



## **Evaluation of Tennessee's Business Tax Credits (2019-2022)**

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

In recent decades, the competition for business recruitment and retention has grown more intense nationwide. States are constantly developing and enhancing economic development incentives to foster a business-friendly climate. With support from the legislature, the Governor's Office is committed to positioning Tennessee as the leading state in the Southeast for high-quality jobs. Economic development incentives are crucial to Tennessee's success in attracting, supporting, and retaining businesses across all regions of the state.

The recruitment and growth of businesses have a positive impact on the economy and public finances of Tennessee's communities. These businesses contribute by creating jobs, providing wages for workers, generating economic output, and increasing state revenues. Since 2014, Tennessee has worked to assess the effectiveness of business incentives. Lawmakers and state leaders have acknowledged the need to evaluate the impact of business tax credits and explore potential improvements to boost Tennessee's competitiveness compared to other states.

Tennessee's strategic evaluation of its business tax incentives began when the state was selected in 2014 by The PEW Charitable Trusts and the Center for Regional Economic Competitiveness (CREC) to participate in a seven-state review of business incentives and policies. This participation led to significant improvements, such as the elimination of ten unnecessary credits in 2015, new provisions to make Research and Development (R&D) equipment and back office positions eligible for tax incentives, enhancing the state's ability to attract businesses in those sectors, the introduction of a new transparency database for economic development grants,<sup>1</sup> and the creation of a systematic process for assessing Tennessee's tax incentives. Additionally, in 2015, the state legislature mandated the Tennessee Department of Economic & Community Development (ECD), in consultation with the Tennessee Department of Revenue (TDOR), to review the state's business tax credits every four years, as outlined in Tenn. Code Ann. §§ 67-4-2009, 67-4-2109, and 67-6-224.<sup>2</sup>

A periodic review of the state's incentives programs ensures the state stays ahead of the curve on new trends in an evolving economic development landscape. 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 Tennessee Department of Revenue. The Tennessee Department of Labor and 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. **Part II** summarizes the tax credits claimed by

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<sup>1</sup> <https://www.tn.gov/transparenttn/state-financial-overview/open-eed.html>

<sup>2</sup> Tennessee House Bill No. 291, Senate Bill No. 322, as enacted in Public Chapter 504 (2015).

businesses from 2019 to 2022.<sup>3</sup> 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.

This report covers tax incentives from 2019 to 2022. As such, the data collected in 2020 reflects the COVID-19 pandemic's impact on employment, business activity, and tax credit usage across the state. Beginning in March 2020, businesses faced unprecedented challenges, which are evident throughout this analysis in employment trends, wage growth, and the number of companies awarded and claiming tax credits. Employment levels dropped sharply due to restrictions and adverse economic conditions, while supply chain disruptions created ripple effects that persisted for years. Notably, the manufacturing sector experienced a prolonged decline, with employment numbers remaining below pre-pandemic levels for 20 months, from March 2020 to November 2021. Pre-pandemic levels were only recovered in December 2021.<sup>4</sup>

The pandemic's impact is further reflected in employment statistics and tax credit activity. Tennessee experienced a 1.8% drop in employment between 2019 and 2020, with 2020 employment levels failing to match those of 2019. Although some recovery began in 2021, employment numbers still lagged behind pre-pandemic figures. The effects also extended to tax credits, as the total credits awarded in 2021 fell to \$359 million, a \$24 million decrease compared to 2020 and a \$10 million decrease to 2019. These figures highlight the enduring economic strain caused by the pandemic and provide critical context for interpreting the data in this report.

Furthermore, the COVID-19 pandemic caused significant supply chain disruptions that deeply impacted manufacturing in Tennessee, with challenges such as factory shutdowns, labor shortages, and severe transportation bottlenecks, including port congestion and a shortage of shipping containers.<sup>5</sup> These disruptions delayed the delivery of critical materials and components, hindering production timelines in the manufacturing sector, which is vital to the state's economy.

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

<sup>4</sup> Bureau of Labor Statistics. "Quarterly Census of Employment and Wages (QCEW)." U.S. Department of Labor. <https://www.bls.gov/cew/data.htm>.

<sup>5</sup> Anshu Siripurapu, "What Happened to Supply Chains in 2021?" Council on Foreign Relations, December 13, 2021, <https://www.cfr.org/article/what-happened-supply-chains-2021>.

## HIGHLIGHTS

- From 2019 to 2022, Tennessee businesses claimed an average of \$236.5 million in business tax credits each year, totaling \$946 million in credits claimed across all four years.
- Approximately 2,600 firms claimed business tax credits over the four-year period.
- 76% of the claimed credits were either job tax or industrial machinery credits.
- Average annual employment at companies claiming business tax credits during the four years of 2019 to 2022 grew from 420,000 in 2018 to over 454,200 people in 2023 (8.2% rate of job growth over five years).
- Manufacturing was the largest industry sector by credits claimed over the four-year period, accounting for nearly 60% of all credits claimed. Compared to the previous evaluation (2014 to 2018), there was an approximate 10% decrease in the share of manufacturing industries claiming tax credits.
- Companies with ECD projects claimed \$437.4 million (46%) of all business tax credits claimed during the four-year period evaluated.
- Sixty-eight percent of ECD Projects that claimed credits were in ECD target industry clusters.
- The growth of companies receiving job tax credits outpaced that of the average Tennessee business. The average job growth rate for all Tennessee companies during 2019 was 1.9%, compared to 6.7% growth among companies awarded job tax credits in 2019. While there was employment growth for companies awarded job credits, the COVID pandemic did impact the levels of job growth.
- Companies awarded job tax and industrial machinery credits provided higher wages than the average business in Tennessee. The 2019 average wage for all Tennessee companies was \$51,114, compared to \$61,994 for companies awarded job tax credits in 2019 (21% higher) and \$60,245 for companies awarded industrial machinery credits in 2019 (18% higher). Wages for companies awarded one of these credits continued to exceed the statewide average wage in 2020 through 2023.
- Approximately 180 businesses were awarded \$153.7 million in job tax credits in 2019. Total employment at this group of companies increased by 20.7% (or 30,640 direct net new jobs) over five years. The 180 businesses are TDOR taxpayer entities that the evaluators were able to match to TDLWD employment records.
  - The estimated total impacts of this growth (including direct, indirect, and induced impacts) include 85,663 new jobs, \$16.0 billion in new earnings for Tennessee workers, and \$32.3 billion in contribution to gross state product (GDP) over five years.
  - The estimated net fiscal benefits over five years of \$316.1 million exceed the \$153.7 million cost of the job tax credits awarded to companies in 2019. The state is estimated to receive a return on its investment in 3.33 years. For companies awarded job tax credits in 2020, 2021 and 2022, the estimated number of years for the state to receive a return-on-investment ranges from 1.95 to 3.43. 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 2019 were only responsible for 50% of the realized growth (15,300 direct net new jobs), the payback period would extend to 4.83 years.

- Over 1,340 businesses were awarded \$146.1 million in industrial machinery credits in 2019. Total employment at this group of companies increased by 15.6% (or nearly 41,300 direct net new jobs) over five years. The 1,340 businesses are TDOR taxpayer entities that the evaluators were able to match to TDLWD employment records.
  - The estimated total impacts of this growth (including direct, indirect, and induced impacts) include 72,700 new jobs, \$22.9 billion in new earnings for Tennessee workers, and \$38.1 billion in contribution to gross state product (GDP) over five years.
  - The estimated net fiscal benefits over five years of \$445.5 million exceed the \$146.2 million cost of the industrial machinery credits awarded to companies in 2019. The state is estimated to receive a return on its investment in 1.86 years. For companies awarded industrial machinery tax credits in 2021, the estimated number of years for the state to receive a return-on-investment is 4.97 years and 4.28 years for companies awarded industrial machinery credits in 2022. This figure excludes 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. Like the Job Tax Credit analysis, 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 2019 were only responsible for 50% of the realized growth (20,650 direct net new jobs), the payback period would extend to 3.5 years.
- During the 2019–2022 evaluation period, entities claiming the Community Investment Tax Credits increased by approximately 30% from 62 to 80. Additionally, taxpayers claimed over \$212 million in Community Investment Tax Credits over the four-year period.
- During the 2019 through 2022 evaluation period, the Job Disability Tax Credit claimed amount was only 6% of the amount claimed during the previous period. (\$39,722 from 2015 through 2018 compared to \$2,361 from 2019 through 2022).

## **PART I: BUSINESS TAX CREDITS IN TENNESSEE**

ECD and TDOR analyzed business tax credits claimed by companies over the four-year period of 2019 to 2022. 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 tentative 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 25 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 25 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 full-time (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 of Investment and Job Creation**

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 25 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. A business must create at least 10 full-time positions within three years from the effective date of the business plan filed with the Department of Revenue. It is a one-time credit with a 25-year carryforward, and it may offset up to 50% of the combined franchise and excise tax liability.

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. A credit may be available for each new qualified job created in an area designated as an "adventure tourism zone (district)." The credit provided is \$4,500 per qualified job. The newly created jobs do not need to be adventure tourism jobs. Tourism-related businesses may claim the standard job tax credit because they may be a qualified business enterprise. This includes restaurants, lodging establishments, or other tourism-

related attractions. Qualified adventure tourism jobs do not require minimum health care and may be seasonal or part-time jobs. The number of new jobs required varies based upon tier as does the associated adventure tourism annual credit. To qualify, taxpayers must first meet all the requirements of the standard job tax 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 25 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. The credit is available to taxpayers who construct, expand, or remodel a headquarters facility in Tennessee while creating 100 new full-time headquarters jobs that pay at least 150% of the state's average occupational wage and investing at least \$10 million. To qualify for the credit, companies must be subject to the franchise and excise tax. In addition, companies must submit an application for the Headquarters Facility Sales and Use Tax Credit, an investment plan detailing required capital investments (including materials and equipment), and a list of new full-time job positions.

The credit is for all state sales or use taxes paid to the state of Tennessee, except tax at the rate of 0.5%, on the sale or use of building materials, machinery, equipment, furniture, and fixtures used exclusively, and computer software used primarily, in a qualified headquarters facility. These must be purchased or leased within investment period and be directly related to creation of required new full-time jobs.

### **Community Investment Tax Credit**

The community investment tax credit (CITC) includes two statutory subsections. The first makes the credit available to financial institutions that make qualified loans, investments, grants, or contributions to eligible housing entities to support the construction or preservation of affordable housing for low-income Tennesseans. The second makes the credit available to financial institutions that make qualified loans, investments, grants, or contributions to Community Development Financial Institutions (CDFIs) that are certified by the United States department of treasury's community development financial institutions fund.

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.

The U.S. Department of Treasury certifies CDFIs, which allows them to competitively apply to access fund programs. These entities are specialized financial institutions serving low-income communities that provide loans, investments, financial services, and technical assistance to underserved populations and communities.

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 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, or 5% annually of the unpaid principal balance of a qualified low-rate loan 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 or to community development financial institutions 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
- Grants or contributions

Unused tax credits that are applied one time may be carried forward for a period of 25 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.

A notable finding from the analyzed data discussed later in the report is the that the number of entities claiming the CITC and the amount claimed has increased significantly over the last several years. As reported in the previous analysis, 43 entities claimed approximately \$8.6 million in credits during FY 2015. However, by FY 2022, 68 taxpayers claimed nearly \$72 million in CITC credits. Additionally, the average amount claimed in FY 2022 (\$1.0 million) is five times higher than FY 2015 (\$200,155).

Since May 2018,<sup>6</sup> 47% of CITC applications were from financial institutions making qualified loans or long-term investments to Eligible Housing Entities via THDA and 53% of applications were from financial institutions making qualified loans or long-term investments to CDFIs. Additionally, 78% of taxpayers applying for the CITC claimed the annual credit (*i.e.*, percentage based upon unpaid principal balance of loan or investment).

### **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

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<sup>6</sup> Tennessee Department of Revenue

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

### **Business Tax Credits: Awarded vs. Claimed, 2019 - 2022**

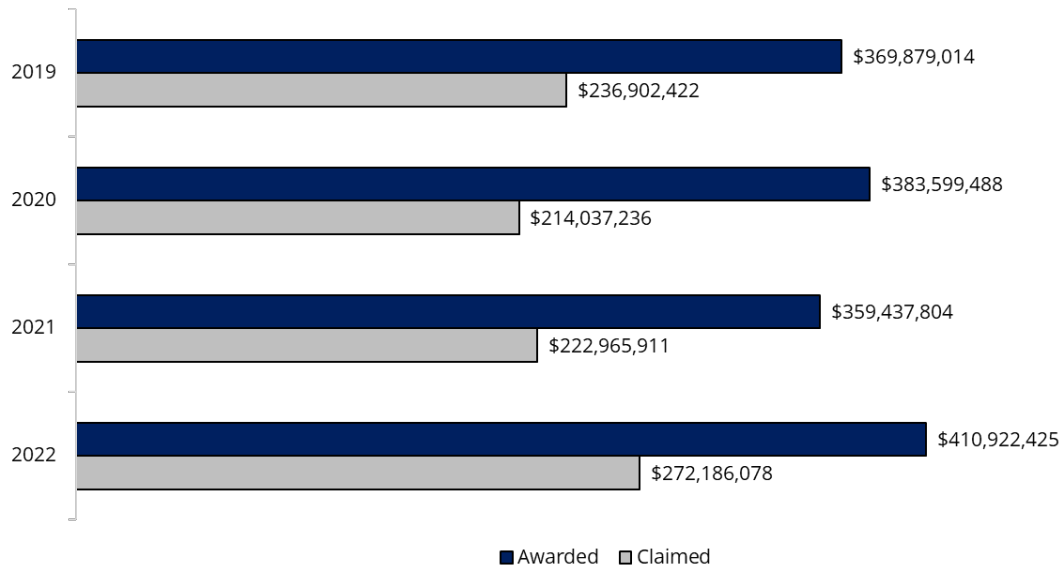
The business tax credits addressed in this evaluation are predominantly credits that companies can use to reduce the amount of franchise and excise taxes they pay to the state. These business tax credits are awarded when a company meets the statutory requirements for the individual credit as described in this report. A company generally can claim the credit in the year awarded or in following years.<sup>7</sup> 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 2019 to 2022, taxpayers were awarded \$1.5 billion in business tax credits, which is 66.1% higher than amount claimed over the same period (\$946.0 million). In comparison to the previous tax incentive analysis report covering the four-year period from 2015 to 2018, the awarded amount increased by nearly 14%, while the claimed amount rose by 28%.

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<sup>7</sup> Many of these credits can be carried forward for up to 25 years.

*Figure 1: Value of Credits Awarded and Claimed by Year*



A variety of factors contribute to the variance in amount awarded and amount claimed. The amount claimed by a company in any given year is limited by the amount of tax due for that year. For some companies, the amount of tax credit awarded will exceed the amount of tax due for that year. 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.

Legislative changes over the last decade 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.<sup>8</sup> 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.

<sup>8</sup> 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.

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, though new credits are no longer available. This report does not provide an analysis of the discontinued credits.<sup>9</sup> In addition, tax credits not offered as incentives, but rather as offsets for paying another Tennessee tax,<sup>10</sup> are excluded from this evaluation.

