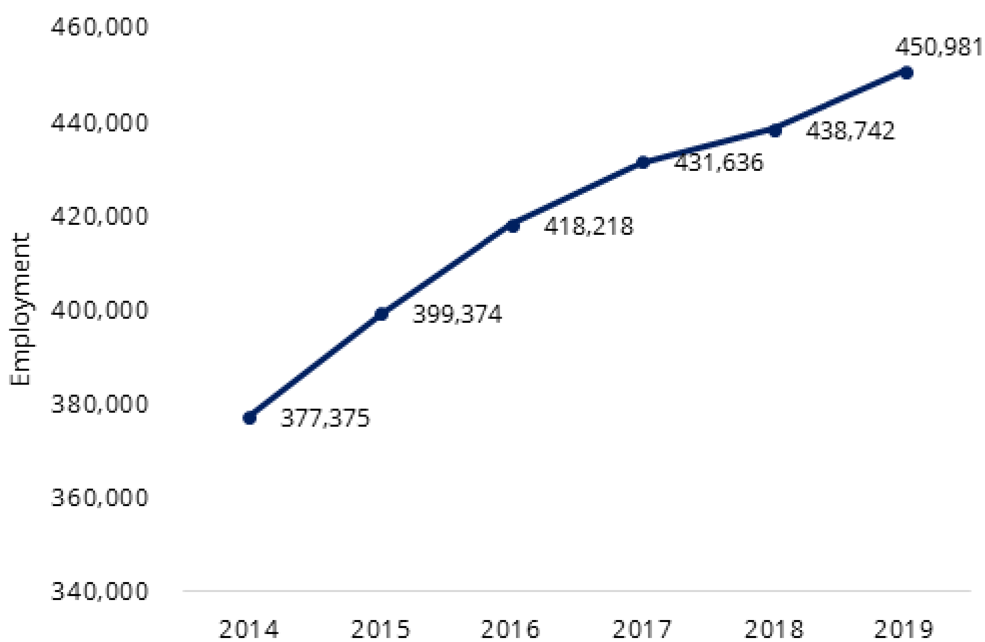


Figure 14: Average Annual Employment of Companies Claiming Business Tax Credits in 2015-2018

	2014	2015	2016	2017	2018	2019
Total Employment	377,375	399,374	418,218	431,636	438,742	450,981
Job Growth Rate, Year Over Year		5.8%	4.7%	3.2%	1.6%	2.8%
Job Growth Rate, Cumulative from 2014		5.8%	10.8%	14.4%	16.3%	19.5%

[14] The data provided in this section are for TDOR taxpayer entities that the evaluators were able to match to TDLWD employment records. More information on the matching process can be found in the "Methodology and Key Analysis Components" section of this report section.

The size of companies claiming business tax credits between 2015 and 2018 varies greatly. Their average firm size between the years of 2014 and 2019 was approximately 170 employees, and the median firm size was about 35 employees.[15]

Figure 15: Size (by Employment) of Companies Claiming Business Tax Credits in 2015-2018

	2014	2015	2016	2017	2018	2019
Median Employment Level	32.0	34.5	35.8	38.3	38.5	39.3
Average Employment Level	151.9	160.7	168.3	173.7	176.6	181.5

Companies of all sizes have taken advantage of business tax credits during the evaluation period. The majority of companies claiming business tax credits between 2015 and 2018 were small businesses. Approximately 70% of businesses (1,739) claiming business tax credits employed 100 or fewer people in 2019. Businesses employing fewer than 500 people, which is the Small Business Administration's (SBA) definition for "small business,"[16] represent 92% of the companies (2,295) which claimed credits. By comparison, according to the most recent U.S. Census Bureau data available, 97% of all Tennessee companies in 2017 had fewer than 500 employees. [17] On the other end of the spectrum, large firms employing more than 500 people in 2019 represent 8% of the companies (190) that claimed business tax credits. By comparison, according to the most recent U.S. Census Bureau data available, 3% of all Tennessee companies in 2017 had more than 500 employees. Based on their small (under 500 employees) vs. larger size (over 500 employees), the percentage of companies claiming business tax credits appears to be relatively representative of all businesses as they exist in Tennessee.

In examining the more detailed breakdown in Figure 16 of companies claiming tax credits by size, the percentage share of employment is also quite representative of the percentage share of credits claimed. The employment and credits claimed percentages are very similar for almost all groupings of business size by employment. The difference in the percentage share of employment and the percentage share of credits claimed varies by less than 2% for every business size grouping except for businesses with more than 2,000 employees. If it qualifies, it appears that businesses of all sizes are claiming tax credits in proportion to their number of employees.

[15] Average is the arithmetic mean, which is calculated by summing employment and dividing by the number of businesses claiming tax credits. Median is the middle employment figure at which half of all business are above and half of all businesses are below when sorted by employment.
[16] The Small Business Administration frequently defines small businesses as firms employing fewer than 500 employees. Source: U.S. Small Business Administration, Office of Advocacy, Small Business Profile, https://www.sba.gov/sites/default/files/advocacy/United_States.pdf
[17] Source: Statistics of U.S. Businesses (SUSB, 2017), U.S. Census Bureau. Companies refer to firms within enterprises, as defined by SUSB. SUSB data are the standard reference for small business statistics.

Figure 16: Businesses Claiming Business Tax Credits (2014-2018), by Business Size (2019)

Business Size (by Employment)	Number of Businesses, 2019	Share of Businesses, 2019	Employment, 2019	Share of Employment, 2019	Credits Claimed, 2015-2019	Share of Credits Claimed, 2015-2019
100 or fewer	1,739	70%	46,911	10%	$70,701,531	10%
101 to 200	290	12%	42,286	9%	$58,176,824	9%
201 to 300	140	6%	34,362	8%	$35,038,201	5%
301 to 400	82	3%	28,026	6%	$32,344,413	5%
401 to 500	44	2%	19,775	4%	$26,254,204	4%
Subtotal	**2,295**	**92%**	**171,360**	**38%**	**$222,515,173**	**33%**
501 to 1,000	107	4%	75,752	17%	$104,030,518	15%
1,001 to 1,500	36	1%	42,838	9%	$44,249,451	7%
1,501 to 2,000	17	1%	28,847	6%	$31,714,477	5%
More than 2,000	30	1%	132,182	29%	$274,504,838	41%
Subtotal	**190**	**8%**	**279,619**	**62%**	**$454,499,284**	**67%**
Total	**2,485**	**100%**	**450,981**	**100%**	**$677,014,457**	**100%**

Multiple Credits

From 2015 to 2018, nearly 2,700 unique businesses claimed at least one type of business tax credit. The value of credits claimed totaled $738.6 million over the four-year evaluation period.

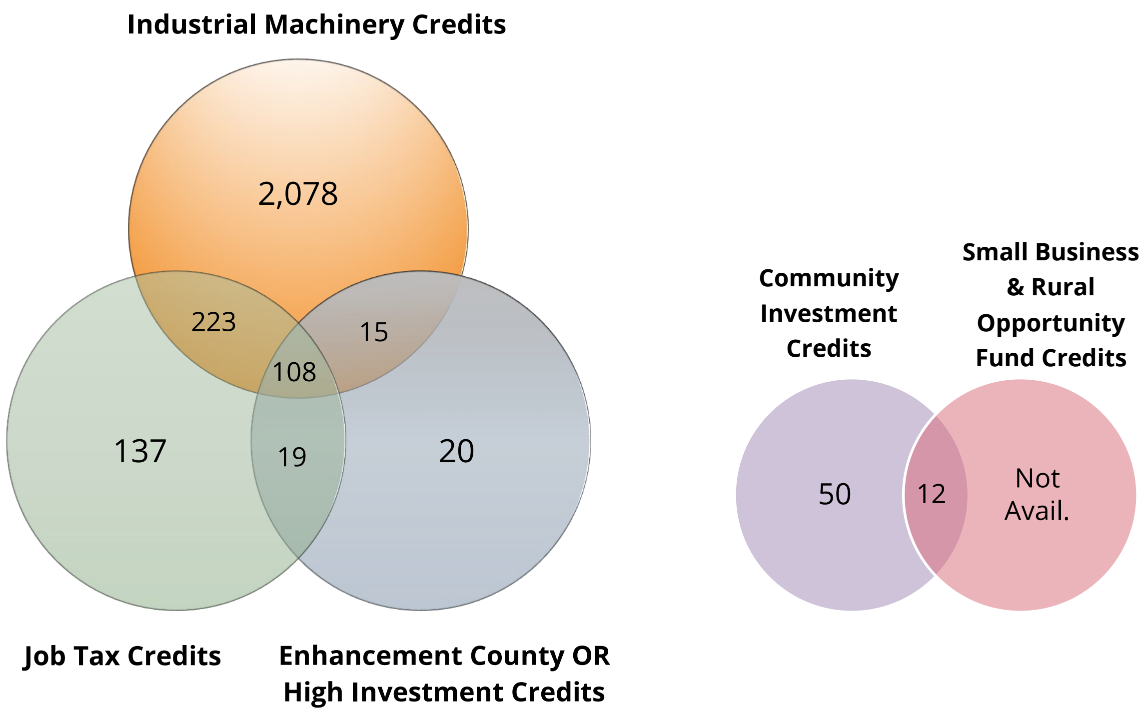
Many of these taxpayers used business tax credits in combination to support new capital investments and job creation in the state. During the four-year period, nearly 400 businesses claimed multiple types of credits totaling $518.0 million.

Figure 17: Number of Credit Types Claimed by Businesses (2015-2018)

	Number of Companies	Credits Claimed (2015-2018)
Businesses claiming 1 type of credit	2,289	$220,523,634
Businesses claiming 2 types of credits	267	$216,122,144
Businesses claiming 3 types of credits	117	$252,452,812
Businesses claiming 4 types of credits	Not Avail.	$43,699,746
Businesses claiming 5 types of credits	Not Avail.	$5,755,331
Total	**2,681**	**$738,553,668**

Figure 18 details the combinations in which the unique taxpayers claimed multiple types of credits.

Figure 18: Combinations of Businesses that Claimed Business Tax Credits by Type, 2015-2018[18]



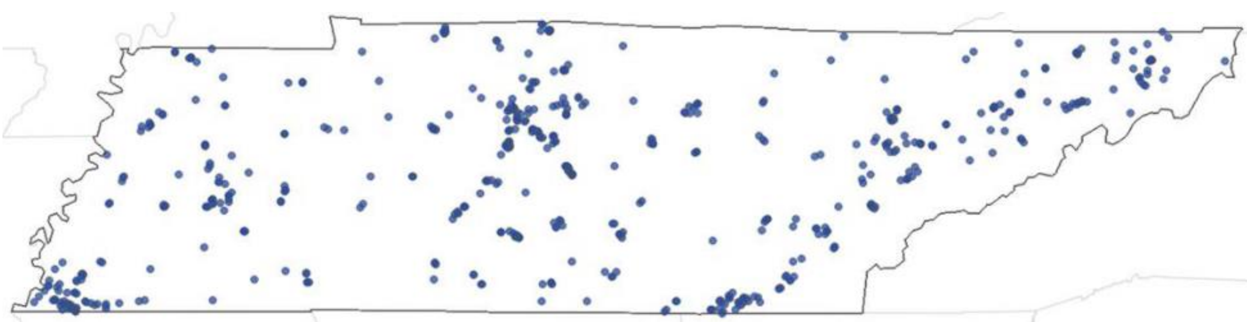
[18] To protect the confidentiality of individual taxpayers, data in this report are suppressed when the results represent 10 or fewer entities. Due to the low number of unique taxpayers, data are not available in this visualization for taxpayers claiming the headquarters sales tax credit, taxpayers claiming only the small business & rural opportunity fund credits, and taxpayers claiming the community investment credit in combination with the industrial machinery or job tax credits.

Business Tax Credit Claimants and ECD Project Activity[19]

While encouraging job creation and investment, business tax credits are a valuable tool for supporting ECD's efforts to promote the expansion and recruitment of business operations in Tennessee. Of the 2,485 companies claiming business tax credits between 2015 and 2018, 519 companies (20.9%) also had a project with ECD in the eight years of 2011 through 2018.[20] These ECD project companies claimed $511.9 million (75.6%) of all business tax credits claimed during the four-year period evaluated.

ECD worked with these companies to locate 761 projects[21] between 2011 and 2018. This represents nearly 60% of the department's 1,300 located projects during this time period. Companies that claimed credits in the four-year period pledged to create 114,200 new jobs and make $26.2 billion in new capital investments in the state. These projects have a significant economic impact in Tennessee through new job creation, new wages, and growth to economic output and state tax revenues. In addition, capital investments in real and personal property create a positive fiscal impact for local communities by increasing property tax collections.

Figure 19: ECD Projects (2011-2018) by Companies Claiming Business Tax Credits (2015-2018)



Companies with an ECD project claimed $511.9 million in business tax credits during the four years of 2015 to 2018, or $128.0 million on average each year. The total claimed amount includes $267.0 million in job tax credits, $235.3 million in industrial machinery credits, and $9.6 million in headquarters sales tax credits.

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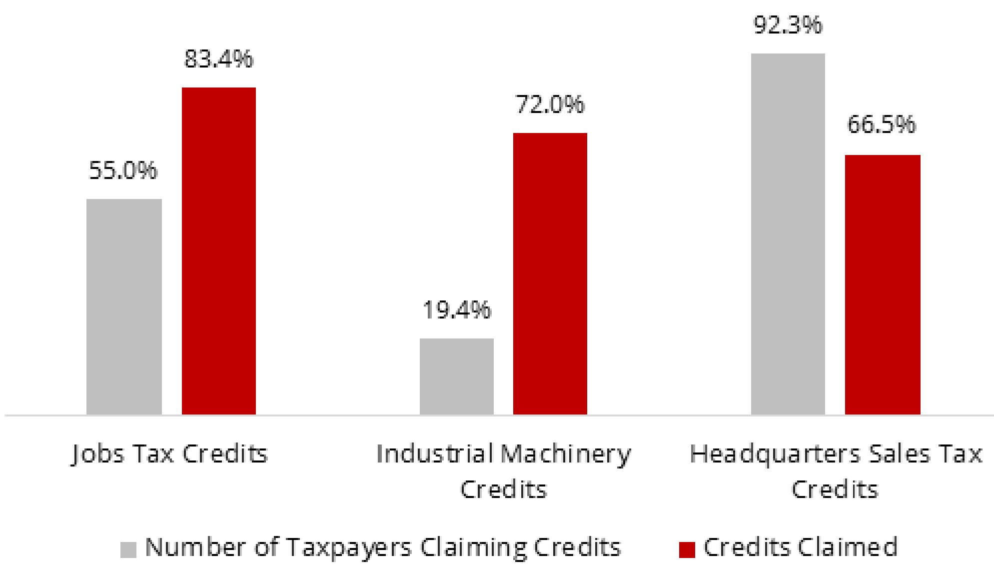
[19] The data provided in this section are for TDOR taxpayer entities that the evaluators were able to match to TDLWD employment records. More information on the matching process can be found in the "Methodology and Key Analysis Components" section of this report.

