



2023 Tennessee Ag and Forest Stats

Economic Contributions of Agriculture and Forestry in Tennessee

Jamey Menard

Agri-Industry Modeling & Analysis Group (AIM-AG)
Department of Agricultural and Resource Economics

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& Analysis Group

2023 Executive Summary

Tennessee's agri-forestry industrial complex includes the primary industries typically associated with agriculture and forest operations such as growing crops, breeding and feeding of livestock, along with management and logging of trees. The industrial complex also includes both input supplying industries and value-added subsectors comprised of food and beverage manufacturing, apparel and textiles, and forestry products manufacturing (see Figure 1).

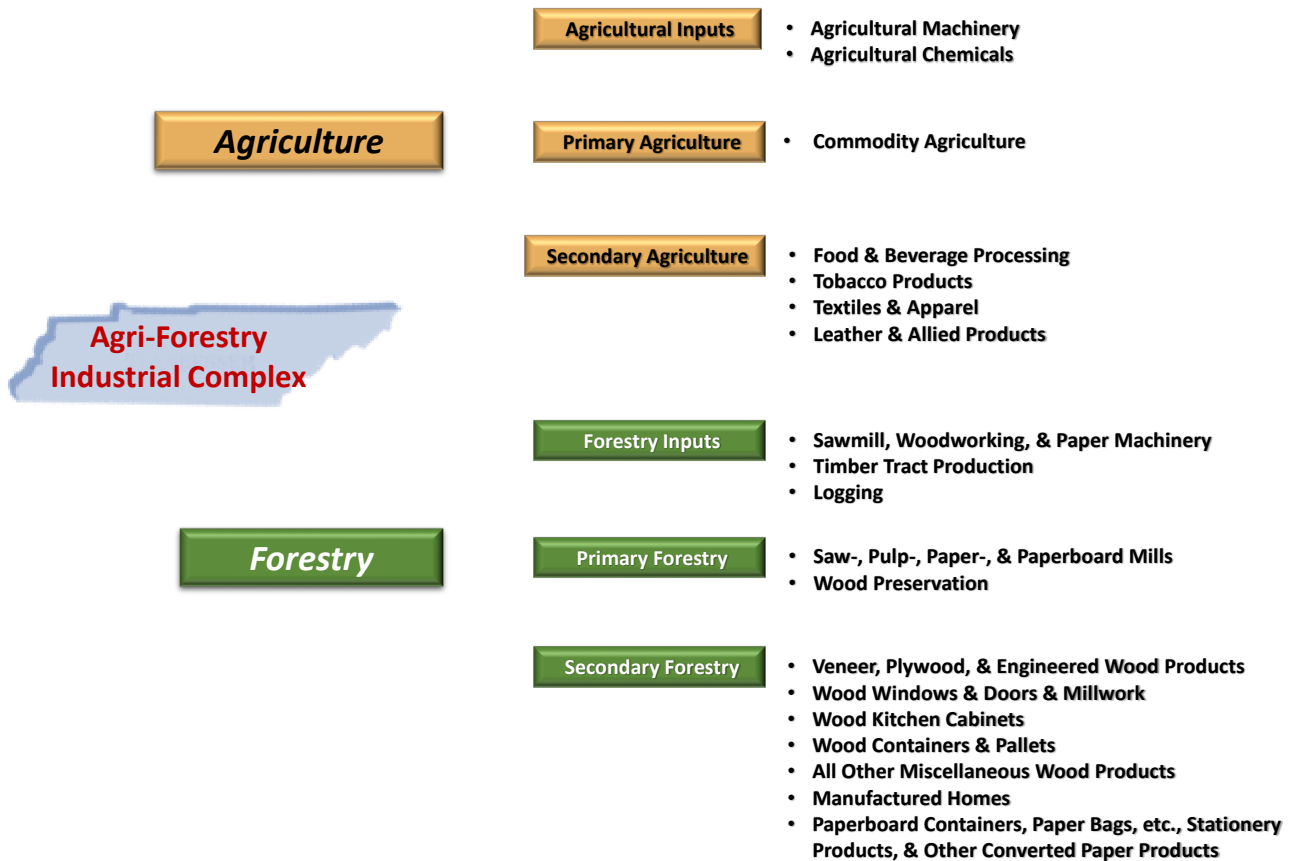


Figure 1. Graphic of Tennessee Agri-Forestry Industrial Complex used in this Analysis

In 2023, the agri-forestry industrial complex directly and indirectly (i.e., including multiplier effects) contributed **\$103.8 billion** to Tennessee's economy. In terms of gross output this value was 10.6 percent of the economic activity conducted in the state. An estimated 390,583 individuals work in industries either part of or supported by the complex, or 8.5 percent of total employment in Tennessee. **Agriculture** generated **\$74.8 billion** in output or 7.6 percent of the economic activity in Tennessee and supported 299,180 jobs, with 92,540 (both full- and part-time) jobs in agricultural production. **Forestry** included the management and logging of trees; sawmills (primary forestry products), including pulp and paper mills, plus forestry products manufacturing (secondary forestry products). Forestry accounted for 3.0 percent of the state's economy, supported 91,402 Tennessee jobs and generated **\$29.1 billion** in output.

The 2023 output and employment multipliers for agricultural commodities and forestry activities (i.e., logging, sawmills, and pulp-, paper- and paperboard-mills) ranged from 1.022 to 1.814 for total industrial output (economic activity) and 1.004 to 4.150 for employment. Sawmills output multiplier of 1.814 indicates that for every dollar invested in sawmills an additional \$0.814 of economic activity is generated. The employment multiplier of 3.190 indicates that for every job supported in the sawmills industry an estimated 2.190 additional jobs are supported in other industries.

For purposes of comparison, in 2023, Tennessee’s economy totaled \$980.1 billion in output and had close to 4.6 million jobs. Industry sectors with larger magnitudes of *direct* economic activity other than the agri-forestry industrial complex were services (\$330.2 billion), manufacturing (\$168.1 billion), real estate (\$83.0 billion), government (\$66.2 billion) and then agri-forestry (\$65.9 billion) (Figure 2).

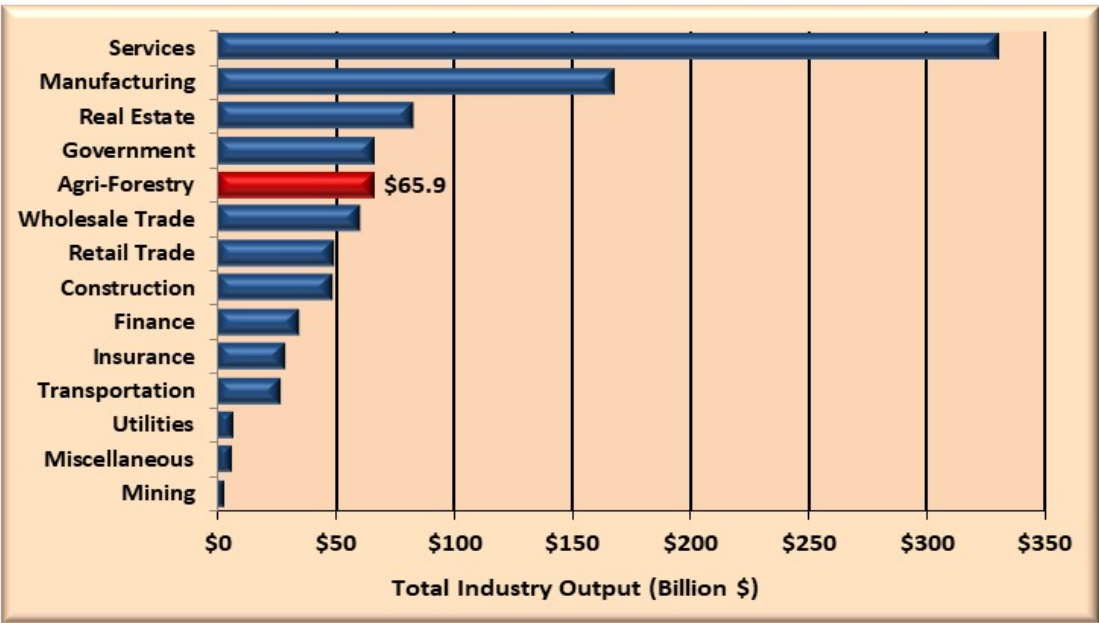


Figure 2. Direct Total Industry Output by Sector, Tennessee Total Economy, 2023
(Source: IMPLAN Group, LLC, 2023 Data)

Industry sectors with larger magnitudes for *direct* employment than the agri-forestry industrial complex were services (2,134.7 thousand), followed by government (492.3 thousand), retail trade (397.8 thousand), construction (286.0 thousand), manufacturing (270.5 thousand), real estate (201.3 thousand) and then agri-forestry (188.6 thousand) (Figure 3).

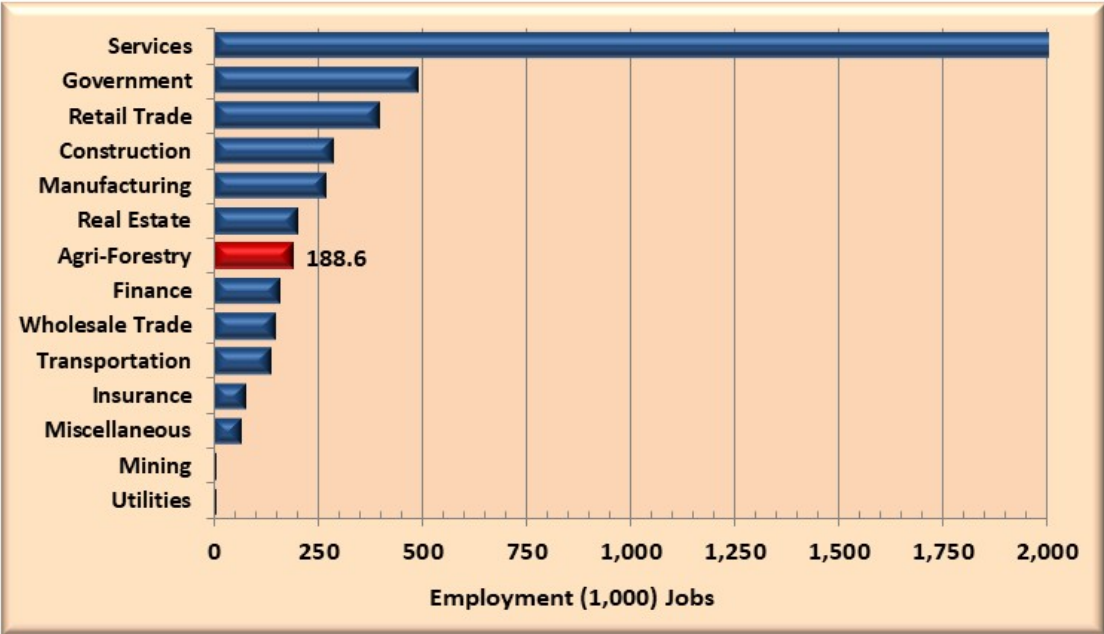


Figure 3. Direct Employment by Sector, Tennessee Total Economy, 2023
(Source: IMPLAN Group, LLC, 2023 Data)

For direct value-added (or contribution to gross state product), the agri-forestry industrial complex ranked eighth at \$21.4 billion behind construction (\$24.8 billion), wholesale trade (\$34.5 billion), retail trade (\$37.1 billion), manufacturing (\$48.1 billion), government (\$50.1 billion), real estate (\$59.2 billion) and services (\$202.4 billion) (Figure 4).

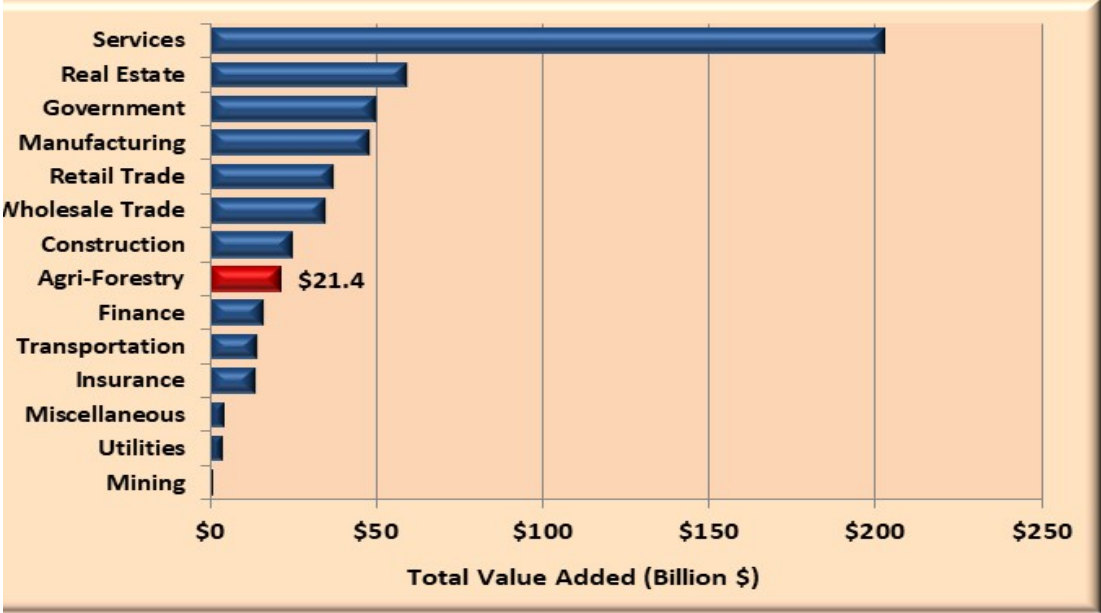


Figure 4. Direct Total Value Added by Sector, Tennessee Total Economy, 2023
(Source: IMPLAN Group, LLC, 2023 Data)

Compared to the 2023 Tennessee agri-forestry economic contributions report using 2021 IMPLAN data, the state’s overall economy for 2023 grew by a nominal value of \$160.0 billion with the direct agri-forestry industrial complex (without multiplier effects) increasing by \$7.9 billion. Comparing recent **direct** growth for total industry output (economic activity) in agriculture and forestry as a percentage of Tennessee’s total economy indicates relatively low growth for the years depicted in Figure 5. The average nominal growth from 2006 through 2023 for **direct** agriculture and forestry were 7.0 percent and 2.7 percent, respectively. For agriculture, the annual periods from 2006-2009, 2011-2013, 2019-2021 and 2021-2023 had the largest gains; for forestry, 2011-2013, 2013-2015, 2019-2021 and 2021-2023. Figure 6 compares the **total (with multiplier effects)** output for agriculture and forestry to Tennessee’s total economy. The average nominal growth from 2006 through 2023 for **total** agriculture and forestry were 5.1 percent and 1.7 percent, respectively. For both agriculture and forestry, the annual periods 2011-2013, 2013-2015, 2019-2021 and 2021-2023 had the largest gains.

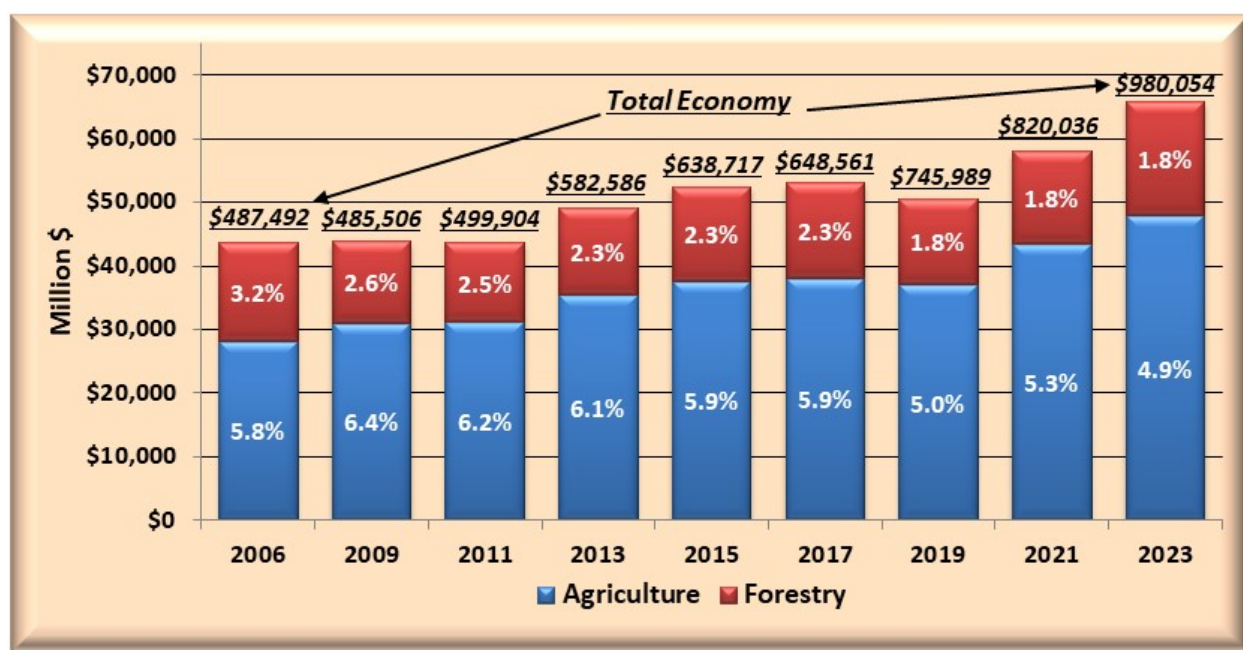


Figure 5. Nominal Change in Direct Output for Agriculture and Forestry as a Percentage of Tennessee's Total Economy
(Source: IMPLAN Group, LLC, 2006-2023 Data)

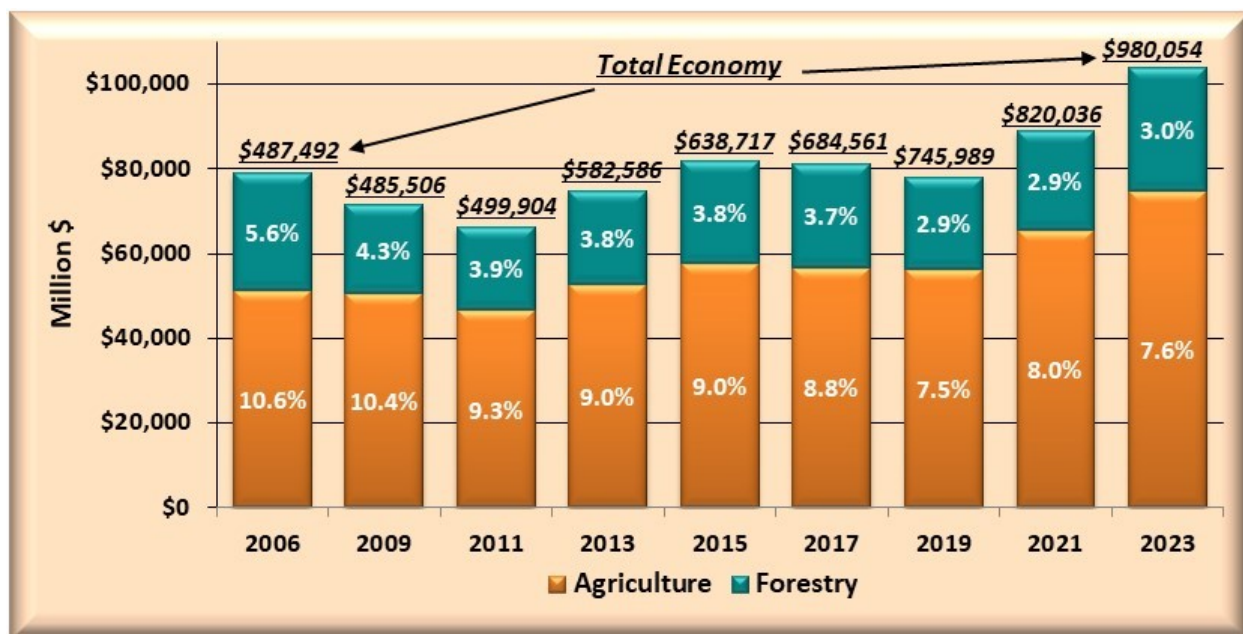


Figure 6. Nominal Change in Total Output (with Multiplier Effects) for Agriculture and Forestry as a Percentage of Tennessee's Total Economy
(Source: IMPLAN Group, LLC, 2006-2023 Data)

When comparing a county's *direct* (without multiplier effects) agriculture and forestry economic activity to its total economic activity (all industries) for each of Tennessee's 95 counties, Lake County had the highest share of economic activity for commodity agriculture (*includes crop and livestock breeding and feeding*) at 14.3 percent. For all agriculture (*includes direct agriculture, plus agricultural input supplying and agriculture-based manufacturing sectors*), Moore County had the highest share of economic activity at 51.1 percent). For direct forestry (*i.e., the management and logging of forests*), Wayne County had the highest level

of direct economic activity at 1.7 percent. For all forestry (*includes direct forestry, plus input supplying industries and forestry manufacturing*), Hardin County had the highest share at 22.0 percent. Combining both agriculture and forestry economic activity, Moore and Weakley Counties had the largest shares of local economic activity at 51.2 percent and 31.3 percent, respectively (see Table 24, page 33).

Other study highlights:

- Compared to the 2021 Tennessee agri-forestry economic contributions report, the state's overall economy grew by a nominal value of \$160.0 billion (19.5 percent) and the agri-forestry industrial complex increased by \$7.9 billion (13.6 percent) (Figure 5).
- In 2023, agriculture input supplying industries – agricultural machinery (e.g., farm machinery and equipment plus lawn and garden equipment) and chemical products (e.g., fertilizers, pesticides and lime) – generated \$2.4 billion in economic activity.
- In 2023, Tennessee farmers earned the majority of their cash receipts from soybeans, beef cattle and calves, broilers, corn, miscellaneous crops, cotton, hay, wheat, hogs and dairy products.
- Tennessee's average annual sawtimber removals on timberland were estimated at close to 1.5 billion board feet with the majority of the removals (81.5 percent) from private landowners. The predominant species removed from private owned lands were yellow poplar, white and red oaks, loblolly and shortleaf pines and hickory.
- In 2023, the total value of Tennessee's forest products international exports was \$149.5 million. The top five forest products exported were sawn oak and ash, wooden casks and barrels, non-coniferous sawn lumber not elsewhere specified and rough, non-coniferous wood not elsewhere specified.
- The top five export markets for Tennessee's forest products were China, United Kingdom, Canada, Ireland and Mexico.
- Secondary agriculture and forestry manufacturing value of shipments contributed a total of \$46.7 billion to the state's economy employing over 82,000 Tennesseans with a payroll of \$4.4 billion. Approximately 82.2 percent of the value of shipments came from food manufacturing, beverage and tobacco products manufacturing and paper manufacturing.
- In 2023, bulk commodities, intermediate products and consumer-oriented products international exports for agricultural products totaled \$2.6 billion. Of that value, 59.0 percent were consumer-oriented products, 35.0 percent were bulk commodities and 6.0 percent were intermediate products.
- The top five agriculture commodities exported internationally were cotton, tobacco, wheat, soybeans and rice. The top five export trading partners were China, Vietnam, Pakistan, Hong Kong and Bangladesh.
- According to the most recent Census of Agriculture, from 2017 to 2022 the top three southern states with the highest increases in production expenses were Louisiana (44.4 percent increase), Alabama (39.5 percent) and North Carolina (38.5 percent). The lowest were Oklahoma (15.4 percent increase), Texas (21.7 percent) and Virginia (21.6 percent). Tennessee was ranked eighth (31.6 percent increase). The top five production expenses purchased were feeds; livestock and poultry purchased or leased; hired farm labor; fertilizer, lime, and soil conditioners; and repairs, supplies, and maintenance costs.

The findings presented in the “Tennessee Agricultural Economic Impact Results” were estimated using IMPLAN’s most recent 2023 data set. IMPLAN (IMpact Analysis for PLANing), an input-output model, traces backward linked transactions conducted in the economy and attempts to quantify the economic interdependencies for a given point in time. Through these interdependencies, one can evaluate the indirect and induced economic contributions that economic activity has on the entire state economy. IMPLAN’s Cloud platform offers an industry contribution analyses option, which was used to generate the estimated economic impacts for this analysis (see more detailed definitions and methodology discussion in the “Input-Output Analysis: Data and Methods Used” section).

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2023 Economic Contributions of Agriculture and Forestry in Tennessee

Introduction

This study provides measures of the economic contributions and importance of the agricultural and forestry industrial complex on Tennessee’s economy in 2023.¹ An input-output model reflecting the state’s 2023 economy is used to determine direct economic contributions on related input industries and economic contributions through resulting expenditures by households at the state level. Economic contributions are provided for four major metrics: total industry output (a measure of economic activity), employment, labor income, and value-added (gross regional product or GRP). For the purpose of this analysis, agriculture² and forestry includes the production and processing of agricultural and forest products and the input suppliers of these products.

The structure of this document corresponds with the objectives of this analysis, which are to:

1. Provide an overview of Tennessee’s agriculture and forestry resources including crop and livestock cash receipts, Tennessee’s rank in the United States based on the production of agricultural products, exports for both agricultural and forestry products, plus agricultural and forestry manufacturing statistics (*pages 1-12*).
2. Compare state level changes in livestock and crop statistics for 2021 and 2023 including changes in livestock inventory, crop acreages, and prices (*page 13-14*).
3. Assess the economic contributions and importance of the agricultural and forestry industrial complex for the state with an input-output model (*pages 15-35*).
4. Analyze agriculture and forestry’s tax contributions to the state (*page 36*).