The Brownfield Tax Credit is included in the statutes guiding this report, with approximately \$4.9 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. Over the analysis period, 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 and 2023 legislative sessions, the departments worked with the Governor's Legislative and Policy team to advance legislation amending the credit to encourage additional business investment in Brownfield sites. As more companies claim the credit it will allow for an analysis in future evaluations.

Additionally, the Qualified Production Credit, which is included in the statutes guiding this report, became effective on July 1, 2021. This credit is for film and entertainment producers that operate in the state and meet the statute's requirements. Under this credit, taxpayers may receive up to 40% of their Qualified Payroll Expenses for individuals living in a Tier 1 county, or 50% for expenses paid to individuals in a Tier 2-4 enhancement county. As the credit is claimed in the coming years, it will enable analysis in future evaluations.

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<sup>9</sup> Discontinued credits include the Headquarters Relocation Credit, Broadband Internet Access Equipment Credit, Green Energy Tax Credit, Loss Carryover Credit, Tennessee Income Tax Credit, and Qualified Environmental Credit, which have already been repealed by statute.

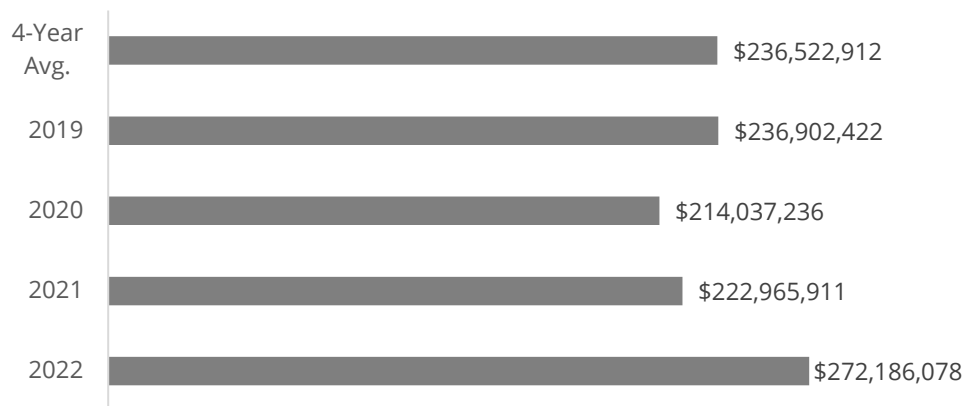
<sup>10</sup> Credits offered as offsets include credits against Tennessee franchise and excise taxes based upon the Gross Premiums Tax Credit also paid by the company.

## PART II: TAX CREDITS CLAIMED (2019-2022)

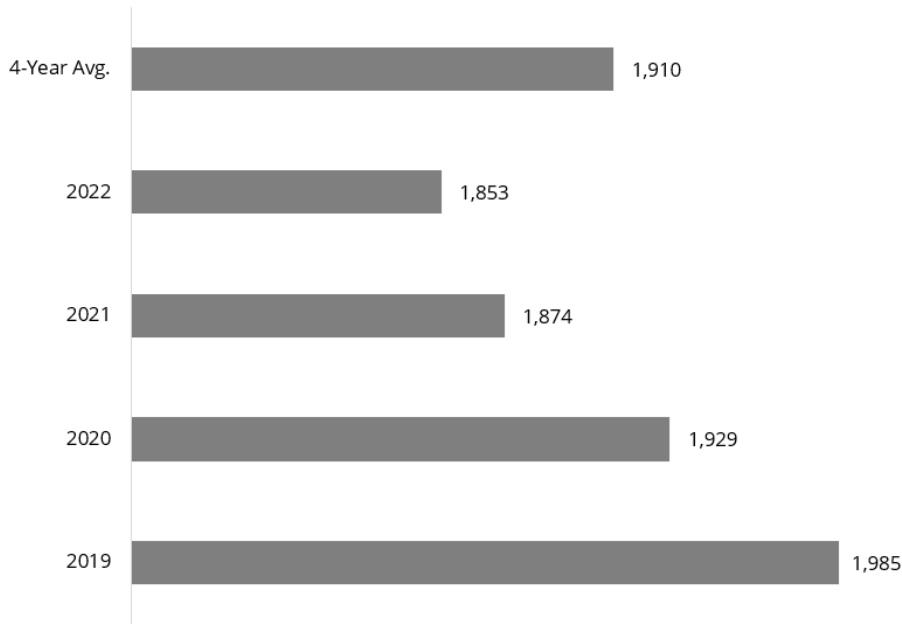
Over the four-year period, nearly 2,600 companies claimed over \$946 million in business tax credits, with approximately 76% in the form of job tax or industrial machinery credits. The amount claimed is \$207 million higher than the previous four-year period (2015 to 2018). An average of \$236.5 million in business tax credits was claimed each year from 2019 through 2022.

The value of credits claimed each year ranged from \$214 million in 2020 to \$272.1 million in 2022. The lowest annual amount claimed in the four-year period (\$214 million in 2020) was higher than the amounts claimed in any year of the previous four-year period (2015 to 2018). The number of unique taxpayers claiming credits over the four-year period ranged from 1,853 in 2022 to 1,985 in 2020.

*Figure 2: Value of Credits Claimed by Year, 2019-2022*



*Figure 2: Number of Businesses Claiming Credits by Year, 2019-2022*



### Taxpayers and Credits Claimed by Credit Type

The industrial machinery credits account for 36.3% of claimed credits between 2019 and 2022. Businesses claimed \$343.8 million in industrial machinery credits during the four-year period, or nearly \$86 million on average each year. The average annual amount claimed increased 3% over the four-year period compared to the previous four years. Approximately 2,200 companies claimed industrial machinery credits during the four-year period, or 1,600 companies on average each year. Industrial machinery credits include the Standard Industrial Machinery Credit (average of \$30.4 million claimed annually) and the Enhanced Industrial Machinery Credit (average of \$55.6 million claimed annually).

Job tax credits account for nearly 40% of the credits claimed between 2019 and 2022. Businesses claimed \$377.7 million in job tax credits during the four-year period, or \$94.4 million on average each year. The average annual job tax credits claimed increased by 15% over the four-year period compared to the previous four years. Over 570 companies claimed job tax credits during the four-year period, or 435 on average each year. Job tax credits include the Standard Job Tax Credit (average of \$36.4 million claimed annually), the additional annual credits for enhancement counties (average of \$24.7 million claimed annually) and high investment (average of \$33.0 million claimed annually), the Community Resurgence Credit (average of \$258,000 claimed annually), and the Job Tax Credit for Hiring Persons with Disabilities (average of \$590 claimed annually).

Businesses claimed \$212.4 million in community investment credits during the four-year period, representing 22.5% of all credits claimed. The amount claimed increased over 260% during the four-year period compared to the previous four years. The average annual value claimed was \$53.1 million, increasing year-over-year during the analyzed period. The claimed amount increased from

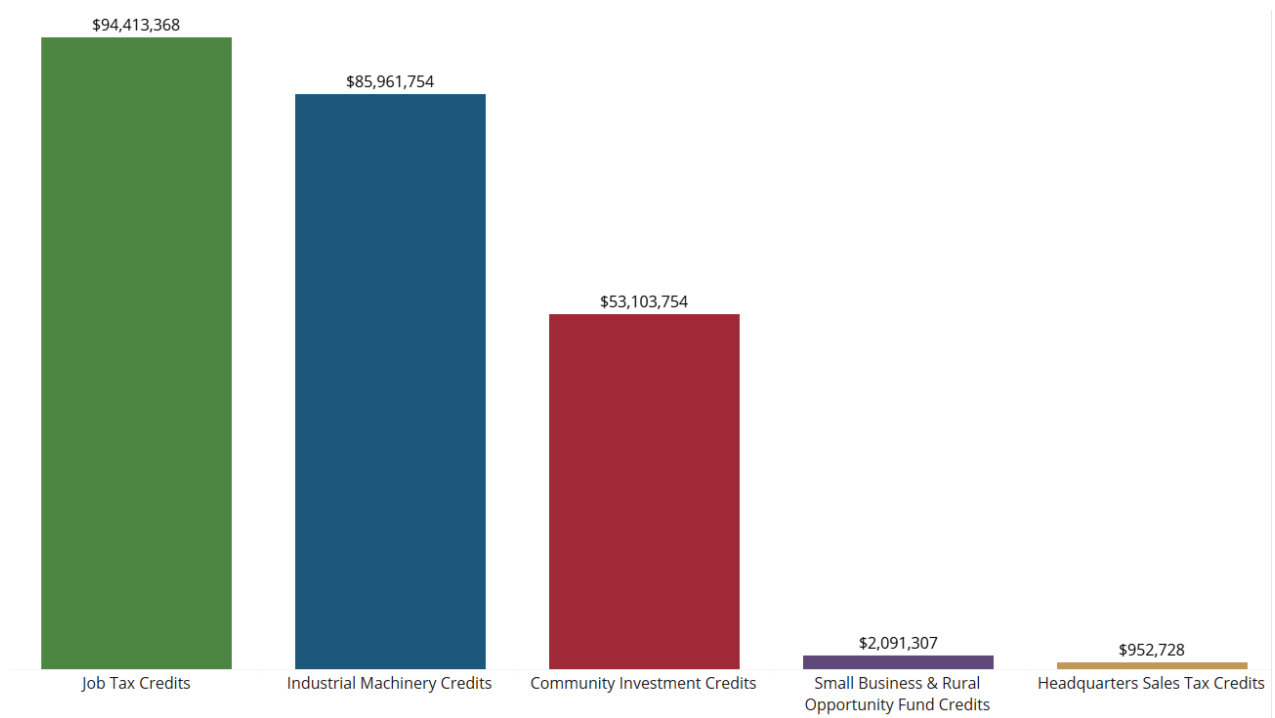
## Evaluation of Tennessee's Business Tax Credits

\$35.8 million in 2019 to \$72.0 million in 2022. There were 80 businesses that claimed community investment credits between 2019 and 2022.

Small business & rural opportunity fund credits represented \$8.4 million (0.9%) of the credits claimed during the evaluation period. The amount claimed ranged from \$1.6 million in 2019 to \$2.4 million in 2020. Approximately 30 businesses claimed these credits between 2019 and 2022.

The headquarters sales tax credits account for 0.4% (\$3.8 million) of credits claimed during the four-year period. Approximately \$950,000 in headquarters sales tax credits were claimed each year. The number of businesses is not disclosed due to the low number of claimants for the headquarters sales tax credit.

*Figure 4: Average Annual Value of Credits Claimed by Credit Type, 2019-2022*



Evaluation of Tennessee's Business Tax Credits

Figure 5: Value of Credits Claimed by Year and Credit Type, 2019-2022 (millions)

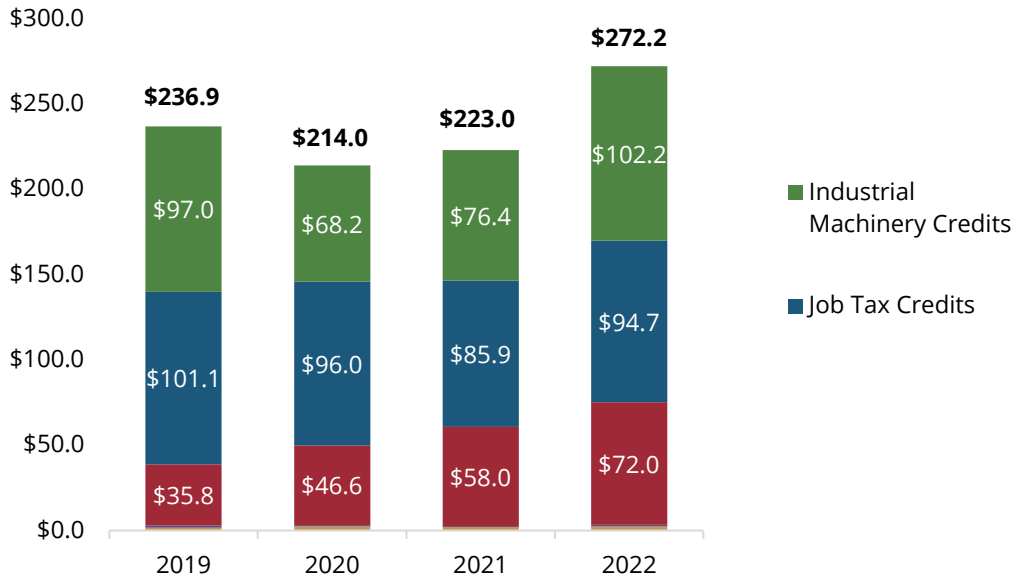
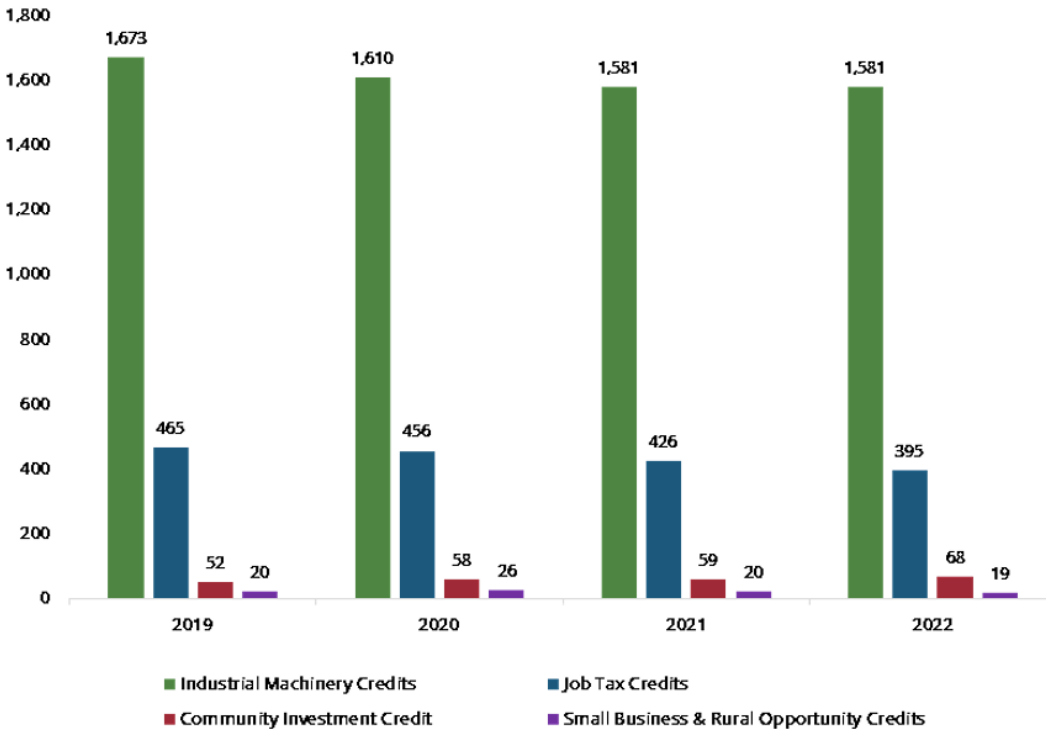


Figure 3: Number of Taxpayers Claiming Credits by Year and Credit Type, 2019-2022<sup>11</sup>



<sup>11</sup> 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.