[20] ECD project data used for this study are for 1,303 projects that located during calendar years 2011 through 2018. When ECD works with a company to announce an expansion or new location activity (constituting a "located project" with ECD), the company may take up to five years to make their announced investments and/or to create the announced new jobs. It often takes companies a few years to build their facilities, acquire machinery and equipment, and ramp up production and hiring. Companies announcing a project in 2011 may not hire or make investments that qualify for credit awards until 2014 or 2015. For this reason, a large window (eight years) of project activity was analyzed for this study.

[21] ECD assisted some of companies with multiple projects between calendar years 2011 and 2018; thus, the total number of projects (761) is higher than the total number of companies (519).

As mentioned above, companies with ECD projects represent a significant share of all business tax credits claimed between 2015 and 2018—20.9% of companies claiming credits and 75.6% of the total value of credits claimed. By credit type, companies with an ECD project represented 55.0% (285) of the 518 businesses claiming job tax credits from 2015 to 2018 while accounting for 83.4% ($267.0 million) of job tax credits claimed over this period. In addition, 72.0% ($235.3 million) of the industrial machinery credits claimed were by taxpayers with an ECD project while representing only 19.4% of the 2,290 taxpayers claiming an industrial machinery credit. Twelve of the 13 companies claiming headquarters sales tax credits during the four-year period had a project with ECD. These companies claimed 66.5% ($9.6 million) of headquarters sales tax credits claimed during the evaluation period. Companies with ECD projects did not claim community investment credits or small business & rural opportunity fund credits.

Figure 20: Companies with ECD Projects (2011-2018) as a Share of Claimants and Amount Claimed (2015-2018)



While it is very likely that many of the credits claimed by these companies were associated with the project activity announced by ECD, we cannot affirm that is the case for all 761 projects.[22] In some situations the business growth contributing to these credit awards may have been the result of other (additional) growth plans than those on which ECD worked with the company. Still, this data does demonstrate that companies working with ECD on competitive expansion and new location projects do utilize the state's business tax credits. The incentives are one factor among many in a company's decision of where to locate and/or expand operations.

[22] To confirm this likelihood, ECD and TDOR would need to compare company business plans on file with TDOR to company project plans on file with ECD. The resources to do this work for this large number of companies were not available for the scope of this evaluation.

Projects within Target Industry Clusters: A major focus strategy for ECD's business development efforts for new and existing businesses are targeted industry clusters. These include industries where the state has a competitive advantage and high industry concentration. These strategies were developed over several years with ECD's business development recruitment efforts seeking to strengthen clusters where the state has a competitive advantage while targeting developing clusters. Each cluster includes primary industries as well as key supply chain industries.

ECD has nine target industries clusters:

- Aerospace and Defense
- Automotive
- Chemicals
- Distribution and Logistics
- Electrical Equipment and Appliances
- Food and Agriculture
- Headquarters, Finance and Technology
- Healthcare and Life Sciences
- Rubber, Ceramics and Glass

Companies operating within target industry clusters represent nearly 70% (512) of ECD projects associated with credits claimed during the evaluation period. These projects represented more than 93,300 new jobs and $22.6 billion in capital investments between 2011 and 2018 across Tennessee.

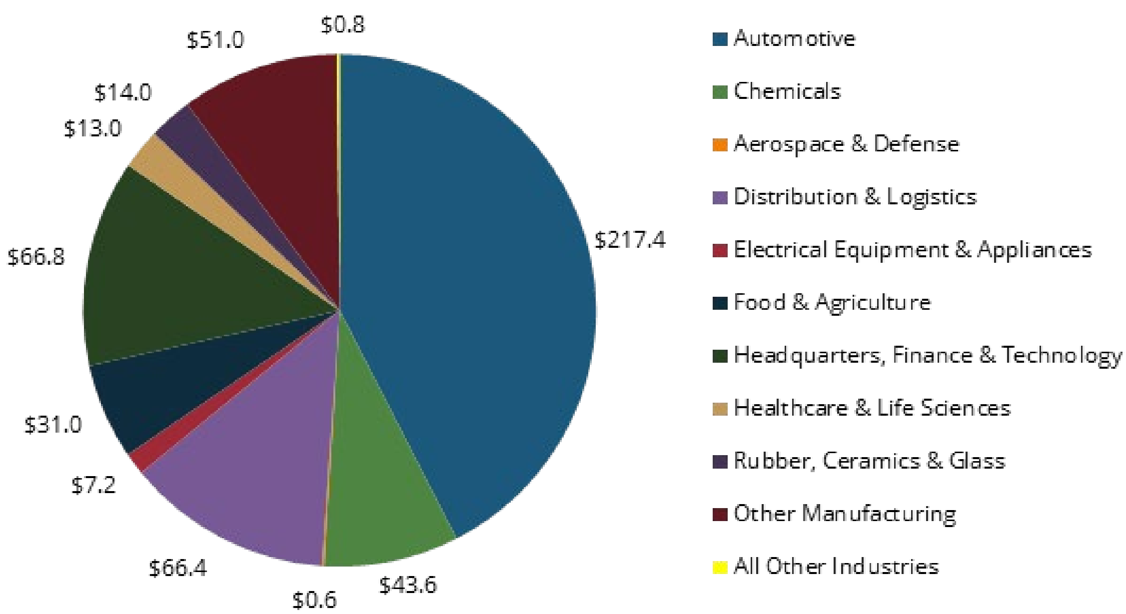
Figure 21: Companies with Credits Claimed (2015-2018) and ECD Projects (2011-2018), by Industry Cluster

Industry Cluster	Number Projects	New Jobs	Capital Investment ($)	Credits Claimed ($) (2015-2018)	% of Total Credits Claimed
Aerospace & Defense	6	499	27,667,505	644,926	0.1%
Automotive	150	31,281	7,344,826,773	217,409,795	42.5%
Chemicals	38	2,602	2,596,898,000	43,550,407	8.5%
Distribution & Logistics	91	20,896	3,533,789,910	66,425,192	13.0%
Electrical Equipment & Appliances	28	2,512	708,213,490	7,160,221	1.4%
Food & Agriculture	56	7,676	3,357,672,758	30,967,501	6.0%
Headquarters, Finance & Technology	70	14,842	2,400,558,669	66,833,085	13.1%
Healthcare & Life Sciences	30	6,825	532,792,447	13,041,145	2.5%
Rubber, Ceramics & Glass	43	6,197	2,060,794,831	14,027,701	2.7%
Other Manufacturing	245	20,424	3,583,940,162	51,038,588	10.0%
All Other Industries	4	432	9,983,150	824,755	0.2%
ECD Projects in Target Industry Clusters	512	93,330	22,563,214,383	460,059,972	89.9%
All ECD Projects	761	114,186	26,157,137,695	511,923,315	100.0%

Companies with ECD project activity claimed $511.9 million in business tax credits during the four-year evaluation period. Ninety percent of these credits ($460.1 million) were claimed by companies in target industry clusters. More specifically, 42.5% ($217.4 million) was claimed by companies in the

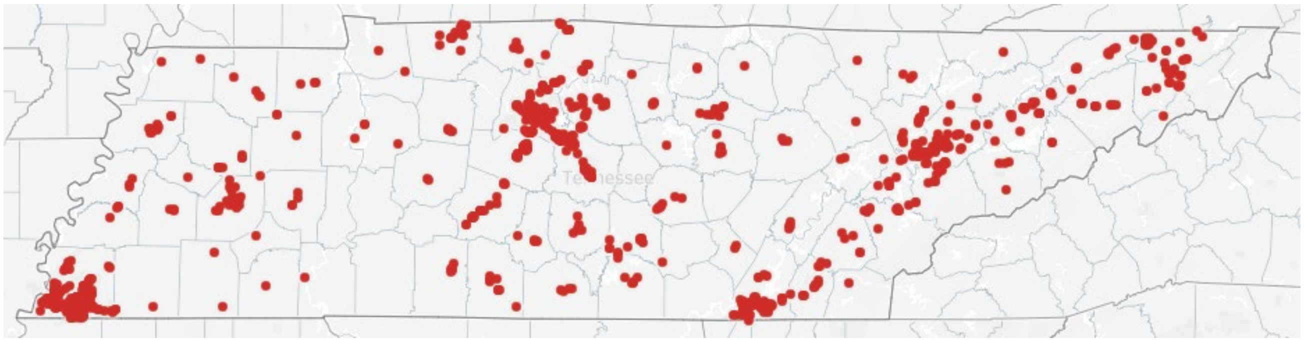
Automotive cluster. Automotive companies claiming credits landed 150 projects with 31,300 new jobs and $7.3 billion in capital investments between 2011 and 2018. Approximately 13.1% ($66.8 million) was claimed by companies in the Headquarters, Finance & Tech cluster, which accounted for 70 projects with more than 14,800 new jobs and $2.4 billion in capital investments. Additionally, 13.0% ($66.4 million) was claimed by Tennessee companies in the Distribution & Logistics cluster. Distribution and logistics companies claiming credits accounted for 91 projects with 20,900 new jobs and $3.5 billion in capital investments between 2011 and 2018.

Figure 22: Credits Claimed (2015-2018) by Companies with ECD Projects (2011-2018), by Industry Cluster (millions of dollars)



Foreign Direct Investment (FDI): Tennessee is home to more than 1,000 foreign-based business establishments which employ approximately 166,700 people across the state.

Figure 23: Foreign-Based Business Establishments in Tennessee[23]



The state's business tax credits support the department's ability to win the business of expansion and new location activity pursued by global businesses. Approximately one-third of ECD projects (245 projects) associated with companies claiming business tax credits between 2015 and 2018 were by foreign-based companies. These projects include company plans to create 40,000 new jobs and invest $10.5 billion in Tennessee between calendar years 2011 and 2018.

Of the $511.9 million in credits claimed by companies with ECD project activity, foreign-based companies account for nearly half ($252.6 million) of the amount claimed. More specifically, 26.9% ($137.7 million) was claimed by Japanese-based companies which had 78 projects with ECD between 2011 and 2018 representing more than 15,000 new jobs and $4.8 billion in foreign direct investment (FDI). German-based companies with 27 ECD projects representing approximately 6,000 new jobs and $1.0 billion in capital investments claimed $60.2 million (11.8%) in credits. Canadian-based companies with 27 ECD projects representing nearly 3,200 new jobs and $836.4 million in FDI claimed $13.2 million (2.6%) in credits. Approximately $7.9 million (1.5%) was claimed by companies based in the U.K. that had 18 projects with ECD between 2011 and 2018 generating 1,600 new jobs and $421.9 million in capital investments.

[23] Source: TNECD – https://www.tn.gov/transparenttn/state-financial-overview/open-ecd/openecd/tnecd-performance-metrics/openecd-business-development-quick-stats/foreign-owned-businesses.html

Figure 24: Companies with Credits Claimed (2015-2018) and ECD Projects (2011-2018), by Parent Country

	# Projects	New Job Commitments	Capital Investment	Credits Claimed	% of Total Claimed
Japan	78	15,039	4,780,830,313	137,749,509	26.9%
Germany	27	6,025	1,038,193,760	60,236,683	11.8%
Canada	27	3,178	836,368,004	13,210,356	2.6%
United Kingdom	18	1,635	444,473,589	7,850,574	1.5%
China	14	1,911	421,959,052	1,373,226	0.3%
Italy	12	2,339	452,778,600	4,368,402	0.9%
Switzerland	10	689	148,124,000	1,119,464	0.2%
Other Countries[24]	59	9,205	2,393,705,009	26,721,516	5.2%
ECD Projects by Foreign-Based Companies	245	40,021	10,516,432,327	252,629,730	49.3%
All ECD Projects	761	114,186	26,157,137,695	511,923,315	100.0%

[24] Data for 16 other countries are suppressed, with fewer than 10 projects represented. The countries include Australia, Austria, Belgium, Brazil, Denmark, France, India, Ireland, Israel, Luxembourg, Mexico, Netherlands, South Korea, Spain, Sweden and Turkey.

PART III: TAX CREDITS AWARDED, BUSINESS GROWTH AND ROI

To evaluate the impact of Tennessee's business tax credits, CERT measured the change in employment over time for companies awarded job tax and industrial machinery credits, which comprised 94.3% ($1.26 billion) of the $1.34 billion in business tax credits awarded during the four-year period. CERT estimated the indirect and induced economic impacts of this growth on the Tennessee economy in the form of new jobs, new wages and contributed growth to state GDP. This section also includes estimates of the fiscal benefits (in the form of state tax revenues) and costs and offers estimated points at which the state receives a return on its investment (ROI).

Figure 25: Value of Credits Awarded (2015-2018)

	Total Value of Credits Awarded (2015-2018)	Average Annual Value of Credits Awarded	Share of Total
Job Tax Credits	$531,806,900	$132,951,725	40.2%
Industrial Machinery Credits	$729,381,865	$182,345,466	55.1%
Headquarters Sales Tax Credits	$14,331,063	$3,582,766	1.1%
Community Investment Credits	$58,804,392	$14,701,098	4.4%
Small Business & Rural Opportunity Fund Credits	$3,134,810	$783,703	0.2%
Total	**$1,337,459,030**	**$334,364,758**	**100.0%**

The evaluations of growth and subsequent analyses of economic and fiscal impact are limited to taxpayers which could be matched to TDLWD employment records.[25] This includes 98.6% of businesses awarded job tax credits and 95.7% of businesses awarded industrial machinery credits between 2015 and 2018.

To measure employment growth, CERT evaluated each company's employment level prior to the credit award as a "baseline," or "starting" employment level, and subsequent changes in employment through 2019. As such, for companies awarded credits in 2015, CERT analyzed change in employment from 2014[26] (pre-credit employment level) through 2019 (five years after the credit was awarded). For companies awarded credits in subsequent years, CERT measured changes in employment from the year prior to the credit awarded through 2019.

Sensitivity Analysis: The Impact of Incentives on Business Decisions: A key limitation of incentive evaluations is establishing the degree to which incentives influence company decisions. The amount of growth that was directly attributable to tax credits and would not have occurred

[25] More information on the records-matching process is provided in the "Methodology and Key Analysis Components" section of this report.