Overview of Agriculture and Forestry in Tennessee

Agricultural Overview

In 2023, 63,100 Tennessee farms³ used 10.7 million acres (Figure 7),⁴ or 39.7 percent of the state’s land base. For the ten-year period from 2013 to 2023, the number of farms in the state decreased an average of 0.8 percent annually. For that same timeframe, land in farms also decreased an average of 0.2 percent

¹This study continues the series of previous reports where the economic contributions and importance of the agricultural and forestry industrial complex on Tennessee’s economy were examined using 1997, 2000, 2003, 2006, 2009, 2011, 2013, 2015, 2017, 2019, and 2021 IMPLAN data, respectively (previous report, Menard et al., 2023). For additional details on the previous studies and the IMPLAN version used, see *Appendix A*.

²In this report, forestry and the production of forest products were incorporated into agriculture and agribusiness, respectively.

³Defined as an establishment with \$1,000 or more of agricultural products sold or would normally be sold during the year (USDA/ERS, 2022).

⁴Raster image is based on USDA/NASS’s cropland data layer—a raster, geo-referenced, crop-specific land cover data layer with a ground resolution is 30 square meters (USDA/NASS, 2025b). Map includes all row, specialty, and truck crops, plus fruit production.

annually, while the average farm size increased an average of 0.8 percent annually. In 2023, Tennessee’s average farm size was 170 acres compared to 464 acres for the United States. Other Southeastern states with similar average farm sizes as Tennessee include Kentucky at 179 acres, followed by Virginia at 187 acres and North Carolina at 191. Arkansas, Mississippi, and Louisiana have average farm sizes of 366, 331 and 323 acres, respectively. Approximately 61.3 percent of all Tennessee farms had sales in the \$1,000-\$9,999 range, 31.5 percent in the \$10,000-\$99,999 range, and 7.1 percent had sales of \$100,000 or more (USDA/NASS, 2024c).

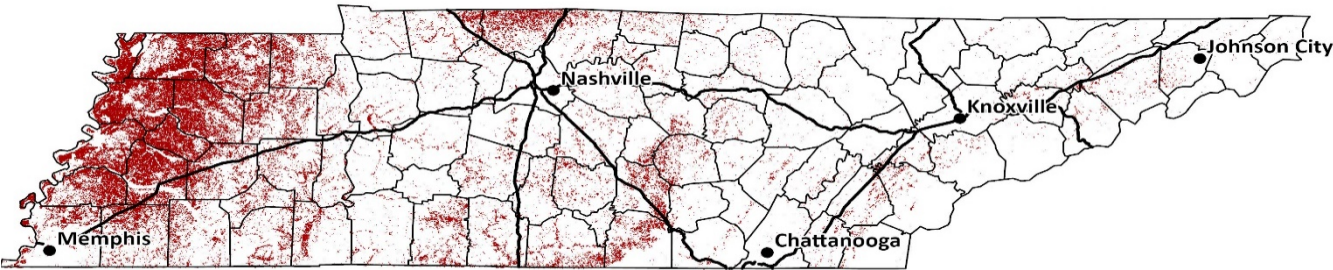


Figure 7. Location of Cropland in Tennessee, 2023
(Source: USDA/NASS, 2025)

Cash receipts for all commodities in Tennessee totaled close to \$5.2 billion in 2023.⁵ Of that total, \$3.1 billion (59.8 percent) was from crops and \$2.1 billion (40.2 percent) was from all livestock and livestock products. Based on harvested acreage, Tennessee was ranked in the upper half of the nation for most major crops (Table 1). Approximately 35.3 percent of Tennessee’s total harvested cropland acreage (roughly 4.8 million acres) was in hay (all types), followed by soybeans (32.3 percent), corn for grain (18.3 percent), cotton (8.0 percent) and wheat (5.3 percent). For available crop data, soybeans had the largest cash receipts,

| Table 1. Crops Harvested, Acreage, Tennessee Ranking, and Cash Receipts, 2023 | | | | | |
|---|-------------------|-------------------|---------------|----------------------------|------------------------------------|
| Crops | Harvested Acreage | Tennessee Ranking | Leading State | Cash Receipts ^a | % of State Crop Total ^b |
| | (Thousand Acres) | | | (Thousand \$) | |
| Hay (all types) | 1,716 | 10 ^c | Texas | \$236,935 | 7.6 |
| Soybeans | 1,570 | 17 | Illinois | \$991,266 | 31.7 |
| Corn for grain | 890 | 17 | Iowa | \$645,365 | 20.6 |
| Winter wheat | 390 | 17 | Kansas | \$192,877 | 9.6 |
| Cotton, lint | 260 | 8 | Texas | \$299,477 | 6.2 |
| Corn for silage | 30 | 32 | Wisconsin | -- | -- |
| All tobacco | 8.95 | 4 | N. Carolina | \$76,967 | 2.5 |

^{a,b}For 2023, cash receipts for all commodities grown in Tennessee were \$5.2 billion (\$3.1 billion for crops).

^cFor 2023, Tennessee was also ranked 31st for alfalfa hay.

Source: USDA/ERS, 2024; USDA/NASS, 2025a, 2025c

⁵Cash receipt sales may not reflect the total values of commodities produced and used. For instance, a vertically integrated agribusiness may use hay or corn it produced to feed its own livestock.

followed by corn for grain, cotton, hay, wheat and tobacco. Tennessee's top crop counties based on harvested acreage were Gibson County for both corn and wheat, Haywood County for cotton, and Dyer County for soybeans (USDA/ERS, 2024; USDA/NASS, 2025a, 2025c).

Based on the number of head, broilers, chickens (excluding broilers), cattle and calves, hogs, equine and milk cows were the predominant livestock in the state (Table 2). According to the USDA's ERS for 2023, cash receipts from farm marketing for these livestock products totaled close to \$2.1 billion. Of that total, cattle and calves contributed 41.8 percent, broilers 37.9 percent, hogs 6.6 percent, dairy 4.8 percent and all other chickens 3.3 percent. Tennessee is ranked 12th in the United States for the number of beef cows on farms, 15th for broilers, 16th for cattle and calves, 18th for hogs, 24th for all other chickens and 33rd for milk cows. Tennessee's top cattle counties based on number of head are Greene for beef cattle and McMinn for dairy cattle (USDA/ERS, 2024; USDA/NASS, 2024a, 2024b, 2024d, 2024f, 2024g, 2024h, and 2025c).

Table 2. Livestock Numbers, Tennessee Ranking, and Cash Receipts, 2023

| Livestock | Inventory (Number) | Tennessee Ranking | Leading State | Production ^a | Cash Receipts ^b (Thousand \$) | % of State Livestock Total ^c |
|------------------------------------|-----------------------|----------------------|------------------|-------------------------|--|--|
| Broilers ^d | 185,700,000 | 15 | Georgia | 1,114,200 | \$794,425 | 37.9 |
| All other chickens ^e | 4,223,000 | 24 | Iowa | | \$70,075 ^j | 3.3 |
| Cattle & calves ^f | 1,680,000 | 16 | Texas | 579,719 | \$876,691 ^k | 41.8 |
| Beef cows ^f | 854,000 | 12 | Texas | | -- | -- |
| Hogs ^g | 320,000 | 18 | Iowa | 228,964 | \$137,778 ^k | 6.6 |
| Equine ^h | 85,533 | 11 ⁱ | Texas | -- | -- | -- |
| Milk cows ^f | 25,000 | 33 | California | 467.0 | \$100,498 ^l | 4.8 |

^aThousand pounds for broilers, cattle and calves, and hogs; million pounds of milk for milk cows

^{b,c}For 2023, cash receipts for all commodities were \$5.2 billion (\$2.1 billion for livestock & products)

^dPeriod December 1 previous year through November 30, 2023

^eDecember 1, 2022-2023; includes layers, pullets, and other; excludes commercial broilers

^fAs of January 1, 2023

^gAs of December 1, 2023

^hIncludes horses, ponies, mules, burros, and donkeys

ⁱBased on the 2022 Census of Agriculture, Tennessee was ranked 11th for horses and ponies and 3rd for mules, burros, and donkeys

^jIncludes eggs and farm chickens; excludes commercial broilers and turkeys

^kReceipts from marketing and sale of farm slaughter

^lMilk cash receipts from marketings

Source: USDA/ERS, 2024; USDA/NASS, 2024a, 2024b, 2025c, 2024d, 2024f, 2024g, 2024h, 2024i)

Based on IMPLAN model estimates, Tennessee's more significant agricultural commodities in terms of dollar value, along with their corresponding U.S. market share, are shown in Table 3. In descending order, they were oilseed farming (primarily soybeans); grain farming (barley, corn, oats, sorghum and wheat); poultry and egg production; beef cattle farming; greenhouse, nursery and floriculture production; cotton farming; animal production, except cattle, poultry and eggs; vegetables and melon farming; all other crop farming (primarily hay and seed); dairy cattle and milk production; tobacco farming; fruit farming; and tree nut farming. Tobacco

Table 3. State Value of Agricultural Commodities and U.S. Market Share, 2023

| Agricultural Industry | Total Industry Output^{a,b} | Market Share of U.S. Production |
|--|--|--|
| | (Million \$) | (Percent) |
| Oilseed farming | \$1,017.9 | 1.9% |
| Grain farming | \$953.7 | 1.0% |
| Poultry & egg production | \$937.4 | 1.4% |
| Beef cattle farming | \$888.3 | 0.9% |
| Greenhouse, nursery, & floriculture production | \$423.9 | 2.0% |
| Cotton farming | \$272.3 | 4.7% |
| Animal production, except cattle/poultry/eggs ^c | \$206.1 | 0.6% |
| Vegetable & melon farming | \$172.4 | 0.6% |
| All other crop farming ^d | \$165.7 | 0.8% |
| Dairy cattle & milk production | \$101.8 | 0.2% |
| Tobacco farming | \$66.6 | 6.4% |
| Fruit farming | \$20.8 | 0.1% |
| Tree nut farming | \$1.8 | 0.02% |

^aTotal Industry Output – annual value of production by industry (a measure of economic activity)

^bA value of production measure that includes on-farm consumption, and it is net of inventory changes.

^cPrimarily hogs, sheep & goats, aquaculture, equine, and apiculture

^dPrimarily hay/seed farming

Source: IMPLAN Group, LLC, 2023 Data

farming; cotton farming; greenhouse, nursery and floriculture production; oilseeds farming; and poultry and egg production had the largest market share of U.S. production at 6.4 percent, 4.7 percent, 2.0 percent, 1.9 percent and 1.4 percent, respectively.

From 2013 through 2023, the number of Tennessee milk cows decreased an average of 6.3 percent per year. While production per cow increased an average of 1.6 percent per year for that same timeframe, total milk production for the state decreased an average of 4.7 percent annually. Compared to the 2021 report, total milk production in the state in 2023 declined by 8.1 percent from 508.0 million pounds to 467.0 million pounds, the number of head declined 10.7 percent from 28,000 head to 25,000, and production per cow increased 3.0 percent from 18,143 pounds per cow to 18,680 pounds. From 2018 to 2023, Tennessee cash receipts from dairy have ranked 33rd compared to other U.S. states. The highest national rank, 30, was for the years 2014 and 2015, and the lowest, 34, was for 2008. Compared to other Tennessee agriculture commodities, dairy cash receipts have ranged from sixth (2015) to tenth (2008, and 2021 to 2023) in rank. For 2023, dairy cash receipts (\$100.5 million) were less than those earned for soybeans (\$991.3 million), cattle and calves (\$876.7 million), broilers (\$794.4 million), corn (\$645.4 million), miscellaneous crops (\$532.7 million), cotton (\$532.7 million), hay (\$236.9 million), wheat (\$192.9 million) and hogs (\$137.8 million). Most of the dairy industry in Tennessee is comprised of small farms. Approximately 89.6 percent of the dairy farms in the state have less than 100 head. For the remaining 10.4 percent of the farms with greater than 100 head, 57.7 percent had dairy herd sizes of 100-199 head, 29.6 percent for 200-499 head, 8.5 percent for 500-999 head

and 4.2 percent for 1,000-2,499 head. No farms in the state had a dairy herd equal to or greater than 2,500 head (USDA/ERS, 2024; USDA/NASS, 2024e, 2024i).

Tennessee's 2023 agricultural commodity (foreign) exports based on bulk, intermediate and consumer oriented (BICO) designation totaled \$2.6 billion (Table 4). Of that value, 59.0 percent were consumer oriented products, 35.0 percent were bulk commodities and 6.0 percent were intermediate products. The top five commodities exported in bulk (large volume, minimally processed) were cotton, tobacco, wheat, soybeans and rice. The top five export trading partners were China, Vietnam, Pakistan, Hong Kong and Bangladesh. Intermediate products (some processing but not fully consumer ready) exported were dextrins; peptones and proteins; sugar and sweeteners; vegetable oils; other feeds and fodders; and live animals. The top markets for these products were Canada, Mexico, China, Netherlands and Guatemala. For consumer oriented products (direct consumer consumption), the top export markets were Netherlands, Canada, Mexico, United Kingdom and the United Arab Emirates with the top commodities exported consisting of distilled spirits; bakery goods, cereals and pastas; poultry meat and products (excluding eggs); soup and other food preparations; and chocolate and cocoa products (USDA/FAS, 2025).

Table 4. Value of Bulk, Intermediate, and Consumer-Oriented (BICO) Exports to the World for Tennessee's Agricultural Products, 2023

| BICO Group | Value (\$1,000) | Top 5 Commodities | Top 5 Country Export Markets |
|---|--------------------|--|---|
| Bulk ¹ Commodities | \$915,658 | Cotton, Tobacco, Wheat, Soybeans, and Rice | China, Vietnam, Pakistan, Hong Kong, and Bangladesh |
| Intermediate ² Products | \$157,815 | Dextrins, peptones, & proteins; sugar & sweeteners ; vegetable oils NESOI ⁴ ; other feeds & fodders; and live animals | Canada, Mexico, China, Netherlands, and Guatemala |
| Consumer ³ Oriented Products | \$1,546,382 | Distilled spirits; bakery goods, cereals, & pasta; poultry meat & products (excluding eggs); soup & other food preparations; and chocolate & cocoa products | Netherlands, Canada, Mexico, United Kingdom, and United Arab Emirates |
| Total | \$2,619,855 | | |

¹Large volume (traded in bulk); minimally processed

²Undergone some processing but not yet fully consumer ready

³Directed toward direct consumer consumption rather than being used as intermediate inputs

⁴Not elsewhere specified or included

Source: USDA/FAS, 2025(GATS)

Forest Overview

Roughly 52.8 percent of Tennessee is covered in forest (Figure 8).⁶ The forest cover is primarily hardwoods (89 percent of the forest composition) making the state one of the top three hardwood lumber producing states in the U.S. There are more than 120 tree species in Tennessee. White oak, red oak, hickory, yellow poplar and maple are among the more predominant hardwood species. For softwoods, loblolly pine, Virginia pine, red cedar and shortleaf pine are major species. The dominant forest type in the state is oak and hickory, accounting for an estimated 9.9 million acres (Tennessee Forestry Association, 2017). Other forest types include bottomland hardwoods along the Mississippi River floodplains, mixed pine and hardwoods growing in dry, rocky soils in the eastern part of the state, mixed mesophytic (moderately moist) on lower mountain slopes and valleys and redcedar growing in limestone cedar glades in the middle of the state (Tennessee Wildlife Federation, 2024). Of the 13.8 million acres in forest, 83.0 percent are privately owned with federal (10.0 percent) and state/local forests (7.0 percent) comprising the rest. The state has an estimated 8.4 billion live trees with a volume of 47.6 billion cubic feet (USDA/FS, 2025).

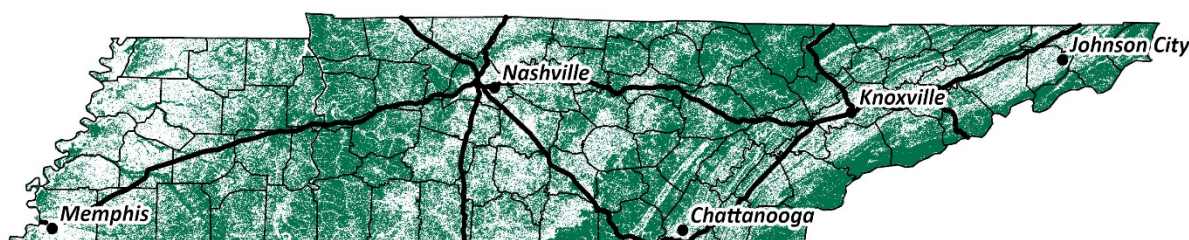


Figure 8. Location of Forest Land in Tennessee, 2023

(Source: USDA/NASS, 2025)

For 2021, average annual sawtimber⁷ removals on timberland⁸ were estimated at close to 1.5 billion board feet (Table 5). Of that value, most of the removals, 81.5 percent, were from private landowners (1.2 billion board feet), followed by other non-federal public (177.0 million board feet), state and local (64.6 million board feet) and federal (30.7 million board feet). The predominant species removed on federal lands were cypress, eastern white pines and ash. For state and local, yellow poplar, white and red oaks, hickory and loblolly/shortleaf pines. White and red oaks and yellow poplar were primarily removed from other non-federal

⁶Raster image is based on USDA/NASS's cropland data layer—a raster, geo-referenced, crop-specific land cover data layer with a ground resolution is 30 square meters. Map includes all forest types (deciduous, evergreen, mixed, and woody wetlands).

⁷"A live tree of commercial species containing at least a 12-foot sawlog or two noncontiguous sawlogs 8 feet or longer and meeting regional specifications for freedom from defect. Softwoods must be at least 9.0 inches in diameter at breast height (d.b.h.); hardwoods must be at least 11.0 inches d.b.h." (USDA Forest Service, 2024b, p.22).

⁸"Unreserved forest land capable of producing 20 cubic feet per acre per year of wood from trees classified as timber species and designated as a timber forest type" (USDA Forest Service, 2024b, p. 26).

lands. For private owned lands, the predominant species removed were yellow poplar, white and red oaks, loblolly/shortleaf pines and hickory (USDA/FS, 2024a).

Table 5. Average Annual Removals of Sawtimber Trees by Species Group and Owner Class, 2021

| Tree Species Group | Federal | State & Local | Private | Other ^a | Total ^b |
|---|-------------------------------|-------------------------------|----------------------------------|--------------------------------|----------------------------------|
| <i>Board Feet (International 1/4-inch rule)</i> | | | | | |
| Loblolly & shortleaf pine | | 3,937,619 ^e | 122,767,017 ^c | 7,854,912 ^d | 134,559,548 ^c |
| Other yellow pine | 164,702 ^e | | 8,249,164 ^e | 16,243,547 ^e | 24,657,413 ^d |
| Eastern white & red pine | 3,297,333 ^e | 143,053 ^e | 19,071,244 ^e | 180,878 ^e | 22,692,509 ^e |
| Eastern hemlock | | | 1,040,658 ^e | | 1,040,658 ^e |
| Cypress | 21,607,461 ^e | | | | 21,607,461 ^e |
| Other eastern softwoods | | | 3,157,391 ^d | 2,497,590 ^e | 5,654,981 ^d |
| Select white oaks | 277,455 ^e | 6,714,232 ^e | 190,307,099 ^c | 21,824,156 ^d | 219,122,943 ^c |
| Select red oaks | | 9,608,988 ^e | 54,640,742 ^d | 3,479,846 ^e | 67,729,576 ^d |
| Other white oaks | 639,296 ^e | 10,867,487 ^e | 130,950,348 ^c | 20,568,064 ^d | 163,025,195 ^c |
| Other red oaks | 1,247,821 ^e | 2,423,139 ^e | 159,420,664 ^c | 23,723,367 ^d | 186,814,992 ^c |
| Hickory | | 3,880,021 ^e | 89,776,551 ^c | 8,547,340 ^d | 102,203,912 ^c |
| Hard maple | | 306,189 ^e | 32,982,261 ^d | 2,443,174 ^e | 35,731,624 ^d |
| Soft maple | 1,364,047 ^e | | 11,920,848 ^d | 3,617,656 ^d | 16,902,552 ^d |
| Beech | | | 11,780,793 ^e | 3,189,227 ^e | 14,970,019 ^d |
| Sweetgum | | 3,079,072 ^e | 35,658,598 ^d | 9,321,460 ^e | 48,059,130 ^d |
| Tupelo & blackgum | | | 6,985,341 ^d | 2,214,948 ^e | 9,200,289 ^d |
| Ash | 2,130,089 ^e | 1,211,044 ^e | 14,344,513 ^d | 2,380,608 ^e | 20,066,254 ^d |
| Basswood | | | 1,899,896 ^e | 919,093 ^e | 2,818,989 ^c |
| Yellow-poplar | | 21,463,233 ^e | 256,872,178 ^c | 17,773,985 ^d | 296,109,396 ^d |
| Black walnut | | | 12,326,295 ^d | 942,470 ^e | 13,268,764 ^c |
| Other eastern soft hardwoods | | 939,193 ^e | 34,023,245 ^d | 28,168,405 ^d | 63,130,844 ^d |
| Other eastern hard hardwoods | | | 1,530,358 ^e | 1,130,984 ^e | 2,661,342 ^d |
| Total | 30,728,204^e | 64,573,270^e | 1,199,705,205^c | 177,021,710^c | 1,472,028,391^c |

^aOther non-federal public

^bTotals may not add due to rounding

^cPercent sampling error ≤ 25 percent

^dPercent sampling error > 25 percent and ≤ to 50 percent

^ePercent sampling error > 50 percent

Source: USDA Forest Service, 2024Evalidator

Tennessee's 2023 top twenty forest products export values ranked in descending order are listed in Table 6. The total value of Tennessee's forest products international exports was \$149.5 million. The top five forest products exported were sawn oak and ash, wooden casks and barrels, non-coniferous sawn lumber not elsewhere specified and rough, non-coniferous wood not elsewhere specified. The top five export markets for Tennessee's forest products were China, United Kingdom, Canada, Ireland and Mexico (USDA/FAS, 2025).

Table 6. Top 20 Value of Tennessee Forest Products Exports to the World, 2023\$

| BICO- HS6 ^a | Forest Products | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------------------|--|----------------|----------------|----------------|----------------|----------------|
| | | | | \$1,000 | | |
| 440791 | Sawn Wood > 6mm, Oak | 83,683 | 64,999 | 87,720 | 80,904 | 45,764 |
| 441600 | Wooden Casks & Barrels | 20,449 | 16,920 | 13,496 | 23,111 | 45,242 |
| 440799 | Sawn Wood > 6mm, Noncon ^b Nesoi ^c | 10,203 | 7,310 | 12,105 | 14,183 | 11,908 |
| 440795 | Sawn Wood > 6mm, Ash | 12,318 | 11,436 | 14,978 | 12,972 | 10,104 |
| 440399 | Wood, Rough, Noncon ^b Nesoi ^c | 6,329 | 4,121 | 9,338 | 9,573 | 7,279 |
| 440391 | Wood, Rough, Oak | 8,825 | 5,570 | 9,178 | 8,347 | 5,849 |
| 440797 | Sawn Wood > 6mm, Poplar & Aspen | 7,661 | 9,136 | 10,311 | 8,204 | 5,590 |
| 441899 | Builders' Joinery and Carpentry Nesoi ^c , Wood | 4,525 | 4,928 | 10,364 | 4,424 | 2,561 |
| 441520 | Wooden Pallets | 1,503 | 571 | 1,239 | 5,881 | 2,161 |
| 441012 | Wood Oriented Strand Board (OSB) | 6,838 | 3,902 | 1,624 | 5,285 | 1,613 |
| 440793 | Sawn Wood > 6mm, Maple | 692 | 642 | 1,709 | 1,566 | 1,222 |
| 440711 | Sawn Wood > 6mm, Pine | 183 | 668 | 2,466 | 4,255 | 1,215 |
| 440131 | Wood Pellets | 194 | 83 | 58 | 134 | 946 |
| 440929 | Shaped Wood, Noncon ^b Nesoi ^c | 2,862 | 1,067 | 1,012 | 1,121 | 813 |
| 441510 | Wooden Cases & Boxes | 149 | 281 | 262 | 568 | 646 |
| 441829 | Wooden Doors & Frames, Nesoi ^c | 0 | 0 | 0 | 288 | 583 |
| 441193 | Fiberboard > 0.5 & ≤ 0.8 g/cm ³ | 588 | 419 | 61 | 366 | 574 |
| 440794 | Sawn Wood > 6mm, Cherry | 591 | 625 | 2,237 | 983 | 538 |
| 442199 | Wooden Articles Nesoi ^c | 190 | 252 | 826 | 186 | 529 |
| 440719 | Sawn Wood > 6mm, Coniferous Nesoi ^c | 608 | 1,590 | 638 | 278 | 448 |
| | Total | 168,391 | 134,520 | 179,622 | 182,629 | 145,585 |
| | World Total | 176,899 | 139,048 | 185,551 | 195,369 | 149,517 |

^aBICO-HS6-six digit harmonized system report of bulk, intermediate, and consumer-oriented agricultural products

^bNonconiferous

^cNesoi-Not elsewhere specified or included

Source: USDA/FAS, 2025

Agriculture and Forestry Manufacturing Overview

Agriculture and forestry manufacturing industries by county for the state (Figures 9 through 18) included food (*NAICS code 311*), animal slaughtering and processing (*NAICS code 3116*), beverage and tobacco products (*NAICS code 312*), textile mills (*NAICS code 313*), textile product mills (*NAICS code 314*), apparel (*NAICS code 315*), leather and allied products (*NAICS code 316*), wood products (*NAICS code 321*), paper (*NAICS code 322*) and furniture and related products (*NAICS code 337*). For these industries in 2022, \$46.7 billion dollars of goods were shipped, and more than 82,000 Tennesseans were employed with a payroll of \$4.4 billion (Table 7). Food manufacturing shipped the largest value of goods at \$24.9 billion, followed by beverage and tobacco products manufacturing at \$6.8 billion and paper manufacturing at \$6.7 billion. As a group, textile mills, including textile product mills and apparel, shipped close to \$1.8 billion. For the forest products group, which included wood products manufacturing, paper manufacturing and furniture and related products, \$13.2 billion of goods were shipped. Tennessee's national market share for value of shipments for food manufacturing was 2.4 percent, beverage and tobacco products at 3.9 percent, textile mills at 4.4 percent,

textile product mills at 1.7 percent, apparel manufacturing at 2.5 percent, wood product manufacturing at 2.4 percent, paper manufacturing at 3.1 percent and furniture and related products at 2.5 percent. Of the value-added agri-forestry sectors, food manufacturing employed the largest share at 35,236. The forest products group (wood products, paper and furniture and related products) employed 33,169. The textile mills and related products, including apparel, employed 7,583 workers (U.S. Census Bureau, 2025).