Evaluation of Tennessee's Business Tax Credits

*Figure 7: Business Tax Credits Claimed by Credit Type, 2019-2022*

Credit Type	2019	2020	2021	2022	4-Year Avg.	4-Year Total
Job Tax Credits	\$101,102,863	\$95,956,629	\$85,873,785	\$94,720,196	\$94,413,368	\$377,653,473
Industrial Machinery Credits	\$97,031,423	\$68,183,501	\$76,399,176	\$102,232,916	\$85,961,754	\$343,847,016
Headquarters Sales Tax Credits	\$1,333,909	\$875,939	\$696,613	\$904,453	\$952,728	\$3,810,914
Community Investment Credits	\$35,808,239	\$46,625,630	\$58,030,418	\$71,950,728	\$53,103,754	\$212,415,015
Small Business & Rural Opportunity Fund Credits	\$1,625,988	\$2,395,537	\$1,965,919	\$2,377,785	\$2,091,307	\$8,365,229
<b>Total</b>	<b>\$236,902,422</b>	<b>\$214,037,236</b>	<b>\$222,965,911</b>	<b>\$272,186,078</b>	<b>\$236,522,912</b>	<b>\$946,091,647</b>

*Figure 4: Number of Taxpayers Claiming Business Tax Credits by Credit Type, 2019-2022*

Credit Type	2019	2020	2021	2022	4-Year Avg.	Total Unique Entities
Job Tax Credits	465	456	426	395	436	574
Industrial Machinery Credits	1,673	1,610	1,581	1,581	1,611	2,238
Headquarters Sales Tax Credits	Not available	Not available	Not available	Not available	Not available	Not available
Community Investment Credits	52	58	59	68	59	80
Small Business & Rural Opportunity Fund Credits	20	26	20	19	21	29
<b>Total Unique Entities</b>	<b>1,985</b>	<b>1,929</b>	<b>1,874</b>	<b>1,853</b>	<b>1,910</b>	<b>2,567</b>

Evaluation of Tennessee's Business Tax Credits

*Figure 9: Business Tax Credits Claimed by Credit Type (Detail), 2019-2022*

Credit Type (Detail)	2019	2020	2021	2022	4-Year Avg.	4-Year Total
<b>Job Tax Credits</b>						
Job Tax Credit	\$46,000,053	\$36,808,777	\$29,447,646	\$33,349,749	\$36,401,556	\$145,606,225
Additional Annual Credit - Enhancement County	\$24,347,968	\$24,693,865	\$23,278,124	\$26,568,360	\$24,722,079	\$98,888,317
Additional Annual Credit - High Investment	\$30,248,770	\$34,320,356	\$32,966,353	\$34,586,875	\$33,030,589	\$132,122,354
Job Tax Disabilities Credit	\$2,066	\$60	\$172	\$63	\$590	\$2,361
Community Resurgence Credit	\$504,006	\$133,571	\$181,490	\$215,149	\$258,554	\$1,034,216
<b>Industrial Machinery Credits</b>						
Industrial Machinery Credit	\$30,210,368	\$30,855,166	\$28,317,344	\$32,175,223	\$30,389,525	\$121,558,101
Enhanced Industrial Machinery Credit	\$66,821,055	\$37,328,335	\$48,081,832	\$70,057,693	\$55,572,229	\$222,288,915
<b>Headquarters Sales Tax Credits</b>						
Headquarters Sales Tax Credit	\$1,333,909	\$875,939	\$696,613	\$904,453	\$952,728	\$3,810,914
<b>Community Investment Credits</b>						
Community Investment Credit	\$35,808,239	\$46,625,630	\$58,030,418	\$71,950,728	\$53,103,754	\$212,415,015
<b>Small Business &amp; Rural Opportunity Fund Credits</b>						
Rural Opportunity Fund Credit	\$627,179	\$565,000	\$645,000	\$710,700	\$636,970	\$2,547,879
Small Business Opportunity Fund Credit	\$998,809	\$1,830,537	\$1,320,919	\$1,667,085	\$1,454,338	\$5,817,350
<b>Total</b>	<b>\$236,902,422</b>	<b>\$214,037,236</b>	<b>\$222,965,911</b>	<b>\$272,186,078</b>	<b>\$236,522,912</b>	<b>\$946,091,647</b>

Evaluation of Tennessee's Business Tax Credits

Figure 5: Number of Taxpayers<sup>12</sup> Claiming Business Tax Credits by Credit Type (Detail), 2019-2022

Credit Type (Detail)	2019	2020	2021	2022	4-Year Avg.	Total Unique Entities Over 4 Years
<b>Job Tax Credits</b>						
Job Tax Credit	378	361	352	330	355	526
Additional Annual Credit - Enhancement County	113	114	104	82	103	171
Additional Annual Credit - High Investment	15	18	16	17	17	25
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.	Not Avail.	12
<b>Industrial Machinery Credits</b>						
Industrial Machinery Credit	1,622	1,564	1,526	1,525	1,559	2,181
Enhanced Industrial Machinery Credit	54	52	56	60	56	75
<b>Headquarters Sales Tax Credits</b>						
Headquarters Sales Tax Credit	Not Avail.	Not Avail.	Not Avail.	Not Avail.	Not Avail.	Not Avail.
<b>Community Investment Credits</b>						
Community Investment Credit	52	58	59	68	59	80
<b>Small Business &amp; Rural Opportunity Fund Credits</b>						
Rural Opportunity Fund Credit	11	13	11	11	12	16
Small Business Opportunity Fund Credit	12	16	11	10	12	17
<b>Total Unique Entities</b>	<b>1,985</b>	<b>1,929</b>	<b>1,874</b>	<b>1,853</b>	<b>1,910</b>	<b>2,567</b>

<sup>12</sup> 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<sup>13</sup>

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 \$408.1 million of all claimed credits. The manufacturing sector accounted for nearly 59% of all claimed credits with no other industry sector accounting for more than 13%. Tennessee's manufacturing sector (excluding benefits) had an average annual wage of \$72,005 in 2024, which is 11% greater than the statewide average wage of \$64,718.<sup>14</sup> 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 (\$148.7 million), Chemical Manufacturing (\$49.0 million), Plastics and Rubber Products Manufacturing (\$34.9 million), and Food Manufacturing (\$32.0 million).

The second largest industry sector by credits claimed was Transportation and Warehousing. Businesses in this sector claimed \$91.7 million, representing 13% of business tax credits claimed between 2019 and 2022. The third industry sector by credits claimed was the Management of Companies and Enterprises, which claimed approximately \$68 million in credits. 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 \$120,325 in 2024, which was 86% greater than the state's average wage.<sup>15</sup> Other sectors with significant shares of credits claimed include Finance and Insurance (\$34.8 million, 5%) and Retail Trade (\$22.2 million, 3%).

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<sup>13</sup> 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.

<sup>14</sup> Source: Lightcast (2024)

<sup>15</sup> Source: Lightcast (2024)

Evaluation of Tennessee's Business Tax Credits

Figure 6: Value of Credits Claimed by Industry Sector, 2019-2022 (millions)

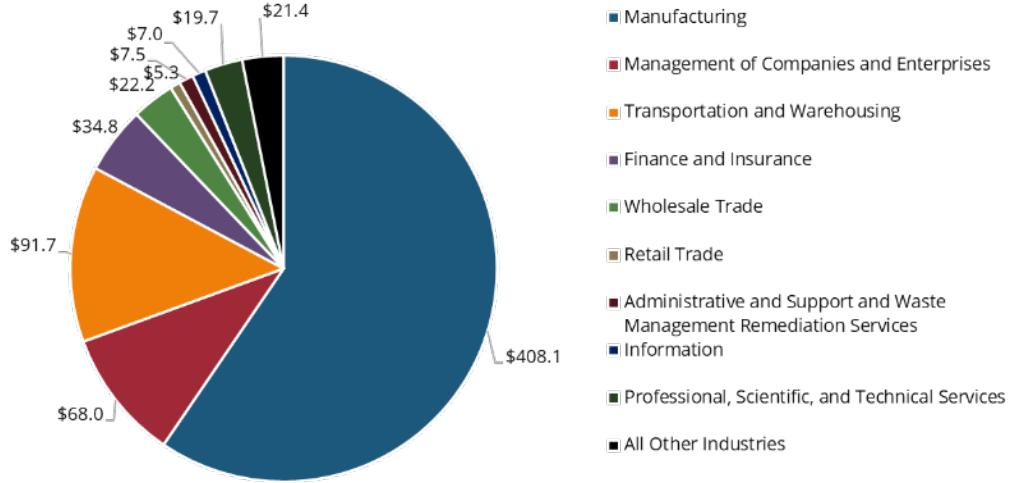


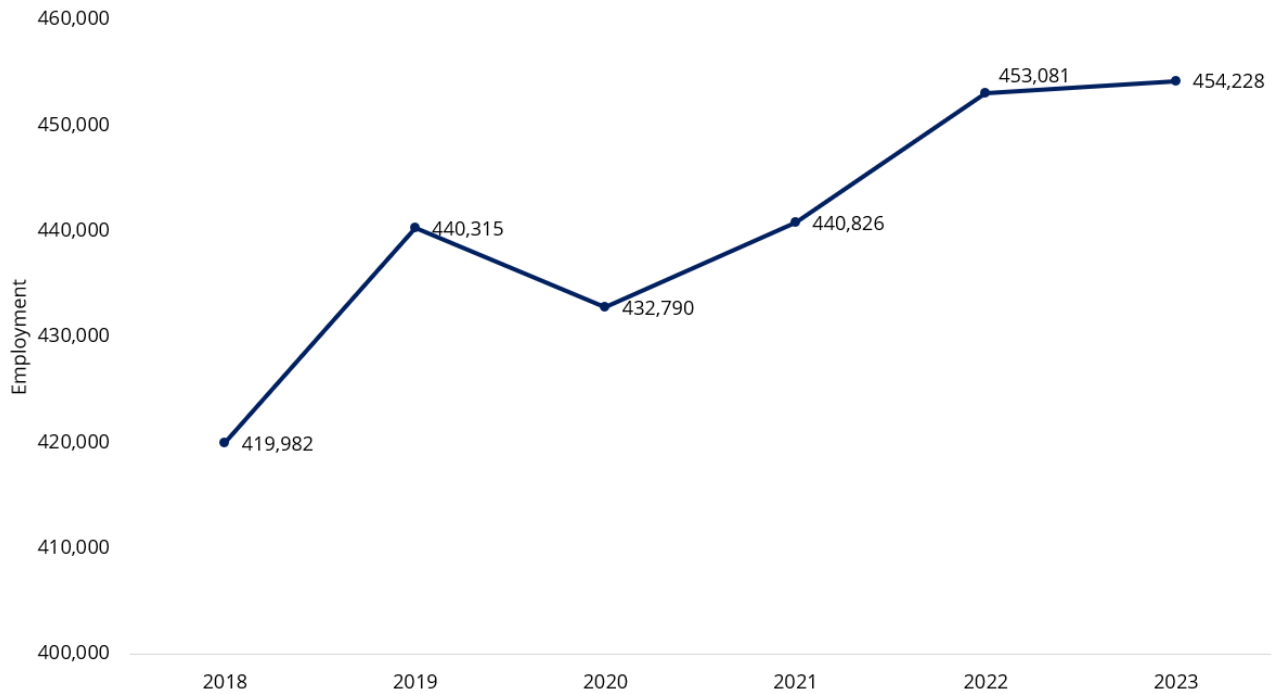
Figure 7: Value of Credits Claimed by Manufacturing Sub-Sector, 2019-2022

Manufacturing Industry Sector (NAICS)	Number Entities Claiming Credits	Credits Claimed (4-Year Total)
Food Manufacturing (311)	111	\$32,035,391
Beverage and Tobacco Product Manufacturing (312)	58	\$12,432,845
Textile Mills (313)	25	\$2,778,325
Textile Product Mills (314)	Not Disclosable	\$615,670
Apparel Manufacturing (315)	18	\$183,259
Leather and Allied Product Manufacturing (316)	Not Disclosable	\$48,501
Wood Product Manufacturing (321)	117	\$7,275,387
Paper Manufacturing (322)	76	\$22,389,633
Printing and Related Support Activities (323)	76	\$2,693,793
Petroleum and Coal Products Manufacturing (324)	Not Disclosable	\$72,691
Chemical Manufacturing (325)	140	\$49,050,177
Plastics and Rubber Products Manufacturing (326)	154	\$34,978,221
Nonmetallic Mineral Product Manufacturing (327)	105	\$24,824,335
Primary Metal Manufacturing (331)	87	\$15,275,866
Fabricated Metal Product Manufacturing (332)	337	\$13,191,712
Machinery Manufacturing (333)	155	\$9,451,682
Computer and Electronic Product Manufacturing (334)	26	\$501,745
Electrical Equipment, Appliance, and Component Manufacturing (335)	67	\$19,003,067
Transportation Equipment Manufacturing (336)	253	\$148,782,302
Furniture and Related Product Manufacturing (337)	40	\$1,835,149
Miscellaneous Manufacturing (339)	79	\$10,755,744
<b>Total</b>	<b>1,947</b>	<b>\$408,175,495</b>

### Employment Levels of Companies Claiming Business Tax Credits<sup>16</sup>

Companies claiming business tax credits during the four years of 2019 to 2022 employed an average of 454,200 Tennessee workers in 2023. The collective employment of these nearly 2,300 businesses increased from approximately 419,200 in 2018, representing an 8.2% rate of job growth over five years. The impact of the COVID pandemic is illustrated by a decrease in employment of 1.7% from 2019 to 2020. Employment did rebound in the following years with an average of 7,100 net new jobs created per year over the next three years.

*Figure 8: Average Annual Employment of Companies Claiming Business Tax Credits in 2019-2023*



*Figure 9: Average Annual Employment of Companies Claiming Business Tax Credits in 2019-2023*

	2018	2019	2020	2021	2022	2023
Total Employment	419,982	440,315	432,790	440,826	453,081	454,228
Job Growth Rate, Year Over Year		4.8%	-1.7%	1.9%	2.8%	0.3%
Job Growth Rate, Cumulative from 2018		4.8%	3.0%	5.0%	7.9%	8.2%

<sup>16</sup> 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 average firm size of companies claiming business tax credits between the years of 2019 and 2022 was 214 employees, and the median firm size was about 47 employees.<sup>17</sup> The average firm size increased by 44 employees from the previous four-year analysis, up from 170 employees. The median firm size increased by about eleven employees (35 employees for 2015 to 2018).

*Figure 10: Size (by Employment) of Companies Claiming Business Tax Credits in 2019-2022*

	2018	2019	2020	2021	2022	2023
Median Employment Level	45.0	45.0	46.5	45.6	48.4	49.9
Average Employment Level	198.1	202.4	207.0	217.1	229.1	233.9

Companies of all sizes have taken advantage of business tax credits during the evaluation period. The majority of companies claiming business tax credits between 2019 and 2022 were small businesses. Approximately 70% of businesses (1,465) 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,"<sup>18</sup> represent 91% of the companies (1,986) which claimed credits. By comparison, according to the most recent U.S. Census Bureau data available, 99% of all Tennessee companies in 2021 had fewer than 500 employees.<sup>19</sup> On the other end of the spectrum, large firms employing more than 500 people in 2019 represent 9% of the companies (189) that claimed business tax credits. By comparison, according to the most recent U.S. Census Bureau data available, 1% of all Tennessee companies in 2021 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.