[26] For companies awarded credits in 2015, Q3 and Q4 of 2014 are used to measure employment in the previous period (rather than the full four quarters). This is a result of data availability; the first two quarters of 2014 are not available in the data evaluated for this project.

without (or 'but for') the credits cannot be established or verified with any certainty. Evaluators across the country have acknowledged this limitation and select from a variety of methods for making good-faith estimates regarding the impact of incentives.

Rather than making assumptions about business behavior, this study utilizes a sensitivity analysis that estimates a range of possible outcomes.[27] At the most optimistic end of the range, CERT evaluated each credit's impact in the event that incentives were responsible for 100% of the realized job growth. With this assumption, none of the job growth would have occurred without the presence of the credit. CERT then evaluated the credit's impact in scenarios where incentives are responsible for 75%, 50%, or 25% of the job growth. The true share falls somewhere between 0% and 100%, though the exact share is unknown. This last scenario of 0% impact is unlikely (as is the other extreme of 100% impact) due to the competitive and complex nature of company decisions on their locations for growth and investment.

Companies make decisions based on their unique priorities, objectives, histories, and growth strategies. Many factors influence the role that incentives play in business location and expansion decisions. The role of incentives in company location decisions varies. Tennessee companies are operating in a global business environment, and they often assess a variety of locations in which to locate and/or expand operations. In addition to incentives, factors that influence company decisions include, but are not limited to, state and local tax rates; site and/or building availability; permitting requirements and speed; workforce availability, skill and the cost of labor; proximity to postsecondary institutions and the number of students graduating with relevant certificates or degrees; workforce development programs; proximity to rail, international airports, ports and interstates; quality of life and access to amenities; the cost of living; levels of crime; natural resources; climate and frequency of significant weather events; proximity to key markets; and a number of other factors.[28] Companies evaluate potential locations for their investment against these factors, and the strengths and weaknesses they bring to each location. Incentives can sometimes compensate for differences or weaknesses that may have otherwise compelled a company to locate elsewhere.[29]

With such dynamic factors at play, the role of incentives in influencing business decisions varies and cannot be quantified with accuracy. For some companies, the incentive results in their decision to

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[27] Sensitivity analyses are common to incentive evaluation approaches. Examples include evaluations in Alabama (2017), Colorado (2018), Connecticut (2014), Nebraska (2019), and Washington (2017).

[28] Evaluators in Indiana also draw attention to these factors when explaining the role of incentive packages in competitive economic development projects. *2017 Indiana Tax Incentive Evaluation*, Office of Fiscal and Management Analysis, Indiana Legislative Services Agency - https://www.ncsl.org/Portals/1/Documents/fiscal/evaluation_database/2017_Indiana_Tax_Incentive_Evaluation.pdf

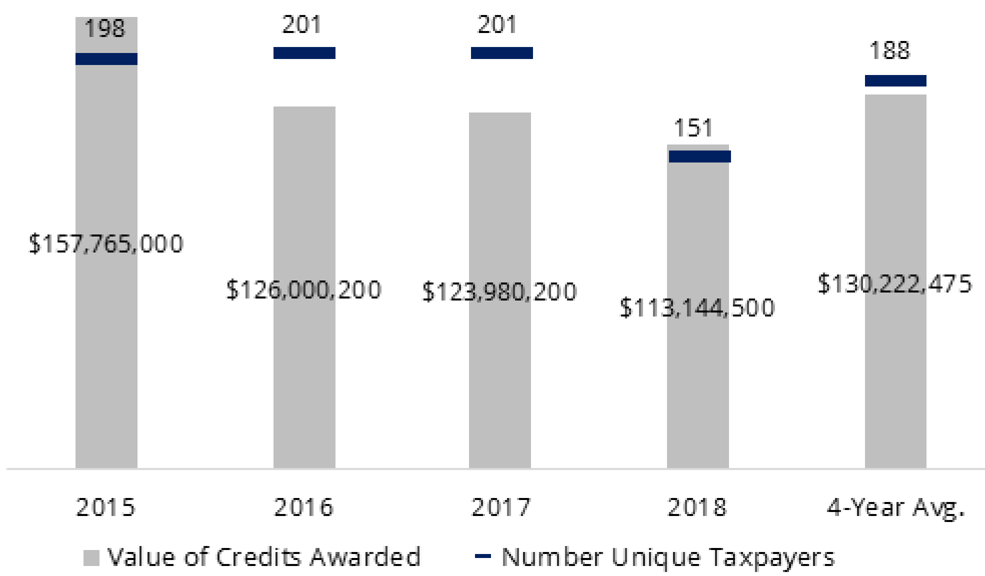
[29] Evaluators in Iowa explain that companies determine their location based on an evaluation of a number of factors and as auction theory suggests, "if a jurisdiction has a shortfall in some of the above factors, it needs to compensate with advantages in others. Among the factors, tax incentives might be the most easily changed." Source: *Iowa's High Quality Jobs Program: Tax Credits Program Evaluation Study: December 2016*, Iowa Department of Revenue – https://www.ncsl.org/Portals/1/Documents/fiscal/evaluation_database/IA_High_Quality_Jobs_Program_Evaluation_Study.pdf

create new jobs and invest capital in Tennessee as opposed to another state. For others, the incentive is one factor in a comprehensive cost model that contributes to the company's decision. For some companies, the incentive may have little role in a company's decision-making process. For this reason, CERT provides a range of scenarios rather than assuming a single distinct outcome.

Growth of Companies Awarded Job Tax Credits[30]

During the four-year period of 2015 to 2018, approximately 190 companies were awarded $130.2 million in job tax credits on average each year, totaling $520.9 million across all four years.

Figure 26: Job Tax Credits Awarded by Year, 2015-2018



During 2015, approximately 200 taxpayer entities were awarded $157.8 million in job tax credits. As illustrated in Figure 27, these businesses employed more than 135,500 people in Tennessee in 2014 prior to receiving job tax credits. During 2015, employment at these businesses grew 8.1% to 146,600 jobs. Employment continued to rise in following years. Employment increased an additional 5.4% in 2016 (year two of job creation) to 154,500. This represents a 13.9% cumulative increase compared to their pre-credit employment levels. By year three, employment at these businesses had risen 17.0% above their pre-credit employment levels. By year five employment was up 21.8%. In total, companies awarded job tax credits in 2015 created 29,500 net new jobs in the five years from 2014 to 2019.

[30] Data provided in this section are for taxpayer entities that could be matched with TDLWD employment records. This represented 98.6% of taxpayer entities awarded job tax credits in the four-year period, and 97.9% of the value of job tax credits awarded in the four-year period.

Figure 27: Employment Growth at Companies Awarded Job Tax Credits in 2015

	Employment Prior to Credit (2014)	Year 1 (2015)	Year 2 (2016)	Year 3 (2017)	Year 4 (2018)	Year 5 (2019)
Employment	135,552	146,568	154,455	158,543	161,556	165,055
Annual Job Growth from Prior Year						
Number	--	11,016	7,887	4,088	3,013	3,500
Percent	--	8.1%	5.4%	2.6%	1.9%	2.2%
Cumulative Job Growth from Pre-Credit Employment Level						
Number	--	11,016	18,904	22,991	26,004	29,504
Percent	--	8.1%	13.9%	17.0%	19.2%	21.8%

The same analysis was conducted for companies awarded job tax credits in 2016, 2017, and 2018 (see Figure 28). Compared to the prior year's employment, the number of employees grew by 7.9% at companies awarded credits in 2016, by 9.1% at companies awarded credits in 2017, and by 6.4% at companies awarded credits in 2018. Employment at these companies continued to rise in the years following the year the credits were awarded.

Figure 28: Employment Growth at Companies Awarded Job Tax Credits in 2015-2018

Year Awarded JTC	No. Taxpayer Entities	Employment in Prior FY	Cumulative % Change in Employment				
			Year 1	Year 2	Year 3	Year 4	Year 5
2015	198	135,552	8.1%	13.9%	17.0%	19.2%	21.8%
2016	201	131,497	7.9%	13.9%	15.7%	20.3%	--
2017	201	131,149	9.1%	11.6%	15.8%	--	--
2018	151	113,329	6.4%	10.8%	--	--	--

The trends identified in employment growth demonstrate that businesses awarded job tax credits tend to cluster hiring in the year of credit award. Where the credits are awarded based on demonstrated job creation, these results meet the intent of the credit. Additionally, companies receiving job tax credits between 2015 and 2018 continued to create net new jobs in years following the awards of the credits. As companies continued to meet new job creation thresholds, some were awarded additional job tax credits in years following. As companies expand and open new facilities, it is common for their job creation efforts to be extended over multiple years.

The growth of companies receiving job tax credits far outpaced that of companies that were not awarded job tax credits. In 2015, companies awarded job tax credits had a job growth rate of 8.1%, compared to 2.2% growth of all Tennessee companies and 1.8% growth of Tennessee companies that were not awarded job tax credits.

Figure 29: Cumulative Job Growth Rates from 2014

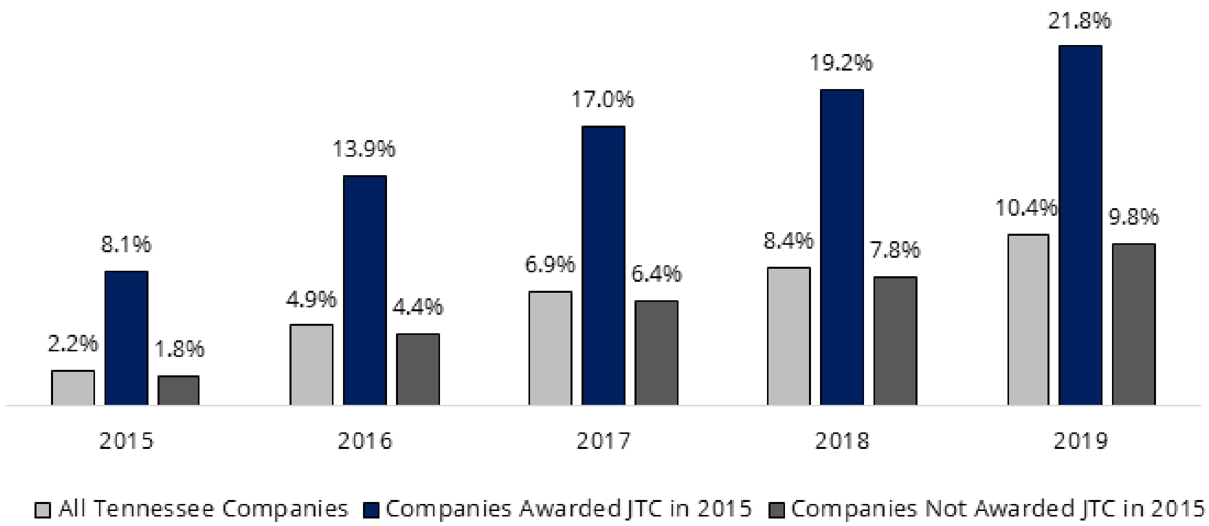


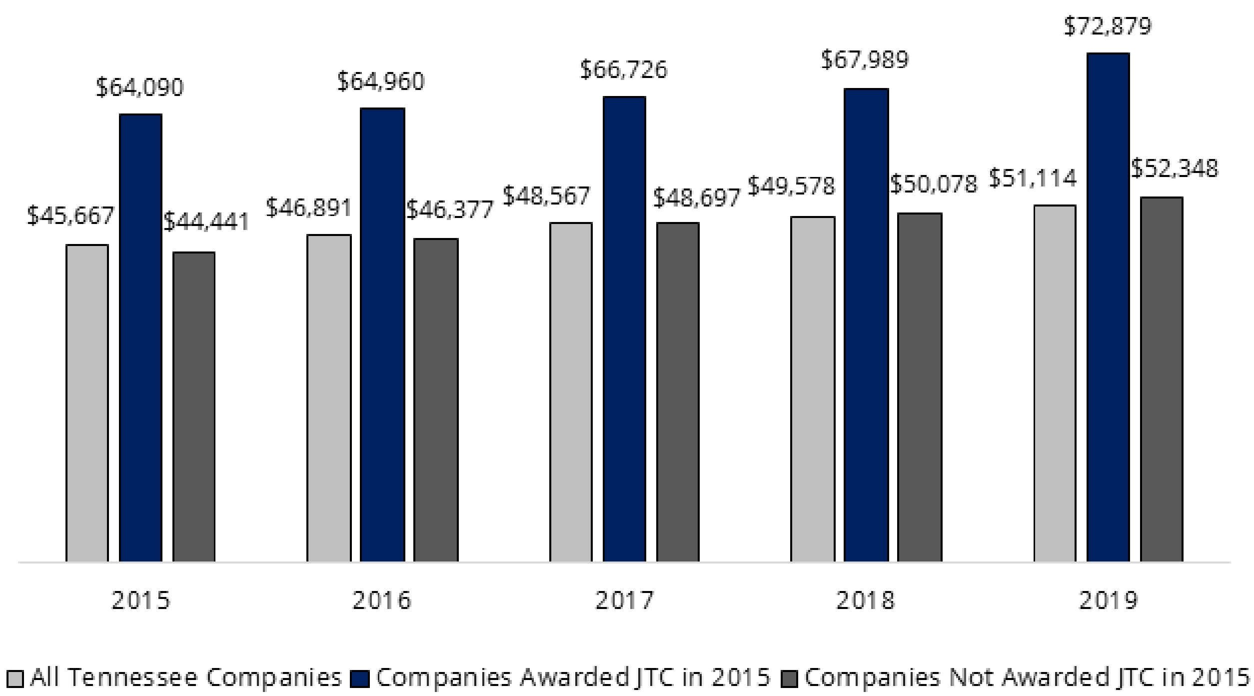
Figure 30: Job Growth Rates for All Companies, Companies Awarded Job Tax Credits in 2015, and Companies Not Awarded Job Tax Credits in 2015

	2014	2015	2016	2017	2018	2019
Employment of All Companies in Tennessee[31]	2,723,889	2,782,770	2,856,719	2,912,242	2,951,888	3,007,181
Job Growth Rate, Year Over Year	--	2.2%	2.7%	1.9%	1.4%	1.9%
Job Growth Rate, Cumulative from 2014	--	2.2%	4.9%	6.9%	8.4%	10.4%
Employment of Companies Awarded JTC in 2015	135,552	146,568	154,455	158,543	161,556	165,055
Job Growth Rate, Year Over Year	--	8.1%	5.4%	2.6%	1.9%	2.2%
Job Growth Rate, Cumulative from 2014	--	8.1%	13.9%	17.0%	19.2%	21.8%
Employment of Companies Not Awarded JTC in 2015	2,588,337	2,636,202	2,702,264	2,753,699	2,790,333	2,842,125
Job Growth Rate, Year Over Year	--	1.8%	2.5%	1.9%	1.3%	1.9%
Job Growth Rate, Cumulative from 2014	--	1.8%	4.4%	6.4%	7.8%	9.8%