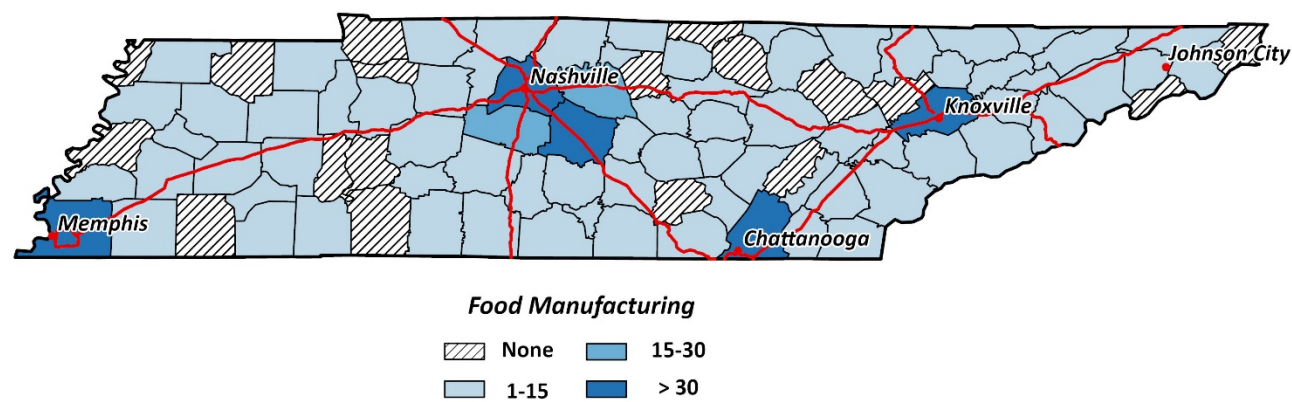


Figure 9. Number of Food Manufacturing Establishments in Tennessee, 2023
(Source: U.S. Department of Labor, 2024)

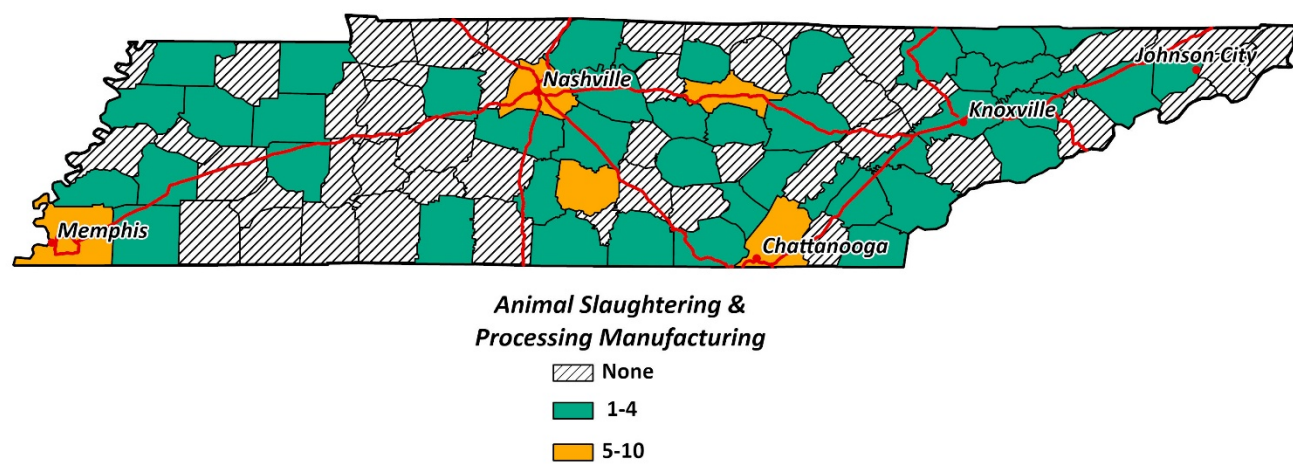


Figure 10. Number of Animal Slaughtering & Processing Establishments in Tennessee, 2023
(Source: U.S. Department of Labor, 2024)

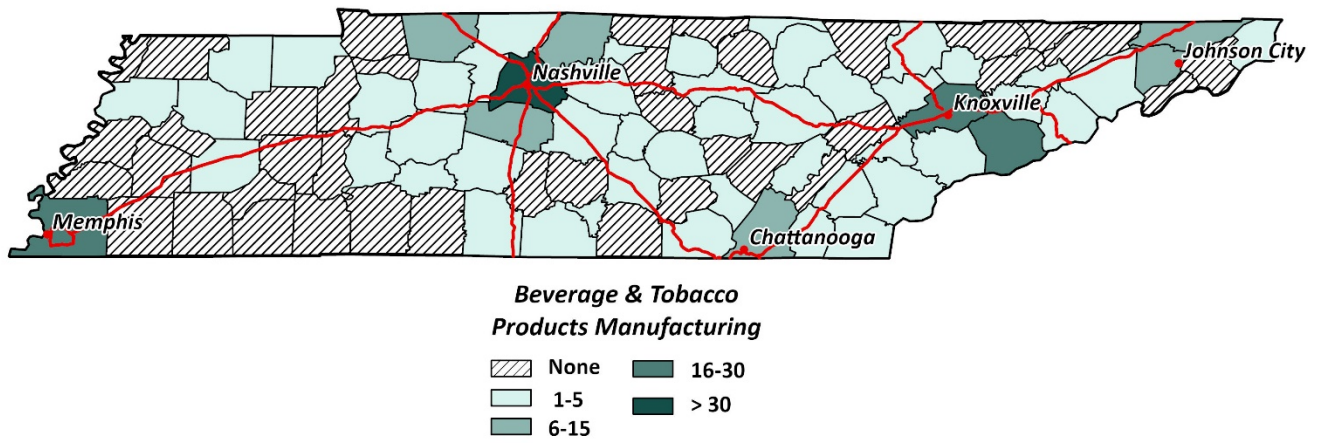


Figure 11. Number of Beverage and Tobacco Products Establishments in Tennessee, 2023
(Source: U.S. Department of Labor, 2024)

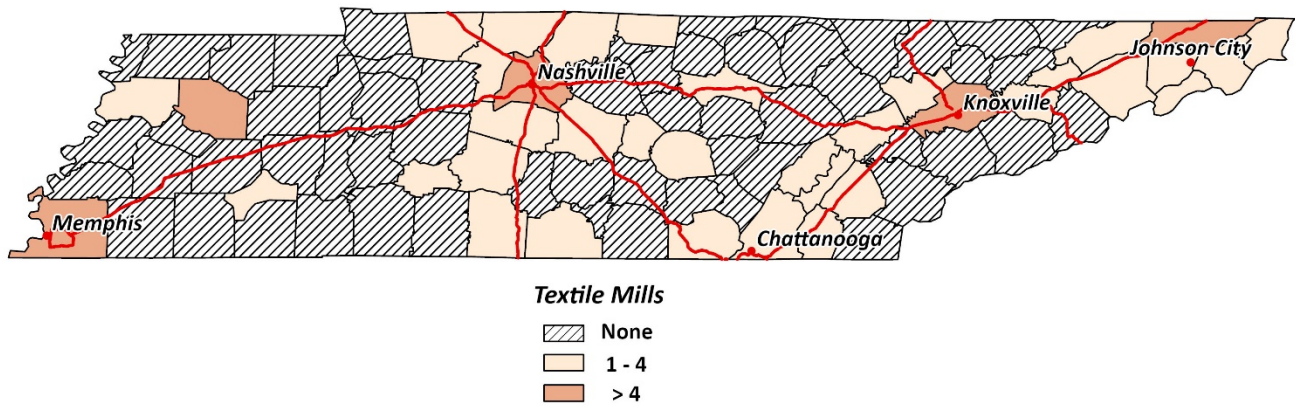


Figure 12. Number of Textile Mill Establishments in Tennessee, 2023
(Source: U.S. Department of Labor, 2024)

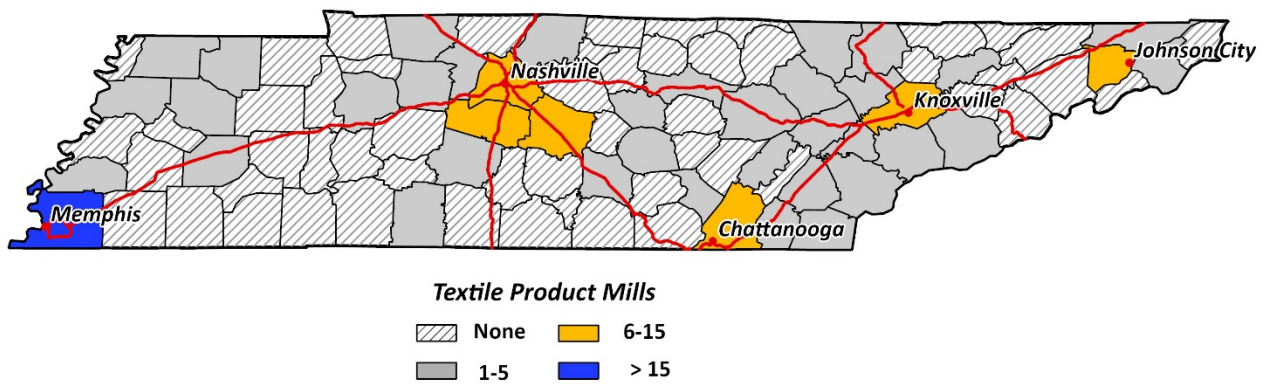


Figure 13. Number of Textile Product Mill Establishments in Tennessee, 2023
(Source: U.S. Department of Labor, 2024)

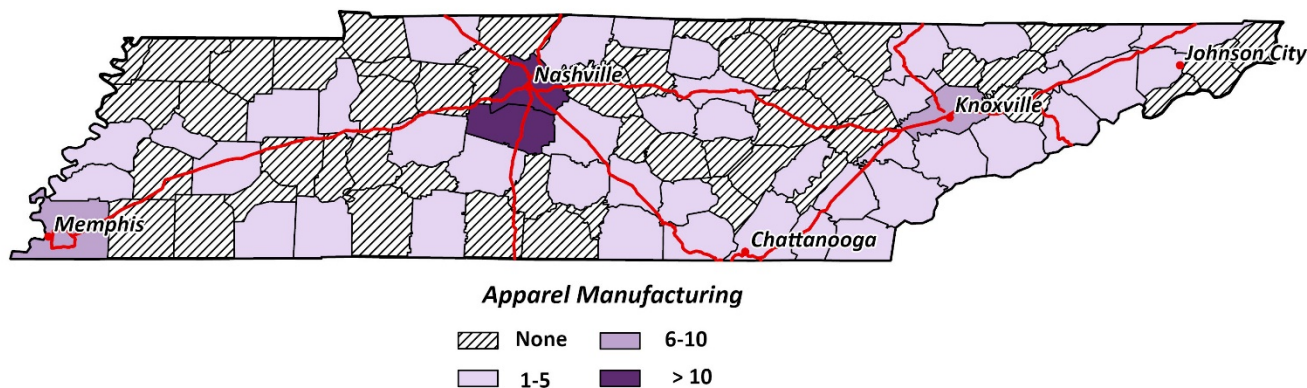


Figure 14. Number of Apparel Manufacturing Establishments in Tennessee, 2023

(Source: U.S. Department of Labor, 2024)

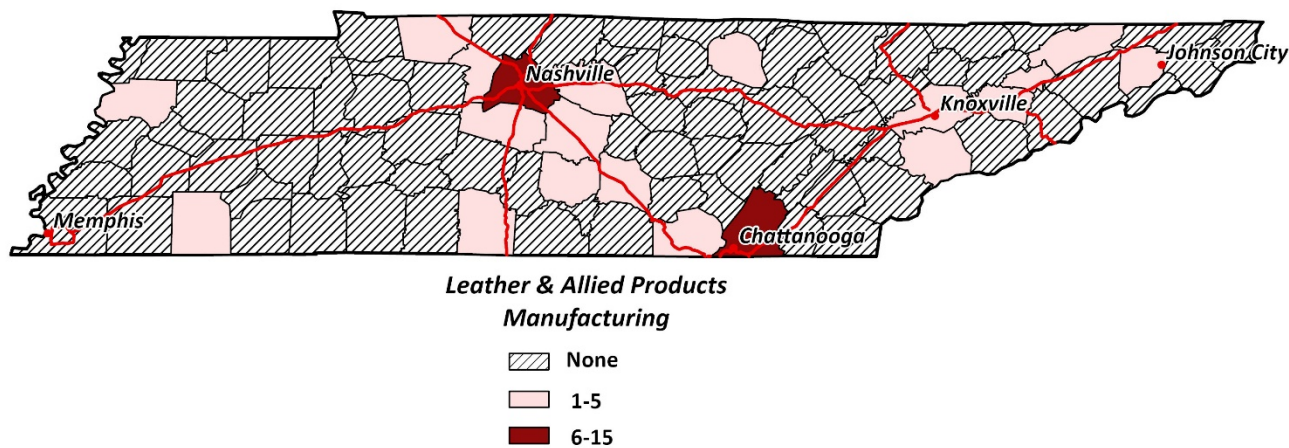


Figure 15. Number of Leather & Allied Product Establishments in Tennessee, 2023

(Source: U.S. Department of Labor, 2024)

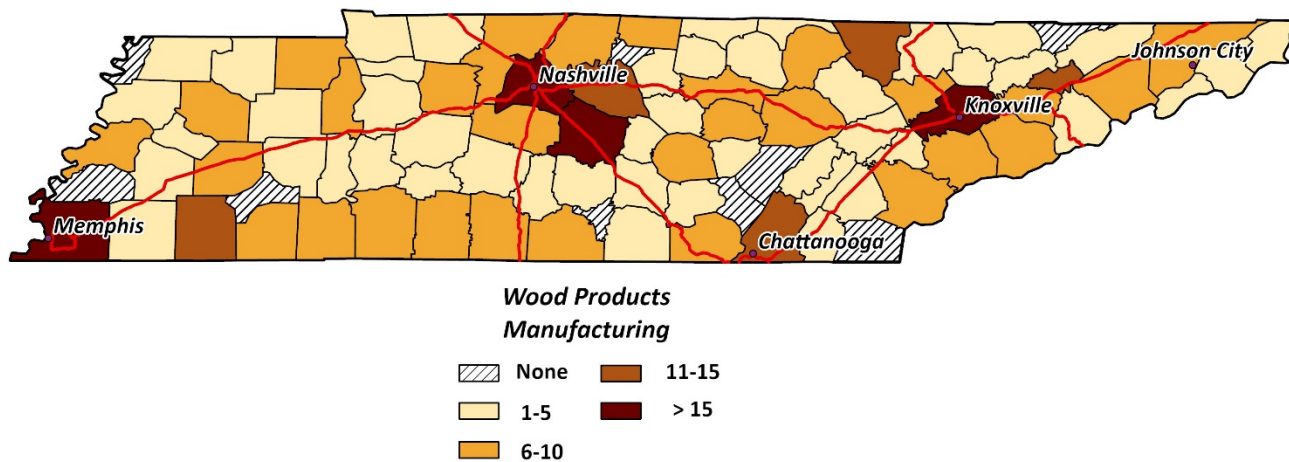


Figure 16. Number of Wood Products Manufacturing Establishments in Tennessee, 2023

(Source: U.S. Department of Labor, 2024)

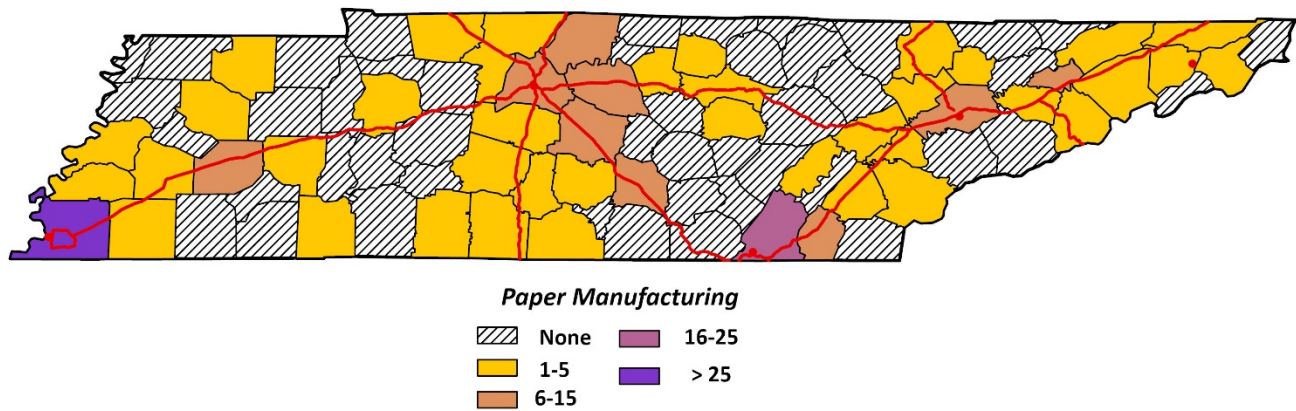


Figure 17. Number of Paper Manufacturing Establishments in Tennessee, 2023

(Source: U.S. Department of Labor, 2024)

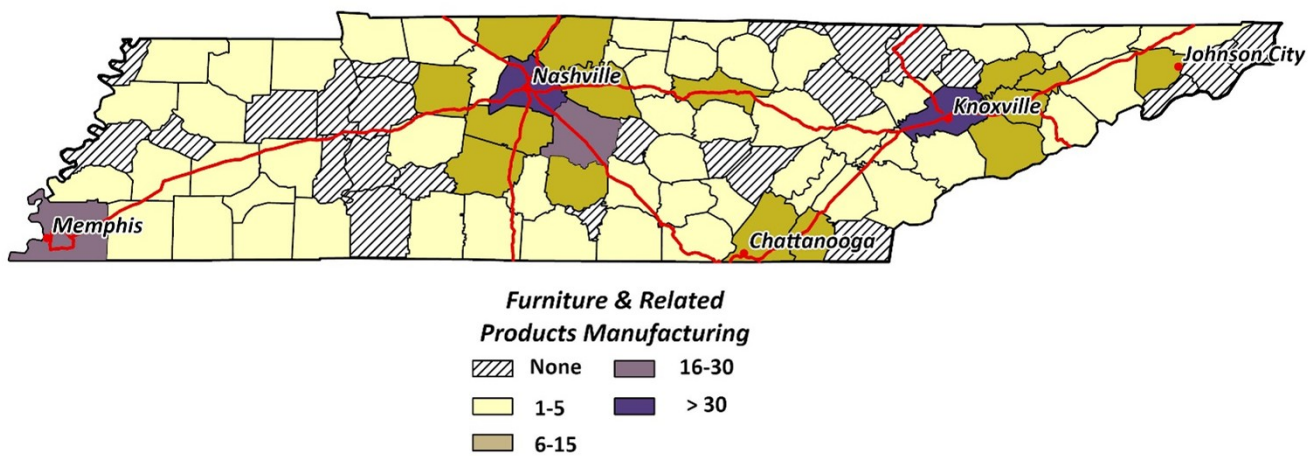


Figure 18. Number of Furniture & Related Products Establishments in Tennessee, 2023

(Source: U.S. Department of Labor, 2024)

Table 7. Agri-Forestry Manufacturing Statistics for Tennessee, 2022

| Manufacturing Industry/NAICS Code | Employees (Number) | Annual Payroll (Thousand \$) | Value of Shipments (Thousand \$) |
|--|-----------------------|---------------------------------|-------------------------------------|
| Food (311) | 35,236 | \$1,923,906 | \$24,857,765 |
| <i>Animal slaughtering/processing (3116)</i> | 9,755 | \$471,324 | \$4,012,298 |
| Beverage & tobacco products (312) | 6,201 | \$382,047 | \$6,778,742 |
| Textile mills (313) | 2,938 | \$171,929 | \$1,136,679 |
| Textile product mills (314) | 2,185 | \$87,942 | \$408,223 |
| Apparel (315) | 2,460 | \$66,797 | \$258,757 |
| Leather & allied products (316) | 133 | \$5,378 | \$18,950 |
| Wood products (321) | 12,545 | \$583,631 | \$4,310,246 |
| Paper (322) | 10,631 | \$712,764 | \$6,702,564 |
| Furniture & related products (337) | 9,993 | \$451,095 | \$2,190,574 |
| Total^a | 82,322 | \$4,385,489 | \$46,662,500 |

^aValues for animal slaughtering and processing are included in food manufacturing (311) values.

Source: U.S. Census Bureau, 2025

State Level Changes in Livestock and Crops: 2021 to 2023

Comparing 2021 and 2023, statewide agricultural data revealed an increase in the numbers of chickens (excluding broilers), hogs and eggs, while the number of beef cattle and calves, milk cows along with broilers, decreased. Prices increased for all livestock products with the largest increase for broilers, followed closely by beef cattle and calves and eggs. Many of the traditional row crops grown in the state experienced decreased harvested acreage except for wheat, soybeans and hay. Crop prices only increased for hay and tobacco.

Livestock Changes in Inventory and Prices

Compared to 2021 production levels, the largest increases in livestock numbers were for all other chickens (36.1 percent), followed by hogs (4.9 percent) and eggs (3.0 percent). Milk cows experienced the largest decrease in numbers at 10.7 percent, followed by beef cattle (6.1 percent) and broilers (4.9 percent) (Table 8). Prices increased for all the major livestock products as reported in Table 8. The largest increase was for broilers at 34.0 percent, followed by beef cattle (33.3 percent), eggs (29.1 percent), hogs (14.9 percent), and all other chickens (16.7 percent) (USDA/NASS, 2024a, 2024b, 2024d, 2024e, 2024g, 2024h).

Table 8. Comparison of Tennessee Livestock Numbers and Prices, 2021 and 2023^a

| Commodity | Inventory | | Change | Units | Price | | Change | Units |
|----------------------------------|-----------|---------|--------|-------|----------------|----------|--------|---------|
| | 2021 | 2023 | | | 2021 | 2023 | | |
| | (1,000) | | % | 1,000 | (dollars/unit) | | % | |
| All cattle & calves ^b | 1,790 | 1,680 | -6.1 | head | \$110.44 | \$147.17 | 33.3 | 100 lbs |
| All other chickens | 3,103 | 4,223 | 36.1 | no. | \$12.00 | \$14.00 | 16.7 | head |
| Broilers | 195,300 | 185,700 | -4.9 | no. | \$0.53 | \$0.71 | 34.0 | pound |
| Eggs | 377,400 | 388,600 | 3.0 | no. | \$2.22 | \$2.86 | 29.1 | dozen |
| Milk cows | 28 | 25 | -10.7 | head | -- | -- | -- | head |
| All hogs ^b | 305 | 320 | 4.9 | head | \$65.72 | \$75.53 | 14.9 | 100 lbs |

^aData in nominal values

^bLive weight adjustments made for changes in inventory and in shipments and receipts includes marketing and sales of farm slaughter.

Source: USDA/NASS, 2024a, 2024b, 2024d, 2024e, 2024g, 2024h)

Crop Changes in Acres Planted and Prices

Comparing crop harvested acres for 2021 and 2023 for Tennessee's major crops, wheat had the largest increase at 18.2 percent, followed by soybeans (3.3 percent) and all hay (3.1 percent). The remaining major crops had decreased harvested acreage with tobacco having the largest decrease of 22.8 percent, followed by corn (-4.3 percent) and cotton (-3.7 percent) (Table 9). Wheat harvested acres increased from 330 to 390 thousand acres. Prices for all hay (15.6 percent increase) and tobacco (9.9 percent increase) increased for the timeframe examined. The largest price decreases were for cotton (18.2 percent), followed by corn (16.2 percent), wheat (1.7 percent) and soybeans (1.6 percent) (USDA/NASS, 2025a, 2025c).

Table 9. Comparison of Tennessee Crop Acreages and Prices, 2021 and 2023^a

| Commodity | Harvested Acres | | | Price | | | Units |
|-----------|-----------------|-------|--------|----------|----------|--------|--------|
| | 2021 | 2023 | Change | 2021 | 2023 | Change | |
| | 1,000 acres | | % | \$/unit | | % | |
| Hay, all | 1,665 | 1,716 | 3.1% | \$128.00 | \$148.00 | 15.6% | ton |
| Corn | 930 | 890 | -4.3% | \$5.67 | \$4.75 | -16.2% | bushel |
| Soybeans | 1,520 | 1,570 | 3.3% | \$12.80 | \$12.60 | -1.6% | bushel |
| Cotton | 270 | 260 | -3.7% | \$0.88 | \$0.72 | -18.2% | pound |
| Tobacco | 11.6 | 9.0 | -22.8% | \$2.63 | \$2.89 | 9.9% | pound |
| Wheat | 330 | 390 | 18.2% | \$6.87 | \$6.75 | -1.7% | bushel |

^aData in Nominal Values

Source: USDA/NASS, 2025a, 2025c)

Special Section: Southern States Production Expenses

Based on the most recent 2022 Census of Agriculture, total farm production expenses are comprised of: **1)** fertilizer, lime and soil conditioners; **2)** chemicals; **3)** seed, plants, vines and trees; **4)** livestock and poultry; **5)** feed; **6)** gasoline, fuels; and oils; **7)** utilities; **8)** repairs, supplies and maintenance costs; **9)** hired farm labor; **10)** contract labor; **11)** custom work and custom hauling; **12)** cash rent for land, buildings and grazing fees; **13)** rent and lease expenses for machinery, equipment and farm share of vehicles; **14)** interest expense; **15)** property taxes; **16)** medical supplies, veterinary and custom services for livestock; and **17)** all other production expenses (defined as storage and warehousing, marketing and ginning expenses, insurance, etc.). And is defined as “expenses provided by producers, partners, landlords (excluding property taxes) and production contractors for the farm business” (USDA/NASS, 2024i).