Figure 16 shows companies claiming tax credits by size. As shown below, the percentage of credits claimed closely mirrors the percentage of employment across different business sizes. For nearly all business size categories, the percentages of employment and credits claimed are nearly identical, with the difference between them being less than 10% for each size group. This suggests that, if eligible, businesses of all sizes are claiming tax credits in proportion to their employee numbers.

<sup>17</sup> 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.

<sup>18</sup> 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](https://www.sba.gov/sites/default/files/advocacy/United_States.pdf)

<sup>19</sup> Source: Statistics of U.S. Businesses (SUSB, 2021), 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 11: Businesses Claiming Business Tax Credits (2019-2022), by Business Size (2019)*

Business Size (by Employment)	Number of Businesses, 2019	Share of Businesses, 2019	Employment, 2019	Share of Employment, 2019	Credits Claimed, 2019 - 2022	Share of Credits Claimed, 2019 - 2022
100 or fewer	1,465	67%	43,247	10%	\$134,545,959	20%
101 to 200	270	12%	39,299	9%	\$66,536,394	10%
201 to 300	131	6%	32,104	7%	\$33,801,236	5%
301 to 400	82	4%	27,963	6%	\$38,935,720	6%
401 to 500	38	2%	17,203	4%	\$31,080,384	5%
<b>Subtotal</b>	<b>1,986</b>	<b>91%</b>	<b>159,816</b>	<b>36%</b>	<b>\$304,899,693</b>	<b>45%</b>
501 to 1,000	106	5%	75,181	17%	\$105,777,015	16%
1,001 to 1,500	38	2%	45,313	10%	\$35,691,669	5%
1,501 to 2,000	15	1%	25,857	6%	\$18,811,243	3%
More than 2,000	30	1%	134,149	30%	\$216,871,010	32%
<b>Subtotal</b>	<b>189</b>	<b>9%</b>	<b>280,500</b>	<b>64%</b>	<b>\$377,150,937</b>	<b>55%</b>
<b>Total</b>	<b>2,175</b>	<b>100%</b>	<b>440,315</b>	<b>100%</b>	<b>\$682,050,630</b>	<b>100%</b>

## Multiple Credits

From 2019 to 2022, nearly 2,600 unique businesses claimed at least one type of business tax credit. The value of credits claimed totaled \$946.0 million over the four-year evaluation period.

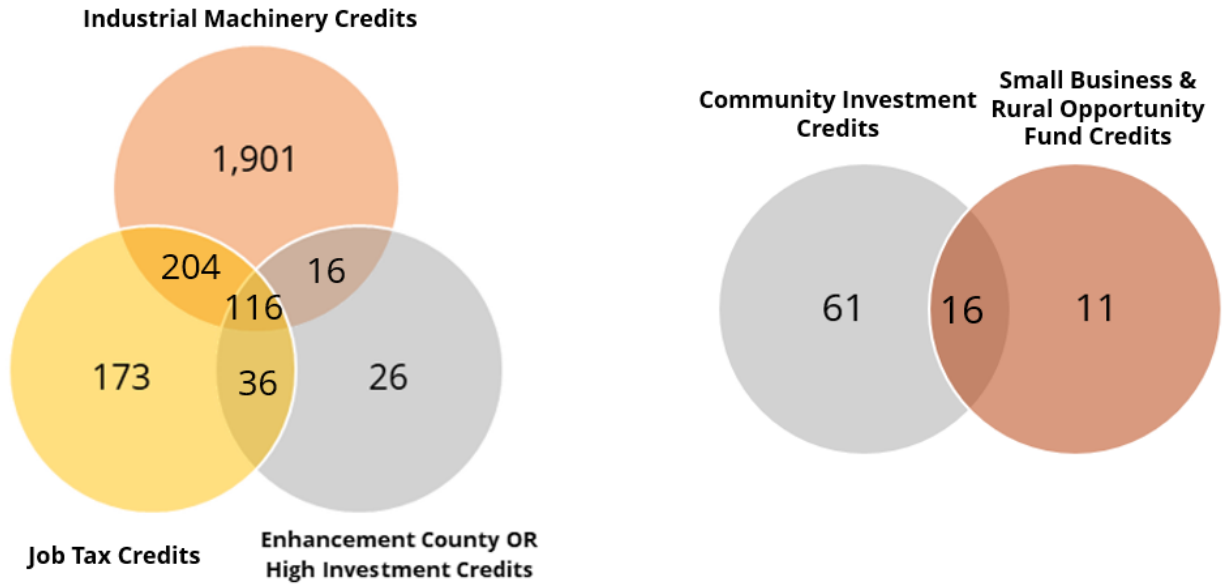
Many of these taxpayers used business tax credits in combination to support new capital investments and job creation in the state. During the four-year period, approximately 400 businesses claimed multiple types of credits totaling \$516.0 million.

*Figure 12: Number of Credit Types Claimed by Businesses (2019-2022)*

	Number of Companies	Credits Claimed (2019-2022)
Businesses claiming 1 type of credit	2,163	\$430,088,072
Businesses claiming 2 types of credits	271	\$184,953,247
Businesses claiming 3 types of credits	117	\$222,024,775
Businesses claiming 4 types of credits	Not Available	\$81,276,141
Businesses claiming 5 types of credits	Not Available	\$27,749,412
<b>Total</b>	<b>2,567</b>	<b>\$946,091,647</b>

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

*Figure 13: Combinations of Businesses that Claimed Business Tax Credits by Type, 2019-2022<sup>20</sup>*



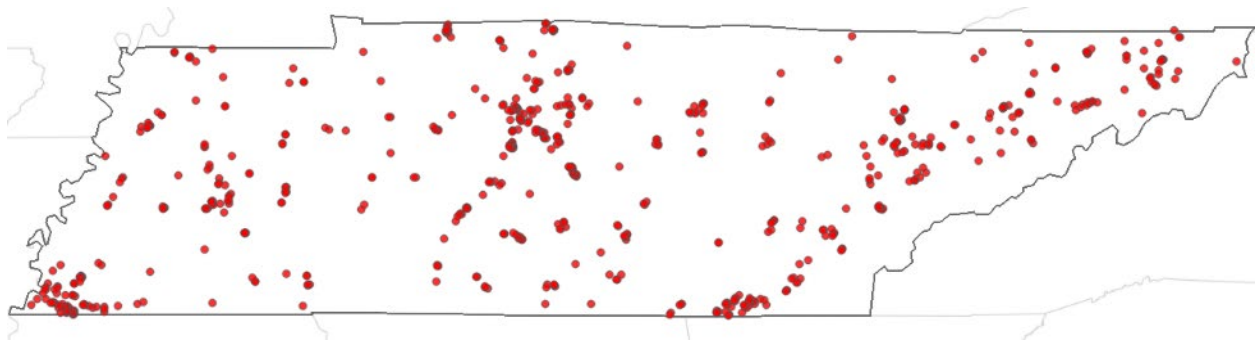
<sup>20</sup> To protect the confidentiality of individual taxpayers, data in this report are suppressed when the results represent 10 or fewer entities. Due to the low number of unique taxpayers, data are not available in this visualization for taxpayers claiming the headquarters sales tax credit and taxpayers claiming the community investment credit in combination with various other credits.

## Business Tax Credit Claimants and ECD Project Activity<sup>21</sup>

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 nearly 2,600 companies claiming business tax credits between 2019 and 2022, 617 companies (24%) also had a project with ECD in the twelve years of 2011 through 2022.<sup>22</sup> These ECD project companies claimed \$437.4 million (46%) of all business tax credits claimed during the four-year period evaluated.

ECD worked with these companies to locate 909 projects<sup>23</sup> between 2011 and 2022. This represents nearly half of the department's 1,890 located projects during this time period. Companies that claimed credits in the four-year period pledged to create 131,745 new jobs and make \$29.9 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 14: ECD Projects (2011-2022) by Companies Claiming Business Tax Credits (2019-2022)*



Companies with an ECD project claimed \$437.4 million in business tax credits during the four years of 2019 to 2022, or \$109.4 million on average each year. The total claimed amount includes \$257.7 million in job tax credits, \$176.0 million in industrial machinery credits, and \$3.7 million in headquarters sales tax credits.

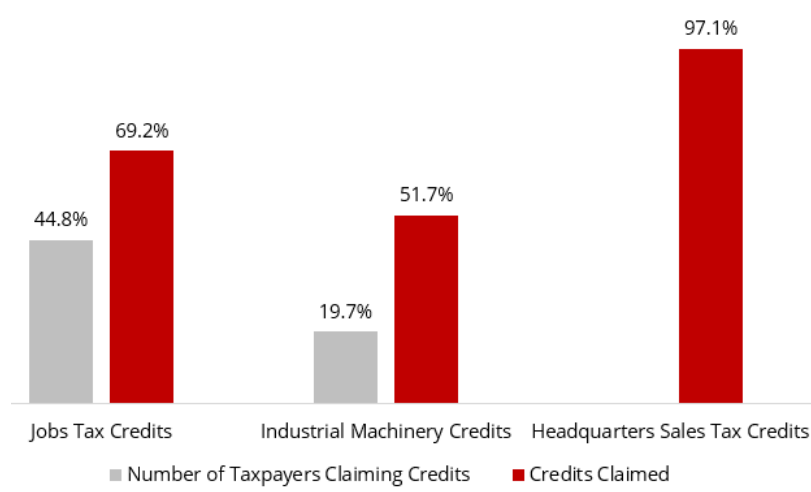
<sup>21</sup> The data provided in this section are for TDOR taxpayer entities that the evaluators were able to match to TNECD projects. More information on the matching process can be found in the "Methodology and Key Analysis Components" section of this report.

<sup>22</sup> ECD project data used for this study are for 1,890 projects that located during calendar years 2011 to 2022. 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 2019 may not hire or make investments that qualify for credit awards until 2023 or 2024. For this reason, a large window (twelve years) of project activity was analyzed for this study.

<sup>23</sup> ECD assisted some of companies with multiple projects between calendar years 2011 and 2022; thus, the total number of projects (909) is higher than the total number of companies (617).

As mentioned above, companies with ECD projects represent a significant share of all business tax credits claimed between 2019 and 2022 with nearly half of total value of credits claimed. By credit type, companies with an ECD project represented 45% (248) of the 553 businesses claiming job tax credits from 2019 to 2022 while accounting for 69.2% (\$257.7 million) of job tax credits claimed over this period. In addition, 51.7% (\$176.0 million) of the industrial machinery credits claimed were by taxpayers with an ECD project while representing only 19.7% of the 1,965 taxpayers claiming an industrial machinery credit. The percentage of headquarters credits claimed by companies with an ECD project was excluded due to the low number of total claimants. These companies claimed 97% (\$3.7 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 15: Companies with ECD Projects (2011-2022) as a Share of Claimants and Amount Claimed (2015-2018)<sup>24</sup>*



While it is probable that many of the credits claimed by these companies were associated with the project activity announced by ECD, the evaluation could not confirm that is the case for all 909 projects.<sup>25</sup> 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. The data does, however, demonstrate that companies working with ECD on competitive expansion and new location projects 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.

<sup>24</sup> Due to the low number of total claimants, the percentage of ECD projects for the Headquarters Sales Tax Credit was excluded from the chart below.

<sup>25</sup> 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;
- Appliances and Electrical;
- Automotive;
- Chemicals;
- Distribution and Logistics;
- Food and Beverage;
- Headquarters, Finance and Technology;
- Healthcare and Life Sciences; and,
- Rubber, Ceramics and Glass.

Companies operating within target industry clusters represent nearly 68% (618) of ECD projects associated with credits claimed during the evaluation period. These projects represented more than 107,223 new jobs and \$26.0 billion in capital investments between 2011 and 2022 across Tennessee.

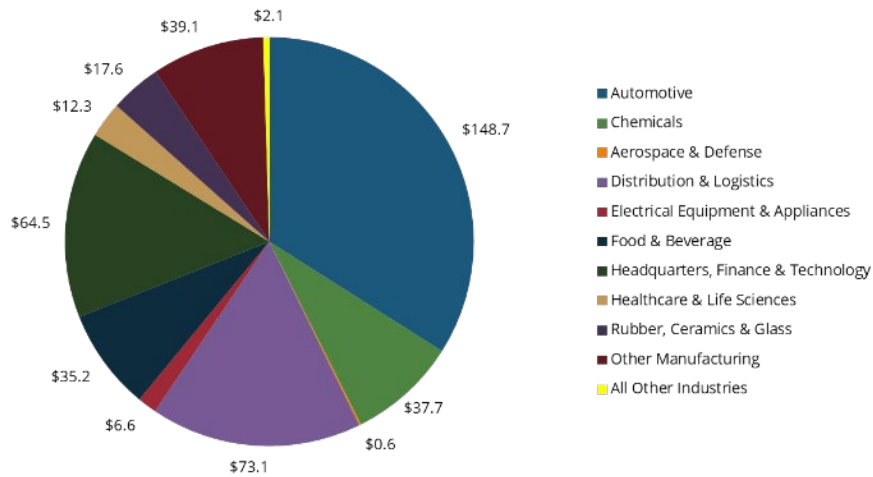
*Figure 16: Companies with Credits Claimed (2019-2022) and ECD Projects (2011-2022), by Industry Cluster*

Industry Cluster	Number Projects	New Jobs	Capital Investment (\$)	Credits Claimed (\$) (2019-2022)	% of Total Credits Claimed
Aerospace and Defense	16	1,711	\$257,568,705	\$618,776	0.1%
Automotive	180	35,982	\$9,055,085,404	\$148,710,513	34.0%
Chemicals	44	3,353	\$2,664,916,000	\$37,681,284	8.6%
Distribution and Logistics	107	17,248	\$3,816,559,604	\$73,050,884	16.7%
Electrical Equipment and Appliances	40	3,813	\$1,020,321,189	\$6,616,250	1.5%
Food & Beverage	61	8,196	\$3,427,248,624	\$35,193,729	8.1%
HQ, Finance and Technology	96	25,789	\$2,924,808,325	\$64,500,943	2.8%
Healthcare and Life Sciences	30	4,887	\$676,817,566	\$12,329,600	14.8%
Rubber, Ceramics and Glass	44	6,254	\$2,173,857,088	\$17,584,112	4.0%
Other Manufacturing	284	23,687	\$3,863,477,505	\$39,093,701	8.9%
All Other Industries	7	825	\$17,974,150	\$2,061,591	0.5%
<b>ECD Projects in Target Industry Clusters</b>	<b>618</b>	<b>107,233</b>	<b>\$26,017,182,505</b>	<b>\$396,286,091</b>	<b>90.6%</b>
<b>All ECD Projects</b>	<b>909</b>	<b>131,745</b>	<b>\$29,898,634,160</b>	<b>\$437,441,383</b>	<b>100%</b>

## Evaluation of Tennessee's Business Tax Credits

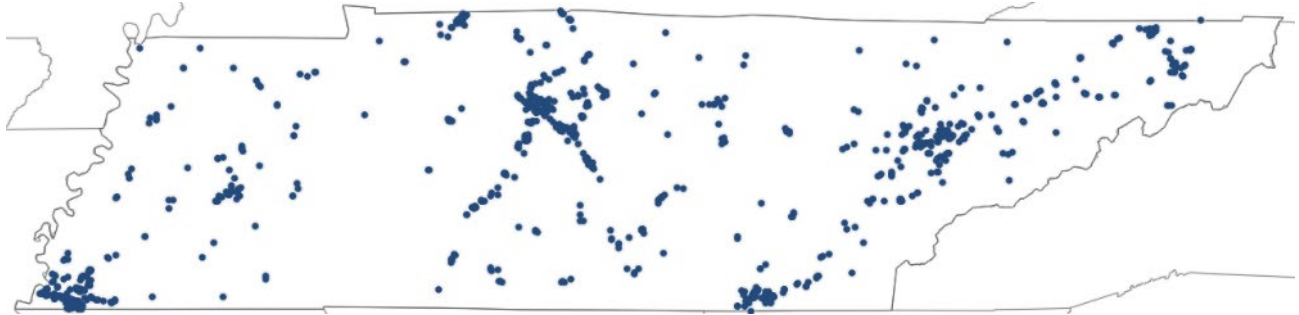
Companies with ECD project activity claimed \$437.4 million in business tax credits during the four-year evaluation period. The majority (90%) of these credits (\$396.3 million) were claimed by companies in target industry clusters. The Automotive industry was the largest targeted industry cluster by claimed amount, representing 34.0% (\$148.7 million) of the total claimed. Automotive companies claiming credits landed 180 projects with nearly 36,000 new jobs and \$9.0 billion in capital investments between 2011 and 2022. Approximately 15% (\$64.5 million) was claimed by companies in the Headquarters, Finance & Tech cluster, which accounted for 96 projects with nearly 25,800 new jobs and \$2.9 billion in capital investments. Additionally, 16.7% (\$73.0 million) was claimed by Tennessee companies in the Distribution & Logistics cluster. Companies in this industry cluster located 107 projects with over 17,200 new jobs and \$3.8 billion in capital investments between 2011 and 2022.