[31] Source: Quarterly Census of Employment and Wages (QCEW), U.S. Bureau of Labor Statistics

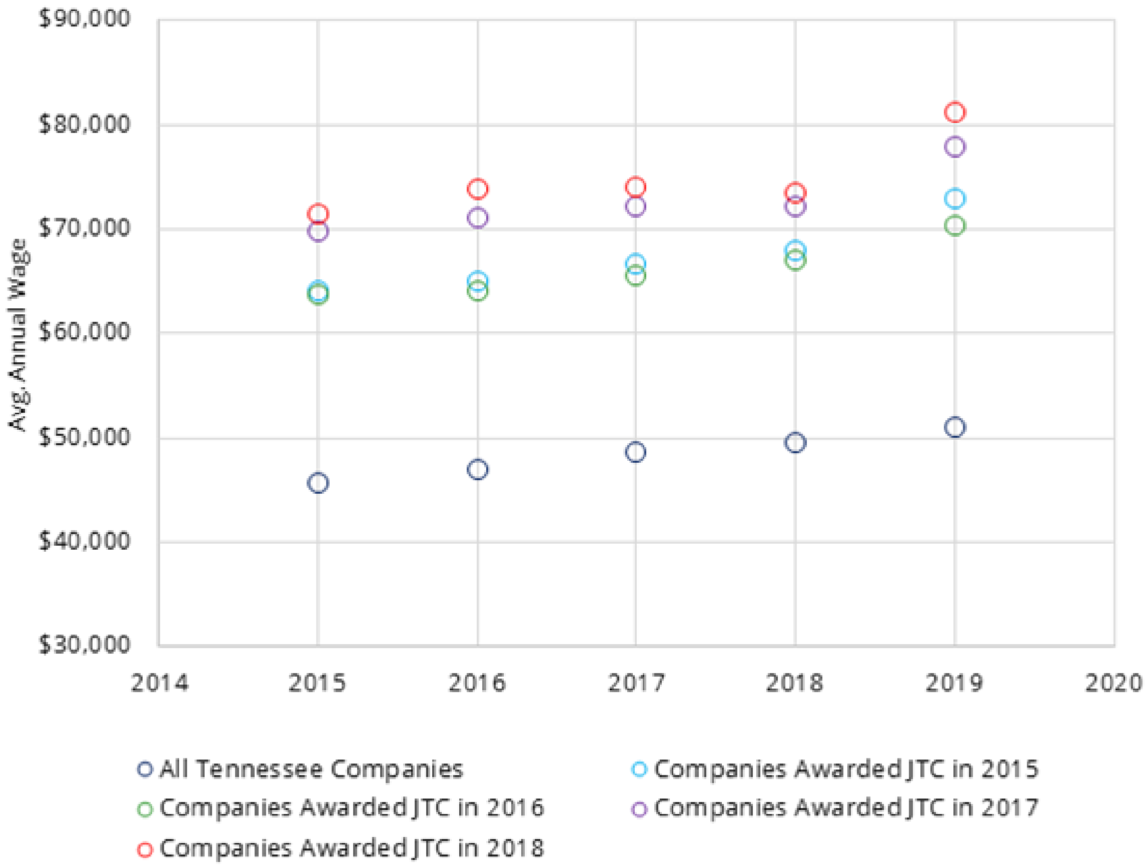
In addition to having higher rates of growth, companies awarded job tax credits provided higher wages than the average business in Tennessee.[32] In evaluating the 198 businesses awarded job tax credits in 2015, their wages exceeded the statewide average by 37.1% to 42.6% in each year from 2015 to 2019.[33] Their wages exceeded the average of companies not awarded job tax credits in 2015 by 35.8% to 44.2% in each of the five years. Companies awarded job tax credits in 2016, 2017, and 2018 also consistently provided wages above the statewide average (see Figure 32).

Figure 31: Average Annual Wages for All Companies, Companies Awarded Job Tax Credits in 2015, and Companies Not Awarded Job Tax Credits in 2015



[32] Source for average wage for all Tennessee businesses: Quarterly Census of Employment and Wages (QCEW), U.S. Bureau of Labor Statistics.
[33] Wages are not adjusted for inflation.

Figure 32: Average Annual Wages for All Companies and Companies Awarded Job Tax Credits in 2015, 2016, 2017, and 2018



Sensitivity Analysis

As discussed earlier in Part III of this report, the degree of job creation that is attributable specifically and only to the credit, and the amount of business growth that would have occurred without the presence of the credit, cannot be quantified. Figure 33 provides a range of possibilities.

Employment at the 198 companies awarded job tax credits in 2015 increased by 29,500 in the five years to 2019. If the credits had been responsible for 100% of the job growth (none of the growth would have occurred in the absence of the credit), the credit's impact would be 29,500 new jobs over five years. However, it is unlikely that all 198 companies in the study based their final decision only on the outcome of the credit. If the credits were responsible for 75% of the growth, the impact of the credits would be 22,100 new jobs. If the credits were responsible for only 50% or 25% of the realized business growth, the impact would be 14,750 new jobs or 7,400 new jobs, respectively.

The same scenarios are provided in Figure 33 for companies awarded job tax credits in 2016 (which created 26,700 new jobs in the four years from 2015 to 2019), 2017 (which created 20,700 new jobs in the three years from 2016 to 2019), and 2018 (which created 12,250 new jobs in the two years from 2017 to 2019).

Figure 33: New Jobs Attributable to Job Tax Credits: Five Scenarios

Year Awarded JTC	No. Taxpayer Entities	No. Years for which Impacts are Evaluated	Cumulative Net New Jobs through 2019				
			100% of Job Growth	75% of Job Growth	50% of Job Growth	25% of Job Growth	0% of Job Growth
2015	198	5 (2014-2019)	29,504	22,128	14,752	7,376	0
2016	201	4 (2015-2019)	26,708	20,031	13,354	6,677	0
2017	201	3 (2016-2019)	20,672	15,504	10,336	5,168	0
2018	151	2 (2017-2019)	12,251	9,189	6,126	3,063	0

Total Economic and Fiscal Impacts and Return on Investment (ROI)

New job creation occurring at companies awarded job tax credits have ripple effects across the state's economy. CERT evaluated the projected economic and fiscal impacts of companies awarded job tax credits in 2015, 2016, 2017, and 2018. The results for companies awarded job tax credits in 2015 are detailed below. The results for all years, 2015 through 2018, are provided in Figure 38.

Employment at the companies awarded job tax credits in 2015 grew by 29,500 new jobs between 2014 and 2019, with those new jobs providing $7.3 billion in new earnings over five years. This job growth indirectly generates growth at companies in the supplier networks and other industries which support the operations of the 198 companies awarded credits (indirect impacts). As employment and worker earnings grow at companies awarded credits and at companies indirectly impacted, additional growth occurs across the state in industries such as retail, real estate, financial services, healthcare, education, personal care services, and leisure and hospitality (induced impacts). This induced growth occurs as employees of the businesses directly and indirectly impacted by the credits experience growth in earnings and demand for new goods and services. The indirect and induced job creation projected to occur over the five years from 2014 to 2019 totals nearly 58,900 new jobs in Tennessee with $11.3 billion in new earnings over the five-year period. Combined with the growth of companies receiving job tax credits, the total projected growth is 88,400 new jobs with $18.6 billion in new earnings over the five years to 2019.

Figure 34: Companies Awarded Job Tax Credits in 2015: Estimated Economic Impacts Over Five Years (2014-2019)

	Direct Impacts	Indirect & Induced Impacts	Total Impacts
New Jobs	29,504	58,879	88,383
New Earnings	$7.3B	$11.3B	$18.6B
Economic Output	$28.6B	$35.4B	$64.0B

Companies awarded job tax credits in 2015 are estimated to have generated $64.0 billion in economic output through direct, indirect, and induced economic activity in the state over a five-year time period. The economic output generated includes $28.6 billion in direct activity created by the companies awarded job tax credits after job creation and investment. Economic output is the value of goods and services produced in the state as a result of the company's growth. Economic output can be thought of as the new revenue generated by businesses directly supported by the tax credits and spin-off businesses. In addition, the companies awarded credits generated approximately $29.5 billion in value added,[34] or contribution to gross state product. The value of these goods and services produced occurs across several industries in the state.

The direct, indirect, and induced employment growth occurring across the state generates various taxable sales and purchases, such as purchases made at local businesses through worker spending. Taxable sales include food and general item purchases in Tennessee by workers filling direct, indirect, and induced new jobs. Taxable sales are projected to generate $262.2 million in new state sales tax collections in the five years to 2019.

Other fiscal benefits result from the projected economic activity of the companies investing and creating jobs in the state. These projected fiscal benefits include $143.4 million in franchise and excise tax collections and $45.9 million in miscellaneous taxes and user fees. In total, the growth of companies awarded job tax credits in 2015 are estimated to have generated $451.5 million in new state tax revenues during the five-year period. Local benefits, including property taxes generated, are not included in the analysis.

Figure 35: Companies Awarded Job Tax Credits in 2015: Estimated New State Tax Revenues Over Five Years (2014-2019)

	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Sales Tax on Worker Spending	$102.7M	$159.5M	$262.2M
Franchise & Excise Tax	$56.1M	$87.2M	$143.4M
Miscellaneous Taxes and User Fees	$36.7M	$9.2M	$45.9M
Total Revenues	$195.5M	$255.9M	$451.5M

Job creation results in some additional costs for the state, such as costs of providing government services to workers and their families. Costs are also incurred for providing services to indirect and induced workers whose job is supported by companies expanding and creating jobs. These services include transportation and infrastructure, education, law and safety services, health and social

[34] Value added is defined as gross output (total value of goods and services produced by an industry) less intermediate inputs (goods and services used up by an industry in the process of producing its gross output). The sum of value added across all industries is equal to gross domestic product for the economy. Sources: Impact DataSource, LLC and U.S. Bureau of Economic Analysis.

services, and other government services. The new costs incurred by the state to provide these services is estimated to be $78.0 million over the five-year period.

The tax benefits generated less additional costs to the state result in an estimated $373.6 million in net benefits for the State of Tennessee over the five-year time period. The estimated cumulative net benefits over five years exceed the $157.8 million in job tax credits awarded in 2015. Based on these estimates and assumptions, CERT projects the cumulative net benefits would meet the value of the credit within 2.74 years—the point at which the state would see a return on its investment.[35]

Figure 36: Companies Awarded Job Tax Credits in 2015: Estimated Net Fiscal Benefits Over Five Years and Return on Investment (2014-2019)

	Total Impacts
Total Revenues	$451.5M
Costs of Providing State Government Services	- $78.0M
Net Benefits	$373.6M
Cost of Credit	$157.8M
Payback Period (Years)	2.74

Sensitivity Analysis

For companies awarded job tax credits in 2015, the results identified in Figure 36 project the state would receive a return on its investment through net fiscal benefits in 2.74 years. These estimates do not incorporate assumptions for the share of growth that is attributable specifically to the job tax credits (reflecting the 100% growth scenario).

Taking a sensitivity analysis approach, CERT evaluated different scenarios by applying assumptions regarding the share of realized growth (29,500 direct new jobs over five years) for which the job tax credits are responsible. As the assumptions approach 0% impact, the time horizon at which the state is projected to receive a return on its investment lengthens. Under the assumption that 75% of the growth (22,100 new jobs) was attributable to the credit, the cumulative net benefits would surpass the cost of the incentive after 3.36 years. If the credits were only responsible for 50% of the growth (14,750 new jobs), the time horizon at which the state will receive a return on its investment lengthens to 4.45 years. Were the credits to be responsible for 25% of the growth (7,400 new jobs), the payback period lengthens further to 7.37 years. Under the assumption that 0% of the growth realized can be attributable to the credit, the state will never see a return.

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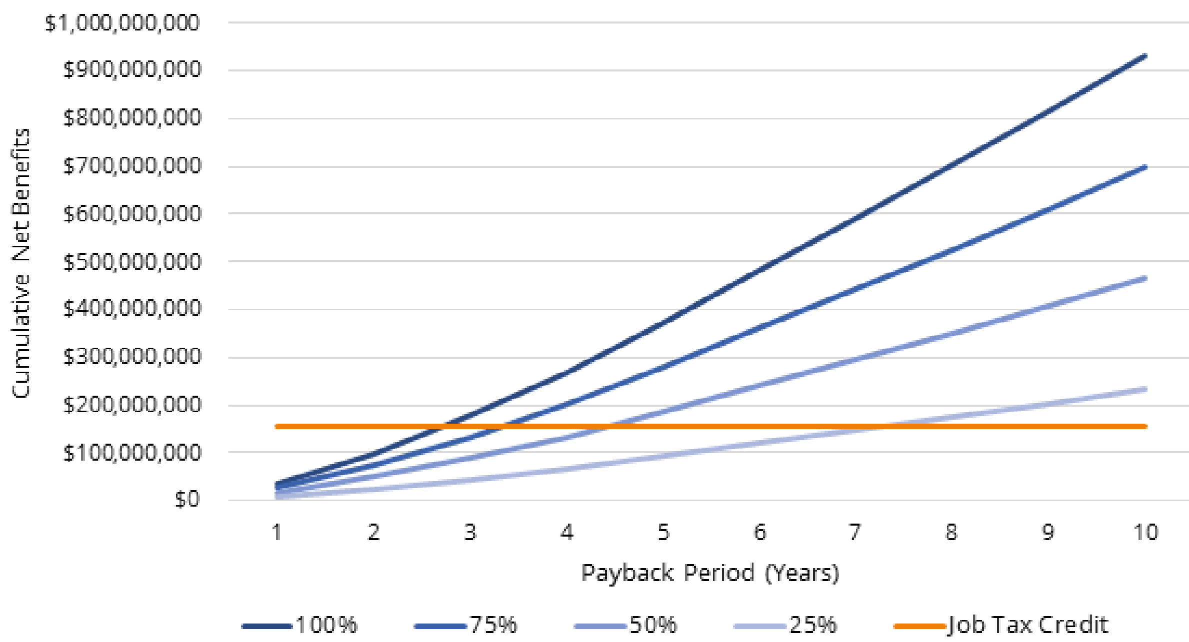
[35] This analysis assumes the full amount of the credit award will be claimed in the year the credit is awarded. This analysis does not incorporate an assumption for the amount of credit that will be claimed, though as described in the "Setting the Context" section of this report, the amount of credit claimed (or realized cost to the state) is generally less. Such assumption would presumably reduce the number of years in which the State of Tennessee would see a return on its investment. For this reason, the payback period can be considered a conservative estimate.