Based on Census data from 2002 to 2022 for fourteen Southern states, all states experienced higher overall production expenses (Table 10 in descending order based on change from 2017 to 2022). For 2017 to 2022, the top three states with largest increases in production expenses were Louisiana (44.4 percent increase), Alabama (39.5 percent) and North Carolina (38.5 percent). Tennessee’s production expense increase for that timeframe was 31.6 percent. The lowest increases were Oklahoma (15.3 percent), Texas (21.7 percent) and Virginia (21.6 percent). For the 20-year timeframe, 2002 to 2022, Alabama, Arkansas and South Carolina had the largest production expense increases, whereas Florida, Oklahoma and Texas had the lowest. Tennessee’s was 22.5 percent.

For the production categories tracked, the top five production expense categories summed across all 14 Southern states were feeds purchased (28.9 percent of the total \$112.3 billion); livestock and poultry purchased or leased (15.2 percent); hired farm labor (8.5 percent); fertilizer, lime and soil conditioners purchased (6.6 percent); and repairs, supplies and maintenance costs (5.8 percent). The five lowest were property taxes paid (2.2 percent); custom work and custom hauling (2.1 percent); contract labor (1.9 percent); medical supplies, veterinary and custom services for livestock (1.2 percent); and rent and lease expenses for machinery, equipment and farm share of vehicles (0.6 percent) (USDA/NASS, 2024i).

| Table 10. Total Farm Production Expenses for Selected Southern States | | | | | | | |
|--|-------------|-------------|---------------------|-------------------|--------------------|--------------------|------------------------|
| State | 2002 | 2007 | 2012 | 2017 | 2022 | Δ 2017-2022 | Ave Δ 2002-2022 |
| | | | <i>(Million \$)</i> | | | | |
| LA | \$1,615.6 | \$2,119.0 | \$2,820.1 | \$2,610.9 | \$3,770.3 | 44.4% | 25.3% |
| AL | \$2,588.6 | \$3,922.1 | \$4,736.3 | \$4,615.6 | \$6,440.4 | 39.5% | 27.3% |
| NC | \$5,645.5 | \$8,309.8 | \$10,061.2 | \$9,281.4 | \$12,858.7 | 38.5% | 24.8% |
| MD | \$1,127.6 | \$1,546.6 | \$1,940.3 | \$1,968.8 | \$2,632.0 | 33.7% | 24.4% |
| MS | \$2,767.8 | \$4,288.7 | \$5,158.7 | \$4,386.5 | \$5,858.1 | 33.5% | 23.5% |
| SC | \$1,313.2 | \$2,012.2 | \$2,575.8 | \$2,387.0 | \$3,178.3 | 33.1% | 26.8% |
| AR | \$3,898.3 | \$6,134.9 | \$7,701.3 | \$7,095.9 | \$9,411.2 | 32.6% | 26.9% |
| TN | \$1,996.8 | \$2,620.8 | \$3,174.8 | \$3,360.9 | \$4,421.3 | 31.6% | 22.5% |
| FL | \$4,734.6 | \$5,762.9 | \$6,484.5 | \$6,507.3 | \$8,492.6 | 30.5% | 16.3% |
| GA | \$3,845.5 | \$5,982.3 | \$7,488.5 | \$7,113.1 | \$9,247.1 | 30.0% | 26.4% |
| KY | \$2,604.1 | \$3,930.2 | \$4,778.1 | \$4,704.5 | \$6,105.3 | 29.8% | 25.2% |
| VA | \$2,045.6 | \$2,711.5 | \$3,494.7 | \$3,431.8 | \$4,354.2 | 26.9% | 21.6% |
| TX | \$13,734.7 | \$19,223.1 | \$25,404.9 | \$22,909.3 | \$27,877.4 | 21.7% | 21.0% |
| OK | \$4,069.1 | \$5,223.4 | \$6,682.8 | \$6,643.9 | \$7,657.2 | 15.3% | 17.7% |
| | | | Total | \$87,016.6 | \$112,304.1 | | |

Source: USDA/NASS, 2024i

2023 Economic Contributions and Importance of Tennessee's Agricultural and Forestry Industrial Complex

This section of the analysis updates the 2021 economic contributions and importance of the agricultural and forestry industrial complex on Tennessee's economy section (Menard, 2023)⁹ using an input-output model to reflect the state's 2023 economy to determine direct economic contributions on related input industries and economic contributions through resulting expenditures by households at the state level. Like the 2021 study, economic contributions are provided for four major metrics: total industry output (a measure of economic activity), employment, labor income and value-added (gross regional product or GRP). For this analysis, agriculture¹⁰ and forestry includes the production and processing of agricultural and forest products and the input suppliers of these products.

As an inflation overview, the rate of consumer prices increasing was lower in 2023 compared to 2022 data, increasing 3.4 percent for all items compared to 6.5 percent from December 2021 to December 2022. Food at home increased 2.8 percent, whereas food away from home increased 5.2 percent. For food at home, cereals and bakery products experienced the largest increase at 2.6 percent; followed by meats, poultry and fish (2.3 percent); and fruits and vegetables (0.3 percent). Eggs decreased 23.8 percent. Energy, overall, decreased 2.0 percent. Within that category, fuel oil experienced the largest decrease at 14.7 percent, followed by utility (piped) gas service at 13.8 percent. Electricity, however, increased 3.3 percent. Motor

⁹For additional details on the previous study see Menard, 2023 in references section.

¹⁰In this report, forestry and the production of forest products were incorporated into agriculture and agribusiness, respectively.

vehicle insurance, nonprescription drugs and shelter had the largest increases at 20.3 percent, 8.3 percent and 6.2 percent, respectively (USBLS, 2024).

The Tennessee Agri-Industry Model (TN-AIM) is based on the Impact Analysis for Planning (IMPLAN) Cloud platform (Release 25.1) model and its databases (IMPLAN Group LLC, 2023) (see *Appendix A* for additional information on IMPLAN's methods). Expenditures by agriculture and forestry industries for goods and services, land, labor, capital equipment and other materials enhance Tennessee's economy and the state's tax base. The economic benefits generated from these activities can be measured in terms of the number of jobs supported and the amount of personal income accruing to residents. These impact measures can be further broken down into **direct**, plus **indirect** and **induced** (or *ripple*) effects. Total economic contributions attributable to increased business activity are computed as the sum of the direct, indirect and induced effects. **Direct** effects are those attributable specifically to the industries expenditures in a region (i.e., in this study agriculture/forestry input industries, commodity agriculture, logging, agriculture/forestry value-added industries). **Indirect** effects arise from the industries' expenditures on raw materials, supplies and other operating expenses, which help to support jobs in other local businesses. **Induced**, or *ripple* effects, are created as the new income generated by the direct and indirect effects is spent and re-spent within the local economy. In this analysis only the **direct** and **total** (direct + indirect + induced) expenditures are shown.

Output from TN-AIM includes descriptive metrics of the economy including total industry output (a measure of economic activity), employment, labor income and total value-added for 528 industries in the Tennessee economy (*Appendix B*). **Total industry output** is defined as the value of production by industry per year or a measure of overall economic activity by that industry. **Employment** represents the total wage and salary of employees, plus self-employed jobs in a region, for both full-time and part-time workers. **Labor income** is defined as employee compensation (pay plus the value of certain benefits) and proprietary (owner-operator) income. **Total value added** is defined as all income to workers paid by employers; self-employed income; interests, rents, royalties, dividends and profit payments; and excise and sales taxes collected by businesses from individuals. It is equivalent to state Gross Regional Product (GRP), which is analogous to Gross Domestic Product for the entire U.S.

In this report, Tennessee's agri-forestry industrial complex (Figure 1 on page i) is defined to include the industries typically associated with agriculture and forest operations such as **Agriculture Inputs** (i.e., lime, fertilizer, chemicals and machinery), commodity agriculture such as growing crops and the breeding of livestock (**Primary Agriculture**) and value-added sub-sectors such as food and beverage manufacturing, apparel and textiles and tobacco products (**Secondary Agriculture**). **Forestry Inputs** includes sawmill, woodworking and paper machinery; timber tract operations; and commercial logging. **Primary Forestry**

includes sawmills, wood preservation along with pulp-, paper- and paperboard mills. Forestry products manufacturing comprises the **Secondary Forestry** designation used in the analyses.

Tennessee's 2023 Agricultural Economic Contribution Results

Tennessee's economy was \$980.1 billion in output (economic activity) in 2023. The services industry was the largest sector of the economy at \$330.2 billion in economic activity and more than 2.1 million jobs (Table 11).¹¹ The agri-forestry industrial complex ranked fifth in terms of direct total industry output at \$65.9 billion. The state's value-added, or GRP, is estimated at \$531.3 billion with the agri-forestry industrial complex contributing \$21.4 billion towards the state's GRP. For every dollar of sales, the agri-forestry industrial complex directly contributed \$0.32 to the state's GRP, which is higher than manufacturing's direct contribution at \$0.29.

Table 11. Estimated Economic Indicators for Tennessee, 2023

| Sector | TIO ^a | TVA ^b | Jobs | TVA/Job | TVA/TIO |
|---|------------------|------------------|----------------|------------------|-------------|
| | (Billion \$) | | (1,000) | | |
| Services | \$330.2 | \$202.4 | 2,134.7 | \$94,837 | 0.61 |
| Manufacturing | \$168.1 | \$48.1 | 270.5 | \$177,933 | 0.29 |
| Real Estate | \$83.0 | \$59.2 | 201.3 | \$294,088 | 0.71 |
| Government | \$66.0 | \$50.1 | 492.3 | \$101,767 | 0.76 |
| Agri-Forest Industry^c | \$65.9 | \$21.4 | 188.6 | \$113,468 | 0.32 |
| Agriculture^c | \$47.8 | \$14.7 | 148.6 | \$98,923 | 0.31 |
| Inputs | \$2.4 | \$0.8 | 3.0 | \$250,667 | 0.31 |
| Primary Agriculture | \$5.5 | \$2.0 | 82.7 | \$24,184 | 0.36 |
| Secondary Agriculture | \$39.9 | \$11.9 | 62.9 | \$189,189 | 0.30 |
| Forestry^c | \$18.1 | \$6.7 | 40.0 | \$167,500 | 0.37 |
| Inputs | \$0.3 | \$0.2 | 2.9 | \$60,690 | 0.59 |
| Primary Forestry | \$4.6 | \$1.9 | 5.3 | \$358,491 | 0.41 |
| Secondary Forestry | \$13.1 | \$4.6 | 31.8 | \$144,654 | 0.35 |
| Wholesale Trade | \$60.4 | \$34.6 | 149.2 | \$231,903 | 0.57 |
| Retail Trade | \$49.7 | \$37.1 | 397.8 | \$93,263 | 0.75 |
| Construction | \$49.3 | \$24.8 | 286.0 | \$86,713 | 0.50 |
| Finance | \$34.6 | \$16.2 | 159.6 | \$101,504 | 0.47 |
| Insurance | \$28.9 | \$13.8 | 75.7 | \$182,299 | 0.48 |
| Transportation | \$27.0 | \$14.0 | 138.4 | \$101,156 | 0.52 |
| Utilities | \$7.1 | \$3.8 | 5.0 | \$760,000 | 0.54 |
| Miscellaneous | \$6.5 | \$4.5 | 66.3 | \$67,873 | 0.69 |
| Mining | \$3.4 | \$1.2 | 7.3 | \$164,384 | 0.35 |
| Total^c | \$980.1 | \$531.3 | 4,572.7 | | |

^aTotal Industry Output – annual value of production by industry.

^bTotal Value Added – income to workers paid by employers; self-employed income; interest, rents, royalties, dividends, and profit payments; and production and import taxes.

^cTotals may not add due to rounding.

Source: IMPLAN Group, LLC, 2023 Data

¹¹Agricultural services (i.e., landscape/horticultural services (NAICS 561730) and veterinary services (NAICS 541940)) are excluded.

2023 State Level Direct Economic Contributions

Direct economic activity for total industry output (TIO), employment, labor income and total value-added (TVA) for agriculture and forestry for the state are presented in Table 12. ***In 2023, agriculture and forestry related industries contributed a total of \$66.0 billion in direct economic activity to the state of Tennessee, or 6.7 percent of the state's economy. Direct employment in agriculture and forestry related industries was 188.6 thousand persons, or 4.1 percent of the workforce. Direct total value added was \$21.4 billion, including \$8.9 billion in labor income.*** Much of the industry output generated from agri-forestry industrial complex was generated through secondary or manufactured products. For agriculture, approximately 55.7 percent of the workforce was employed in primary agriculture (crop and livestock commodities), 42.3 percent in secondary agriculture (food and beverage, tobacco products and textile manufacturing) and 2.0 percent in agricultural inputs (agricultural chemicals and machinery). For forestry, 79.5 percent of the forestry workforce was employed in secondary forestry (wood products manufacturing), 13.2 percent in primary forestry (pulp, paper and paperboard mills; sawmills; and wood preservation), and 7.4 percent in forestry inputs (forestry machinery, timber tract production¹² and commercial logging).

Table 12. Direct Economic Activity in Agriculture and Forestry for Tennessee, 2023

| Sector | TIO ^a | Employment | Labor Income ^b | TVA ^c |
|-----------------------------------|------------------|------------------|---------------------------|------------------|
| | (Million \$) | (Number) | (Million \$) | (Million \$) |
| All Sectors^d | 980,054 | 4,572,710 | 327,466 | 531,314 |
| Agriculture & Forestry | 65,929 | 188,579 | 8,862 | 21,395 |
| Agriculture | 47,839 | 148,581 | 5,696 | 14,664 |
| Inputs | 2,410 | 3,007 | 257 | 752 |
| Primary Agriculture | 5,529 | 82,684 | 584 | 2,024 |
| Secondary Agriculture | 39,901 | 62,890 | 4,855 | 11,888 |
| Forestry | 18,090 | 39,998 | 3,166 | 6,731 |
| Inputs | 313 | 2,946 | 167 | 235 |
| Primary Forestry | 4,629 | 5,262 | 567 | 1,918 |
| Secondary Forestry | 13,147 | 31,790 | 2,432 | 4,578 |

^aTotal Industry Output - annual value of production by industry.

^bLabor Income - employment compensation (wage and salaries plus benefits) and proprietary income (payments received by self-employed individuals and unincorporated business owners).

^cTotal Value Added - income to workers paid by employers; self-employed income; interest, rents, royalties, dividends, and profit payments; and production and import taxes.

^dIncludes non-agricultural and non-forestry (total economy).

Agricultural and Forestry Inputs:

The largest output value for agricultural inputs was from agricultural machinery followed by agricultural chemicals (Table 13). Approximately 66.6 percent of the total value for total industry output came

¹²Includes growing trees for reforestation; growing forest products such as gums, barks, balsam needles, rhizomes, fibers, and ginseng; and timber tracts for selling timber.

from agricultural machinery. Agricultural machinery also had the largest employment, labor income, and total value added. For forestry inputs, commercial logging had the largest output value, employment, labor income, and total value added. Sawmills, woodworking, and paper machinery had the next largest output value, employment, and labor income but forestry, forest products, and timber tract production had the largest total value added. A more detailed presentation of the total industry output from processing by sub-sector is shown in *Appendixes C and D*.

Table 13. Direct Economic Activity in Agricultural and Forestry Inputs, 2023

| Sector | TIO ^a | Employment | Labor Income ^b | TVA ^c |
|--|------------------|--------------|---------------------------|------------------|
| | (Million \$) | (Number) | (Million \$) | (Million \$) |
| Total Agriculture Inputs | 2,410 | 3,007 | 257 | 752 |
| Agricultural Machinery | 1,605 | 2,449 | 181 | 484 |
| Agricultural Chemicals | 805 | 558 | 76 | 268 |
| Total Forestry Inputs | 313 | 2,946 | 167 | 235 |
| Commercial Logging | 230 | 2,620 | 141 | 219 |
| Sawmills, Woodworking, & Paper Machinery | 72 | 209 | 19 | 6 |
| Forestry, Forest Products, & Timber Tract Operations | 11 | 116 | 7 | 10 |

^aTotal Industry Output – annual value of production by industry.

^bLabor Income – employment compensation (wage and salaries plus benefits) and proprietary income (payments received by self-employed individuals and unincorporated business owners).

^cTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and production and import taxes.

Primary and Secondary Agricultural Products:

The largest output value (18.4 percent) in the state for agriculture commodities from farm production was from oilseed farming (primarily soybeans) (Table 14), followed by grain farming (17.2 percent); poultry and egg production (17.0 percent); beef cattle farming (16.1 percent); greenhouse, nursery and floriculture production (7.7 percent); cotton farming (4.9 percent); agriculture and forestry support activities (4.7 percent); animal production, except cattle, poultry and eggs (3.7 percent); vegetable and melon farming (3.1 percent); all other crop farming (primarily hay/seed farming) (3.0 percent);¹³ dairy cattle and milk production (1.8 percent); and tobacco farming (1.2 percent). In terms of labor income, agriculture and forestry support activities had the largest value, followed by greenhouse, nursery and floriculture production; poultry and egg production; cotton farming; grain farming; oilseed farming; all other crop farming (primarily hay/seed farming); animal production, except cattle, poultry and eggs; vegetable and melon farming; and beef cattle farming. The largest total value-added contributors included oilseed farming (primarily soybeans); greenhouse, nursery and floriculture production; agriculture and forestry support activities; poultry and egg production;

¹³Includes support activities for crop production (i.e., cotton ginning; soil preparation, planting, and cultivating; crop harvesting; and farm management services), animal production (i.e., breeding services, pedigree record services boarding horses, dairy herd improvement activities, livestock spaying, and sheep dipping and shearing), and forestry (i.e., estimated timber, forest fire-fighting, forest pest control, and consulting on wood attributes and reforestation).

Table 14. State Level: Direct Economic Activity in Farm Production, 2023

| Rank | Sector | TIO ^{a,b} | Employment | Labor Income ^c | TVA ^d |
|------|--|--------------------|---------------|---------------------------|------------------|
| | | (Million \$) | (Number) | (Million \$) | (Million \$) |
| | All Farm Production | 5,529 | 82,684 | 584 | 2,024 |
| 1 | Oilseed farming | 1,018 | 7,173 | 30 | 621 |
| 2 | Grain farming | 954 | 8,505 | 41 | 2 |
| 3 | Poultry & egg production | 937 | 2,190 | 48 | 220 |
| 4 | Beef cattle farming | 888 | 26,516 | 13 | 189 |
| 5 | Greenhouse, nursery, & floriculture production | 424 | 5,624 | 86 | 252 |
| 6 | Cotton farming | 272 | 1,251 | 47 | 97 |
| 7 | Agriculture & forestry support activities | 262 | 7,278 | 238 | 246 |
| 8 | Animal production, except cattle/poultry/eggs | 206 | 8,141 | 23 | 138 |
| 9 | Vegetable & melon farming | 172 | 2,734 | 18 | 85 |
| 10 | All other crop farming | 166 | 10,549 | 23 | 66 |
| 11 | Dairy cattle & milk production | 102 | 676 | 5 | 25 |
| 12 | Tobacco farming | 67 | 517 | 9 | 36 |
| 13 | Commercial hunting & trapping | 26 | 199 | 0 | 24 |
| 14 | Fruit farming | 21 | 681 | 3 | 9 |
| 15 | Commercial fishing | 13 | 544 | -2 | 13 |
| 16 | Tree nut farming | 2 | 105 | 1 | 2 |

^aTotal Industry Output – annual value of production by industry.

^bA value of production measure that includes on-farm consumption, and it is net of inventory changes.

^cLabor Income – employment compensation (wage and salaries plus benefits) and proprietary income (payments received by self-employed individuals and unincorporated business owners).

^dTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and production and import taxes.

^eValues of zero are nonzero values less than 1.

beef cattle farming; animal production, except cattle, poultry and eggs; cotton farming; vegetable and melon farming; all other crop farming (primarily hay/seed farming); and tobacco farming.

Among secondary agricultural products, food manufacturing contributed the largest total industry output, followed by beverage manufacturing, tobacco products manufacturing, textile mills, apparel manufacturing, textile product mills and leather and allied product manufacturing (Table 15). Approximately 74.4 percent of the total value of total industry output from processed agricultural products came from food manufacturing. In addition, food manufacturing employed the largest number of workers, had the largest amount of labor income, and contributed the largest amount in total value added when compared to other agriculture value added industries.

Table 15. Direct Economic Activity in Secondary Agricultural Products, 2023

| Sector | TIO ^a | Employment | Labor Income ^b | TVA ^c |
|--|------------------|---------------|---------------------------|------------------|
| | (Million \$) | (Number) | (Million \$) | (Million \$) |
| Total Secondary Agriculture | 39,901 | 62,890 | 4,855 | 11,888 |
| Food Manufacturing | 29,703 | 45,692 | 3,671 | 7,681 |
| Beverage Manufacturing | 4,023 | 6,616 | 502 | 1,511 |
| Tobacco Products Manufacturing | 3,928 | 970 | 114 | 2,032 |
| Textile Mills | 1,098 | 2,932 | 206 | 235 |
| Apparel Manufacturing | 543 | 3,938 | 209 | 238 |
| Textile Product Mills | 516 | 2,310 | 130 | 164 |
| Leather & Allied Product Manufacturing | 91 | 433 | 24 | 27 |

^aTotal Industry Output – annual value of production by industry.

^bLabor Income – employment compensation (wage and salaries plus benefits) and proprietary income (payments received by self-employed individuals and unincorporated business owners).

^cTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and production and import taxes.

Primary and Secondary Forest Products:

The largest output, employment, labor income and total value-added values for primary forest products was from paper mills (Table 16). Approximately 71.0 percent of the total value of total industry output from primary forest products came from paper mills (43.0 percent) and paperboard mills (28.0 percent). Sawmills, paper mills and paperboard mills employed the largest numbers.

Table 16. Direct Economic Activity in Primary Forest Products, 2023

| Sector | TIO ^a | Employment | Labor Income ^b | TVA ^c |
|--------------------------------------|------------------|--------------|---------------------------|------------------|
| | (Million \$) | (Number) | (Million \$) | (Million \$) |
| Total Primary Forest Products | 4,629 | 5,262 | 567 | 1,918 |
| Paper Mills | 1,992 | 1,616 | 258 | 1,015 |
| Paperboard Mills | 1,296 | 1,062 | 155 | 575 |
| Sawmills | 1,212 | 2,447 | 138 | 281 |
| Wood Preservation | 81 | 80 | 7 | 29 |
| Pulp Mills | 49 | 57 | 8 | 19 |

^aTotal Industry Output – annual value of production by industry.

^bLabor Income – employment compensation (wage and salaries plus benefits) and proprietary income (payments received by self-employed individuals and unincorporated business owners).

^cTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and production and import taxes.

For secondary forest products, paper manufacturing had the largest output value, followed by furniture and related products manufacturing; other wood products; wood windows and doors and millwork; manufactured homes manufacturing; and veneer, plywood and engineered wood product manufacturing (Table 17). The paper manufacturing sector was comprised of paperboard containers, paper bags and coated and treated paper, stationery products, sanitary products and other converted paper products. Furniture and related products manufacturing was comprised of household and institutional, office and other (mattress, blind and shades) furniture categories. The other wood products manufacturing category was comprised of

Table 17. Direct Economic Activity in Secondary Forest Products, 2023

| Sector | TIO ^a | Employment | Labor Income ^b | TVA ^c |
|---|------------------|---------------|---------------------------|------------------|
| | (Million \$) | (Number) | (Million \$) | (Million \$) |
| Total Secondary Forest Products | 13,147 | 31,790 | 2,432 | 4,578 |
| Paper Manufacturing | 6,759 | 10,223 | 924 | 2,409 |
| Furniture & Related Products Manufacturing | 1,795 | 7,581 | 475 | 516 |
| Other Wood Products Manufacturing | 1,269 | 5,215 | 328 | 460 |
| Wood Windows & Doors & Millwork Manufacturing | 1,221 | 3,535 | 255 | 467 |
| Manufactured Homes Manufacturing | 1,190 | 3,434 | 306 | 413 |
| Veneer, Plywood, & Engineered Wood Products Manufacturing | 913 | 1,803 | 144 | 313 |

^aTotal Industry Output – annual value of production by industry.

^bLabor Income – employment compensation (wage and salaries plus benefits) and proprietary income (payments received by self-employed individuals and unincorporated business owners).

^cTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and production and import taxes.

wood containers and pallets, all other miscellaneous wood products, and wood kitchen cabinets and countertops.