*Figure 17: Credits Claimed (2019-2022) by Companies with ECD Projects (2011-2022), by Industry Cluster (millions of dollars)*



**Foreign Direct Investment (FDI):** Tennessee is home to more than 1,000 foreign-owned business establishments which employ approximately 161,700 people across the state.

*Figure 18: Foreign-Owned Business Establishments in Tennessee<sup>26</sup>*



The business tax credits offered by the state are a useful tool in assisting ECD in the recruitment of international companies. Over 30% of ECD projects (282 projects) associated with companies claiming business tax credits between 2019 and 2022 were by foreign-owned companies. These projects located between 2011 and 2022 with plans to create nearly 48,000 new jobs and invest \$12.8 billion in Tennessee.

Of the \$437.4 million in credits claimed by companies with ECD project activity, foreign-owned companies account \$150.8 million of the amount claimed. More specifically, \$80.8 million was claimed by Japanese-based companies which had 89 projects with ECD between 2011 and 2022 representing more than 17,300 new jobs and \$5.1 billion in foreign direct investment (FDI). German-based companies with 34 ECD projects representing over 7,300 new jobs and approximately \$1.9 billion in capital investments claimed nearly \$26.7 million in credits. Canadian-based companies with 31 ECD projects representing 3,500 new jobs and nearly \$1.2 billion in FDI claimed more than \$10.1 million in credits. United Kingdom-based companies with 17 ECD projects representing approximately 1,600 new jobs and nearly \$441 million in capital investments claimed \$7.0 million in credits.

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<sup>26</sup> Source: TNECD – <https://www.tn.gov/transparenttn/state-financial-overview/open-ecd/openecd/tneecd-performance-metrics/openecd-business-development-quick-stats/foreign-owned-businesses.html>

Evaluation of Tennessee's Business Tax Credits

*Figure 19: Companies with Credits Claimed (2019-2022) and ECD Projects (2011-2022), by Parent Country*

	# Projects	New Job Commitments	Capital Investment	Credits Claimed	% of Total Claimed
Japan	89	17,319	\$5,184,576,913	\$80,872,534	18.5%
Germany	34	7,368	\$1,893,605,103	\$26,660,482	6.1%
Canada	31	3,573	\$1,190,368,004	\$10,185,129	2.3%
United Kingdom	17	1,595	\$440,973,589	\$7,038,445	1.6%
China	16	2,192	\$445,278,052	\$3,740,015	0.9%
France	12	3,115	\$307,789,542	\$1,711,252	0.4%
Italy	11	1,118	\$339,267,090	\$3,329,317	0.8%
Switzerland	11	1,724	\$175,624,000	\$744,978	0.2%
Ireland	10	1,546	\$114,515,576	\$833,174	0.2%
Other Countries <sup>27</sup>	52	8,435	\$2,734,326,123	\$15,698,658	3.6%
<b>ECD Projects by Foreign-Owned Companies</b>	<b>283</b>	<b>47,985</b>	<b>\$12,826,323,992</b>	<b>\$150,813,984</b>	<b>34.5%</b>
<b>All ECD Projects</b>	<b>909</b>	<b>131,745</b>	<b>\$29,898,634,160</b>	<b>\$437,441,383</b>	<b>100.0%</b>

<sup>27</sup> Data for 14 other countries are suppressed, with fewer than 10 projects represented. The countries include Australia, Austria, Belgium, Brazil, Denmark, Hong Kong, India, 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 85.2% (\$1.3 billion) of the \$1.52 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 contribution 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 20: Value of Credits Awarded (2019-2022)*

	Total Value of Credits Awarded (2019-2022)	Average Annual Value of Credits Awarded	Share of Total
Job Tax Credits	\$637,281,000	\$159,320,250	41.8%
Industrial Machinery Credits	\$661,783,724	\$165,445,931	43.4%
Headquarters Sales Tax Credits	\$3,810,914	\$952,728	0.3%
Community Investment Credits	\$212,597,864	\$53,149,466	14.0%
Small Business & Rural Opportunity Fund Credits	\$8,365,229	\$2,091,307	0.5%
<b>Total</b>	<b>\$1,523,838,731</b>	<b>\$380,959,683</b>	<b>100.0%</b>

The evaluations of growth and subsequent analyses of economic and fiscal impact are limited to taxpayers which could be matched to TDLWD employment records.<sup>28</sup> In total, the researchers matched 95.8% of businesses awarded job tax credits and 95.3% of businesses awarded industrial machinery credits between 2019 and 2022.

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 2023. As such, for companies awarded credits in 2019, CERT analyzed change in employment from 2018<sup>29</sup> (pre-credit employment level) through 2023 (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 2023.

**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 without (or "but for") the credits cannot be established or verified with any certainty. Evaluators

<sup>28</sup> More information on the records-matching process is provided in the "Methodology and Key Analysis Components" section of this report.

<sup>29</sup> For companies awarded credits in 2019, the full four quarters of 2018 are used to measure employment in the previous period.

across the country have acknowledged this limitation and select from a variety of methods for making good faith estimates regarding the impact of incentives.

In keeping with the previous format, evaluators decided that rather than making assumptions about business behavior, this study utilizes a sensitivity analysis that estimates a range of possible outcomes.<sup>30</sup> 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; and,
- Proximity to key markets; and a number of other factors.<sup>31</sup>

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<sup>30</sup> Sensitivity analyses are common to incentive evaluation approaches. Examples include evaluations in [Colorado \(2019\)](#), [Oklahoma \(2020\)](#), [Rhode Island \(2021\)](#), and [Virginia \(2020\)](#).

<sup>31</sup> Evaluators in Indiana also draw attention to these factors when explaining the role of incentive packages in locating data centers. *2024 Indiana Tax Incentive Review* - Indiana General Assembly [https://iga.in.gov/publications/tax\\_incentive\\_review/2024%20Tax%20Incentive%20Evaluation\\_FINAL.pdf](https://iga.in.gov/publications/tax_incentive_review/2024%20Tax%20Incentive%20Evaluation_FINAL.pdf)

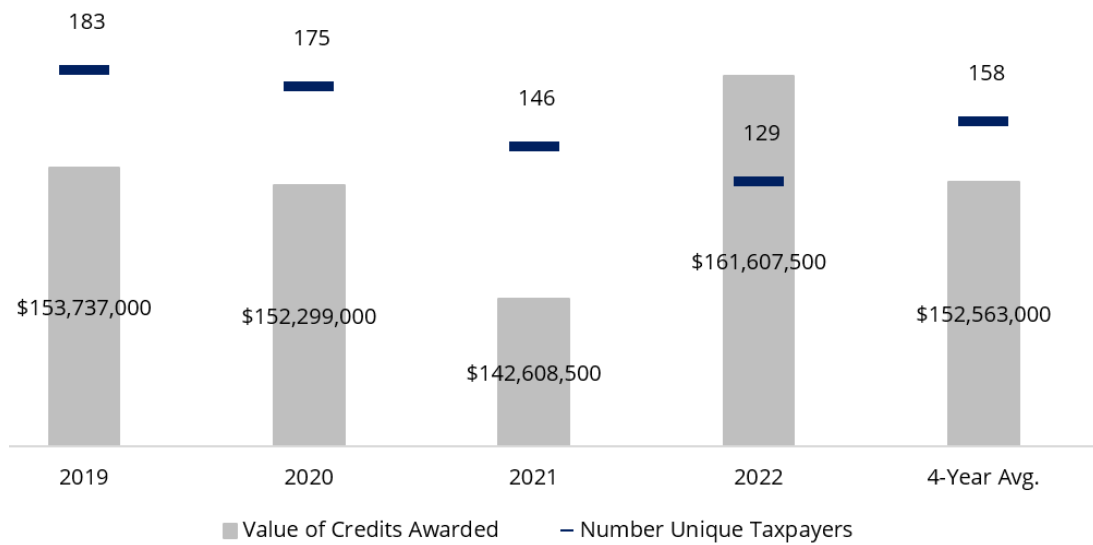
Companies evaluate potential locations for their investment against these factors, and the strengths and weaknesses they bring to each location. Incentives can sometimes compensate for differences or weaknesses that may have otherwise compelled a company to locate elsewhere.<sup>32</sup>

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

### Growth of Companies Awarded Job Tax Credits<sup>33</sup>

During the four-year period of 2019 to 2022, nearly 160 companies were awarded \$152.5 million in job tax credits on average each year, totaling \$610.2 million across all four years. The average number of companies claiming credits decreased by approximately 16% over the previous four-year period with the average awarded amount increasing by \$22 million.

*Figure 21: Job Tax Credits Awarded by Year, 2019-2022*



During 2019, over 180 taxpayer entities were awarded \$153.7 million in job tax credits. As illustrated in Figure 27, these businesses employed more than 148,100 people in Tennessee in 2018 prior to receiving job tax credits. During 2019, employment at these businesses grew 6.7% to 158,063 jobs.

<sup>32</sup> Evaluators in Iowa explained, "Discussions with business developers and industry representatives suggested that tax incentives are usually one out of many factors for a business to consider when it decides on the location of new investment." Source: *Iowa's High Quality Jobs Program: Tax Credits Program Evaluation Study: December 2021*, Iowa Department of Revenue

<sup>33</sup> Data provided in this section are for taxpayer entities that could be matched with TDLWD employment records. This represented 95.8% of businesses awarded job tax credits in the four-year period.

Evaluation of Tennessee's Business Tax Credits

Companies awarded credits in 2019 were able to maintain positive job growth throughout the analyzed period, even with the COVID-19 pandemic, before declining slightly between 2022 and 2023. From 2018 to 2023, companies awarded job tax credits in 2019 created over 30,600 net new jobs in the five years from 2018 to 2023.

*Figure 22: Employment Growth at Companies Awarded Job Tax Credits in 2019*

	Employment Prior to Credit (2018)	Year 1 (2019)	Year 2 (2020)	Year 3 (2021)	Year 4 (2022)	Year 5 (2023)
Employment	148,127	158,063	159,180	171,093	179,832	178,731
Annual Job Growth from Prior Year						
Number	--	9,936	1,118	11,913	8,738	-1,101
Percent	--	6.7%	0.7%	7.5%	5.1%	-0.6%
Cumulative Job Growth from Pre-Credit Employment Level						
Number	--	9,936	11,054	22,967	31,705	30,604
Percent	--	6.7%	7.5%	15.5%	21.4%	20.7%

The same analysis was conducted for companies awarded job tax credits in 2020, 2021, and 2022 (see Figure 28). Employment levels increased through 2023 for these years with the number of employees increasing by 16.7% over the four-year period for those awarded credits in 2020, by 21.0% at companies awarded credits in 2021, and by 9.0% at companies awarded credits in 2022.

*Figure 23: Employment Growth at Companies Awarded Job Tax Credits in 2019-2022*

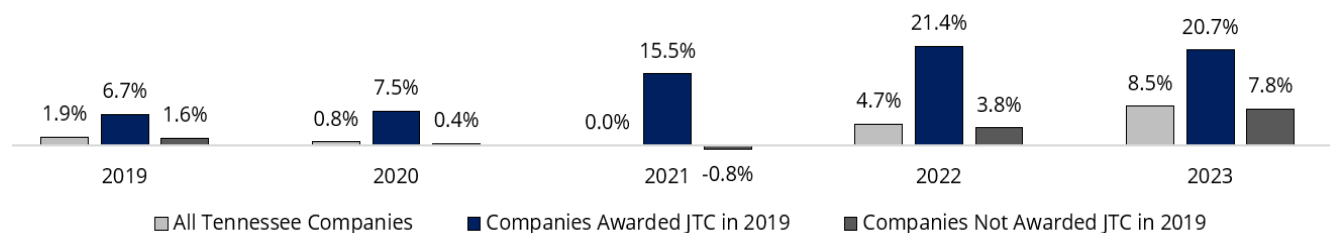
Year Awarded JTC	No. Taxpayer Entities	Employment in Prior FY	Cumulative % Change in Employment				
			Year 1	Year 2	Year 3	Year 4	Year 5
2019	183	148,127	6.7%	7.5%	15.5%	21.4%	20.7%
2020	175	151,741	1.7%	10.6%	17.2%	16.7%	--
2021	146	116,211	12.6%	21.5%	21.0%	--	--
2022	123	133,507	8.2%	9.0%	--	--	--

The trends identified in employment growth demonstrate that businesses awarded job tax credits tend to cluster hiring in the year of credit award, aside from fiscal year 2020 with an assumed connection to the pandemic. A repeated trend from the previous report is that companies that received the credit continue to create net new jobs in the years after the initial credit award. However, one interesting note is that total employment for award years 2019, 2020, and 2021 decreased slightly in 2023. However, the overall trend is that companies awarded a job tax credit have continued to increase over time. Where the credits are awarded based on demonstrated job creation, these results meet the intent of the credit. As companies continued to meet new job creation thresholds, some were awarded additional job tax credits in years following. As companies decide to expand or open new facilities across the state, the data has shown that job creation efforts can be extended across multiple years.

## Evaluation of Tennessee's Business Tax Credits

As with the previous four-year period, growth of companies receiving job tax credits far outpaced that of companies that were not awarded job tax credits. In 2019, companies awarded job tax credits had a job growth rate of 6.7%, compared to 1.9% growth of all Tennessee companies and 1.6% growth of Tennessee companies that were not awarded job tax credits.