Figure 37: Estimated Cumulative Net Benefits Based on Percentage of Employment Growth Attributable to Job Tax Credits



Job Tax Credits Awarded in 2016, 2017, and 2018

The total projected impacts over five years for companies awarded job tax credits in 2015 (including direct, indirect, and induced impacts) are provided in Figure 38 below. CERT repeated this evaluation for the cohorts of companies awarded job tax credits in 2016, 2017, and 2018, also provided in Figure 38.

Because there are fewer years of data to evaluate the impacts on job growth, the results for the cohorts of businesses awarded credits in 2016, 2017, and 2018 are predictably lower.[36] For example, employment at companies awarded job tax credits in 2018 increased by 12,250 jobs in the two years of 2017 to 2019[37] and supported another projected 20,950 indirect and induced jobs through the multiplier effect (33,200 total new jobs, reported in Figure 38). Had employment data been available for years three, four, and five (2020-2022), the estimate for new jobs would presumably be much greater.

The results fluctuate across the four cohorts of companies for additional reasons as well. For this analysis CERT evaluated the industry, average wage, and change in employment for each company awarded job tax credits. Differences in these variables across the companies evaluated result in

[36] See the "Methodology and Key Analysis Components" section of this report for more information.
[37] See Figure 33

variance from year to year. For all four groups of companies, the state is projected to receive a return on its investment in 2.20 to 2.99 years.

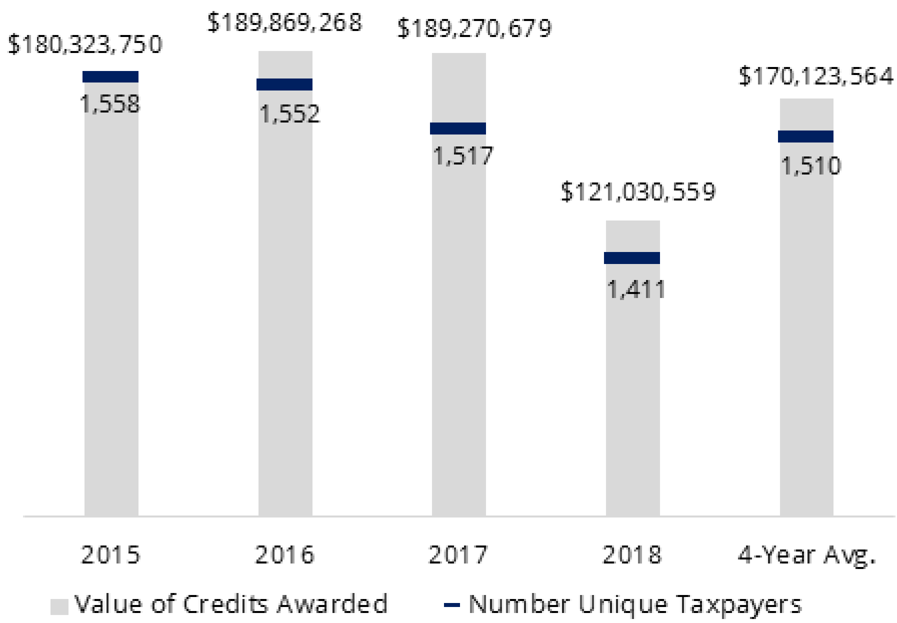
Figure 38: Total Estimated Impacts Over Five Years for Companies Awarded Job Tax Credits in 2015, 2016, 2017, and 2018 (Direct, Indirect, and Induced Impacts)

	Year Awarded Job Tax Credits			
	2015	2016	2017	2018
Number of Years for which Job Growth is Evaluated	5 (2014-2019)	4 (2015-2019)	3 (2016-2019)	2 (2017-2019)
Economic Impacts (Direct, Indirect, and Induced) Over Five Years				
New Jobs	88,383	74,906	64,650	33,203
New Earnings	$18.6B	$16.9B	$17.9B	$10.2B
Economic Output	$64.0B	$56.9B	$60.9B	$30.9B
Value Added	$29.5B	$26.6B	$26.3B	$14.7B
Fiscal Impacts (Direct, Indirect, and Induced) Over Five Years				
Total Revenues	$451.5M	$411.2M	$427.2M	$245.0M
Sales Tax on Worker Spending	$262.2M	$238.0M	$251.7M	$143.3M
Franchise & Excise Tax	$143.4M	$130.1M	$137.6M	$78.3M
Miscellaneous Taxes and User Fees	$45.9M	$43.1M	$37.9M	$23.4M
Costs of Providing State Government Services	- $78.0M	- $73.1M	- $64.4M	- $39.7M
Net Benefits	$373.6M	$338.1M	$362.9M	$205.3M
Return on Investment				
Cost of Credit	$157.8M	$126.0M	$124.0M	$113.1M
Payback Period (Years)	2.74	2.52	2.20	2.99

Growth of Companies Awarded Industrial Machinery Credits[38]

Over the four-year period of 2015 through 2018, approximately 1,500 companies were awarded $170.1 million in industrial machinery tax credits each year, totaling $680.5 million across all four years. These credits were awarded as a result of business investments in qualified machinery and equipment.

Figure 39: Industrial Machinery Credits Awarded by Year, 2015-2018



During 2015, approximately 1,560 taxpayer entities were awarded $180.3 million in industrial machinery credits. As illustrated in Figure 40, these businesses employed more than 292,500 people in Tennessee in 2014 prior to receiving the credits. During 2015, employment at these businesses grew 4.7% to 306,300 jobs. Employment continued to rise in following years. Employment increased an additional 3.8% in 2016 (year two of job creation) to 317,750. This represents an 8.6% cumulative increase compared to their pre-credit employment levels. By year three, employment at these businesses had risen 10.9% above their pre-credit employment levels. By year five employment was up 13.9%. In total, the 1,560 companies awarded industrial machinery credits during 2015 created 40,600 net new jobs in the five years from 2014 to 2019.

[38] Data provided in this section are for taxpayer entities awarded industrial machinery credits which could be matched to TDLWD employment records. This constituted 95.7% of taxpayers awarded industrial machinery credits between 2015 and 2018, and 93.3% of the value of industrial machinery credits awarded in the four-year period.

Figure 40: Employment Growth at Companies Awarded Industrial Machinery Credits in 2015

	Employment Prior to Credit (2014)	Year 1 (2015)	Year 2 (2016)	Year 3 (2017)	Year 4 (2018)	Year 5 (2019)
Employment	292,582	306,262	317,751	324,563	326,707	333,171
Annual Job Growth from Prior Year						
Number	--	13,680	11,489	6,811	2,144	6,464
Percent	--	4.7%	3.8%	2.1%	0.7%	2.0%
Cumulative Job Growth from Pre-Credit Employment Levels						
Number	--	13,680	25,169	31,981	34,125	40,589
Percent	--	4.7%	8.6%	10.9%	11.7%	13.9%

The same analysis was conducted for companies awarded industrial machinery credits in 2016, 2017, and 2018 (see Figure 41). Compared to the prior year's employment, the number of employees grew by 4.6% at companies awarded credits in 2016, by 5.0% at companies awarded credits in 2017, and by 2.2% at companies awarded credits in 2018. Employment at these companies continued to rise in the years following the year the credits were awarded.

Figure 41: Employment Growth at Companies Awarded Industrial Machinery Credits in 2015-2018

Year Awarded IMC	No. Taxpayer Entities	Employment in Prior FY	Cumulative % Change in Employment				
			Year 1	Year 2	Year 3	Year 4	Year 5
2015	1,558	292,582	4.7%	8.6%	10.9%	11.7%	13.9%
2016	1,552	297,386	4.6%	7.2%	8.5%	11.3%	--
2017	1,517	284,658	5.0%	6.4%	9.1%	--	--
2018	1,411	262,117	2.2%	5.7%	--	--	--

The growth of companies receiving industrial machinery credits outpaced that of companies that were not awarded industrial machinery credits. In 2015, companies awarded industrial machinery credits had a job growth rate of 4.7%, compared to 2.2% growth of all Tennessee companies and 1.9% growth of Tennessee companies that were not awarded industrial machinery credits.

Figure 42: Cumulative Job Growth Rates from 2014

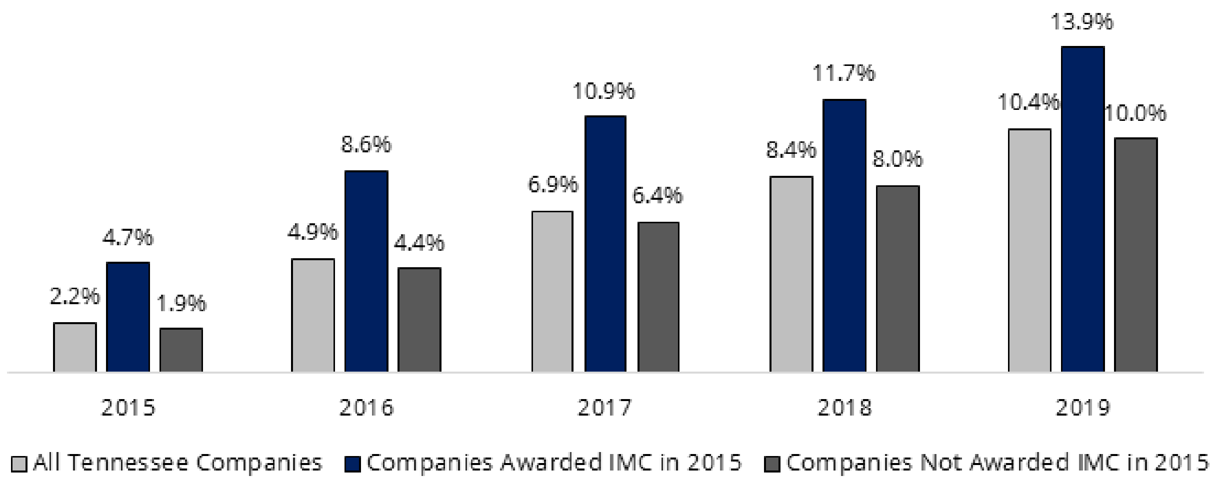


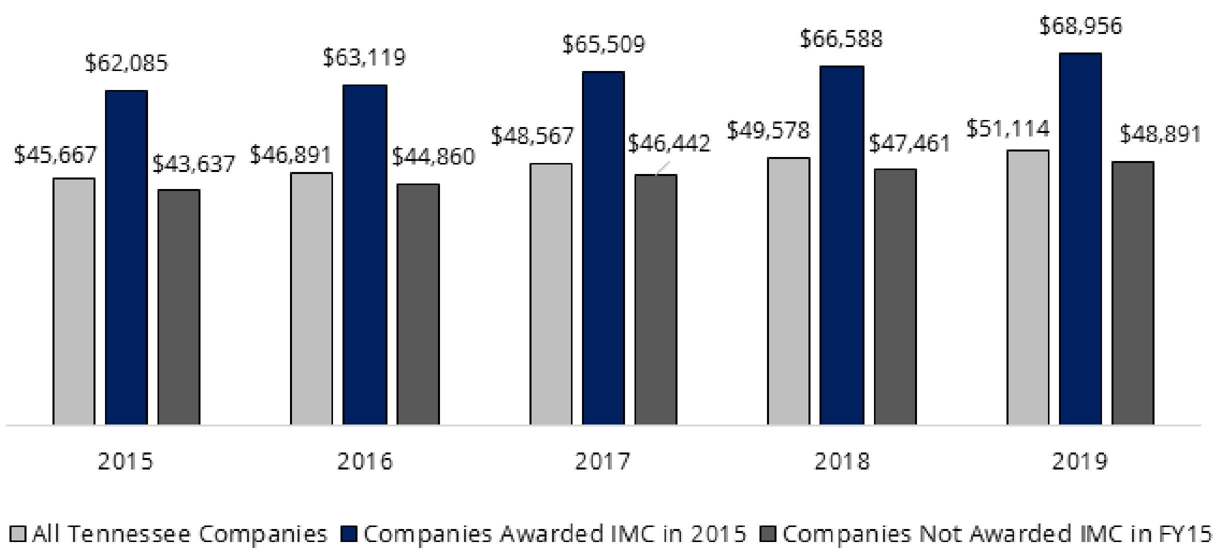
Figure 43: Job Growth Rates for All Companies, Companies Awarded Industrial Machinery Credits in 2015, and Companies Not Awarded Industrial Machinery Credits in 2015

	2014	2015	2016	2017	2018	2019
Employment of All Companies in Tennessee[39]	2,723,889	2,782,770	2,856,719	2,912,242	2,951,888	3,007,181
Job Growth Rate, Year Over Year	--	2.2%	2.7%	1.9%	1.4%	1.9%
Job Growth Rate, Cumulative from 2014	--	2.2%	4.9%	6.9%	8.4%	10.4%
Employment of Companies Awarded IMC in 2015	292,582	306,262	317,751	324,563	326,707	333,171
Job Growth Rate, Year Over Year		4.7%	3.8%	2.1%	0.7%	2.0%
Job Growth Rate, Cumulative from 2014		4.7%	8.6%	10.9%	11.7%	13.9%
Employment of Companies Not Awarded IMC in 2015	2,431,307	2,476,507	2,538,968	2,587,680	2,625,181	2,674,009
Job Growth Rate, Year Over Year		1.9%	2.5%	1.9%	1.4%	1.9%
Job Growth Rate, Cumulative from 2014		1.9%	4.4%	6.4%	8.0%	10.0%

[39] Source: Quarterly Census of Employment and Wages (QCEW), U.S. Bureau of Labor Statistics

In addition to having higher rates of growth, companies awarded industrial machinery credits provided higher wages than the average business in Tennessee.[40] In evaluating the 1,560 businesses awarded industrial machinery credits in 2015, their wages exceeded the statewide average by 34% to 35% in each year from 2015 to 2019.[41] Their wages exceeded the average of companies not awarded industrial machinery credits by 40% to 42% in each of the five years. Companies awarded industrial machinery credits in 2016, 2017, and 2018 also consistently provided wages above the statewide average (see Figure 45).