2023 Estimated Total Economic Contributions of Agriculture and Forestry

The estimated total (multiplier-based) economic impacts of agriculture and forestry included not only includes the direct impacts from the industry but also the impacts the industry had on input supplying industries (indirect impacts) and on expenditures by households (induced impacts). Thus, the total economic impacts from agriculture and forestry included direct, indirect and induced impacts. Table 18 includes values for total industry output, employment, labor income and value added resulting from agriculture and forestry, including the indirect and induced impacts. Agriculture and forestry contributed an estimated value of \$103.8

Table 18. Estimated Total Economic Contributions from Agriculture and Forestry, 2023

| Sector | TIO ^a | Employment | Labor Income ^b | TVA ^c |
|-----------------------------------|------------------|----------------|---------------------------|------------------|
| | (Million \$) | (Number) | (Million \$) | (Million \$) |
| Agriculture & Forestry | 103,810 | 390,583 | 20,904 | 42,057 |
| Agriculture | 74,749 | 299,180 | 14,048 | 29,129 |
| Inputs | 3,685 | 8,423 | 671 | 1,447 |
| Primary Agriculture | 8,059 | 92,540 | 1,315 | 3,362 |
| Secondary Agriculture | 63,006 | 198,217 | 12,062 | 24,320 |
| Forestry | 29,061 | 91,402 | 6,856 | 12,928 |
| Inputs | 525 | 4,145 | 248 | 365 |
| Primary Forestry | 7,377 | 18,509 | 1,518 | 3,494 |
| Secondary Forestry | 21,160 | 68,749 | 5,090 | 9,069 |

^aTotal Industry Output – annual value of production by industry.

^bLabor Income – employment compensation (wage and salaries plus benefits) and proprietary income (payments received by self-employed individuals and unincorporated business owners).

^cTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and production and import taxes.

billion to Tennessee's \$980.1 billion economy in 2023. A more detailed total impact presentation of output, employment, labor income, and value added by sub-sector is shown in *Appendix D* of this document.

Agricultural and Forestry Inputs Total Contributions:

The largest total (multiplier-based) impact for all four variables measured for agricultural inputs was for agricultural machinery (Table 19). Agricultural machinery comprised 68.1 percent of the impact on output. Lawn and garden equipment manufacturing was the largest output contributor for total agricultural inputs (see *Appendix D*). For total forestry inputs, commercial logging had the largest output value, employment, labor income and total value added, followed by sawmills, woodworking and paper machinery.

Table 19. Estimated Total Economic Contributions from Agricultural and Forestry Inputs, 2023

| Sector | TIO^a | Employment | Labor Income^b | TVA^c |
|--|------------------------|-------------------|-------------------------------------|------------------------|
| | (Million \$) | (Number) | (Million \$) | (Million \$) |
| Total Agriculture Inputs | 3,685 | 8,423 | 671 | 1,447 |
| Agricultural Machinery | 2,511 | 6,366 | 479 | 976 |
| Agricultural Chemicals | 1,174 | 2,057 | 192 | 471 |
| Total Forestry Inputs | 525 | 4,145 | 248 | 365 |
| Commercial Logging | 350 | 3,323 | 183 | 294 |
| Sawmills, Woodworking, & Paper Machinery | 157 | 660 | 55 | 57 |
| Forestry, Forest Products, & Timber Tract Operations | 17 | 162 | 10 | 14 |

^aTotal Industry Output – annual value of production by industry.

^bLabor Income – employment compensation (wage and salaries plus benefits) and proprietary income (payments received by self-employed individuals and unincorporated business owners).

^cTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and production and import taxes.

Primary and Secondary Agricultural Products Total Contributions:

Figures 19 through 24 depict the estimated direct, indirect and induced impacts for Tennessee's top agricultural commodities from farm production (oilseeds; grains; vegetables and melons; greenhouse, nursery and floriculture production; tobacco; cotton; all other crops (primarily hay/seeds); beef cattle; dairy cattle and milk production; poultry and egg production; and animal production, except cattle, poultry and eggs). The top five indirect and induced sectors impacted based on output value are also listed. Using oilseed farming as an example, which had direct sales of \$1.0 billion, the indirect economic impacts from input supplying industries are \$235.1 million (17.7 percent of the \$1.3 billion in total impact) and the induced impacts or expenditures by households are \$74.5 million (5.6 percent). The top five sectors most impacted from the indirect impact (in descending order) included wholesale trade (nondurable goods merchants), pesticides and other agricultural chemicals, truck transportation, other real estate and other local government enterprises. Likewise, from household expenditures (induced impacts) the sectors most impacted (in descending order) based on output value included owner-occupied dwellings, hospitals, office of physicians, limited-service restaurants and full-service restaurants.

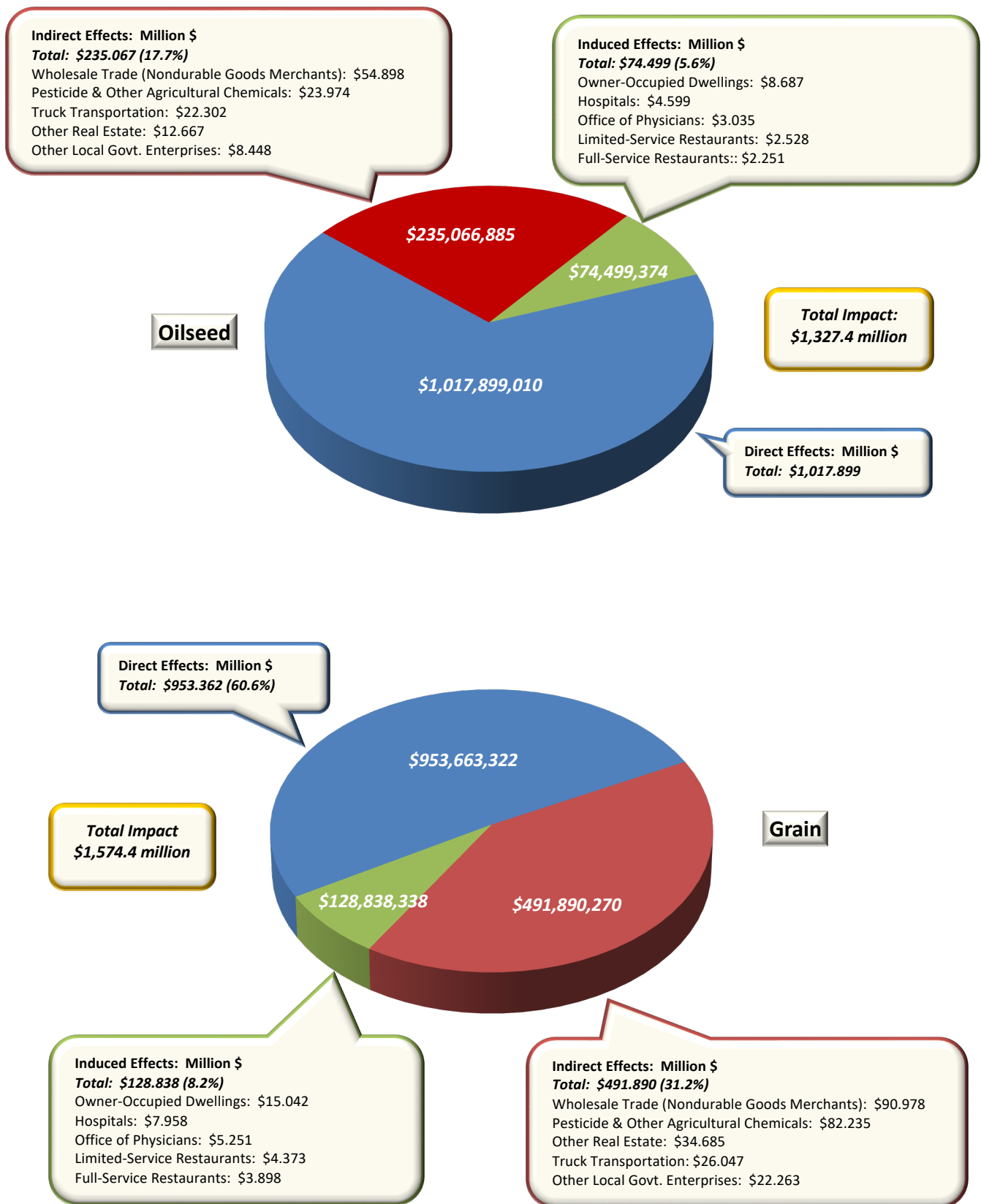


Figure 19. Estimated Direct, Indirect and Induced Contributions for Oilseed Farming and Grain Farming

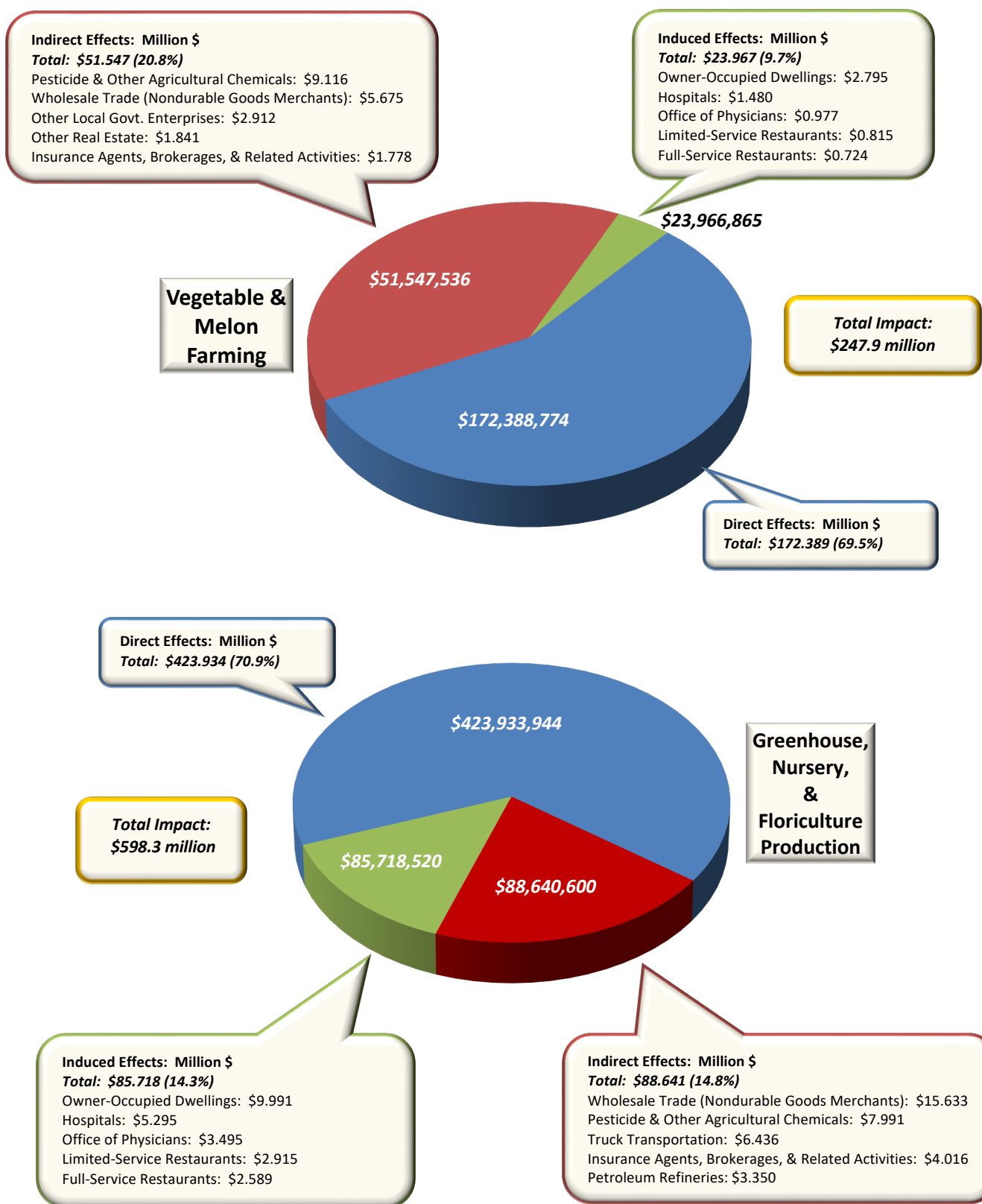


Figure 20. Estimated Direct, Indirect, and Induced Contributions for Vegetable & Melon Farming and Greenhouse, Nursery & Floriculture Production

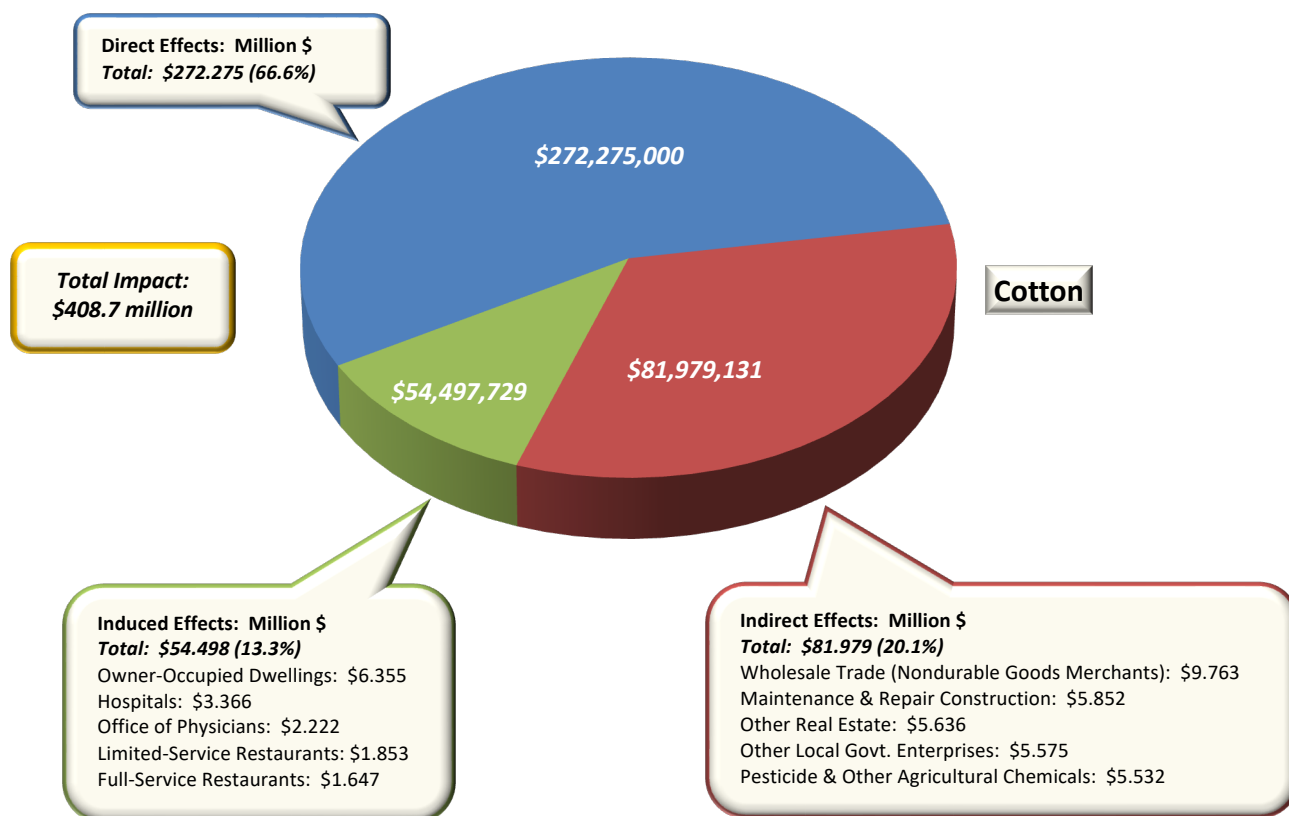
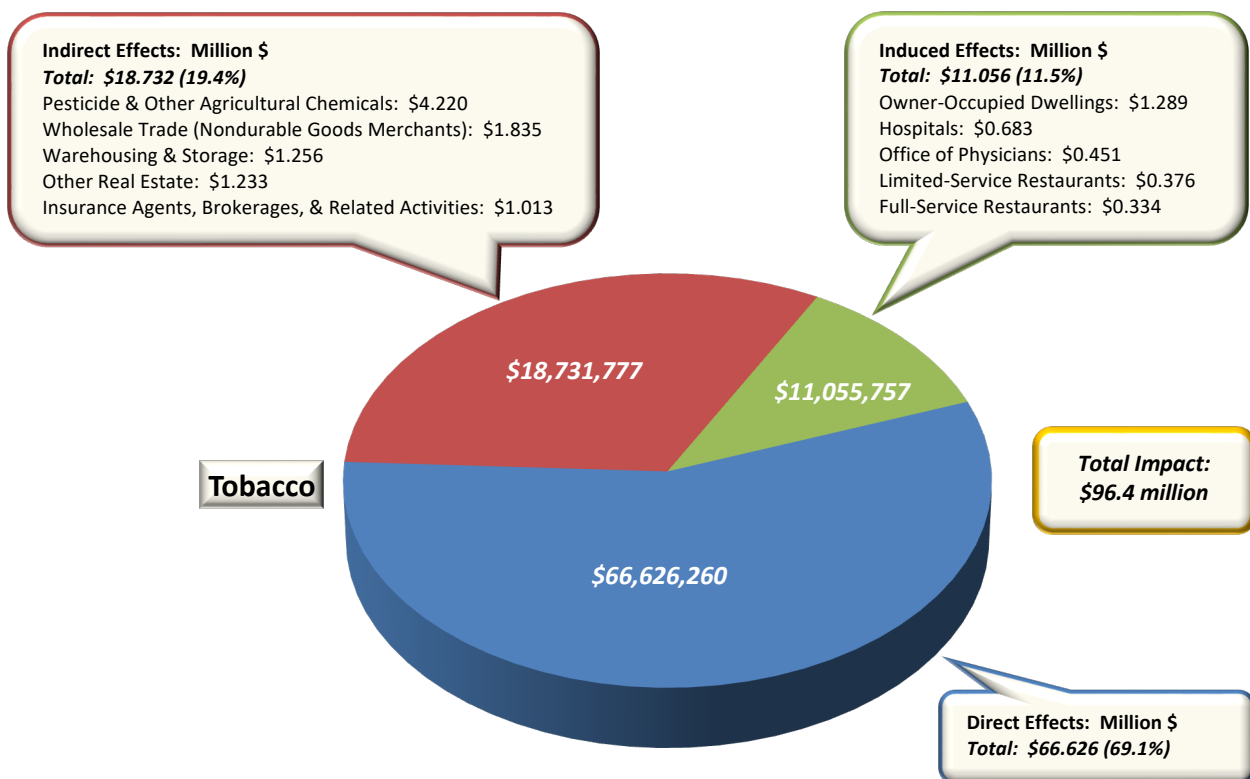


Figure 21. Estimated Direct, Indirect, and Induced Contributions for Tobacco Farming and Cotton Farming

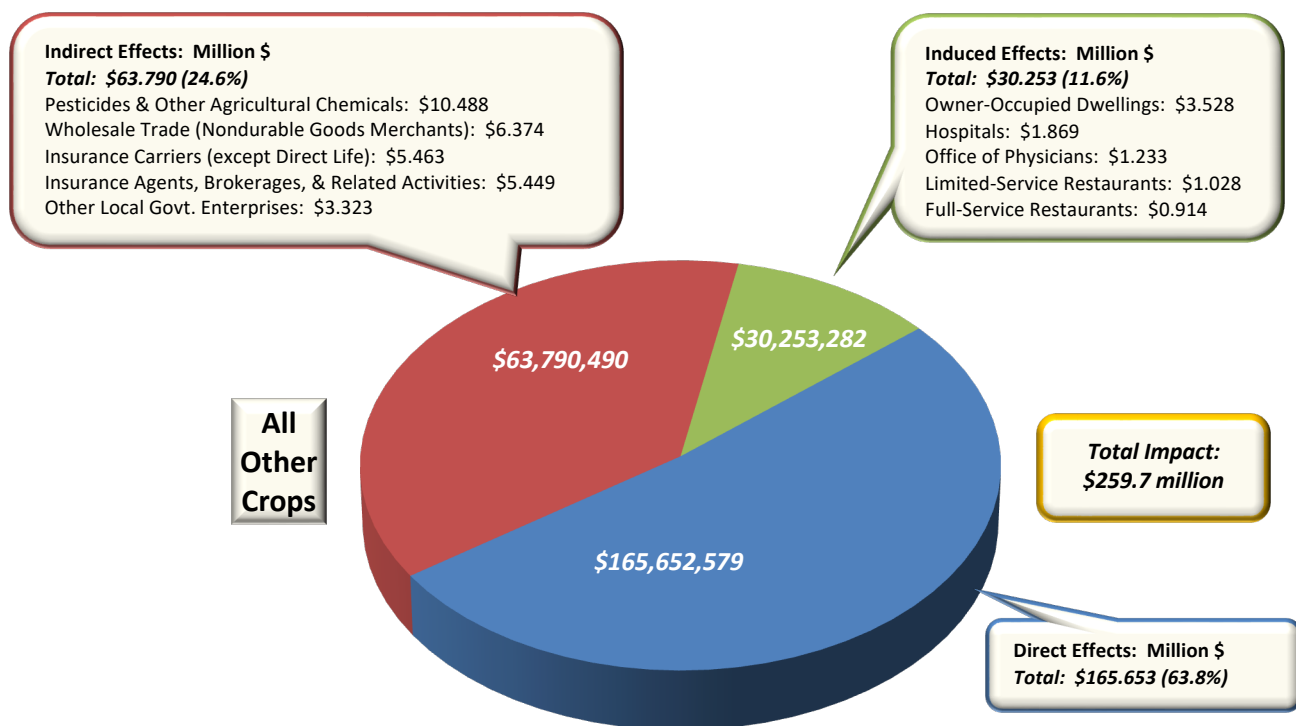


Figure 22. Estimated Direct, Indirect and Induced Contributions for All Other Crop Farming

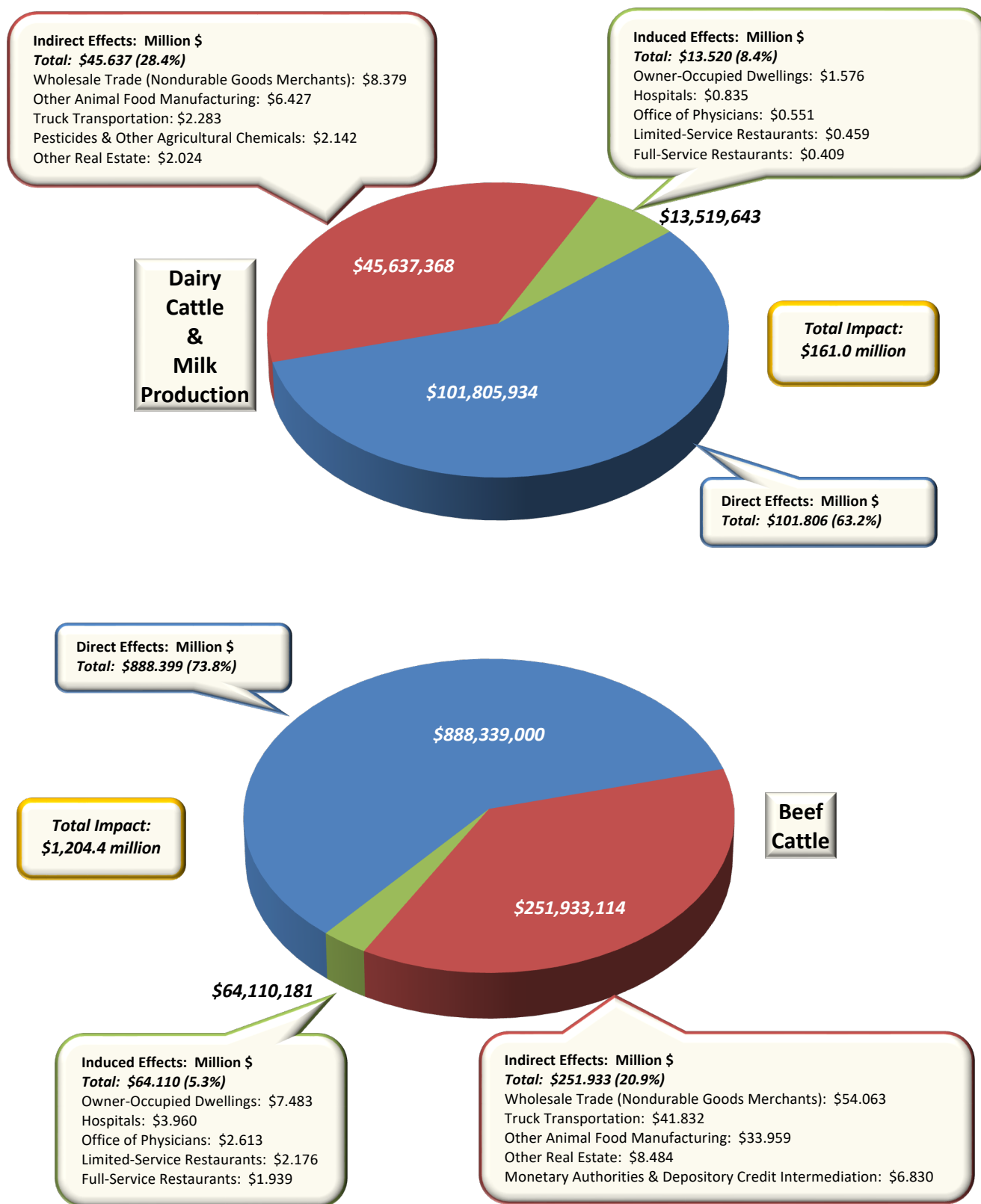


Figure 23. Estimated Direct, Indirect, and Induced Contributions for Dairy Cattle & Milk Production and Beef Cattle Farming

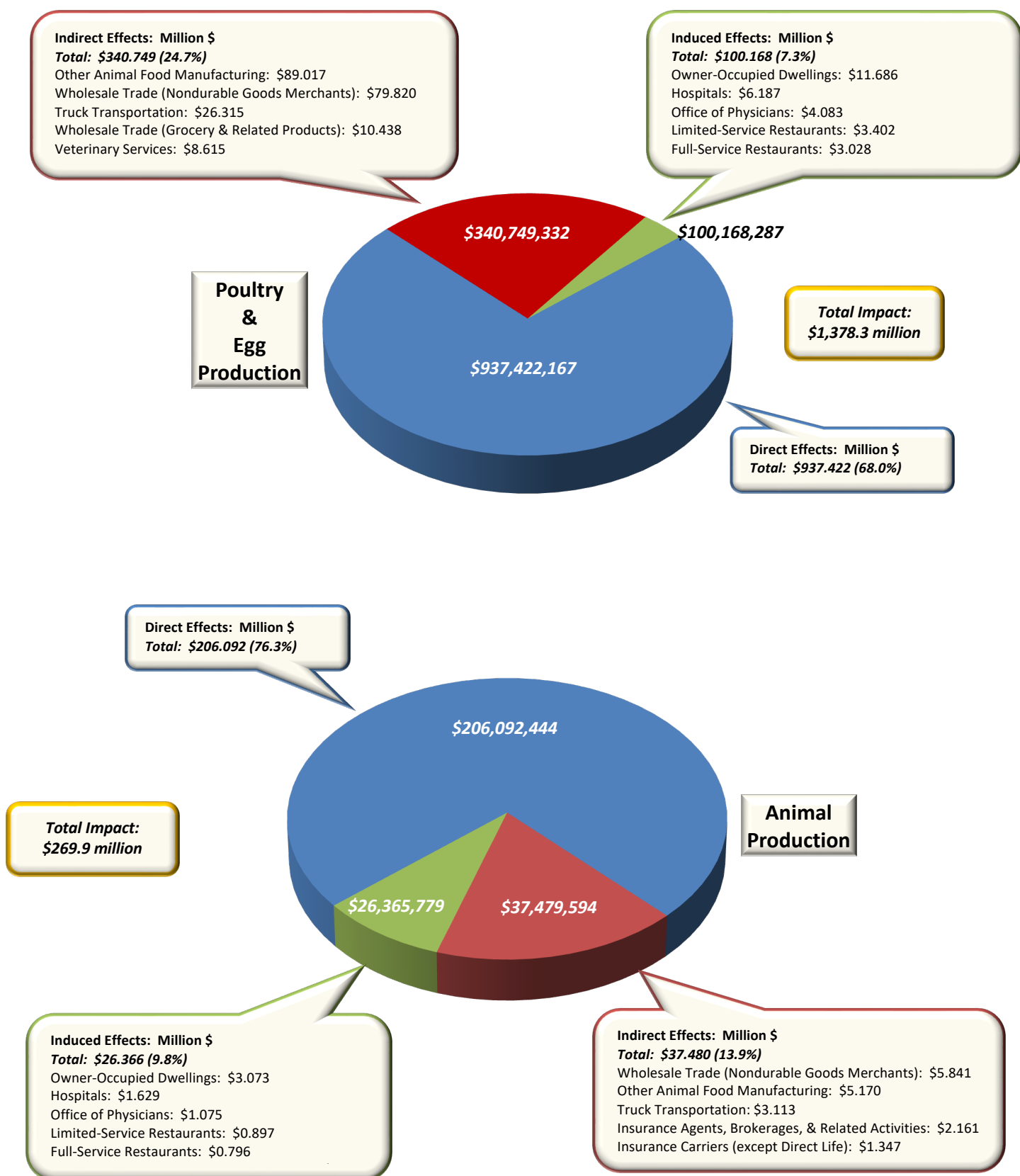


Figure 24. Estimated Direct, Indirect, and Induced Contributions for Poultry & Egg Production and Animal Production, except Cattle, Poultry & Eggs

For secondary agricultural products and for all estimated variables (output, employment, labor income and value added), food manufacturing contributed the greatest total economic impact values (Table 20). Beverage manufacturing was next except for total value added where tobacco products had the largest value.