*Figure 24: Cumulative Job Growth Rates from 2018*



*Figure 25: Job Growth Rates for All Companies, Companies Awarded Job Tax Credits in 2019, and Companies Not Awarded Job Tax Credits in 2019*

	2018	2019	2020	2021	2022	2023
Employment of All Companies in Tennessee <sup>34</sup>	2,951,888	3,007,181	2,975,082	2,953,302	3,090,357	3,202,276
Job Growth Rate, Year Over Year		1.9%	-1.1%	-0.7%	4.6%	3.6%
Job Growth Rate, Cumulative from 2018		1.9%	0.8%	0.0%	4.7%	8.5%
Employment of Companies Awarded JTC in 2019	148,127	158,063	159,180	171,093	179,832	178,731
Job Growth Rate, Year Over Year		6.7%	0.7%	7.5%	5.1%	-0.6%
Job Growth Rate, Cumulative from 2018		6.7%	7.5%	15.5%	21.4%	20.7%
Employment of Companies Not Awarded JTC in 2019	2,803,762	2,849,118	2,815,902	2,782,208	2,910,526	3,023,545
Job Growth Rate, Year Over Year		1.6%	-1.2%	-1.2%	4.6%	3.9%
Job Growth Rate, Cumulative from 2018		1.6%	0.4%	-0.8%	3.8%	7.8%

In addition to having higher rates of growth, companies awarded job tax credits provided higher wages than the average business in Tennessee.<sup>35</sup> In evaluating the 183 businesses awarded job tax credits in 2019, their wages exceeded the statewide average by 17.4% to 27.0% in each year from 2018 to 2023.<sup>36</sup> Additionally, the wages of companies awarded job tax credits in 2019 grew by 21%

<sup>34</sup> Source: Quarterly Census of Employment and Wages (QCEW), U.S. Bureau of Labor Statistics

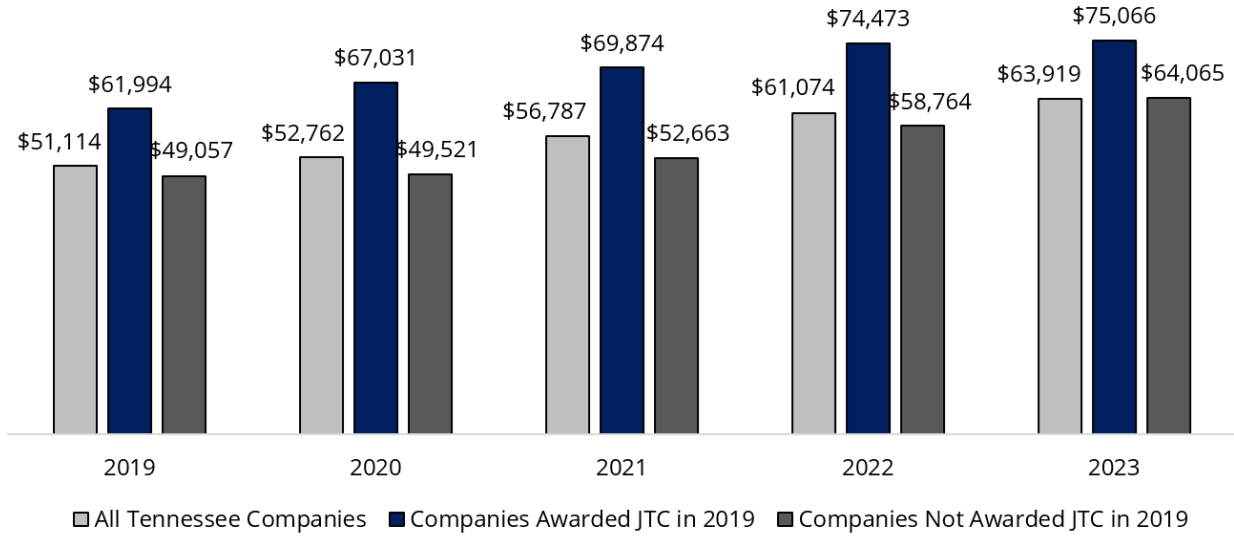
<sup>35</sup> Source for average wage for all Tennessee businesses: Quarterly Census of Employment and Wages (QCEW), U.S. Bureau of Labor Statistics.

<sup>36</sup> Wages are not adjusted for inflation.

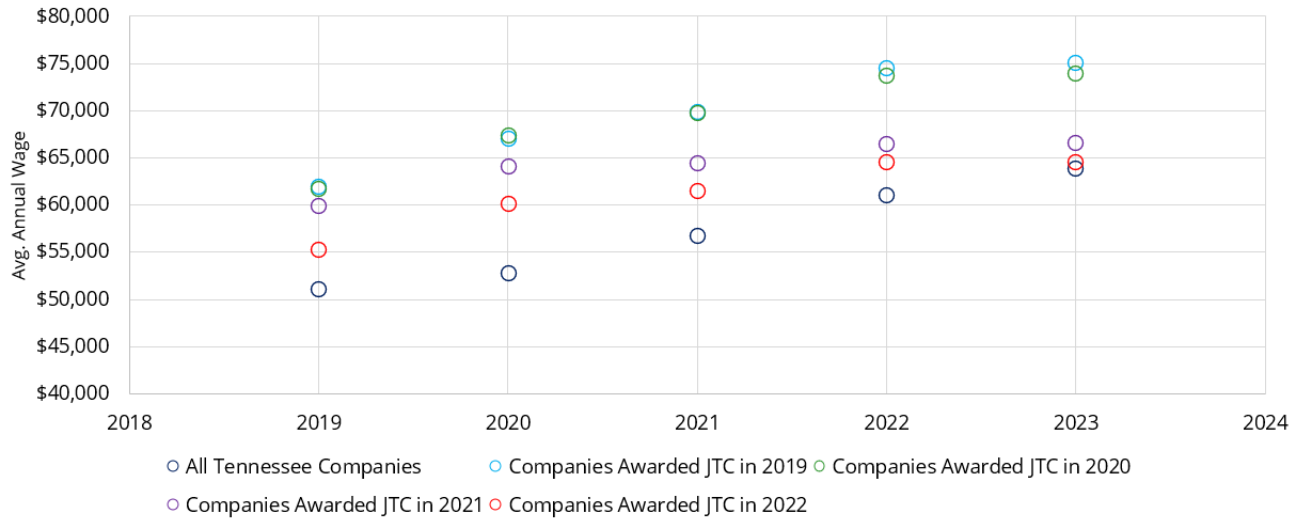
## Evaluation of Tennessee's Business Tax Credits

over the five-year period. Companies awarded job tax credits in 2020, 2021, and 2022 also consistently provided wages above the statewide average (see Figure 32).

*Figure 26: Average Annual Wages for All Companies, Companies Awarded Job Tax Credits in 2019, and Companies Not Awarded Job Tax Credits in 2019*



*Figure 27: Average Annual Wages for All Companies and Companies Awarded Job Tax Credits in 2019, 2020, 2021, and 2022*



### Sensitivity Analysis

As mentioned in Part III of this report, it is not possible to quantify the exact amount of job creation that can be directly attributed to the credit, nor is it possible to determine the level of business growth that would have happened in its absence. Figure 33 provides a range of potential outcomes.

Employment for the 183 companies awarded job tax credits in 2019 increased by 30,600 in the five years to 2023. 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 30,600 new jobs over five years. However, it is unlikely that all 183 companies based their decision to create jobs only on the outcome of the credit. If the credits were responsible for 75% of the growth, the impact of the credits would be 22,950 new jobs. If the credits were responsible for only 50% or 25% of the realized business growth, the impact would be 15,300 new jobs or 7,650 new jobs, respectively.

The same scenarios are provided in Figure 33 for companies awarded job tax credits in 2020 (which created 25,270 new jobs in the four years from 2019 to 2023), 2021 (which created 24,350 new jobs in the three years from 2020 to 2023), and 2022 (which created over 12,060 new jobs in the two years from 2021 to 2023).

*Figure 28: 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 2023				
			100% of Job Growth	75% of Job Growth	50% of Job Growth	25% of Job Growth	0% of Job Growth
2019	183	5 (2018-2023)	30,604	22,953	15,302	7,651	0
2020	175	4 (2019-2023)	25,276	18,957	12,638	6,319	0
2021	146	3 (2020-2023)	24,358	18,269	12,179	6,090	0
2022	123	2 (2021-2023)	12,060	9,045	6,030	3,015	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 2019, 2020, 2021, and 2022. The results for companies awarded job tax credits in 2019 are detailed below. The results for all years, 2019 through 2022, are provided in Figure 38.

Employment at the companies awarded job tax credits in 2019 grew by 30,600 new jobs between 2018 and 2023, with those new jobs providing \$7.2 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 183 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. These direct, indirect, and induced impacts will touch nearly every industry sector of the state's economy. The indirect and induced job creation projected to occur over the five years from 2018 to 2023 totals 55,050 new jobs in Tennessee with \$8.8 billion in new earnings over the five-year period. Combined with the growth of companies receiving job tax credits, the total projected growth is 85,660 new jobs with nearly \$16.0 billion in new earnings over the five years to 2019.

*Figure 29: Companies Awarded Job Tax Credits in 2019: Estimated Economic Impacts Over Five Years (2018-2023)*

	Direct Impacts	Indirect & Induced Impacts	Total Impacts
New Jobs	30,604	55,059	85,663
New Earnings	\$7.2B	\$8.8B	\$16.0B
Economic Output	\$29.5B	\$31.6B	\$61.1B

Companies awarded job tax credits in 2019 are estimated to have generated \$61.1 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 \$29.5 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 \$32.3 billion in value added,<sup>37</sup> 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 \$224.5 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 \$122.8 million in franchise and excise tax collections and \$44.7 million in miscellaneous taxes and user fees. In total, the growth of companies awarded job tax credits in 2019 are estimated to have generated \$392.0 million in new state tax revenues during the five-year period. Local benefits, including property taxes generated, are not included in the analysis.

*Figure 30: Companies Awarded Job Tax Credits in 2019: Estimated New State Tax Revenues Over Five Years (2018-2023)*

	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Sales Tax on Worker Spending	\$101.0M	\$123.5M	\$224.5M
Franchise & Excise Tax	\$55.2M	\$67.6M	\$122.8M
Miscellaneous Taxes and User Fees	\$36.1M	\$8.6M	\$44.7M
Total Revenues	\$192.3M	\$199.7M	\$392.0M

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

<sup>37</sup> 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 \$75.9 million over the five-year period.

The tax benefits generated less additional costs to the state result in an estimated \$316.1 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 \$153.7 million in job tax credits awarded in 2019. Based on these estimates and assumptions, CERT projects the cumulative net benefits would meet the value of the credit within 3.33 years—the point at which the state would see a return on its investment.<sup>38</sup>

*Figure 31: Companies Awarded Job Tax Credits in 2019: Estimated Net Fiscal Benefits Over Five Years and Return on Investment (2018-2023)*

	Total Impacts
Total Revenues	\$392.0M
Costs of Providing State Government Services	- \$75.9M
Net Benefits	\$316.1M
Cost of Credit	\$153.7M
Payback Period (Years)	3.33

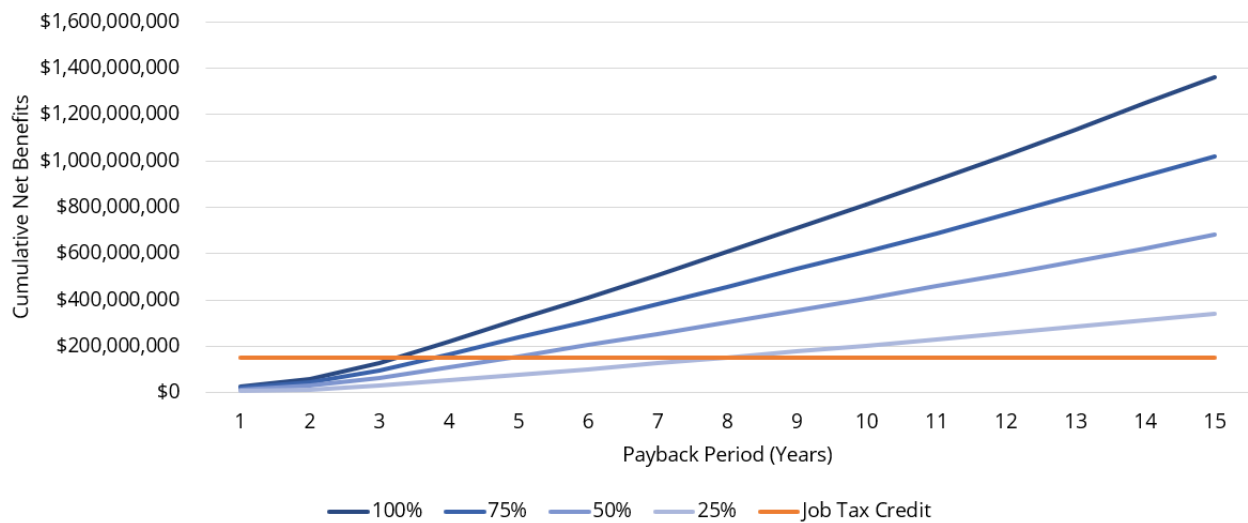
### Sensitivity Analysis

For companies awarded job tax credits in 2019, the results identified in Figure 36 project the state would receive a return on its investment through net fiscal benefits in 3.33 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 (30,600 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 (22,950 new jobs) was attributable to the credit, the cumulative net benefits would surpass the cost of the incentive after 3.76 years. If the credits were only responsible for 50% of the growth (15,300 new jobs), the time horizon at which the state will receive a return on its investment lengthens to 4.83 years. Were the credits to be responsible for 25% of the growth (7,650 new jobs), the payback period lengthens further to 7.92 years. Under the assumption that 0% of the growth realized can be attributable to the credit, the state will never see a return.

<sup>38</sup> This analysis assumes the full amount of the credit award will be claimed in the year the credit is awarded. This analysis does not assume the amount of credit claimed, which, as noted in the “Setting the Context” section, is typically lower than the total amount. 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 32: Estimated Cumulative Net Benefits Based on Percentage of Employment Growth Attributable to Job Tax Credits*



### Job Tax Credits Awarded in 2020, 2021, and 2022

The total projected impacts over five years for companies awarded job tax credits in 2019 (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 2020, 2021, and 2022, 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 2020, 2021, and 2022 are predictably lower.<sup>39</sup> For example, employment at companies awarded job tax credits in 2022 increased by 12,060 jobs in the two years of 2021 to 2023<sup>40</sup> and supported another projected 24,647 indirect and induced jobs through the multiplier effect (36,707 total new jobs, reported in Figure 38). Had employment data been available for a full five years, the estimate for new jobs would presumably be much greater.

CERT evaluated the industry, average wage, and change in employment for each company awarded job tax credits each of the four years. 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 1.95 to 3.43 years in the 100% growth scenario.

<sup>39</sup> See the “Methodology and Key Analysis Components” section of this report for more information.

<sup>40</sup> See Figure 33.