Figure 44: Average Annual Wages for All Companies, Companies Awarded Industrial Machinery Credits in 2015, and Companies Not Awarded Industrial Machinery Credits in 2015



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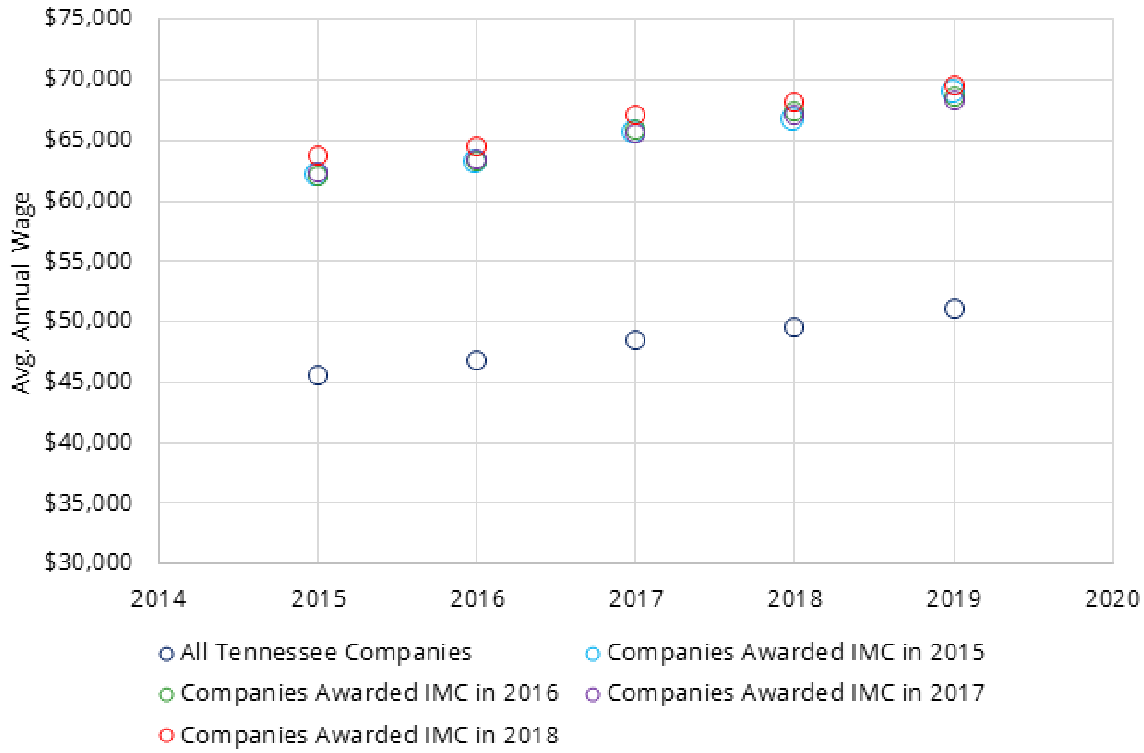
[40] Source for average wage for all Tennessee businesses: Quarterly Census of Employment and Wages (QCEW), U.S. Bureau of Labor Statistics.

[41] Wages are not adjusted for inflation.

Figure 45: Average Annual Wages for All Companies and Companies Awarded Industrial Machinery Credits in 2015, 2016, 2017, and 2018



Sensitivity Analysis

As discussed earlier in Part III of this report, the degree of job creation that is attributable specifically and only to the credit, and the amount of business growth that would have occurred without the presence of the credit, cannot be quantified. Figure 46 provides a range of possibilities.

Employment at the 1,560 companies awarded industrial machinery credits in 2015 increased by 40,600 in the five years to 2019. If the credits had been responsible for 100% of the job growth (none of the growth would have occurred in the absence of the credit), the credit's impact would be 40,600 new jobs over five years. However, it is unlikely that all 1,560 companies in the study based their final decision only on the outcome of the credit. If the credits were responsible for 75% of the growth, the credit's impact would be more than 30,400 new jobs. If the credits were responsible for only 50% or 25% of the realized business growth, the impact would be 20,300 new jobs or 10,150 new jobs, respectively.

The same scenarios are provided in Figure 46 for companies awarded industrial machinery credits in 2016 (which created 33,600 new jobs in the four years from 2015 to 2019), 2017 (which created 27,000 new jobs in the three years from 2016 to 2019), and 2018 (which created 16,600 new jobs in the two years from 2017 to 2019).

Figure 46: New Jobs Attributable to Industrial Machinery Credit: Five Scenarios

Year Awarded IMC	No. Taxpayer Entities	No. Years for which Impacts are Evaluated	Cumulative Net New Jobs through 2019				
			100% of Job Growth	75% of Job Growth	50% of Job Growth	25% of Job Growth	0% of Job Growth
2015	1,558	5 (2014-2019)	40,589	30,442	20,295	10,147	0
2016	1,552	4 (2015-2019)	33,611	25,208	16,805	8,403	0
2017	1,517	3 (2016-2019)	27,056	20,292	13,528	6,764	0
2018	1,411	2 (2017-2019)	16,585	12,438	8,292	4,146	0

Total Economic and Fiscal Impacts and Return on Investment (ROI)

New job creation occurring at companies awarded industrial machinery credits have ripple effects across the state's economy. CERT evaluated the projected economic and fiscal impacts of companies awarded industrial machinery credits in 2015, 2016, 2017, and 2018. The results for companies awarded industrial machinery credits in 2015 are detailed below. The results for all years, 2015 through 2018, are also provided in Figure 51.

Employment at the companies awarded industrial machinery credits in 2015 grew by 40,600 new jobs between 2014 and 2019, with those new jobs providing $9.5 billion in new earnings over five years. This job growth indirectly generates growth at companies in the supplier networks and other industries which support the operations of the 1,560 companies awarded credits (indirect impacts). As employment and worker earnings grow at companies awarded credits and at companies indirectly impacted, additional growth occurs across the state in industries such as retail, real estate, financial services, healthcare, education, personal care services, and leisure and hospitality (induced impacts). This induced growth occurs as employees of the businesses directly and indirectly impacted by the credits experience growth in earnings and demand for new goods and services. The indirect and induced job creation projected to occur over the five years from 2014 to 2019 totals 86,900 new jobs in Tennessee with $16.2 billion in new earnings over the five-year period. Combined with the growth of companies receiving industrial machinery credits, the total projected growth is 127,500 new jobs with $25.7 billion in new earnings over the five years to 2019.

Figure 47: Companies Awarded Industrial Machinery Credits in 2015: Estimated Economic Impacts Over Five Years (2014-2019)

	Direct Impacts	Indirect & Induced Impacts	Total Impacts
New Jobs	40,589	86,909	127,498
New Earnings	9.5B	$16.2B	$25.7B
Economic Output	$41.6B	$52.8B	$94.4B

Companies awarded industrial machinery credits in 2015 are estimated to have generated $94.4 billion in economic output through direct, indirect, and induced economic activity in the state over a five-year time period. The economic output generated includes $41.6 billion in direct activity created by the companies awarded industrial machinery credits after job creation and investment. Economic output is the value of goods and services produced in the state as a result of the company's growth. Economic output can be thought of as the new revenue generated by businesses directly supported by the tax credits and spin-off businesses. In addition, the companies awarded credits generated approximately $41.3 billion in value added,[42] or contribution to gross state product. The value of these goods and services produced occurs across several industries in the state.

The direct, indirect, and induced employment growth occurring across the state generates various taxable sales and purchases, such as purchases made at local businesses through worker spending. Taxable sales include food and general items purchases in Tennessee by workers filling direct, indirect, and induced new jobs. Taxable sales are estimated to have generated $361.8 million in new state sales tax collections in the five years to 2019.

Other fiscal benefits result from the projected economic activity of the companies investing and creating jobs in the state. These projected fiscal benefits include $197.8 million in franchise and excise tax collections and $62.2 million in miscellaneous taxes and user fees. In total, the growth of companies awarded industrial machinery credits in 2015 are estimated to have generated $621.8 million in new state tax revenues during the five-year period. Local benefits, including property taxes generated, are not included in the analysis.

Figure 48: Companies Awarded Industrial Machinery Credits in 2015: Estimated New State Tax Revenues Over Five Years (2014-2019)

	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Sales Tax on Worker Spending	$133.6M	$228.2M	$361.8M
Franchise & Excise Tax	$73.0M	$124.8M	$197.8M
Miscellaneous Taxes and User Fees	$12.8M	$49.3M	$62.2M
Total Revenues	$219.4M	$402.3M	$621.8M

Job creation results in some additional costs for the state, such as costs of providing government services to workers and their families. Costs are also incurred for providing services to indirect and induced workers whose job is supported by companies expanding and creating jobs. These services include transportation and infrastructure, education, law and safety services, health and social services, and other government services. The new costs incurred by the state to provide these services is estimated to be $105.5 million over the five-year period.

[42] Value added is defined as gross output (total value of goods and services produced by an industry) less intermediate inputs (goods and services used up by an industry in the process of producing its gross output). The sum of value added across all industries is equal to gross domestic product for the economy.

The tax benefits generated less additional costs to the state result in an estimated $516.3 million in net benefits for the State of Tennessee over the five-year time period. The estimated cumulative net benefits over five years exceed the $180.3 million in industrial machinery credits awarded in 2015. Based on these estimates and assumptions, CERT projects the cumulative net benefits would meet the value of the credit within 2.42 years—the point at which the state would see a return on its investment.[43]

Figure 49: Companies Awarded Industrial Machinery Credits in 2015: Estimated Net Fiscal Benefits Over Five Years and Return on Investment (2014-2019)

	Total Impacts
Total Revenues	$621.8M
Costs of Providing State Government Services	- $105.5M
Net Benefits	$516.3M
Cost of Credit	$180.3M
Payback Period (Years)	2.42

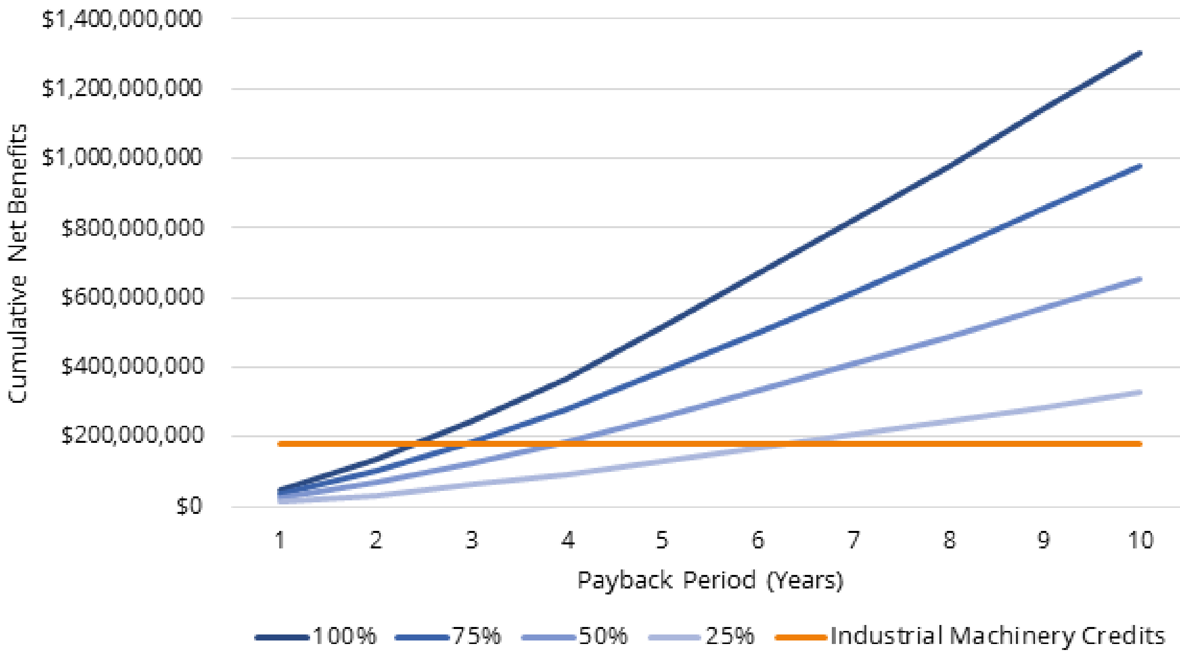
Sensitivity Analysis

For companies awarded industrial machinery credits in 2015, the results identified in Figure 49 project the state would receive a return on its investment through net fiscal benefits in 2.42 years. These estimates do not incorporate assumptions for the share of growth that is attributable specifically to the industrial machinery credits (reflecting the 100% growth scenario).

Taking a sensitivity analysis approach, CERT evaluated different scenarios by applying assumptions regarding the share of realized growth (40,600 direct new jobs over five years) for which the industrial machinery credits are responsible. As the assumptions approach 0% impact, the time horizon at which the state will receive a return on its investment lengthens. Under the assumption that 75% of the growth (30,500 new jobs) was attributable to the credit, the cumulative net benefits would surpass the cost of the incentive after 2.96 years. If the credits were only responsible for 50% of the growth (20,300 new jobs), the time horizon at which the state will receive a return on its investment lengthens to 3.94 years. Were the credit to be responsible for 25% of the growth (10,150 new jobs), the payback period lengthens further to 6.35 years. Under the assumption that 0% of the growth realized can be attributable to the credit, the state will never see a return.

[43] This analysis assumes the full amount of the credit award will be claimed in the year the credit is awarded. This analysis does not incorporate an assumption for the amount of credit that will be claimed, though as described in the "Setting the Context" section of this report, the amount of credit claimed (or realized cost to the state) is generally less. Such assumption would presumably reduce the number of years in which the State of Tennessee would see a return on its investment. For this reason, the payback period can be considered a conservative estimate.

Figure 50: Estimated Cumulative Net Benefits Based on Percentage of Employment Growth Attributable to Industrial Machinery Credits



Industrial Machinery Credits Awarded in 2016, 2017, and 2018

The total projected impacts for companies awarded industrial machinery credits in 2015 (including direct, indirect, and induced impacts) are provided in Figure 51. CERT repeated this evaluation for the cohorts of companies awarded industrial machinery credits in 2016, 2017, and 2018, also provided in Figure 51.

Because there are fewer years of data to evaluate the impacts on job growth, the results for the cohorts of businesses awarded credits in 2016, 2017, and 2018 are predictably lower.[44] For example, employment at companies awarded industrial machinery credits in 2018 increased by 16,600 jobs in the two years of 2017 to 2019[45] and supported the creation of another projected 26,700 indirect and induced jobs through the multiplier effect (43,300 total new jobs, reported in Figure 51). Had employment data been available for years three, four, and five (2020-2022), the estimate for new jobs would presumably be much greater.

The results fluctuate across the four cohorts of companies for additional reasons as well. For this analysis CERT evaluated the industry, average wage, and change in employment for each company awarded industrial machinery credits. Differences in these variables across the companies evaluated result in variance from year to year. For all four groups of companies, the state is projected to receive a return on its investment in 2.42 to 2.90 years.