Table 20. Estimated Total Economic Contributions from Secondary Agricultural Products, 2023

| Sector | TIO ^a | Employment | Labor Income ^b | TVA ^c |
|--|------------------|----------------|---------------------------|------------------|
| | (Million \$) | (Number) | (Million \$) | (Million \$) |
| Total Secondary Agricultural Products | 63,006 | 198,217 | 12,062 | 24,320 |
| Food Manufacturing | 47,392 | 155,882 | 9,053 | 17,074 |
| Beverage Manufacturing | 6,269 | 16,949 | 1,236 | 2,782 |
| Tobacco Products | 5,749 | 9,083 | 759 | 3,041 |
| Textile Mills | 1,739 | 6,192 | 412 | 585 |
| Apparel Manufacturing | 888 | 5,720 | 330 | 443 |
| Textile Product Mills | 791 | 3,576 | 220 | 319 |
| Leather & Allied Product Manufacturing | 177 | 815 | 52 | 76 |

^aTotal Industry Output – annual value of production by industry.

^bLabor Income – employment compensation (wage and salaries plus benefits) and proprietary income (payments received by self-employed individuals and unincorporated business owners).

^cTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and production and import taxes.

Primary and Secondary Forest Products Total Contributions:

Figure 25 shows the estimated direct, indirect and induced impacts for sawmills and commercial logging. The top five indirect and induced sectors based on output value are also listed. Paper mills contributed the largest value for all the indicators analyzed except for employment. Sawmills (Table 21) had the largest number of workers at 7,807.

Table 21. Estimated Total Economic Contributions from Primary Forest Products, 2023

| Sector | TIO ^a | Employment | Labor Income ^b | TVA ^c |
|--------------------------------------|------------------|---------------|---------------------------|------------------|
| | (Million \$) | (Number) | (Million \$) | (Million \$) |
| Total Primary Forest Products | 7,377 | 18,509 | 1,518 | 3,494 |
| Paper Mills | 2,924 | 5,821 | 570 | 1,534 |
| Sawmills | 2,198 | 7,807 | 506 | 884 |
| Paperboard Mills | 2,052 | 4,406 | 402 | 987 |
| Wood Preservation | 122 | 266 | 21 | 52 |
| Pulp Mills | 81 | 209 | 19 | 37 |

^aTotal Industry Output – annual value of production by industry.

^bLabor Income – employment compensation (wage and salaries plus benefits) and proprietary income (payments received by self-employed individuals and unincorporated business owners).

^cTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and production and import taxes.

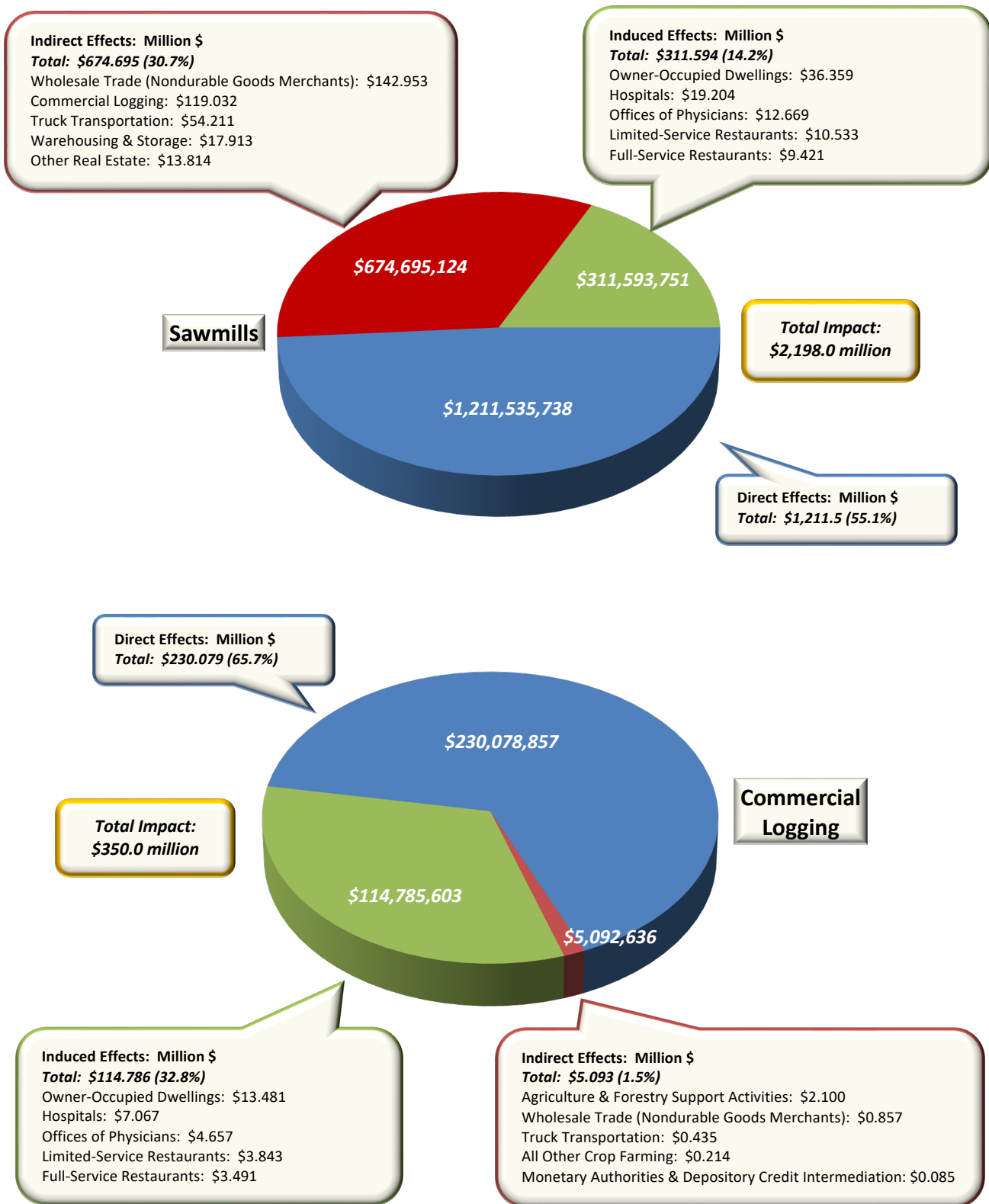


Figure 25. Estimated Direct, Indirect and Induced Contributions for Sawmill and Commercial Logging

For all indicators for secondary forest products, paper manufacturing; furniture and related products manufacturing; other wood products manufacturing (e.g., wood containers and pallets; all other miscellaneous wood products, and wood kitchen cabinets and countertops); and wood windows, doors and millwork were the largest contributors (Table 22). Manufactured homes also had large numbers of employees.

Table 22. Estimated Total Economic Contributions from Secondary Forest Products, 2023

| Sector | TIO ^a | Employment | Labor | |
|---|------------------|---------------|---------------------|------------------|
| | | | Income ^b | TVA ^c |
| | (Million \$) | (Number) | (Million \$) | (Million \$) |
| Total Secondary Forest Products | 21,160 | 68,749 | 5,090 | 9,069 |
| Paper Manufacturing | 10,480 | 27,015 | 2,157 | 4,509 |
| Furniture & Related Products Manufacturing | 3,054 | 13,484 | 899 | 1,224 |
| Other Wood Products Manufacturing | 2,190 | 9,496 | 630 | 969 |
| Wood Windows & Doors & Millwork | 2,057 | 7,487 | 535 | 931 |
| Manufactured Homes Manufacturing | 1,926 | 7,019 | 549 | 829 |
| Veneer, Plywood, & Engineered Wood Products Manufacturing | 1,453 | 4,248 | 319 | 608 |

^aTotal Industry Output – annual value of production by industry.

^bLabor Income – employment compensation (wage and salaries plus benefits) and proprietary income (payments received by self-employed individuals and unincorporated business owners).

^cTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and production and import taxes.

The 2023 output and employment multipliers for agricultural commodities and forestry activities ranged from 1.022 to 1.814 for total industrial output and 1.004 to 4.150 for employment (Table 23). For interpretation, if sawmills increased total industry output by \$1 million, the state's economy would increase by an estimated \$0.814 million overall, and for each job supported in this same industry an estimated 2.190 additional jobs would be supported in other industries. Sawmills that produce \$1 million of total industry output generated an additional \$0.557 million indirectly through the purchase of inputs and \$0.814 million in total economic activity (purchased inputs plus household spending of \$.257 million) within the state.

Table 23. Output and Employment Multipliers for Selected Agriculture and Forestry Sectors, 2023

| IMPLAN Sector | TIO ^a | | Employment | |
|---------------------------------------|-----------------------|---------------------------------|-----------------------|---------------------------------|
| | Indirect ^b | Indirect & Induced ^c | Indirect ^b | Indirect & Induced ^c |
| Oilseed farming | 1.231 | 1.304 | 1.115 | 1.171 |
| Grain farming | 1.516 | 1.651 | 1.183 | 1.264 |
| Vegetable & melon farming | 1.299 | 1.438 | 1.059 | 1.106 |
| Fruit farming | 1.291 | 1.470 | 1.028 | 1.057 |
| Tree nut farming | 1.079 | 1.333 | 1.004 ^d | 1.027 |
| Greenhouse, nursery, and floriculture | 1.209 | 1.411 | 1.053 | 1.134 |
| Tobacco farming | 1.281 | 1.447 | 1.125 | 1.239 |
| Cotton farming | 1.301 | 1.501 | 1.229 | 1.462 |
| All other crop farming | 1.385 | 1.568 | 1.018 | 1.033 |
| Dairy cattle & milk production | 1.448 | 1.581 | 1.218 | 1.325 |
| Beef cattle farming | 1.284 | 1.356 | 1.032 | 1.045 |
| Poultry & egg production | 1.363 | 1.470 | 1.454 | 1.698 |

Table 23. Output and Employment Multipliers for Selected Agriculture and Forestry Sectors, 2023

| IMPLAN Sector | TIO ^a | | Employment | |
|---|-----------------------|---------------------------------|-----------------------|---------------------------------|
| | Indirect ^b | Indirect & Induced ^c | Indirect ^b | Indirect & Induced ^c |
| Animal production, except cattle/poultry/eggs | 1.182 | 1.310 | 1.016 | 1.034 |
| Commercial hunting & trapping | 1.045 | 1.069 | 1.026 | 1.043 |
| Agriculture & forestry support activities | 1.039 | 1.759 | 1.005 | 1.143 |
| Commercial logging | 1.022 ^d | 1.521 | 1.033 | 1.268 |
| Sawmills | 1.557 | 1.814 ^d | 2.506 | 3.190 |
| Wood preservation | 1.348 | 1.509 | 2.452 | 3.331 |
| Pulp mills | 1.411 | 1.649 | 2.550 | 3.652 |
| Paper mills | 1.291 | 1.468 | 2.435 | 3.602 |
| Paperboard mills | 1.390 | 1.584 | 2.879 | 4.150 ^d |
| Forestry, forest products, & timber tracts | 1.055 | 1.612 | 1.118 | 1.396 |

^aTotal Industry Output – annual value of production by industry.

^bEconomic effects from business-to-business purchases in the supply chain (Direct + Indirect)/(Direct).

^cIncludes indirect effects plus the economic effects from household spending of labor income (Direct + Indirect + Induced)/(Direct).

^dDenotes the lowest or highest multipliers for total industrial output and employment.

Figures 26 through 31 compare each of Tennessee’s 95 individual county’s direct agriculture and forestry economic activity (no multiplier effects) to that county’s entire economy (all economic activity for the county). These values were based on each individual county’s total industry output for those industries. In this section, “**primary agriculture**” includes crop production and livestock breeding and feeding, whereas “**primary forestry**” includes the management and logging of trees. “**All agriculture**” includes primary agriculture, plus the input supplying industries and agriculture manufacturing. Likewise, “**all forestry**” includes primary forestry, plus input supplying industries and forestry manufacturing. Lake County had the highest level of economic activity for **primary agriculture** at 14.3 percent, followed by Clay County at 10.1 percent (Table 24). For **all agriculture**, Moore County had the highest level at 51.1 percent, followed by Tipton County at 30.4 percent. For **primary forestry**, Wayne County followed by Grundy County had the highest level of economic activity at 1.7 percent and 1.1 percent; for **all forestry**, Hardin County and Grainger County had the highest levels at 22.0 percent and 19.8 percent. Combining both “**primary agriculture**” and “**primary forestry**,” Lake County (14.3 percent for direct) and Moore County (51.2 percent for total) had the highest levels of economic activity.

Table 24. Tennessee Counties with the Highest Proportion of Direct Economic Activity for Agriculture and Forestry, 2023

| Rank | Agriculture | | Forestry | | Combined | |
|-----------------|--------------|----------------|---------------|------------------|----------------|-----------------|
| | Primary | All | Primary | All | Primary | All |
| 1 st | Lake (14.3%) | Moore (51.1%) | Wayne (1.7%) | Hardin (22.0%) | Lake (14.3%) | Moore (51.2%) |
| 2 nd | Clay (10.1%) | Tipton (30.3%) | Grundy (1.1%) | Grainger (19.8%) | Hardin (13.1%) | Weakley (31.3%) |

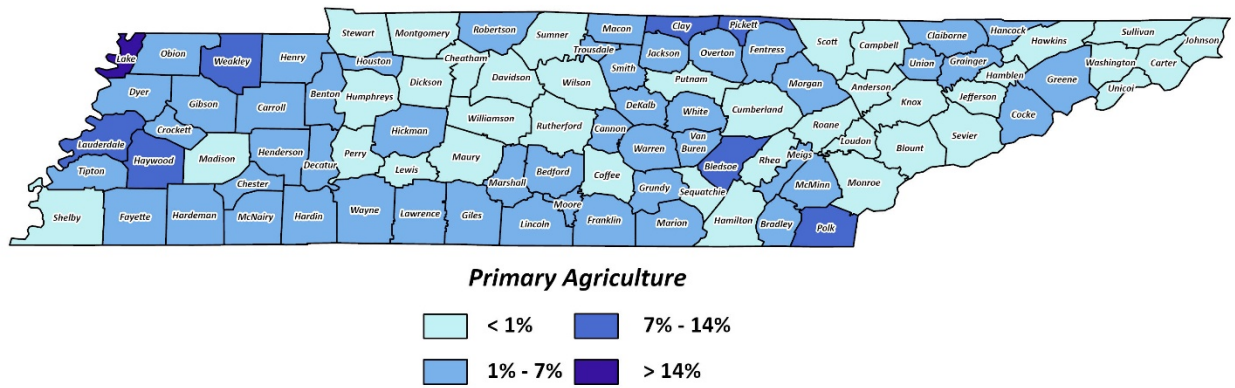


Figure 26. Percent of Direct Economic Activity from Primary Agriculture, 2023
(Source: IMPLAN Group, LLC, 2023 Data)

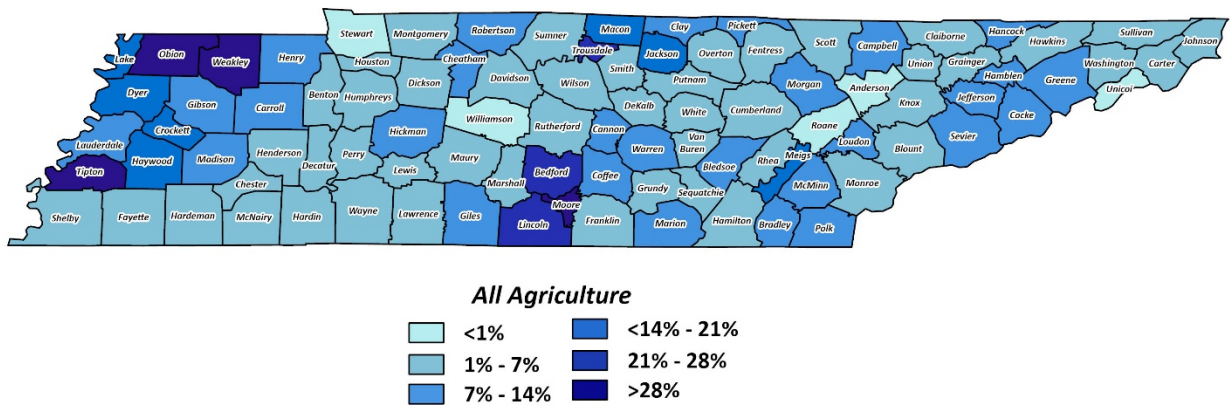


Figure 27. Percent of Direct Economic Activity from All Agriculture, 2023
(Source: IMPLAN Group, LLC, 2023 Data)

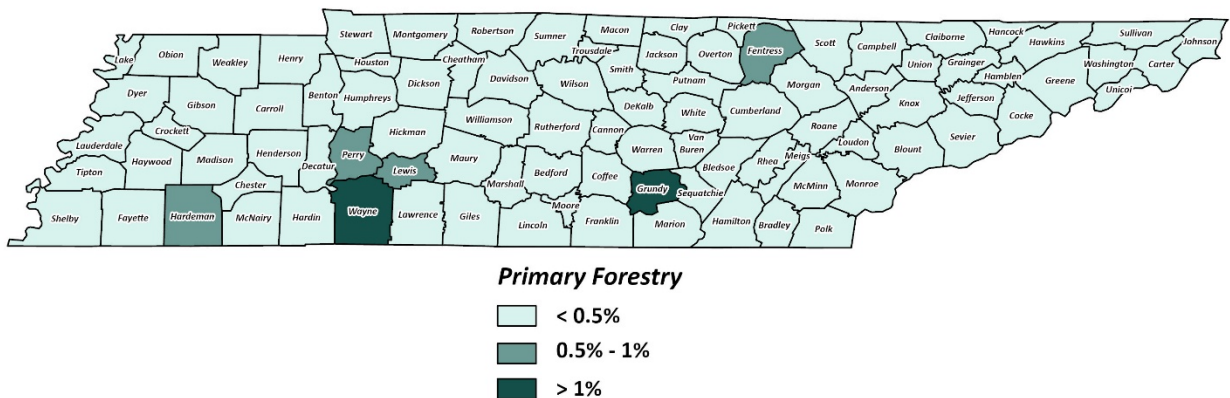


Figure 28. Percent of Direct Economic Activity from Primary Forestry, 2023
(Source: IMPLAN Group, LLC, 2023 Data)

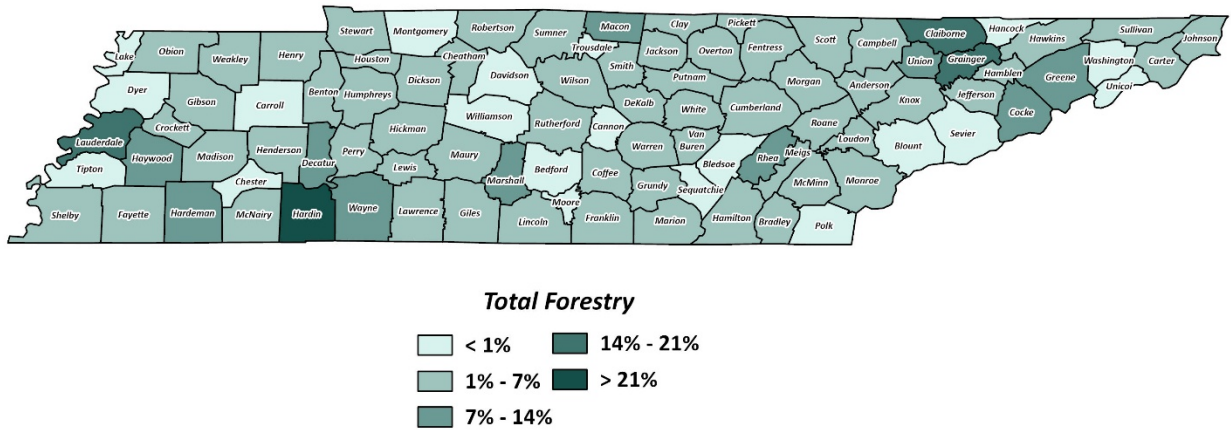


Figure 29. Percent of Direct Economic Activity from All Forestry, 2023
(Source: IMPLAN Group, LLC, 2023 Data)

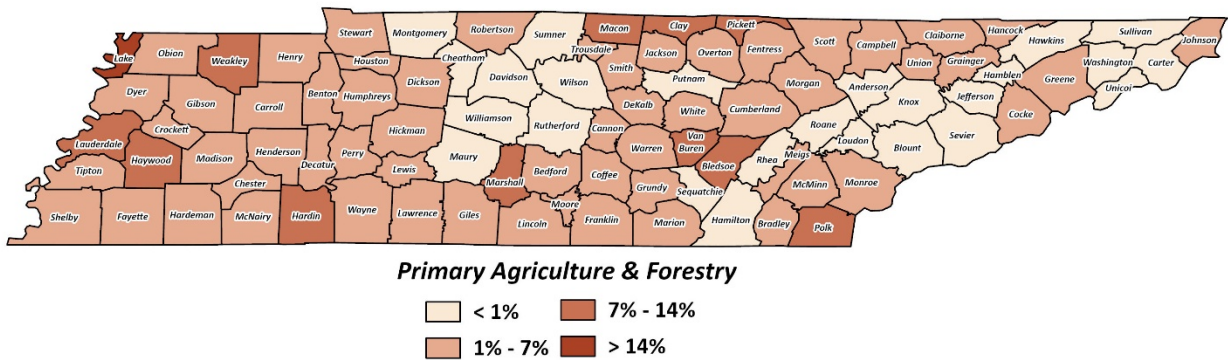


Figure 30. Percent of Direct Economic Activity from Primary Agriculture and Forestry, 2023
(Source: IMPLAN Group, LLC, 2023 Data)

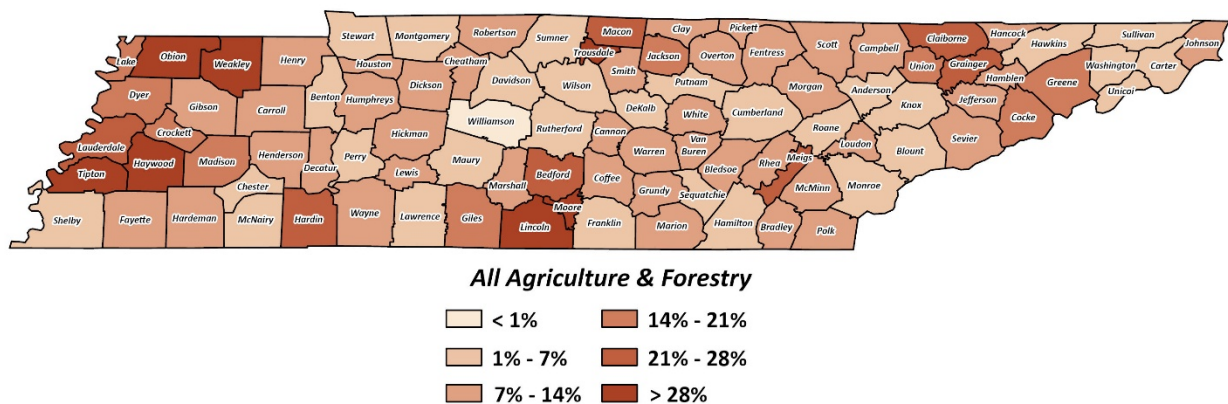


Figure 31. Percent of Direct Economic Activity from All Agriculture and Forestry, 2023
(Source: IMPLAN Group, LLC, 2023 Data)

Tax Contributions from Tennessee Agriculture and Forestry

Total tax collection revenues for Tennessee in fiscal year 2023 are estimated at close to \$26.7 billion in the form of local and state taxes (TN Department of Revenue, 2025). Based on the IMPLAN data for Tennessee in 2023, tax impacts at the county and state levels as a result of direct and multiplier effects for agriculture and forestry (includes the production and processing of agricultural and forest products and the input suppliers of these products) are estimated at \$846.0 million and \$1.9 billion, respectively (Table 25). An additional \$4.9 billion is generated for the federal government. Agriculture tax revenues are estimated at \$2.7 billion for state/county and \$3.4 billion for federal. Forestry generated \$696.9 million in tax revenues for state/county and \$1.6 billion in federal. For state/county tax revenues, taxes on imports and production for both agriculture and forestry have the largest value; for federal tax revenues, personal (household) taxes have the largest value.