Evaluation of Tennessee's Business Tax Credits

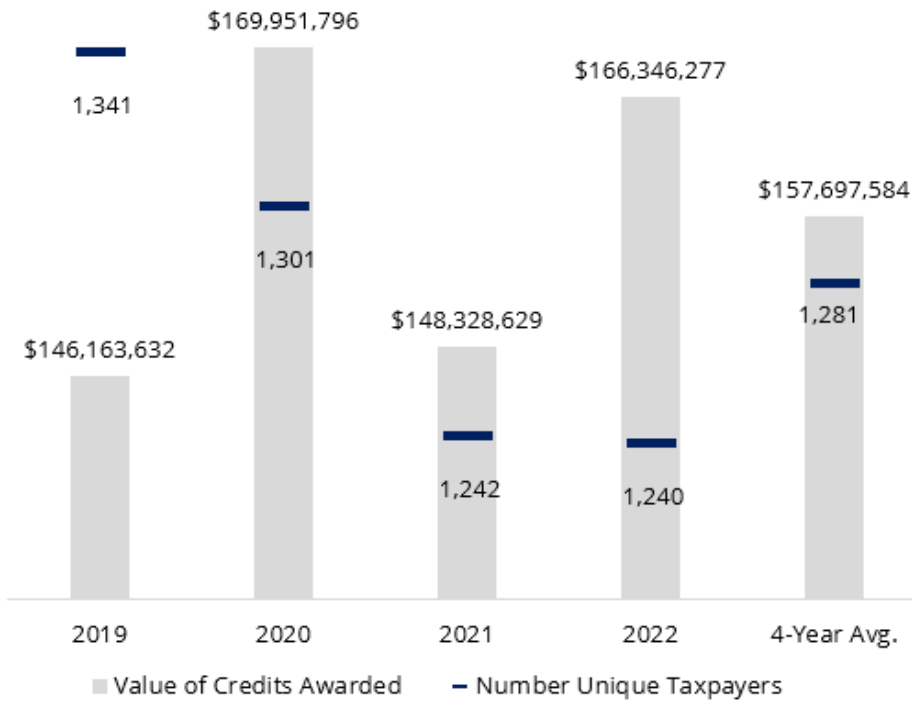
*Figure 33: Total Estimated Impacts Over Five Years for Companies Awarded Job Tax Credits in 2019, 2020, 2021, and 2022 (Direct, Indirect, and Induced Impacts)*

	Year Awarded Job Tax Credits			
	2019 (2018-2023)	2020 (2019-2023)	2021 (2020-2023)	2022 (2021-2023)
Number of Years for which Job Growth is Evaluated	5	4	3	2
<b>Economic Impacts (Direct, Indirect, and Induced) Over Five Years</b>				
New Jobs	85,662	51,585	60,178	36,707
New Earnings	\$15.9B	\$13.4B	\$21.4B	\$12.6B
Economic Output	\$61.1B	\$29.5B	\$57.1B	\$44.8B
Value Added	\$32.3B	\$16.5B	\$26.5B	\$19.3B
<b>Fiscal Impacts (Direct, Indirect, and Induced) Over Five Years</b>				
Total Revenues	\$392.0M	\$330.0M	\$512.0M	\$300.4M
Sales Tax on Worker Spending	\$224.5M	\$188.4M	\$301.1M	\$178.0M
Franchise & Excise Tax	\$122.8M	\$103.0M	\$164.6M	\$97.4M
Miscellaneous Taxes and User Fees	\$44.7M	\$38.6M	\$46.3M	\$25.0M
Costs of Providing State Government Services	- \$75.9M	- \$65.4M	- \$78.5M	-\$42.4M
Net Benefits	\$316.1M	\$264.6M	\$433.5M	\$258.0M
<b>Return on Investment</b>				
Cost of Credit	\$153.7M	\$152.3M	\$124.0M	\$113.1M
Payback Period (Years)	3.33	3.43	1.95	2.99

### Growth of Companies Awarded Industrial Machinery Credits<sup>41</sup>

Over the four-year period of 2019 through 2022, approximately 1,800 companies were awarded \$157.7 million in industrial machinery tax credits each year, totaling \$630.8 million across all four years. These credits were awarded as a result of business investments in qualified machinery and equipment.

*Figure 34: Industrial Machinery Credits Awarded by Year, 2019-2022*



During 2019, approximately 1,341 taxpayer entities were awarded \$146.1 million in industrial machinery credits. As illustrated in Figure 40, these businesses employed more than 265,100 people in Tennessee in 2018 prior to receiving the credits. During 2019, employment at these businesses grew 14.1% to 302,575 jobs. While employment declined during the time of the pandemic, it improved modestly in 2021 and 2022 before declining in 2023. In total, the 1,341 companies awarded industrial machinery credits during 2019 created nearly 41,300 net new jobs in the five years from 2018 to 2023.

<sup>41</sup> Data provided in this section are for taxpayer entities awarded industrial machinery credits which could be matched to TDLDW employment records. This constituted 95.3% of the value of industrial machinery credits awarded in the four-year period.

*Figure 35: Employment Growth at Companies Awarded Industrial Machinery Credits in 2019*

	Employment Prior to Credit (2018)	Year 1 (2019)	Year 2 (2020)	Year 3 (2021)	Year 4 (2022)	Year 5 (2023)
Employment	265,132	302,575	298,483	303,160	309,755	306,424
Annual Job Growth from Prior Year						
Number	--	37,443	-4,092	4,677	6,595	-3,331
Percent	--	14.1%	-1.4%	1.6%	2.2%	-1.1%
Cumulative Job Growth from Pre-Credit Employment Levels						
Number	--	37,443	33,351	38,028	44,623	41,292
Percent	--	14.1%	12.6%	14.3%	16.8%	15.6%

The same analysis was conducted for companies awarded industrial machinery credits in 2020, 2021, and 2022 (see Figure 41). The pandemic had a significant impact on companies awarded credits during 2020. Employment decreased during the height of the pandemic and subsequent supply chain issues likely played a role in the recovery for a portion of these businesses. Employment has gradually increased above 2019 levels with over 7,100 jobs created by 2023. Additionally, businesses awarded industrial machinery credits in 2021 and 2022 have also increased employment post-pandemic. Compared to the prior year's employment, the number of employees grew by 3.2% at companies awarded credits in 2021 and by 4.1% at companies awarded credits in 2022.

*Figure 36: Employment Growth at Companies Awarded Industrial Machinery Credits in 2019-2022*

Year Awarded IMC	No. Taxpayer Entities	Employment in Prior FY	Cumulative % Change in Employment				
			Year 1	Year 2	Year 3	Year 4	Year 5
2019	1,341	265,132	14.1%	12.6%	14.3%	16.8%	15.6%
2020	1,301	297,218	-0.5%	1.6%	3.0%	2.4%	--
2021	1,242	261,304	3.2%	5.6%	4.7%	--	--
2022	1,240	266,704	4.1%	3.6%	--	--	--

The growth of companies receiving industrial machinery credits outpaced that of companies that were not awarded industrial machinery credits. In 2019, companies awarded industrial machinery credits had a job growth rate of 14.1%, compared to 1.9% growth of all Tennessee companies and 0.7% growth of Tennessee companies that were not awarded industrial machinery credits.

Figure 37: Cumulative Job Growth Rates from 2018

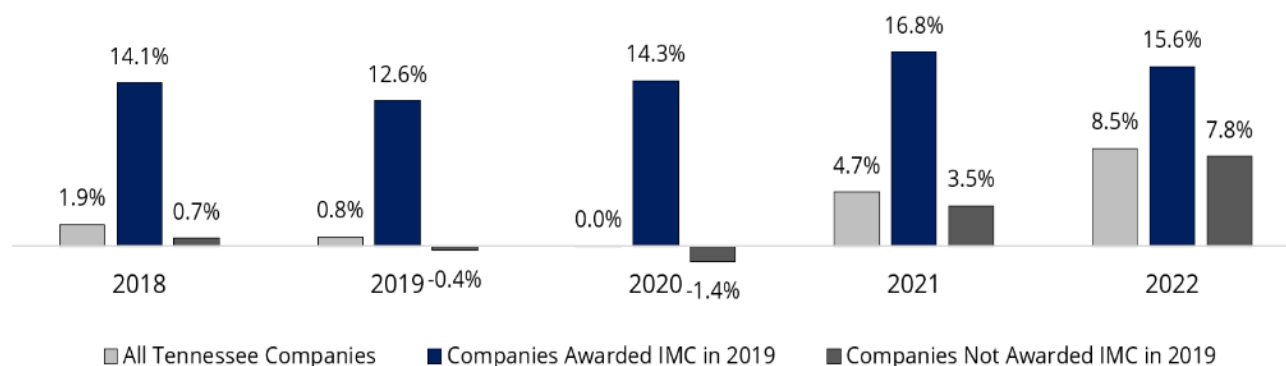


Figure 38: Job Growth Rates for All Companies, Companies Awarded Industrial Machinery Credits in 2019, and Companies Not Awarded Industrial Machinery Credits in 2019

	2018	2019	2020	2021	2022	2023
Employment of All Companies in Tennessee <sup>42</sup>	2,951,888	3,007,181	2,975,082	2,953,302	3,090,357	3,202,276
Job Growth Rate, Year Over Year	-	1.9%	-1.1%	-0.7%	4.6%	3.6%
Job Growth Rate, Cumulative from 2018	-	1.9%	0.8%	0.0%	4.7%	8.5%
Employment of Companies Awarded IMC in 2019	265,132	302,575	298,483	303,160	309,755	306,424
Job Growth Rate, Year Over Year		14.1%	-1.4%	1.6%	2.2%	-1.1%
Job Growth Rate, Cumulative from 2018		14.1%	12.6%	14.3%	16.8%	15.6%
Employment of Companies Not Awarded IMC in 2019	2,686,756	2,704,606	2,676,599	2,650,141	2,780,602	2,895,852
Job Growth Rate, Year Over Year		0.7%	-1.0%	-1.0%	4.9%	4.1%
Job Growth Rate, Cumulative from 2018		0.7%	-0.4%	-1.4%	3.5%	7.8%

In addition to having higher rates of growth, companies awarded industrial machinery credits provided higher wages than the average business in Tennessee.<sup>43</sup> In evaluating the 1,341 businesses awarded industrial machinery credits in 2019, their wages exceeded the statewide average by 13% to 18% in each year from 2019 to 2023.<sup>44</sup> Their wages exceeded the average of companies not awarded industrial machinery credits by 16% to 21% in each of the five years. Companies awarded

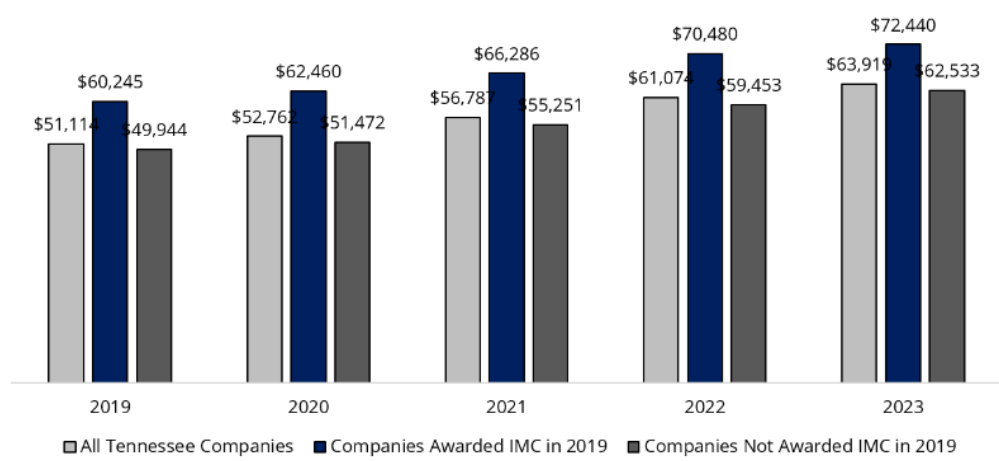
<sup>42</sup> Source: Quarterly Census of Employment and Wages (QCEW), U.S. Bureau of Labor Statistics

<sup>43</sup> Source for average wage for all Tennessee businesses: Quarterly Census of Employment and Wages (QCEW), U.S. Bureau of Labor Statistics.

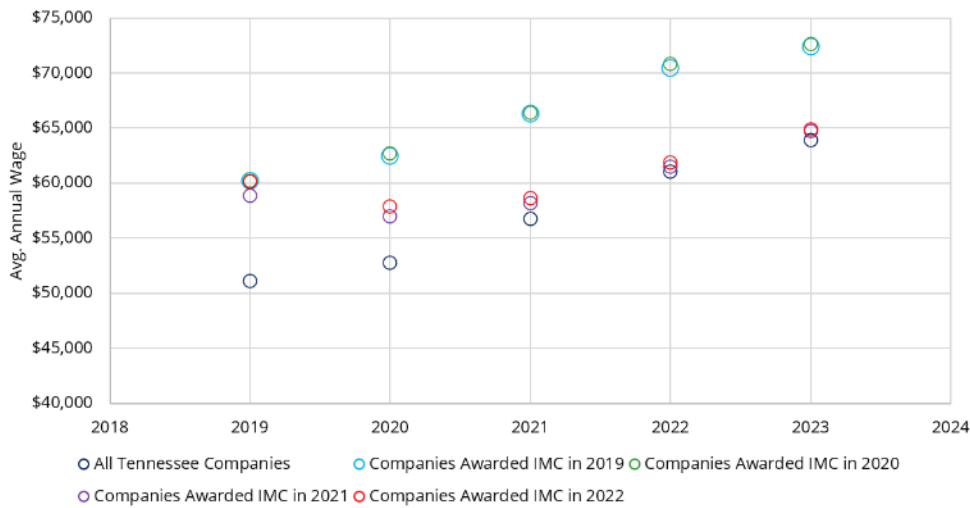
<sup>44</sup> Wages are not adjusted for inflation.

industrial machinery credits in 2020, 2021, and 2022 also consistently provided wages above the statewide average (see Figure 45).

*Figure 39: Average Annual Wages for All Companies, Companies Awarded Industrial Machinery Credits in 2019, and Companies Not Awarded Industrial Machinery Credits in 2019*



*Figure 40: Average Annual Wages for All Companies and Companies Awarded Industrial Machinery Credits in 2019, 2020, 2021, and 2022*



### 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 1,341 companies awarded industrial machinery credits in 2019 increased by 41,292 in the five years to 2023. 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 41,292 new jobs over five years. However, it is unlikely that all 1,341 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 30,969 new jobs. If the credits were responsible for only 50% or 25% of the realized business growth, the impact would be 20,646 new jobs or 10,323 new jobs, respectively.

The same scenarios are provided in Figure 46 for companies awarded industrial machinery credits in 2020 (which created nearly 7,169 new jobs in the four years from 2019 to 2023), 2021 (which created nearly 12,230 new jobs in the three years from 2020 to 2023), and 2022 (which created approximately 9,700 new jobs in the two years from 2021 to 2023).

*Figure 41: 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 2023				
			100% of Job Growth	75% of Job Growth	50% of Job Growth	25% of Job Growth	0% of Job Growth
2019	1,341	5 (2018-2023)	41,292	30,969	20,646	10,323	0
2020	1,301	4 (2019-2023)	7,169	5,377	3,585	1,792	0
2021	1,242	3 (2020-2023)	12,228	9,171	6,114	3,057	0
2022	1,240	2 (2021-2023)	9,688	7,266	4,844	2,422	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 2019 with the results detailed below. The results for all years, 2019 through 2022, are also provided in Figure 51.