[44] See the "Methodology and Key Analysis Components" section of this report for more information.
[45] See Figure 46

Figure 51: Total Estimated Impacts Over Five Years for Companies Awarded Industrial Machinery Credits in 2015, 2016, 2017, and 2018 (Direct, Indirect, and Induced Impacts)

	Year Awarded Industrial Machinery Credits			
	2015	2016	2017	2018
Number of Years for which Job Growth is Evaluated	5 (2014-2019)	4 (2015-2019)	3 (2016-2019)	2 (2017-2019)
Economic Impacts (Direct, Indirect, and Induced) Over Five Years				
New Jobs	127,498	100,111	84,432	43,269
New Earnings	$25.7B	$21.4B	$21.6B	$12.2B
Economic Output	$94.4B	$79.2B	$79.2B	$38.9B
Value Added	$41.3B	$35.3B	$34.1B	$18.7B
Fiscal Impacts (Direct, Indirect, and Induced) Over Five Years				
Total Revenues	$621.8M	$520.0M	$520.4M	$295.8M
Sales Tax on Worker Spending	$361.8M	$301.2M	$304.8M	$171.7M
Franchise & Excise Tax	$197.8M	$164.7M	$166.6M	$93.9M
Miscellaneous Taxes and User Fees	$62.2M	$54.1M	$49.0M	$30.2M
Costs of Providing State Government Services	- $105.5M	- $91.7M	- $83.1M	$51.2M
Net Benefits	$516.3M	$428.3M	$437.3M	$244.6M
Return on Investment				
Cost of Credit	$180.3M	$189.9M	$189.3M	$121.0M
Payback Period (Years)	2.42	2.90	2.63	2.83

PART IV: RECOMMENDATIONS AND CONCLUSION

The evaluation provides results on each type of business tax credit that can be leveraged to ensure the credits are having meaningful effects that support their original intent. In alignment with the recommendations provided in the last evaluation of 2016, TDOR began issuing a new annual report of tax credits claimed under Tenn. Code Ann. §§ 67-4-2009 and 67-4-2109.[46] This report was required beginning in 2017 and was among several improvements the state has made in recent years to enhance the transparency and effectiveness of business incentives.

Pursuant to Tenn. Code Ann. § 67-1-118, this report must include a recommendation to modify, discontinue, or take no action with respect to each credit. The report offers the following recommendations on three types of credits and recommends no action be taken at this time with respect to the remainder of business tax credits. These recommendations are intended to generate increased economic opportunities in the state, in line with the intent of the respective credits, while maintaining fiscal responsibility.

(1) Continue to assess the headquarters sales tax credit as the state emerges from the effects of the COVID-19 pandemic.

Headquarters operations are a priority industry sector for ECD. They have a significant impact on Tennessee's economy in the form of high-quality jobs, wages, economic output, and community outreach and impact. Companies locating a headquarters facility in Tennessee may also increase the presence of their other business segments in Tennessee (such as R&D, distribution and logistics, or manufacturing).

Historically, this credit has served as an attractive "conversation starter" between the state and companies considering Tennessee for their headquarters operations. Many companies however decide not to pursue this credit for a variety of reasons. With only 14 companies utilizing the credit during the four-year evaluation period, this report recommends further assessment to determine if alterations would better align the statute to future business needs.

Many companies are re-evaluating their office footprint, how they define office space, and alternative workspace solutions for employees. The coronavirus pandemic has accelerated these considerations and decisions in nearly every sector of the economy as companies pivot to maintain operations while ensuring the safety of their workforce and customers. ECD and TDOR should consider whether modifications to the credit are necessary to align with this changing corporate environment.

Specifically, the agencies should consider whether modifications are necessary to align with alternative workplace solutions for employees of headquarters facilities. The current credit requires that full-time headquarters staff employees be located and employed at the headquarters facility. The credit also applies only to tangible personal property directly related to the creation of new jobs and exclusively used in the headquarters facility.

[46] Pursuant to Public Chapter 251 (2017) and Tenn. Code Ann. § 67-4-2109(r).

Requirements related to the headquarters facility itself should also be evaluated for potential modifications. Before the pandemic, many businesses were choosing to lease office space rather than own real estate. With reduced needs for building construction and improvements, this decision can sometimes lower the company's total capital investments associated with the project, making the credit's investment threshold more difficult to achieve. Post-pandemic, a re-evaluation of real estate needs may also contribute to existing or future headquarters facilities being down-sized, even if the job creation level remains the same. Under current law, a qualified headquarters facility must continue to be used as a headquarters for at least 10 years from the end of the six-year investment period. Businesses may now see this requirement more difficult to achieve. Additionally, existing headquarters considering relocations could be required to repay any claimed credits with interest if this requirement is not met.

(2) Build a cross-agency partnership to assess the need for modifications to the Job Tax Credit for Hiring Persons with Disabilities.

The results of this study show fewer than 10 companies took advantage of the Job Tax Credit for Hiring Persons with Disabilities in each of the four years evaluated. While few taxpayers have claimed the credit, further study and taxpayer education might lead to increased usage of this credit.

The report recommends that ECD and TDOR partner with other state agencies to understand factors contributing to low credit usage and to explore efforts that might improve the credit's impact. Agencies to engage might include the Tennessee Department of Human Services (DHS), the Tennessee Department of Intellectual and Developmental Disabilities (DIDD), the Tennessee Department of Finance and Administration (F&A), and the Tennessee Department of Human Resources (DOHR).

Areas for the partnership to focus might include whether features of the credit prevent its usage, whether greater taxpayer education might lead to increased opportunity, or whether diverting the funds to other efforts might be more impactful to improving job opportunities for disabled Tennesseans. To the extent that low awareness is a contributing factor, this state agency partnership could develop new promotional and engagement strategies for businesses unfamiliar with the credit leading to additional job opportunities for Tennesseans with disabilities.

(3) Consider modifications that might make the Community Resurgence Job Tax Credit more attainable for business.

The Community Resurgence Job Tax Credit became effective in July 2015, with the first credits claimed in 2017 and 2018. With fewer than 10 companies claiming the credit between 2017 and 2018, this report recommends further study of company capacity to meet the eligibility requirements. The thresholds related to wage and poverty may be difficult for companies operating in high poverty areas. Further evaluation may provide solutions to increase the credit's effectiveness. It is important that any modifications continue to promote the creation of high-quality jobs in impoverished areas of the state. With the credit being relatively new, detailed recommendations may develop in future years with additional study.

METHODOLOGY AND KEY ANALYSIS COMPONENTS

The Tennessee Department of Economic & Community Development (ECD) and the Tennessee Department of Revenue (TDOR) conducted this joint evaluation of business tax credits in Tennessee.

This report constitutes the second statutorily required report to be produced by ECD and TDOR since passage of Tenn. Code Ann. § 67-1-118. For the first report,[47] completed in December 2016, the agencies contracted with Anderson Economic Group, LLC (AEG). Due to the highly sensitive nature of taxpayer and employment records, the two agencies made the decision to conduct the second evaluation internally so the methodology could take a more granular approach in analyzing taxpayers and their employment trends.[48] Though different in approach, evaluators for this report used AEG's previously commissioned report, as well as reports on incentive evaluations conducted in other states in combination with recommendations by The PEW Charitable Trusts,[49] as guides to ensure the evaluation incorporated appropriate and best-practice components of incentive evaluation.

The evaluation was conducted using data on tax credits awarded and claimed from TDOR, employment and industry data from the Tennessee Department of Labor & Workforce Development (TDLWD),[50] as well as ECD data regarding company expansions, new locations and other growth plans.

The Strategic Technology Solutions (STS) division within the Tennessee Department of Finance and Administration provided a data warehouse to store the data for the purposes of the analysis, accessible to approved researchers within the authoring agencies. Confidentiality agreements were signed between the agencies to protect the confidentiality of the data.

By conducting the evaluation through a cross-agency collaborative initiative, and by using internal agency resources, the evaluation's methodology has many strengths. There are also some limitations that are inherent to the nature of data available and other factors, described herein. These limitations do not invalidate the results or recommendations of the study but suggest

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[47] *The Economic Impact of Business Tax Credits in Tennessee* (December 2016), Anderson Economic Group, LLC - https://www.tn.gov/content/dam/tn/transparenttn/documents/Tax_Credit_Analysis_FINAL_12-30-2016.pdf
[48] This study is conducted using firm-level data, where the credits claimed, awarded, and resulting impacts to employment are evaluated using individual taxpayer and employer data. Due to confidentiality and data protection restrictions, AEG was unable to study firm-level data for the first evaluation. Rather, AEG evaluated the sum value of credits awarded to and claimed by companies at an aggregate industry level, and evaluated the resulting impacts to employment at an aggregated industry level.
[49] CERT leveraged recommendations and knowledge gained from several resources to develop the methodology implemented in this report, including conversations with and recommendations from The PEW Charitable Trusts, a cross-state roundtable on incentive evaluations hosted by The PEW Charitable Trusts, conversations with evaluators in other states, and review of other states' tax incentive evaluations made available through the National Conference of State Legislators (NCSL) website.
[50] Quarterly Census of Employment and Wages (QCEW) Program, WIRED, TDLWD

important caveats to consider. The methodology, including its strengths and limitations, are identified below.

Crosswalk of Firm-Level Data: To prepare the data for evaluation, ECD and TDOR assembled a crosswalk to match business records across the datasets maintained by ECD, TDOR, and TDLWD. The agencies spent months perfecting this framework which for a given taxpayer entity connects data on the credits claimed (fiscal years 2015 through 2018), credits awarded (fiscal years 2015 through 2018), employment history and industry data (calendar years 2014 Q1 through 2019 Q3), and ECD project activity (calendar years 2011 through 2018).

Ultimately, ECD and TDOR were able to match 92.6% of 2,684 taxpayer entities awarded or claiming credits between 2015 and 2018 to employment records maintained by TDLWD. For these entities, researchers analyzed the industry, industry cluster, size (by employment), and other characteristics of companies claiming credits. The evaluators also analyzed the employment trends of these entities which were awarded business tax credits and the total economic and fiscal impacts of their identified growth.

To prepare the crosswalk, researchers cross-referenced several variables including FEIN, address, and business name to match business records. The process of joining data from TDOR, TDLWD, and ECD was complicated by differences in data reporting between the departments. The complex and changing nature of company structures further complicated data matching. Evaluators for this study addressed these complications through the following approaches:

- *Taxpayer Entities*: To viably match data apples-to-apples across three record systems, and for the purposes of evaluation only, some taxpayer entities include multiple taxpayer accounts. Similarly, some taxpayer entities are matched to more than one employer account in the data from TDLWD. With the complex and changing nature of some company structures, researchers' ability to match records through close scrutiny of the data was a key component of this methodology.

- *Location Specificity*: There is variance in the geographical and location-specific nature of company records in the TDOR, TDLWD, and ECD data. These variances result from the different nature of data being tracked by each agency. For this evaluation, all data were analyzed to more appropriately track credits, employment, and project activity at a location-specific level for some companies, or alternatively at a statewide operations level for other companies. Evaluators balanced the following factors:

    - In the TDOR tax credit data available for this evaluation, the data are reported at a taxpayer level and in many cases are associated with a headquarters or other main location which does not necessarily coincide with the location where the qualifying job creation, investment, or other activity occurred.

    - In the employment data provided by TDLWD, employment for each company is available by location and can also be aggregated to capture a company's total employment statewide. As evaluators worked to match employer and taxpayer records, this data structure provided flexibility to researchers to apply statewide employment levels for taxpayer entities where the location(s) awarded the credits was unclear or where the qualifying activities occurred at multiple facilities, and to apply location-specific employment levels for taxpayer entities where the credits were attributable to specific and identifiable location(s).

- The ECD project data are specific to the Tennessee location or facility where the company's expansion or other growth activity occurred. Pairing ECD data on company growth plans with tax credit and employment data provided additional insight for identifying company location(s) receiving tax credits, thereby improving the crosswalk of employer records.

- *Industry*: For this evaluation, each taxpayer entity was categorized into one industry, using the North American Industry Classification System (NAICS). While businesses may associate with multiple NAICS codes across their establishments, each entity was assigned one six-digit NAICS code for the purposes of this study. The following logic were applied to determine the most appropriate NAICS for each taxpayer entity:
    - Evaluators applied the NAICS code assigned to the matching employer account in TDLWD data. For taxpayer entities matched to multiple TDLWD employer accounts, the account with the highest employment in 2019 Q3 was used (the most recent quarter of TDLWD data available for this study).
    - For any taxpayer entity having ECD project activity, the NAICS code assigned by ECD was applied, regardless of the NAICS reported through the TDLWD data. This logic was implemented because of the smaller dataset and resulting greater level of scrutiny that ECD has over the industry NAICS code categorizations for Tennessee's new and expanding companies.

Economic and Fiscal Impact Analysis: Evaluators studied the employment growth and wages of companies awarded job tax and industrial machinery credits in 2015, 2016, 2017, and 2018. Specifically, using TDLWD data CERT evaluated a company's change in employment in years one, two, three, four and five[51] after being awarded a credit. The change in employment was measured from a given company's employment level in the year preceding the credit award. The growth

[51] For companies awarded tax credits in 2015, CERT was able to analyze direct job growth during years one through five (2015-2019). For companies awarded credits in 2016, employment data was only available for years one through four (2016-2019). For companies awarded credits in 2017, employment data was only available for years one through three (2017-2019). For companies awarded credits in 2018, employment data was only available for years one and two (2018-2019). As such, the results for number of jobs created over five years is incrementally lower for companies awarded credits in 2016, 2017, and 2018. CERT did not attempt to estimate direct job creation for those years where data were unavailable. Still, CERT was able to report on other impacts over a five-year period, including cumulative annual earnings, economic output, value added, and fiscal impacts based on job growth occurring in prior years.

identified through this method is reported as a company's direct employment impact. The earnings[52] associated with these new positions are reported as the direct impact in earnings.

Growth among companies claiming business tax credits has a ripple effect on the Tennessee economy. To further measure indirect and induced impacts of the growth occurring at companies awarded credits, CERT used an economic and fiscal impact analysis model. The model was developed for ECD by economic consulting firm Impact DataSource, LLC, and is customized to the State of Tennessee. To estimate impacts, the model applies Regional Input Output Modeling System (RIMS II) multipliers[53] and other assumptions to project direct, indirect, and induced impacts to the Tennessee economy and state revenues. Key model inputs include the industry, average wage, change in employment, and the credit award amount for each entity awarded credits.

The economic impacts provided include projected new jobs, new earnings, economic output, and value added (or contribution to state domestic product) over five years from the time the credit was awarded. Fiscal impacts provided include projected new state tax revenues, new costs for providing state government services, and net fiscal benefits over five years from the time the credit was awarded. Estimated new state tax revenues include projected collections from sales taxes on worker spending, franchise and excise taxes, and miscellaneous taxes and user fees.[54] Estimated new costs include projected state costs for providing transportation and infrastructure, education, law and safety services, health and social services, and other government services. Based on these projections CERT estimates the number of years it will take for the state to receive a return on its investment, or the number of years before the fiscal net benefits amount to the cost of the credits awarded.