Table 25. Estimated State/Local and Federal Tax Revenues from Tennessee Agriculture and Forestry, 2023

| | County | Revenues State | Federal |
|--|-----------------------|-------------------------|-------------------------|
| | | (Million \$) | |
| <i>Agriculture^a</i> | | | |
| Production & import taxes ^b | \$638.6 | \$1,189.6 | \$84.0 |
| Corporate profits taxes ^c | \$0.0 | \$248.2 | \$558.0 |
| Personal (household) taxes ^d | \$2.0 | \$12.4 | \$2,720.4 |
| <i>Total</i> | <i>\$640.5</i> | <i>\$1,450.2</i> | <i>\$3,362.4</i> |
| <i>Forestry^a</i> | | | |
| Production & import taxes ^b | \$204.4 | \$380.8 | \$26.9 |
| Corporate profits taxes ^c | \$0.0 | \$104.7 | \$235.3 |
| Personal (household) taxes ^d | \$1.0 | \$6.0 | \$1,318.2 |
| <i>Total</i> | <i>\$205.4</i> | <i>\$491.5</i> | <i>\$1,580.4</i> |
| <i>Agriculture & Forestry Total</i> | <i>\$845.9</i> | <i>\$1,941.7</i> | <i>\$4,942.8</i> |

^aIncludes the production and processing of agricultural or forest products and the input suppliers of these products.

^bFor state/county, sales taxes, property taxes, motor vehicle licenses taxes, severance taxes, other taxes, and special assessments; for federal, excise taxes and custom duty taxes.

^cFor state/county/federal, corporate profit taxes.

^dFor state/county, personal income tax, motor vehicle license tax, other tax (fishing/hunting); for federal, social insurance and personal income taxes.

Source: Clouse, 2022; Minnesota IMPLAN Group, 2023 Data

Summary and Conclusion

The agri-forestry industrial complex included the primary industries typically associated with agriculture and forest operations such as crop production, livestock breeding and feeding, and the management and logging of trees. Also included in the industrial complex are the input supplying industries and value-added subsectors, which included food and beverage manufacturing, apparel and textiles, and forestry products manufacturing. In 2023, the agri-forestry industrial complex directly and indirectly (i.e., including multiplier effects) contributed *\$103.8 billion* to Tennessee's economy. In terms of gross output this

value was 10.6 percent of the economic activity conducted in the state. An estimated 390,583 individuals work in industries either part of or supported by the complex, or 8.5 percent of total employment in Tennessee. *Agriculture* generated \$74.8 billion in output or 7.6 percent of the economic activity in Tennessee and supported 299,180 jobs, with 92,540 (both full- and part-time) jobs in agricultural production. *Forestry* included the management and logging of trees; sawmills (primary forestry products), including pulp and paper mills, plus forestry products manufacturing (secondary forestry products). Forestry accounted for 3.0 percent of the state's economy, supported 91,402 Tennessee jobs, and generated \$29.1 billion in output.

When comparing a county's direct (without multiplier effects) agriculture and forestry economic activity to its total economic activity (all industries) for each of Tennessee's 95 counties, Lake County had the highest share of economic activity for commodity agriculture (crop and livestock breeding and feeding) at 14.3 percent. For all agriculture (includes direct agriculture, plus agricultural input supplying and agriculture-based manufacturing sectors), Moore County had the highest share of economic activity at 51.1 percent. For direct forestry (i.e., the management and logging of forests), Wayne County had the highest level of direct economic activity at 1.7 percent. For all forestry (includes direct forestry, plus input supplying industries and forestry manufacturing), Hardin County had the highest share at 22.02 percent. Combining both agriculture and forestry, Moore and Weakley counties had the largest shares of local economic activity at 51.2 percent and 31.3 percent, respectively.

Comparing 2021 and 2023 statewide agricultural data, many of the traditional row crops grown in the state experienced decreased harvested acreage except for wheat, soybeans, and hay. Crop prices only increased for hay and tobacco. For livestock inventory, the numbers of chickens (excluding broilers), hogs and eggs increased, while the number of beef cattle and calves, milk cows, along with broilers, decreased. Prices increased for all livestock products with the largest increase for broilers, followed closely by beef cattle and calves.

Comparing 2023 major industry sectors to previous studies using 2006, 2009, 2011, 2013, 2015, 2017, 2019 and 2021 IMPLAN data, the value of direct economic activity for agriculture and forestry increased an average of 7.0 percent and 2.7 percent, respectively. Most other major industrial sectors had increases in economic activity for this timeframe with services having the largest average increase at 15.3 percent, followed by wholesale trade (13.3 percent); mining (12.8 percent); construction (12.0 percent); government (10.6 percent); finance, insurance and real estate combined (10.2 percent); retail trade (8.2 percent); and manufacturing (5.2 percent). For workers or jobs in agriculture and forestry, forestry had the largest average decrease at 4.3 percent with agriculture having a 0.9 percent decrease. For workers or jobs in other industries, the largest average increase was for mining at 6.0 percent, followed by services (5.6 percent), construction (3.8

percent) and government (2.1 percent). The largest average decrease was for manufacturing at 0.4 percent, followed by retail trade at 0.2 percent.

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Appendix A: IMPLAN Methodology

The Tennessee Agri-Industry Model (TN-AIM) is based on the Impact Analysis for Planning (IMPLAN) model and its databases (IMPLAN Group LLC, 2023). Beginning with this report and subsequent reports, IMPLAN's Cloud platform (Release 25.1) is used. IMPLAN's Cloud platform offers an industry contribution analyses option for IMPLAN modelers, which was used to estimate Tennessee's agri-forestry industrial complex economic contributions to the state for this analysis. IMPLAN uses a National Trade Flows Model (NTFM) (doubly-constrained gravity model) to estimate a new set of regional purchase coefficients and other trade data that estimates local purchases based on a region's characteristics (Thorvaldson, 2018). Not only does the model describe a regional economy, but it can also be used for predictive purposes by providing multiplier-based estimates.

Multipliers measure the response of the economy to a change in production or demand. Multiplier analysis generally focuses on the impacts of exogenous changes on: a) output of the sectors in the economy, b) resulting changes in income earned by households and c) resulting change in employment (in physical terms) that is expected to be generated. The concept of multipliers rests on the difference between the initial impact of an exogenous change (final demand) and the total impacts of a change. **Direct** impacts measure the response of a given industry given a change in final demand for that same industry. **Indirect** impacts represent the response by all local industries that occur as a result of a change in final demand for a specific industry. **Induced** impacts represent the response by all local industries caused by increased (decreased) expenditures of new household income and inter-institutional transfers generated (lost) from the direct and indirect impacts of the change in final demand for a specific industry.

This study uses Type I and Type SAM (Social Accounting Matrix) multipliers. Type I multipliers, used to estimate the indirect impacts, are calculated by dividing direct plus indirect impacts by the direct impacts. Type SAM multipliers are used to estimate the induced impacts and are calculated as (direct + indirect + induced impacts)/direct impacts. As argued by the current developers of IMPLAN, the Type SAM multipliers consider the expenditures resulting from increased incomes of households as well as inter-institutional transfers resulting from the economic activity. Therefore, Type SAM multipliers assume that as final demand changes, incomes also increase. As consumers and institutions increase expenditures this leads to increased demands from local industries. To prevent double-counting the economic contributions estimated, regional purchase coefficients¹⁴ (RPC) are set to zero for the backward linked supply and service industries.¹⁵

¹⁴IMPLAN's regional purchase coefficient (RPC) represents how much of each commodity purchasing industries and institutions buy from regional sources. For example, a RPC of .55 for a given commodity means that for each \$1 of local need, 55 percent of the commodity is purchased locally.

¹⁵Hence, the analysis provided in this document belongs in the category of contribution analysis. For more details, see Steinback, 2004.

Input-output model results from previous studies in this series were based on the Standard Industrial Classification (SIC) system as defined by the United States Census Bureau. Beginning in 2006, results are based on the North American Industrial Classification System (NAICS) (Census NAICS, 2002, 2007, 2012, 2017 and 2022) (see Table B.1. for 2022). The reader should not compare industry sector level results from the previous studies using the SIC system with the results from this most recent study using NAICS. For readers who are interested in time series data, this creates a problem since many industries are grouped into different or entirely new categories. Plus, changes in input-output modeling and data sources are additional reasons the reader should be wary with respect to evaluating changes in impacts over time.

IMPLAN uses a macro-regional social accounting system and generates a set of balanced economic/social accounts and multipliers.¹⁶ The social accounting system is an extension of input-output (I-O) analysis.¹⁷ Input-output analysis can provide important and timely information on the interrelationships in a regional economy and the impacts of changes on that economy. Input-output analysis has been expanded beyond market-based transaction accounting to include non-market financial flows by using a social accounting matrix or SAM framework (Pyatt and Round, 1985). The model describes the transfer of money between industries and institutions and contains both market-based transactions and non-market financial flows, such as inter-institutional transfers (see Figure A.1). The ‘Make’ and ‘Use’ components of the SAM include the commodities made and used by industries. Factors represent the value-added by industries, including wages and compensation to workers, interest, profits and indirect business taxes. Capital includes expenditures made by industries and institutions to obtain equipment and construction. The SAM takes into account corporate profits as “Enterprises.” The SAM also accounts for non-industrial financial flows, including factor exports and imports, institution exports, factor distribution and inter-institutional transfers. Factor exports include payments reimbursed from outside the region for exports less the payments for imports. Institutional exports would include situations such as jobs commuting outside the region. Factor distributions are payments from the factor sectors to institutions, such as households or governments. Inter-institutional transfers include payments between institutions, such as federal government grants to state governments, welfare, social security payments, and taxes paid to governments.

The reader should note that I-O modeling typically have the following assumptions: **1)** constant returns to scale (i.e., regardless of the level of production, the same quantity of inputs is needed per unit of output), **2)** no substitution effects (i.e., the same mix of inputs is always used to create the output unless production

¹⁶While IMPLAN provides a macro-based SAM it does not account for income distribution by functional class as would a SAM defined traditionally in the approach laid out by Stone (1961).

¹⁷Input-output (I-O) analysis, also known as inter-industry analysis, is the name given to an analytical work conducted by Wassily Leontief (1936) in the late 1930’s. The fundamental purpose of the I-O framework is to analyze the interdependence of industries in an economy through market-based transactions.

function changes are made), **3)** industry homogeneity (i.e., firms within an industry have the same common production process), **4)** no supply constraints (i.e., no restrictions to inputs, raw materials and employment), **5)** same technology (i.e., an industry and its commodity production uses the same technology to produce its products), **6)** constant byproducts (i.e., an industries byproducts are constant); **7)** the model is static (i.e., no general equilibrium effects – consumer preferences, government policy, technology and prices remain constant), **8)** backward linkages (i.e., no upstream effects – an industries production is not looked forward to consider how their output is used as an input for other production), and **9)** time (i.e., time is not considered in I-O modeling; the time it takes for an economy to settle at a new equilibrium after a change is not included) (Slovachek, 2023).

| | Industry | Commodity | Factors | Institutions | Enterprises | Capital | Trade | Total |
|--------------|-----------------------|------------------------|---------------------|--------------------------|-------------------------|----------------------|---------------------|----------------------------|
| Industry | | <i>Make</i> | | | | | <i>Exports</i> | Total Industry Income |
| Commodity | <i>Use</i> | | | <i>Consumption</i> | | <i>Consumption</i> | | Total Commodity Income |
| Factors | <i>Value Added</i> | | | | | | <i>Exports</i> | Total Factor Income |
| Institutions | | <i>Sales</i> | <i>Transfers</i> | <i>Transfers</i> | <i>Transfers</i> | | <i>Exports</i> | Total Institutional Income |
| Enterprises | | | | | | | | Total Enterprise Income |
| Capital | | | | | | <i>Transfers</i> | <i>Exports</i> | Total Capital Income |
| Trade | <i>Imports</i> | | <i>Factor Trade</i> | <i>Imports</i> | | <i>Transfers</i> | <i>Exports</i> | Total Trade Income |
| Total | Total Industry Outlay | Total Commodity Outlay | Total Factor Outlay | Total Institution Outlay | Total Enterprise Outlay | Total Capital Outlay | Total Trade Exports | |

Figure A.1. Social Accounting Matrix Framework

Source: Olson and Lindall, 1999

Appendix B: IMPLAN/NAICS Sector Bridge with Agri-Forestry Industrial Complex Identification

| Table B.1. IMPLAN 528 Industry Sector Descriptions, NAICS and Agri-Forestry Aggregation Designation | | | |
|---|--|--|----------------------------|
| Sector | Description | 2022 NAICS | Agri-Forestry ^a |
| 1 | Oilseed farming | 111110, 111120, 111191 | Primary Ag |
| 2 | Grain farming | 111130, 111140, 111150, 111160, 111191, 111199 | Primary Ag |
| 3 | Vegetable & melon farming | 111211, 111219 | Primary Ag |
| 4 | Fruit farming | 111310, 111320, 111331, 111332, 111333, 111334, 111336, 111339 | Primary Ag |
| 5 | Tree nut farming | 111335, 111336 | Primary Ag |
| 6 | Greenhouse, nursery, & floriculture production | 111411, 111419, 111421, 111422 | Primary Ag |
| 7 | Tobacco farming | 111910 | Primary Ag |
| 8 | Cotton farming | 111920 | Primary Ag |
| 9 | Sugarcane & sugar beet farming | 111930, 111991 | Primary Ag |
| 10 | All other crop farming | 111940, 111992, 111998 | Primary Ag |
| 11 | Beef cattle ranching & farming, including feedlots & dual-purpose ranching & farming | 112111, 112112 | Primary Ag |
| 12 | Dairy cattle & milk production | 112120 | Primary Ag |
| 13 | Poultry & egg production | 112310, 112320, 112330, 112340, 112390 | Primary Ag |
| 14 | Animal production, except cattle & poultry & eggs | 112210, 112410, 112420, 112511, 112512, 112519, 112910, 112920, 112930, 112990 | Primary Ag |
| 15 | Forestry, forest products, & timber tract production | 113110, 113210 | For Inputs |
| 16 | Commercial logging | 113310 | For Inputs |
| 17 | Commercial fishing | 114111, 114112, 114119 | Primary Ag |
| 18 | Commercial hunting & trapping | 114210 | Primary Ag |
| 19 | Support activities for agriculture & forestry | 115111, 115112, 115113, 115114, 115115, 115116, 115210, 115310 | Primary Ag |
| 20 | Oil and gas extraction | 211120, 211130 | Mining |
| 21 | Coal mining | 212114, 212115 | Mining |
| 22 | Copper, nickel, lead, and zinc mining | 212230 | Mining |
| 23 | Iron ore mining | 212210 | Mining |
| 24 | Gold ore and silver ore mining | 212220 | Mining |
| 25 | Other metal ore mining | 212290 | Mining |
| 26 | Stone mining and quarrying | 212311, 212312, 212313, 212319 | Mining |
| 27 | Sand and gravel mining | 212321, 212322, 212323 | Mining |
| 28 | Other clay, ceramic, refractory minerals mining | 212323 | Mining |
| 29 | Other nonmetallic mineral mining and quarrying | 212390 | Mining |
| 30 | Drilling oil and gas wells | 213111 | Mining |
| 31 | Support activities for oil and gas operations | 213112 | Mining |
| 32 | Metal mining services | 213114 | Services |
| 33 | Other nonmetallic minerals services | 213113, 213115 | Services |
| 34 | Electric power generation - Hydroelectric | 221111 | Utilities |
| 35 | Electric power generation - Fossil fuel | 221112 | Utilities |
| 36 | Electric power generation - Nuclear | 221113 | Utilities |
| 37 | Electric power generation - Solar | 221114 | Utilities |
| 38 | Electric power generation - Wind | 221115 | Utilities |
| 39 | Electric power generation - Geothermal | 221116 | Utilities |
| 40 | Electric power generation - Biomass | 221117 | Utilities |
| 41 | Electric power generation - All other | 221118 | Utilities |
| 42 | Electric power transmission and distribution | 221121, 221122 | Utilities |
| 43 | Natural gas distribution | 221210 | Utilities |
| 44 | Water, sewage and other systems | 221310, 221320, 221330 | Utilities |
| 45 | Construction of new health care structures | 23 | Construction |
| 46 | Construction of new manuf structures | 23 | Construction |
| 47 | Construction of new power and communication structures | 23 | Construction |

Table B.1. IMPLAN 528 Industry Sector Descriptions, NAICS and Agri-Forestry Aggregation Designation

| Sector | Description | 2022 NAICS | Agri-Forestry ^a |
|--------|--|----------------|----------------------------|
| 48 | Construction of new educational and vocational structures | 23 | Construction |
| 49 | Construction of new highways and streets | 23 | Construction |
| 50 | Construction of new commercial structures, including farm structures | 23 | Construction |
| 51 | Construction of other new nonresidential structures | 23 | Construction |
| 52 | Construction of new single-family residential structures | 23 | Construction |
| 53 | Construction of new multifamily residential structures | 23 | Construction |
| 54 | Construction of other new residential structures | 23 | Construction |
| 55 | Maintenance and repair construction of nonresidential structures | 23 | Construction |
| 56 | Maintenance and repair construction of residential structures | 23 | Construction |
| 57 | Maintenance and repair construction of highways, streets, bridges, and tunnels | 23 | Construction |
| 58 | Dog and cat food manuf | 311111 | Secondary Ag |
| 59 | Other animal food manuf | 311119 | Secondary Ag |
| 60 | Flour milling | 311211 | Secondary Ag |
| 61 | Rice milling | 311212 | Secondary Ag |
| 62 | Malt manuf | 311213 | Secondary Ag |
| 63 | Wet corn milling | 311221 | Secondary Ag |
| 64 | Soybean and other oilseed processing | 311224 | Secondary Ag |
| 65 | Fats and oils refining and blending | 311225 | Secondary Ag |
| 66 | Breakfast cereal manuf | 311230 | Secondary Ag |
| 67 | Beet sugar manuf | 311313 | Secondary Ag |
| 68 | Sugar cane mills and refining | 311314 | Secondary Ag |
| 69 | Nonchocolate confectionery manuf | 311340 | Secondary Ag |
| 70 | Chocolate and confectionery manuf from cacao beans | 311351 | Secondary Ag |
| 71 | Confectionery manuf from purchased chocolate | 311352 | Secondary Ag |
| 72 | Frozen fruits, juices and vegetables manuf | 311411 | Secondary Ag |
| 73 | Frozen specialties manuf | 311412 | Secondary Ag |
| 74 | Canned fruits and vegetables manuf | 311421 | Secondary Ag |
| 75 | Canned specialties | 311422 | Secondary Ag |
| 76 | Dehydrated food products manuf | 311423 | Secondary Ag |
| 77 | Cheese manuf | 311513 | Secondary Ag |
| 78 | Dry, condensed, and evaporated dairy product manuf | 311514 | Secondary Ag |
| 79 | Fluid milk manuf | 311511 | Secondary Ag |
| 80 | Creamery butter manuf | 311512 | Secondary Ag |
| 81 | Ice cream and frozen dessert manuf | 311520 | Secondary Ag |
| 82 | Frozen cakes and other pastries manuf | 311813 | Secondary Ag |
| 83 | Poultry processing | 311615 | Secondary Ag |
| 84 | Animal, except poultry, slaughtering | 311611 | Secondary Ag |
| 85 | Meat processed from carcasses | 311612 | Secondary Ag |
| 86 | Rendering and meat byproduct processing | 311613 | Secondary Ag |
| 87 | Seafood product preparation and packaging | 311710 | Secondary Ag |
| 88 | Bread and bakery product, except frozen, manuf | 311811, 311812 | Secondary Ag |
| 89 | Cookie and cracker manuf | 311821 | Secondary Ag |
| 90 | Dry pasta, mixes, and dough manuf | 311824 | Secondary Ag |
| 91 | Tortilla manuf | 311830 | Secondary Ag |