Employment at the companies awarded industrial machinery credits in 2019 grew by approximately 41,300 new jobs between 2018 and 2023, with those new jobs providing \$12.6 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 1,341 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. These direct, indirect, and induced impacts will touch nearly every industry sector of

the state's economy. The indirect and induced job creation projected to occur over the five years from 2018 to 2023 totals 31,400 new jobs in Tennessee with \$10.3 billion in new earnings over the five-year period. Combined with the growth of companies receiving industrial machinery credits, the total projected growth is 72,700 new jobs with \$22.9 billion in new earnings over the five years to 2019. The estimated indirect, induced, and total impacts are noticeably smaller than the previous four-year period. Once again, the pandemic significantly impacted these estimates over the analyzed period. During the previous study, jobs, earnings, and output estimates were accelerating throughout the four years. However, the impact of the pandemic prevented the same levels of growth between 2019 and 2023. As mentioned earlier in the paper, many of Tennessee's companies that received these credits experienced a reduction in employment during the analyzed period. However, the study still projects that the jobs and earnings generated a significant impact on the state's economy with an estimated 72,700 new jobs created for Tennessee workers.

*Figure 42: Companies Awarded Industrial Machinery Credits in 2019: Estimated Economic Impacts Over Five Years (2018-2023)*

	Direct Impacts	Indirect & Induced Impacts	Total Impacts
New Jobs	41,292	31,405	72,697
New Earnings	\$12.6B	\$10.3B	\$22.9B
Economic Output	\$19.0B	\$19.1B	\$38.1B

Companies awarded industrial machinery credits in 2019 are estimated to have generated \$38.1 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 \$19.0 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 \$27.2 billion in value added,<sup>45</sup> 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 \$322.7 million in new state sales tax collections in the five years to 2023.

Other fiscal benefits result from the projected economic activity of the companies investing and creating jobs in the state. These projected fiscal benefits include \$176.4 million in franchise and

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<sup>45</sup> 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.

excise tax collections and \$77.0 million in miscellaneous taxes and user fees. In total, the growth of companies awarded industrial machinery credits in 2019 are estimated to have generated \$576.1 million in new state tax revenues during the five-year period. Local benefits, including property taxes generated, are not included in the analysis.

*Figure 43: Companies Awarded Industrial Machinery Credits in 2019: Estimated New State Tax Revenues Over Five Years (2018-2023)*

	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Sales Tax on Worker Spending	\$177.6M	\$145.1M	\$322.7M
Franchise & Excise Tax	\$97.1M	\$79.4M	\$176.4M
Miscellaneous Taxes and User Fees	\$65.6M	\$11.4M	\$77.0M
Total Revenues	\$286.1M	\$290.1M	\$576.1M

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 \$130.6 million over the five-year period.

The tax benefits generated less additional costs to the state result in an estimated \$445.5 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 \$146.2 million in industrial machinery credits awarded in 2019. Based on these estimates and assumptions, CERT projects the cumulative net benefits would meet the value of the credit within 1.86 years—the point at which the state would see a return on its investment.<sup>46</sup>

<sup>46</sup> This analysis assumes the full amount of the credit award will be claimed in the year the credit is awarded. This analysis does not assume the amount of credit claimed, which, as noted in the “Setting the Context” section, is typically lower than the total amount. 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 44: Companies Awarded Industrial Machinery Credits in 2019: Estimated Net Fiscal Benefits Over Five Years and Return on Investment (2019-2023)*

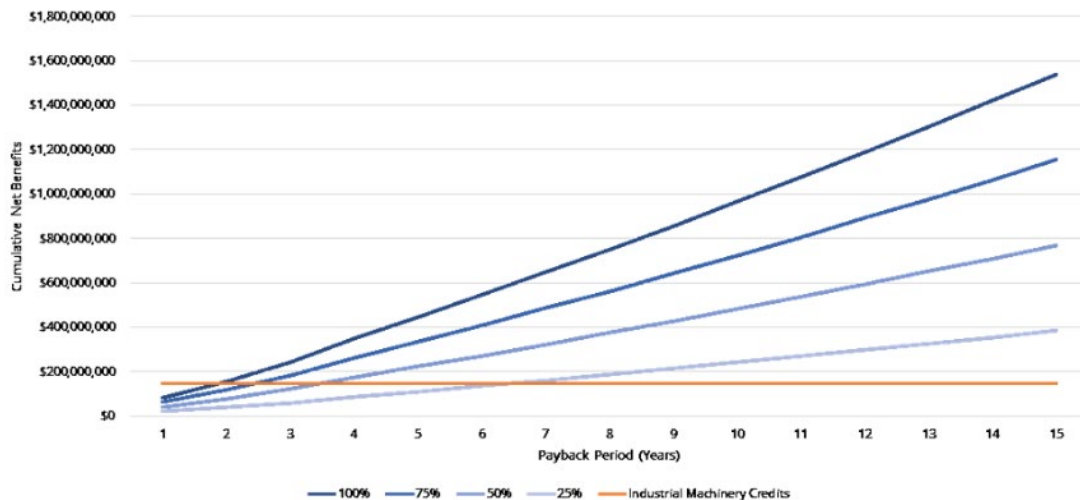
	Total Impacts
Total Revenues	\$576.1M
Costs of Providing State Government Services	- \$130.6M
Net Benefits	\$445.5M
Cost of Credit	\$146.2M
Payback Period (Years)	1.86

**Sensitivity Analysis**

For companies awarded industrial machinery credits in 2019, the results identified in Figure 49 project the state would receive a return on its investment through net fiscal benefits in 1.86 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 (41,300 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 (30,970 new jobs) was attributable to the credit, the cumulative net benefits would surpass the cost of the incentive after 2.44 years. If the credits were only responsible for 50% of the growth (20,650 new jobs), the time horizon at which the state will receive a return on its investment lengthens to 3.47 years. Were the credit to be responsible for 25% of the growth (10,320 new jobs), the payback period lengthens further to 6.38 years. Under the assumption that 0% of the growth realized can be attributable to the credit, the state will never see a return.

*Figure 45: Estimated Cumulative Net Benefits Based on Percentage of Employment Growth Attributable to Industrial Machinery Credits*



## Industrial Machinery Credits Awarded in 2020, 2021, and 2022

The total projected impacts for companies awarded industrial machinery credits in 2019 (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 2020, 2021, and 2022, 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 2020, 2021, and 2022 are predictably lower.<sup>47</sup> For example, employment at companies awarded industrial machinery credits in 2022 increased by 9,688 jobs in the two years of 2021 to 2023<sup>48</sup> and supported the creation of another projected 18,422 indirect and induced jobs through the multiplier effect (28,110 total new jobs, reported in Figure 51). Had employment data been available for a full five years, the estimate for new jobs would presumably be higher.

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 the years that the analysis was conducted, the state is projected to receive a return on its investment in 1.86 to 4.97 years.

*Figure 46: Total Estimated Impacts Over Five Years for Companies Awarded Industrial Machinery Credits in 2019, 2020, 2021, and 2022 (Direct, Indirect, and Induced Impacts)*

	Year Awarded Industrial Machinery Credits			
	2019	2020	2021	2022
Number of Years for which Job Growth is Evaluated	5 (2018-2023)	4 (2019-2023)	3 (2020-2023)	2 (2021-2023)
Economic Impacts (Direct, Indirect, and Induced) Over Five Years				
New Jobs	72,698	-7,044 <sup>49</sup>	12,229	28,110
New Earnings	\$22.9B	-	\$14.9B	\$9.7B
Economic Output	\$38.1B	-	\$22.8B	\$35.3B
Value Added	\$27.2B	-	\$14.9B	\$15.5B
Fiscal Impacts (Direct, Indirect, and Induced) Over Five Years				
Total Revenues	\$576.1M	-	\$191.2M	\$231.5M
Sales Tax on Worker Spending	\$322.7M	-	\$108.4M	\$136.2M
Franchise & Excise Tax	\$176.4M	-	\$59.3M	\$74.5M
Miscellaneous Taxes and User Fees	\$77.0M	-	\$23.5M	\$20.8M

<sup>47</sup> See the "Methodology and Key Analysis Components" section of this report for more information.

<sup>48</sup> See Figure 46.

<sup>49</sup> The negative values in the table are a result of the model's limitation in capturing the impacts of the COVID-19 pandemic on job creation and job losses. As a predictive tool, the return on investment (ROI) model is designed to estimate "normal" economic conditions, and its results are therefore limited when applied to extraordinary situations like the pandemic. This limitation of the model led to an atypical negative ROI for 2020 and the resulting incomplete data in the chart for that year.

Evaluation of Tennessee's Business Tax Credits

	Year Awarded Industrial Machinery Credits			
	2019	2020	2021	2022
Costs of Providing State Government Services	- \$130.6M	-	- \$39.9M	- \$35.3M
Net Benefits	\$445.5M	-	\$151.3M	\$196.2M
Return on Investment				
Cost of Credit	\$146.2M	\$170.0M	\$148.3M	\$166.3M
Payback Period (Years)	1.86	-	4.97	4.28

## **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. Pursuant to Tenn. Code Ann. §§ 67-4-2109(r), TDOR began issuing a new annual report of tax credits claimed under Tenn. Code Ann. §§ 67-4-2009 and 67-4-2109.<sup>50</sup> That report includes the number of taxpayers and amounts of credits claimed for the prior fiscal year. Pursuant to Tenn. Code Ann. § 67-1-118, this four-year report must include recommendations to modify, discontinue, or take no action with respect to each credit. Thus, the report offers the following recommendations for three credits with no action to 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) As appropriate, further evaluate certain sales and use business tax credits by providing unique stand-alone reports and/or including them within the scope of the next report.**

As part of the evaluation, researchers identified that a more in-depth analysis of business tax credits not listed in Tenn. Code Ann. § 67-1-118 or covered in this report – specifically those related to sales and use taxes and reported as tax abatements for annual financial reporting – could offer valuable insights that would further enhance the understanding of Tennessee's overall tax incentive landscape.<sup>51</sup> For example, due to technological advances and changing business models, it is possible that some credits need changes to be fully aligned with business recruitment priorities or to be more effective for assisting companies. While this report meets the legislative intent of those credits listed in the statutes, it could be helpful if additional research on other credits provided in future reports or in the years between this analysis.

Although included in this evaluation, this report recommends continued evaluation of the Headquarters Sales Tax Credit as well. The four years reviewed include a limited picture of Headquarters challenges and priorities post-pandemic, but it is clear that the Headquarters credit was little used during this period. The report recommends that additional analysis continue into whether the limited credit use relates to recruitment and business cycles or to the scope of the credit itself.

**(2) Identify state and federal partners that can provide insights regarding how the Community Investment Tax Credit is being utilized.**

Researchers noted a substantial increase in taxpayers claiming the Community Investment Tax Credit through this evaluation period. The amount claimed by year increased from \$35.7 million in FY19 to \$72 million in FY22. As reported in the previous analysis, 43 entities claimed approximately \$8.6 million in credits during FY15. However, by FY22, 68 taxpayers claimed

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<sup>50</sup> Pursuant to Public Chapter 251 (2017) and Tenn. Code Ann. § 67-4-2109(r).

<sup>51</sup> The qualified data center and warehouse and distribution center exemptions are two notable examples where use has increased in recent years. Source: Tennessee State Government - [Annual Comprehensive Financial Report](#)

nearly \$72 million in CITC credits. Additionally, the average amount claimed in FY22 (\$1.0 million) is five times higher than FY15 (\$200,155). The report recommends that ECD and TDOR identify the relevant state and/or federal agencies that could provide greater insight and additional data helpful to documenting the return on investment of this credit as it relates both to other similar tax credits and to affordable housing stock and community development.

**(3) Continue conversations regarding the need for modifications to the Job Tax Credit for Hiring Persons with Disabilities.**

The results of this study show less than \$2,400 in Job Tax Credit for Hiring Persons with Disabilities was claimed for the four years evaluated despite attempts to encourage use of the credit. While few taxpayers have claimed the credit, further considerations should be discussed for ways to increase usage of the credit. Since the previous report, significant tax legislation and initiatives have, of necessity, taken priority. The continued recommendation is for ECD and TDOR to 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 Disability and Aging (DDA), the Tennessee Department of Finance and Administration (F&A), and the Tennessee Department of Human Resources (DOHR).

## 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 third statutorily required report to be produced by ECD and TDOR since passage of Tenn. Code Ann. § 67-1-118. For the first report,<sup>52</sup> 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 subsequent two evaluations internally to allow for a more granular approach in analyzing taxpayers and their employment trends.<sup>53</sup> Though differing in approach, evaluators used AEG's 2016 commissioned report, along with reports on incentive evaluations from other states and recommendations by The Pew Charitable Trusts<sup>54</sup> as guides to ensure the evaluation incorporated appropriate and best-practice components of incentive evaluation. For the third report, the departments followed a similar format to the previous report.

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),<sup>55</sup> 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.

The evaluation's methodology has many strengths as a result of the cross-agency collaborative approach and internal agency resources. However, there are also limitations 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 important caveats to consider. The methodology, including its strengths and limitations, are identified below.

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<sup>52</sup> *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](https://www.tn.gov/content/dam/tn/transparenttn/documents/Tax_Credit_Analysis_FINAL_12-30-2016.pdf)

<sup>53</sup> 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.

<sup>54</sup> During the previous analysis, 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.

<sup>55</sup> Quarterly Census of Employment and Wages (QCEW) Program, WIRED, TDLWD

*Crosswalk of Firm-Level Data:* As with the previous report, ECD and TDOR assembled a crosswalk to match business records across the datasets maintained by ECD, TDOR, and TDLWD. The agencies spent significant time during the previous analysis to improve this framework. The crosswalk allows the departments to connect taxpayer entity data on the credits claimed (fiscal years 2019 through 2022), credits awarded (fiscal years 2019 through 2022), employment history and industry data (calendar years 2018 Q1 through 2023 Q4), and ECD project activity (calendar years 2011 through 2022).

Ultimately, ECD and TDOR were able to approximately 90% of taxpayer entities awarded or claiming credits between 2019 and 2022 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 accurately 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 points 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 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 2019, 2020, 2021, and 2022. Specifically, using TDLWD data CERT evaluated a company's change in employment in years one, two, three, four and five<sup>56</sup> 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 identified through this method is reported as a company's direct employment impact. The earnings<sup>57</sup> 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

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<sup>56</sup> For companies awarded tax credits in 2019, CERT was able to analyze direct job growth during years one through five (2019 to 2023). For companies awarded credits in 2020, employment data was only available for years one through four (2020 to 2023). For companies awarded credits in 2021, employment data was only available for years one through three (2021 to 2023). For companies awarded credits in 2022, employment data was only available for years one and two (2022 to 2023). As such, the results for number of jobs created over five years is often incrementally lower for companies awarded credits in 2020, 2021, and 2022. 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.

<sup>57</sup> Estimated based on the average wage for companies awarded credits in the year the credit was awarded.

(RIMS II) multipliers<sup>58</sup> 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.<sup>59</sup> 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 often have up to 25 years to claim some 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 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

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<sup>58</sup> 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.

<sup>59</sup> 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).

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 is not disclosed in the results of this paper. This data suppression is applied to protect the confidentiality of taxpayers. Nevertheless, the aggregate value of credits awarded and/or claimed by this small number of firms is provided in the report.