This analysis assumes the full amount of the credit award will be claimed in the year the credit is awarded. In reality, companies have up to 15 years to claim most types of business tax credits. The time at which companies claim credits is when the cost to the state is incurred. Historical data demonstrates the value of credits awarded generally exceed the value of credits claimed, as described in the "Setting the Context" section of this report. This analysis does not incorporate an assumption for the amount of credit that will be claimed. Such assumption would presumably reduce the time period in which the State of Tennessee would see a return on its investment. For this reason, the estimated number of years in which the state would receive a return can be considered a conservative estimate.

A limitation inherent to economic and fiscal impact modeling is that the results are only estimates, not actual results realized.

__Sensitivity Analysis__: A key limitation of incentive evaluations lies in establishing the degree to which incentives influence company decisions. The amount of growth that was directly attributable to tax

[52] Estimated based on the average wage for companies awarded credits in the year the credit was awarded.
[53] The RIMS II multipliers incorporated from the U.S. Bureau of Economic Analysis (BEA) are specific to the industries of companies awarded credits and specific to the State of Tennessee.
[54] Miscellaneous taxes and user fees are generated by employees of the companies claiming credits (direct impacts) and employees of the indirect and induced businesses (indirect and induced impacts).

credits and would not have occurred without (or 'but for') the credits cannot be established or verified with any certainty. Rather than making assumptions about business behavior, this study implements a sensitivity analysis to estimate a range of possible outcomes. At the most optimistic end of the range, CERT evaluated each credit's impact with the assumption that none of the growth would have occurred without the presence of the credit, or the tax incentives were responsible for 100% of the growth realized. CERT then evaluated the credit's impact in scenarios where incentives were assumed responsible for 75%, 50% and 25% of the growth. The true share falls somewhere between 0% and 100%, though the exact share is unknown and cannot be definitively quantified with accuracy. A greater discussion of the dynamic factors at play in business investment decisions, and the role of incentives in influencing business decisions, can be found in Part III of this report.

Causation: A limitation of this evaluation is that it does not identify a causal relationship between business tax incentives and subsequent business growth. The report does not imply causation, but rather provides observations on outcomes and relationships present in the data evaluated.

Opportunity Costs and Alternative Uses of Funding: The projected impacts outlined in this study do not account for the opportunity costs of tax credits or compare the benefits of tax credits relative to the benefits of other potential applications or allocations of the funds. This is a limitation of the study. Each public dollar allocated to business tax incentives may have been otherwise allocated to another program or initiative, which may have also resulted in positive impacts for Tennessee. This evaluation does not attempt to compare the net benefits of business tax credits to the net benefits of alternative uses of funding.

Data Suppression: Where fewer than 10 taxpayers were awarded or claimed a credit, the number of entities are not disclosed in the results of this paper. This data suppression is applied to protect the confidentiality of taxpayers. The aggregate value of credits awarded and/or claimed by this small number of firms is provided nevertheless.

APPENDIX A: CREDITS AVAILABLE IN COMPETITIVE STATES

Tennessee consistently competes with several states for economic development projects, including Alabama, California, Georgia, Kentucky, Michigan, Mississippi, North Carolina, South Carolina, and Texas. Information on tax incentives available for industrial machinery, job creation and headquarters operations in these competitor states is included in the tables below.

Competing States: Industrial Machinery Tax Incentives

State	Incentive	Description
Alabama	Sales and use Tax Incentives	Alabama assigns a lower tax rate to manufacturers (1.5%) than the general state sales tax rate (4.0%). Raw materials used in manufacturing and pollution control equipment are exempted from this tax.
California	Manufacturing and Research & Development Equipment Exemption	California allows manufacturers and companies engaged in research and development to claim a partial sales and use tax exemption on purchases and leases. The exemption rate is 3.9375%
Georgia	Clean Room Equipment Sales and Use Tax Exemption	Machinery and equipment used for construction or operation of a clean room are exempt from sales and use taxes
	Energy Used in Manufacturing Sales and Use Tax Exemption	Georgia allows exemptions for the sale, use, consumption, and storage of energy
	Investment Tax Credit	Investment in general equipment for manufacturing earns tax credits between 1% and 5% Credits can offset up to 50% of corporate income tax liability, with excess credits able to be carried forward 10 years
	Manufacturing Machinery and Equipment Sales and Use Tax Exemptions	Georgia offers a sales tax exemption for industrial machinery used in manufacturing facilities. Repair of this equipment is also exempted.
	Primary Material Handling Equipment Sales and Tax Exemption	Machinery and equipment used for material moving or transportation is exempt.
Kentucky	Reinvestment Act	• Tax credits for manufacturing companies that commit to invest in equipment and related purchases of at least $2.5 million (and maintaining 85% of pre-project employment at the location) • Credits are available up to 100% of the corporate income tax liability • Unused credits expire at the end of the investment period

State	Incentive	Description
Michigan	Industrial Property Tax Abatement	Michigan provides abatements on industrial property taxes for industrial manufacturers, R&D facilities, and certain warehouse and distribution facilities. The abatement applies to buildings and equipment purchases for these facilities.
	Property Tax Exemption for Special Tooling	Michigan exempts all special tooling (e.g., dies, jigs, fixtures, molds) from property taxes.
	State Essential Services Assessment Exemption and Alternative State Essential Services Incentive Programs	• Projects that might be eligible for property tax exemptions are manufacturing projects located in eligible distressed areas that result in $25 million or more in qualifying manufacturing personal property • Projects outside of distressed areas might also be approved for this exemption, subject to the state's approval
Mississippi	Manufacturing Exemptions	Sales of machinery or tools or repair parts, fuel or supplies used directly in manufacturing are exempted from sales tax in Mississippi.
	Manufacturing Investment Tax Credit	• Existing manufacturers that have operated in Mississippi for two or more years may be eligible for investment tax credits that can be applied to their state income tax liability. • The credit is calculated as 5 percent of the eligible project investment and is allowed for the year that the investment occurs. The tax credit allowed on any project cannot exceed $1,000,000. • Credits can be used to offset up to 50 percent of the business's income tax liability after all other credits have been taken, and unused investment tax credits can be carried forward up to five years.
North Carolina	Manufacturing Exemptions	Sales and use tax is waived, refunded or discounted for qualifying business activities, including repairs to industrial machinery or service contracts for mill machinery.
South Carolina	Machines Used in Manufacturing Sales Tax Exemption	Machines used in manufacturing, recycling, compounding, mining, or quarrying are exempt from sales tax, as are repairs of these machines.
	Economic Impact Zone Investment Credit	A credit equal to up to 5% of a company's investment in new production equipment is available to manufacturers in South Carolina.
	Material Handling Systems and Equipment Sales Tax Exemption	South Carolina allows for a sales tax exemption on equipment used in the operation of manufacturing and distribution facilities. Repair of these machines are also exempt.
	Research and Development Machinery Sales Tax Exemption	Machinery used for research and development (specifically laboratory and experimental research) are exempted from the sales tax.

State	Incentive	Description
	Special Investment Credit for Rubber and Plastics Manufacturers	• Companies in the rubber and plastics manufacturing industries can claim a special investment tax credit on qualifying manufacturing and productive equipment, applicable up to 50% of the corporate income tax liability. • Unused credit can be carried forward for up to 10 years.
Texas	Manufacturing Exemptions	Texas allows for an exemption on sales and use tax for manufacturing equipment and raw materials or components used to manufacture personal property.

Competing States: Job Tax Incentives

<table>
<tr><th>State</th><th>Incentive</th><th>Description</th></tr>
<tr><td rowspan="5">Alabama</td><td>Alabama Jobs Act</td><td>Job credit equal to up to 3% of previous year's annual wages for eligible employees
For qualifying projects in rural counties, the allowable credit increases to 4%.</td></tr>
<tr><td>Full Employment Act of 2011</td><td>$1,000 for each new job created by small businesses in Alabama</td></tr>
<tr><td>Small Business and Agribusiness Jobs Tax Credit</td><td>One-time income tax credit to qualifying small businesses that create new jobs paying more than $40,000 annually</td></tr>
<tr><td>Veterans Employer Act Business Start-up Expense Credit</td><td>Tax credit for each unemployed or combat veteran hired for full-time work for at least $14/hr</td></tr>
<tr><td>Veterans Employer Act Business Start-up Expense Credit</td><td>$2,000 nonrefundable credit for a start-up business in which a recently unemployed veteran holds at least a 50% stake</td></tr>
<tr><td>California</td><td>New Employment Credit</td><td>Employers can claim the credit for new, full-time hires at locations within a designated geographic area (DGA). This credit replaced the Enterprise Zone hiring credit.
Maximum allowance is $56,000 over five years per employee.
The NEC is available for taxable years beginning on or after January 1, 2014, and before January 1, 2026.</td></tr>
<tr><td>Georgia</td><td>Job Tax Credit</td><td>Job tax credit for any business or headquarters of any such business engaged in manufacturing, warehousing and distribution, processing, telecommunications, tourism, or research and development industries, but does not include retail businesses
The allowable credits for each full-time hire are:
<table><tr><td>Tier 1</td><td>$3,500 per net new job</td></tr><tr><td>Tier 2</td><td>$2,500/job</td></tr><tr><td>Tier 3</td><td>$1,250/job</td></tr><tr><td>Tier 4</td><td>$750/job</td></tr></table></td></tr>
</table>

State	Incentive	Description
		Less Developed Census Tract: $3,500/job Designated Opportunity/Military Zone: $3,500/job
	Mega Project Tax Credit	• Job creation tax credit applied to companies' state payroll withholding liability and corporate income tax • $5,250 per year for the first five years of the qualifying job • 10 year carry forward • Maximum of 4,500 net new jobs created by a project
	Military Zone Job Tax Credit Program	• Credit for projects located in a census tract adjacent to a military zone or a tract with pervasive poverty above 15% the state rate • $3,500 per job • Claimable by all types of businesses
	Opportunity Zone Tax Credit	• Tax credit for job creation in distressed parts of Georgia • $3,500 per eligible new job for five consecutive years • 10 year carry forward
	Quality Jobs Tax Credit	• Tax credit for high-quality job creation (110% of the county average) • Between $2,500 - $5,000 per year for seven years • Another seven-year cycle can be applied for companies that (1) create at least 50 net new qualifying jobs at the end of the first seven-year period, (2) commit to an additional $2.5 million investment during the project • The credit can be applied against 100% of the corporate income tax liability • 10 year carry forward
Kentucky	Unemployment Tax Credit	• $100 per eligible hire applied against income tax liability • Hires have been unemployed for more than 60 days and remain on the payroll for at least 180 days
Michigan	New Jobs Training Program	This program, which functions as an economic development incentive, authorizes community colleges to enter into agreements with employers that pledge to create net new jobs with full-time wages 175% above the state's minimum wage
Mississippi	Advanced Jobs Program	• Designed to encourage businesses creating new, high-quality jobs to locate or expand in Mississippi, the Advantage Jobs Program provides a cash rebate to eligible businesses that create new jobs that meet or exceed the average annual wage of the state or the county in which the company locates. • The credit is equal to up to 90% of income tax withheld for new employees, but no more than 4% of new employees' salaries. • Eligible businesses must create at least 25 new jobs and pay wages at least 110% above the average county or state rate. Data or information processing centers must create at least 200 new jobs and pay 100 percent of average wages.

State	Incentive	Description
	Jobs Tax Credit	• Companies must elect to utilize a job training grant before creating any eligible jobs, and a company must choose between the Jobs Tax Credit or the job training grant option. • Credits are calculated as a percentage of eligible payroll each year for five years. The credits are taken in years two through six after the new jobs are created. Credits can be used to offset up to fifty percent of income tax liability and can be carried forward up to five years. • Grants may cover 75 percent of the costs of training or retraining employees, not to exceed $1,000 per job in Tier I counties, $1,500 per job in Tier II counties and $2,000 per job in Tier III counties.
South Carolina	Traditional Annual Job Tax Credit	• Companies can apply for a tax credit against its income tax, bank tax, or insurance premium tax. • The amount for each new job is $1,500 to $8,000 depending on where the taxpayer is located. • The credit is available for five years. • Qualifying companies can only claim this credit, the annual small business tax credit, or the accelerated small business tax credit in the same fiscal year. • An additional $10,000 credit is available for projects located in a multi-county industrial park or involve a voluntary cleanup contract.
Texas	Enterprise Zone Program	This program incentivizes job creation and investment in the state by creating a state sales and use tax fund for expenditures made during the project period. To qualify, companies must retain full-time employees through the length of the project, or three years after the refund is received.

Competing States: Headquarters Tax Incentives

State	Incentive	Description
Kentucky	Business Investment Program	• Income tax credits to qualifying businesses, including new and existing headquarters that invest at least $100,000 and create at least 10 new full-time jobs • Credits are allowable up to 100% of the income tax liability • Employers receive credits up to 5% of each new employee's annual wages
Mississippi	National or Regional Headquarters Tax Credit	• Credit for the reduction of state income tax liability equal to between $500 and $2,000 per eligible position. • This credit is used to encourage the establishment of a headquarters in Mississippi with the addition of executive officers and other high-level employees in the state • Existing headquarters operations may also qualify for this credit with additional jobs added at their state headquarters.

State	Incentive	Description
	National or Regional Headquarters Sales Tax Exemption	• A sales and use tax exemption is available for eligible businesses that create or transfer their national or regional headquarters to the state. • A minimum of 20 new headquarters jobs must be created at the location in order for a business to qualify for this exemption. • The exemption is available from the beginning of the location or expansion project until three months after the start-up of the new or expanded facility.
South Carolina	Corporate Headquarter Credit	• Companies that establish a corporate headquarters in South Carolina can claim a credit against corporate income tax, corporate license fees, or bank taxes equal to 20% of the project costs • This credit can also be claimed by companies expanding its existing headquarters • Eligible companies pledge to create at least 40 new jobs and invest $50,000 or more • Carry forward is 10 years • The carry forward is extended to 15 years for companies that create at least 75 new, full-time headquarters positions

<u>Sources for Appendix A:</u>

Alabama: Alabama Department of Revenue

California: California Department of Tax and Fee Administration, State of California Franchise Tax Board

Georgia: Georgia Department of Economic Development, Georgia Department of Community Affairs

Kentucky: Kentucky Cabinet for Economic Development, Kentucky Department of Revenue

Michigan: Michigan Economic Development Corporation, Michigan Department of Treasury

Mississippi: Mississippi Department of Revenue and Mississippi Development Authority

North Carolina: North Carolina Department of Revenue

South Carolina: South Carolina Department of Commerce, South Carolina Department of Revenue

Texas: Texas Comptroller, Texas Department of Economic Development