Table B.1. IMPLAN 528 Industry Sector Descriptions, NAICS and Agri-Forestry Aggregation Designation

| Sector | Description | 2022 NAICS | Agri-Forestry ^a |
|--------|---|------------------------|----------------------------|
| 92 | Roasted nuts and peanut butter manuf | 311911 | Secondary Ag |
| 93 | Other snack food manuf | 311919 | Secondary Ag |
| 94 | Coffee and tea manuf | 311920 | Secondary Ag |
| 95 | Flavoring syrup and concentrate manuf | 311930 | Secondary Ag |
| 96 | Mayonnaise, dressing, and sauce manuf | 311941 | Secondary Ag |
| 97 | Spice and extract manuf | 311942 | Secondary Ag |
| 98 | All other food manuf | 311991, 311999 | Secondary Ag |
| 99 | Bottled and canned soft drinks & water | 312111, 312112 | Secondary Ag |
| 100 | Manufactured ice | 312113 | Manuf |
| 101 | Breweries | 312120 | Secondary Ag |
| 102 | Wineries | 312130 | Secondary Ag |
| 103 | Distilleries | 312140 | Secondary Ag |
| 104 | Tobacco manuf | 312230 | Secondary Ag |
| 105 | Fiber, yarn, and thread mills | 313110 | Secondary Ag |
| 106 | Broadwoven fabric mills | 313210 | Secondary Ag |
| 107 | Narrow fabric mills and schiffli machine embroidery | 313220 | Secondary Ag |
| 108 | Nonwoven fabric mills | 313230 | Secondary Ag |
| 109 | Knit fabric mills | 313240 | Secondary Ag |
| 110 | Textile and fabric finishing mills | 313310 | Secondary Ag |
| 111 | Fabric coating mills | 313320 | Secondary Ag |
| 112 | Carpet and rug mills | 314110 | Secondary Ag |
| 113 | Curtain and linen mills | 314120 | Secondary Ag |
| 114 | Textile bag and canvas mills | 314910 | Secondary Ag |
| 115 | Rope, cordage, twine, tire cord and tire fabric mills | 314994 | Secondary Ag |
| 116 | Other textile product mills | 314999 | Secondary Ag |
| 117 | Apparel knitting mills | 315120 | Secondary Ag |
| 118 | Cut and sew apparel contractors | 315210 | Secondary Ag |
| 119 | Cut and sew apparel manuf (except contractors) | 315250 | Secondary Ag |
| 120 | Apparel accessories and other apparel manuf | 315990 | Secondary Ag |
| 121 | Leather and hide tanning and finishing | 316110 | Secondary Ag |
| 122 | Footwear manuf | 316210 | Secondary Ag |
| 123 | Other leather and allied product manuf | 316990 | Secondary Ag |
| 124 | Sawmills | 321113 | Primary For |
| 125 | Wood preservation | 321114 | Primary For |
| 126 | Veneer and plywood manuf | 321211, 321212 | Secondary For |
| 127 | Engineered wood member and truss manuf | 321215 | Secondary For |
| 128 | Reconstituted wood product manuf | 321219 | Secondary For |
| 129 | Wood windows and door manuf | 321911 | Secondary For |
| 130 | Cut stock, resawing lumber, and planing | 321912 | Secondary For |
| 131 | Other millwork, including flooring | 321918 | Secondary For |
| 132 | Wood container and pallet manuf | 321920 | Secondary For |
| 133 | Manufactured home (mobile home) manuf | 321991 | Secondary For |
| 134 | Prefabricated wood building manuf | 321992 | Secondary For |
| 135 | All other miscellaneous wood product manuf | 321999 | Secondary For |
| 136 | Pulp mills | 322110 | Primary For |
| 137 | Paper mills | 322120 | Primary For |
| 138 | Paperboard mills | 322130 | Primary For |
| 139 | Paperboard container manuf | 322211, 322212, 322219 | Secondary For |
| 140 | Paper bag and coated and treated paper manuf | 322220 | Secondary For |
| 141 | Stationery product manuf | 322230 | Secondary For |
| 142 | Sanitary paper product manuf | 322291 | Secondary For |
| 143 | All other converted paper product manuf | 322299 | Secondary For |

| Table B.1. IMPLAN 528 Industry Sector Descriptions, NAICS and Agri-Forestry Aggregation Designation | | | |
|---|---|------------------------|----------------------------|
| Sector | Description | 2022 NAICS | Agri-Forestry ^a |
| 144 | Printing | 323111, 323113, 323117 | Manuf |
| 145 | Support activities for printing | 323120 | Manuf |
| 146 | Petroleum refineries | 324110 | Manuf |
| 147 | Asphalt paving mixture and block manuf | 324121 | Manuf |
| 148 | Asphalt shingle and coating materials manuf | 324122 | Manuf |
| 149 | Petroleum lubricating oil and grease manuf | 324191 | Manuf |
| 150 | All other petroleum and coal products manuf | 324199 | Manuf |
| 151 | Petrochemical manuf | 325110 | Manuf |
| 152 | Industrial gas manuf | 325120 | Manuf |
| 153 | Synthetic dye and pigment manuf | 325130 | Manuf |
| 154 | Other basic inorganic chemical manuf | 325180 | Manuf |
| 155 | Other basic organic chemical manuf | 325193, 325194, 325199 | Manuf |
| 156 | Plastics material and resin manuf | 325211 | Manuf |
| 157 | Synthetic rubber manuf | 325212 | Manuf |
| 158 | Artificial and synthetic fibers and filaments manuf | 325220 | Manuf |
| 159 | Nitrogenous fertilizer manuf | 325311 | Ag Inputs |
| 160 | Phosphatic fertilizer manuf | 325312 | Ag Inputs |
| 161 | Fertilizer mixing | 325314, 325315 | Ag Inputs |
| 162 | Pesticide and other agricultural chemical manuf | 325320 | Ag Inputs |
| 163 | Medicinal and botanical manuf | 325411 | Manuf |
| 164 | Pharmaceutical preparation manuf | 325412 | Manuf |
| 165 | In-vitro diagnostic substance manuf | 325413 | Manuf |
| 166 | Biological product (except diagnostic) manuf | 325414 | Manuf |
| 167 | Paint and coating manuf | 325510 | Manuf |
| 168 | Adhesive manuf | 325520 | Manuf |
| 169 | Soap and other detergent manuf | 325611 | Manuf |
| 170 | Polish and other sanitation good manuf | 325612 | Manuf |
| 171 | Surface active agent manuf | 325613 | Manuf |
| 172 | Toilet preparation manuf | 325620 | Manuf |
| 173 | Printing ink manuf | 325910 | Manuf |
| 174 | Explosives manuf | 325920 | Manuf |
| 175 | Custom compounding of purchased resins | 325991 | Manuf |
| 176 | Photographic film and chemical manuf | 325992 | Manuf |
| 177 | Other miscellaneous chemical product manuf | 325998 | Manuf |
| 178 | Plastics packaging materials and unlaminated film and sheet manuf | 326111, 326112, 326113 | Manuf |
| 179 | Unlaminated plastics profile shape manuf | 326121 | Manuf |
| 180 | Plastics pipe and pipe fitting manuf | 326122 | Manuf |
| 181 | Laminated plastics plate, sheet (except packaging), and shape manuf | 326130 | Manuf |
| 182 | Polystyrene foam product manuf | 326140 | Manuf |
| 183 | Urethane and other foam product (except polystyrene) manuf | 326150 | Manuf |
| 184 | Plastics bottle manuf | 326160 | Manuf |
| 185 | Other plastics product manuf | 326191, 326199 | Manuf |
| 186 | Tire manuf | 326211, 326212 | Manuf |
| 187 | Rubber and plastics hoses and belting manuf | 326220 | Manuf |
| 188 | Other rubber product manuf | 326291, 326299 | Manuf |
| 189 | Pottery, ceramics, and plumbing fixture manuf | 327110 | Manuf |
| 190 | Brick, tile, and other structural clay product manuf | 327120 | Manuf |
| 191 | Flat glass manuf | 327211 | Manuf |
| 192 | Other pressed and blown glass and glassware manuf | 327212 | Manuf |

Table B.1. IMPLAN 528 Industry Sector Descriptions, NAICS and Agri-Forestry Aggregation Designation

| Sector | Description | 2022 NAICS | Agri-Forestry ^a |
|--------|--|------------------------|----------------------------|
| 193 | Glass container manuf | 327213 | Manuf |
| 194 | Glass product manuf made of purchased glass | 327215 | Manuf |
| 195 | Cement manuf | 327310 | Manuf |
| 196 | Ready-mix concrete manuf | 327320 | Manuf |
| 197 | Concrete block and brick manuf | 327331 | Manuf |
| 198 | Concrete pipe manuf | 327332 | Manuf |
| 199 | Other concrete product manuf | 327390 | Manuf |
| 200 | Lime manuf | 327410 | Ag Inputs |
| 201 | Gypsum product manuf | 327420 | Manuf |
| 202 | Abrasive product manuf | 327910 | Manuf |
| 203 | Cut stone and stone product manuf | 327991 | Manuf |
| 204 | Ground or treated mineral and earth manuf | 327992 | Manuf |
| 205 | Mineral wool manuf | 327993 | Manuf |
| 206 | Miscellaneous nonmetallic mineral products manuf | 327999 | Manuf |
| 207 | Iron and steel mills and ferroalloy manuf | 331110 | Manuf |
| 208 | Iron, steel pipe and tube manuf from purchased steel | 331210 | Manuf |
| 209 | Rolled steel shape manuf | 331221 | Manuf |
| 210 | Steel wire drawing | 331222 | Manuf |
| 211 | Alumina refining and primary aluminum production | 331313 | Manuf |
| 212 | Secondary smelting and alloying of aluminum | 331314 | Manuf |
| 213 | Aluminum sheet, plate, and foil manuf | 331315 | Manuf |
| 214 | Other aluminum rolling, drawing and extruding | 331318 | Manuf |
| 215 | Nonferrous metal (exc aluminum) smelting and refining | 331410 | Manuf |
| 216 | Copper rolling, drawing, extruding and alloying | 331420 | Manuf |
| 217 | Nonferrous metal, except copper and aluminum, shaping | 331491 | Manuf |
| 218 | Secondary processing of other nonferrous metals | 331492 | Manuf |
| 219 | Ferrous metal foundries | 331511, 331512, 331513 | Manuf |
| 220 | Nonferrous metal foundries | 331523, 331524, 331529 | Manuf |
| 221 | Custom roll forming | 332114 | Manuf |
| 222 | Metal crown, closure, and other metal stamping (except automotive) | 332119 | Manuf |
| 223 | Iron and steel forging | 332111, 332117 | Manuf |
| 224 | Nonferrous forging | 332112, 332117 | Manuf |
| 225 | Cutlery, utensil, pot, and pan manuf | 332215 | Manuf |
| 226 | Handtool manuf | 332216 | Manuf |
| 227 | Prefabricated metal buildings and components manuf | 332311 | Manuf |
| 228 | Fabricated structural metal manuf | 332312 | Manuf |
| 229 | Plate work manuf | 332313 | Manuf |
| 230 | Metal window and door manuf | 332321 | Manuf |
| 231 | Sheet metal work manuf | 332322 | Manuf |
| 232 | Ornamental and architectural metal work manuf | 332323 | Manuf |
| 233 | Power boiler and heat exchanger manuf | 332410 | Manuf |
| 234 | Metal tank (heavy gauge) manuf | 332420 | Manuf |
| 235 | Metal cans manuf | 332431 | Manuf |
| 236 | Metal barrels, drums and pails manuf | 332439 | Manuf |
| 237 | Hardware manuf | 332510 | Manuf |
| 238 | Spring and wire product manuf | 332613, 332618 | Manuf |
| 239 | Machine shops | 332710 | Manuf |

Table B.1. IMPLAN 528 Industry Sector Descriptions, NAICS and Agri-Forestry Aggregation Designation

| Sector | Description | 2022 NAICS | Agri-Forestry ^a |
|--------|---|------------------------|----------------------------|
| 240 | Turned product and screw, nut, and bolt manuf | 332721, 332722 | Manuf |
| 241 | Metal heat treating | 332811 | Manuf |
| 242 | Metal coating and nonprecious engraving | 332812 | Manuf |
| 243 | Electroplating, anodizing, and coloring metal | 332813 | Manuf |
| 244 | Valve and fittings, other than plumbing, manuf | 332911, 332912, 332919 | Manuf |
| 245 | Plumbing fixture fitting and trim manuf | 332913 | Manuf |
| 246 | Ball and roller bearing manuf | 332991 | Manuf |
| 247 | Small arms ammunition manuf | 332992 | Manuf |
| 248 | Ammunition, except for small arms, manuf | 332993 | Manuf |
| 249 | Small arms, ordnance, and accessories manuf | 332994 | Manuf |
| 250 | Fabricated pipe and pipe fitting manuf | 332996 | Manuf |
| 251 | Other fabricated metal manuf | 332999 | Manuf |
| 252 | Farm machinery and equipment manuf | 333111 | Ag Inputs |
| 253 | Lawn and garden equipment manuf | 333112 | Ag Inputs |
| 254 | Construction machinery manuf | 333120 | Manuf |
| 255 | Mining machinery and equipment manuf | 333131 | Manuf |
| 256 | Oil and gas field machinery and equipment manuf | 333132 | Manuf |
| 257 | Semiconductor machinery manuf | 333242 | Manuf |
| 258 | Food product machinery manuf | 333241 | Manuf |
| 259 | Sawmill, woodworking, and paper machinery | 333243 | Pri For |
| 260 | All other industrial machinery manuf | 333248 | Manuf |
| 261 | Commercial and service industry machinery manuf | 333310 | Manuf |
| 262 | Industrial and commercial fan and blower and air purification equipment manuf | 333413 | Manuf |
| 263 | Heating equipment (except warm air furnaces) manuf | 333414 | Manuf |
| 264 | Air conditioning, refrigeration, and warm air heating equipment manuf | 333415 | Manuf |
| 265 | Industrial mold manuf | 333511 | Manuf |
| 266 | Special tool, die, jig, and fixture manuf | 333514 | Manuf |
| 267 | Cutting tool and machine tool accessory manuf | 333515 | Manuf |
| 268 | Machine tool manuf | 333517 | Manuf |
| 269 | Rolling mill and other metalworking machinery manuf | 333519 | Manuf |
| 270 | Turbine and turbine generator set units manuf | 333611 | Manuf |
| 271 | Speed changer, industrial high-speed drive, and gear manuf | 333612 | Manuf |
| 272 | Mechanical power transmission equipment manuf | 333613 | Manuf |
| 273 | Other engine equipment manuf | 333618 | Manuf |
| 274 | Measuring, dispensing, and other pumping equipment manuf | 333914 | Manuf |
| 275 | Air and gas compressor manuf | 333912 | Manuf |
| 276 | Elevator and moving stairway manuf | 333921 | Manuf |
| 277 | Conveyor and conveying equipment manuf | 333922 | Manuf |
| 278 | Overhead cranes, hoists, and monorail systems manuf | 333923 | Manuf |
| 279 | Industrial truck, trailer, and stacker manuf | 333924 | Manuf |
| 280 | Power-driven handtool manuf | 333991 | Manuf |
| 281 | Welding and soldering equipment manuf | 333992 | Manuf |
| 282 | Packaging machinery manuf | 333993 | Manuf |
| 283 | Industrial process furnace and oven manuf | 333994 | Manuf |
| 284 | Fluid power cylinder and actuator manuf | 333995 | Manuf |
| 285 | Fluid power pump and motor manuf | 333996 | Manuf |

| Table B.1. IMPLAN 528 Industry Sector Descriptions, NAICS and Agri-Forestry Aggregation Designation | | | |
|---|---|------------------------|----------------------------|
| Sector | Description | 2022 NAICS | Agri-Forestry ^a |
| 286 | Scales, balances, and miscellaneous general purpose machinery manuf | 333998 | Manuf |
| 287 | Electronic computer manuf | 334111 | Manuf |
| 288 | Computer storage device manuf | 334112 | Manuf |
| 289 | Computer terminals and other computer peripheral equipment manuf | 334118 | Manuf |
| 290 | Telephone apparatus manuf | 334210 | Manuf |
| 291 | Broadcast and wireless communications equipment manuf | 334220 | Manuf |
| 292 | Other communications equipment manuf | 334290 | Manuf |
| 293 | Audio and video equipment manuf | 334310 | Manuf |
| 294 | Printed circuit assembly (electronic assembly) manuf | 334418 | Manuf |
| 295 | Bare printed circuit board manuf | 334412 | Manuf |
| 296 | Semiconductor and related device manuf | 334413 | Manuf |
| 297 | Capacitor, resistor, coil, transformer, and other inductor manuf | 334416 | Manuf |
| 298 | Electronic connector manuf | 334417 | Manuf |
| 299 | Other electronic component manuf | 334419 | Manuf |
| 300 | Electromedical and electrotherapeutic apparatus manuf | 334510 | Manuf |
| 301 | Search, detection, and navigation instruments manuf | 334511 | Manuf |
| 302 | Automatic environmental control manuf | 334512 | Manuf |
| 303 | Industrial process variable instruments manuf | 334513 | Manuf |
| 304 | Totalizing fluid meter and counting device manuf | 334514 | Manuf |
| 305 | Electricity and signal testing instruments manuf | 334515 | Manuf |
| 306 | Analytical laboratory instrument manuf | 334516 | Manuf |
| 307 | Irradiation apparatus manuf | 334517 | Manuf |
| 308 | Watch, clock, and other measuring and controlling device manuf | 334519 | Manuf |
| 309 | Manuf and reproducing magnetic and optical media | 334610 | Manuf |
| 310 | Electric lamp bulb and part manuf | 335139 | Manuf |
| 311 | Lighting fixture manuf | 335131, 335132, 335139 | Manuf |
| 312 | Small electrical appliance manuf | 335210 | Manuf |
| 313 | Major household appliance manuf | 335220 | Manuf |
| 314 | Power, distribution, and specialty transformer manuf | 335311 | Manuf |
| 315 | Motor and generator manuf | 335312 | Manuf |
| 316 | Switchgear and switchboard apparatus manuf | 335313 | Manuf |
| 317 | Relay and industrial control manuf | 335314 | Manuf |
| 318 | Battery manuf | 335910 | Manuf |
| 319 | Fiber optic cable manuf | 335921 | Manuf |
| 320 | Other communication and energy wire manuf | 335929 | Manuf |
| 321 | Wiring device manuf | 335931, 335932 | Manuf |
| 322 | Carbon and graphite product manuf | 335991 | Manuf |
| 323 | All other miscellaneous electrical equipment and component manuf | 335999 | Manuf |
| 324 | Automobile and light duty motor vehicle manuf | 336110 | Manuf |
| 325 | Heavy duty truck manuf | 336120 | Manuf |
| 326 | Motor vehicle body manuf | 336211 | Manuf |
| 327 | Truck trailer manuf | 336212 | Manuf |

Table B.1. IMPLAN 528 Industry Sector Descriptions, NAICS and Agri-Forestry Aggregation Designation

| Sector | Description | 2022 NAICS | Agri-Forestry ^a |
|--------|---|----------------|----------------------------|
| 328 | Motor home manuf | 336213 | Manuf |
| 329 | Travel trailer and camper manuf | 336214 | Manuf |
| 330 | Motor vehicle gasoline engine and engine parts manuf | 336310 | Manuf |
| 331 | Motor vehicle electrical and electronic equipment manuf | 336320 | Manuf |
| 332 | Motor vehicle transmission and power train parts manuf | 336350 | Manuf |
| 333 | Motor vehicle seating and interior trim manuf | 336360 | Manuf |
| 334 | Motor vehicle metal stamping | 336370 | Manuf |
| 335 | Other motor vehicle parts manuf | 336390 | Manuf |
| 336 | Motor vehicle steering, suspension component (except spring), and brake systems manuf | 336330, 336340 | Manuf |
| 337 | Aircraft manuf | 336411 | Manuf |
| 338 | Aircraft engine and engine parts manuf | 336412 | Manuf |
| 339 | Other aircraft parts and auxiliary equipment manuf | 336413 | Manuf |
| 340 | Guided missile and space vehicle manuf | 336414 | Manuf |
| 341 | Propulsion units and parts for space vehicles and guided missiles manuf | 336415, 336419 | Manuf |
| 342 | Railroad rolling stock manuf | 336510 | Manuf |
| 343 | Ship building and repairing | 336611 | Manuf |
| 344 | Boat building | 336612 | Manuf |
| 345 | Motorcycle, bicycle, and parts manuf | 336991 | Manuf |
| 346 | Military armored vehicle, tank, and tank component manuf | 336992 | Manuf |
| 347 | All other transportation equipment manuf | 336999 | Manuf |
| 348 | Wood kitchen cabinet and countertop manuf | 337110 | Secondary For |
| 349 | Upholstered household furniture manuf | 337121 | Secondary For |
| 350 | Nonupholstered wood household furniture manuf | 337122 | Secondary For |
| 351 | Other household nonupholstered furniture manuf | 337126 | Secondary For |
| 352 | Institutional furniture manuf | 337127 | Secondary For |
| 353 | Wood office furniture manuf | 337211 | Secondary For |
| 354 | Custom architectural woodwork and millwork | 337212 | Secondary For |
| 355 | Office furniture, except wood, manuf | 337214 | Manuf |
| 356 | Showcase, partition, shelving, and locker manuf | 337215 | Secondary For |
| 357 | Mattress manuf | 337910 | Secondary For |
| 358 | Blind and shade manuf | 337920 | Secondary For |
| 359 | Surgical and medical instrument manuf | 339112 | Manuf |
| 360 | Surgical appliance and supplies manuf | 339113 | Manuf |
| 361 | Dental equipment and supplies manuf | 339114 | Manuf |
| 362 | Ophthalmic goods manuf | 339115 | Manuf |
| 363 | Dental laboratories | 339116 | Manuf |
| 364 | Jewelry and silverware manuf | 339910 | Manuf |
| 365 | Sporting and athletic goods manuf | 339920 | Manuf |
| 366 | Doll, toy, and game manuf | 339930 | Manuf |
| 367 | Office supplies (except paper) manuf | 339940 | Manuf |
| 368 | Sign manuf | 339950 | Manuf |
| 369 | Gasket, packing, and sealing device manuf | 339991 | Manuf |
| 370 | Musical instrument manuf | 339992 | Manuf |
| 371 | Fasteners, buttons, needles, and pins manuf | 339993 | Manuf |
| 372 | Broom, brush, and mop manuf | 339994 | Manuf |

Table B.1. IMPLAN 528 Industry Sector Descriptions, NAICS and Agri-Forestry Aggregation Designation

| Sector | Description | 2022 NAICS | Agri-Forestry ^a |
|--------|---|--|----------------------------|
| 373 | Burial casket manuf | 339995 | Manuf |
| 374 | All other miscellaneous manuf | 339999 | Manuf |
| 375 | Wholesale - Motor vehicle and motor vehicle parts and supplies | 423110, 423120, 423130, 423140 | Wholesale Trade |
| 376 | Wholesale - Professional and commercial equipment and supplies | 423410, 423420, 423430, 423440, 423450, 423460, 423490 | Wholesale Trade |
| 377 | Wholesale - Household appliances and electrical and electronic goods | 423610, 423620, 423690 | Wholesale Trade |
| 378 | Wholesale - Machinery, equipment, and supplies | 423810, 423820, 423830, 423840, 423850, 423860 | Wholesale Trade |
| 379 | Wholesale - Other durable goods merchant wholesalers | 423210, 423220, 423310, 423320, 423330, 423390, 423510, 423520, 423710, 423720, 423730, 423740, 423910, 423920, 423930, 423940, 423990 | Wholesale Trade |
| 380 | Wholesale - Drugs and druggists' sundries | 424210 | Wholesale Trade |
| 381 | Wholesale - Grocery and related product wholesalers | 424410, 424420, 424430, 424440, 424450, 424460, 424470, 424480, 424490 | Wholesale Trade |
| 382 | Wholesale - Petroleum and petroleum products | 424710, 424720 | Wholesale Trade |
| 383 | Wholesale - Other nondurable goods merchant wholesalers | 424110, 424120, 424130, 424310, 424340, 424350, 424510, 424520, 424590, 424610, 424690, 424810, 424820, 424910, 424920, 424930, 424940, 424950, 424990 | Wholesale Trade |
| 384 | Wholesale - Wholesale electronic markets and agents and brokers | 425120 | Wholesale Trade |
| 385 | Retail - Motor vehicle and parts dealers | 441110, 441120, 441210, 441222, 441227, 441330, 441340 | Retail Trade |
| 386 | Retail - Furniture and home furnishings stores | 449110, 449121, 449122, 449129 | Retail Trade |
| 387 | Retail - Electronics and appliance stores | 449210 | Retail Trade |
| 388 | Retail - Building material and garden equipment and supplies stores | 444110, 444120, 444140, 444180, 444230, 444240, 445110, 445131, 445230, 445240, 445250, 445291, 445292, 445298, 445320 | Retail Trade |
| 389 | Retail - Food and beverage stores | 445292, 445298, 445320 | Retail Trade |
| 390 | Retail - Health and personal care stores | 456110, 456120, 456130, 456191, 456199 | Retail Trade |
| 391 | Retail - Gasoline stores | 457110, 457120 | Retail Trade |
| 392 | Retail - Clothing and clothing accessories stores | 458110, 458210, 458310, 458320 | Retail Trade |
| 393 | Retail - Sporting goods, hobby, musical instrument and book stores | 459110, 459120, 459130, 459140, 459210 | Retail Trade |
| 394 | Retail - General merchandise stores | 455110, 455211, 455219, 459310, 459410, 459420, 459510, 459910, 459920, 459930, 459991, 459999 | Retail Trade |
| 395 | Retail - Miscellaneous store retailers | 459930, 459991, 459999 | Retail Trade |
| 396 | Air transportation | 481111, 481112, 481211, 481212, 481219 | Transportation |
| 397 | Rail transportation | 482111, 482112 | Transportation |
| 398 | Water transportation | 483111, 483112, 483113, 483114, 483211, 483212 | Transportation |
| 399 | Truck transportation | 484110, 484121, 484122, 484210, 484220, 484230, 485111, 485112, 485113, 485119, 485210, 485310, 485320, 485410, 485510, 485991, 485999 | Transportation |
| 400 | Transit and ground passenger transportation | 485320, 485410, 485510, 485991, 485999 | Transportation |
| 401 | Pipeline transportation | 486110, 486210, 486910, 486990 | Transportation |
| 402 | Scenic and sightseeing transportation and support activities for transportation | 487110, 487210, 487990, 488111, 488119, 488190, 488210, 488310, 488320, 488330, 488390, 488410, 488490, 488510, 488991, 488999 | Transportation |
| 403 | Couriers and messengers | 492110, 492210 | Services |
| 404 | Warehousing and storage | 493110, 493120, 493130, 493190 | Services |
| 405 | Newspaper publishers | 513110 | Services |
| 406 | Periodical publishers | 513120 | Services |
| 407 | Book publishers | 513130 | Services |
| 408 | Directory, mailing list, and other publishers | 513140, 513199 | Services |

Table B.1. IMPLAN 528 Industry Sector Descriptions, NAICS and Agri-Forestry Aggregation Designation

| Sector | Description | 2022 NAICS | Agri-Forestry ^a |
|--------|---|--|----------------------------|
| 409 | Greeting card publishing | 513191 | Services |
| 410 | Software publishers | 513210 | Services |
| 411 | Motion picture and video industries | 512110, 512120, 512131, 512132, 512191, 512199 | Services |
| 412 | Sound recording industries | 512230, 512240, 512250, 512290 | Services |
| 413 | Radio and television broadcasting | 516110, 516120, 516210 | Services |
| 414 | Cable and other subscription programming | 516210 | Services |
| 415 | Wired telecommunications carriers | 517111 | Services |
| 416 | Wireless telecommunications carriers (except satellite) | 517112, 517122 | Services |
| 417 | Satellite, telecommunications resellers, and all other telecommunications | 517121, 517122, 517410, 517810 | Services |
| 418 | Data processing, hosting, and related services | 518210 | Services |
| 419 | News syndicates, libraries, archives and all other information services | 516210, 519210, 519290 | Services |
| 420 | Internet publishing and broadcasting and web search portals | 513110, 513120, 513130, 513191, 513199, 516210, 519290 | Services |
| 421 | Nondepository credit intermediation and related activities | 522210, 522220, 522291, 522292, 522299, 522310, 522320, 522390 | Finance |
| 422 | Securities and commodity contracts intermediation and brokerage | 523150, 523160, 523210 | Finance |
| 423 | Monetary authorities and depository credit intermediation | 521110, 522110, 522130, 522180 | Finance |
| 424 | Other financial investment activities | 523910, 523940, 523991, 523999 | Finance |
| 425 | Direct life insurance carriers | 524113 | Insurance |
| 426 | Insurance carriers, except direct life | 524114, 524126, 524127, 524128, 524130 | Insurance |
| 427 | Insurance agencies, brokerages, and related activities | 524210, 524291, 524292, 524298 | Insurance |
| 428 | Funds, trusts, and other financial vehicles | 525110, 525120, 525190, 525910, 525920, 525990 | Finance |
| 429 | Other real estate | 531120, 531130, 531190, 531210, 531311, 531312, 531320, 531390 | Real Estate |
| 430 | Tenant-occupied housing | 531110 | Real Estate |
| 431 | Owner-occupied housing | | Real Estate |
| 432 | Automotive equipment rental and leasing | 532111, 532112, 532120 | Services |
| 433 | General and consumer goods rental except video tapes and discs | 532210, 532281, 532283, 532284, 532289, 532310 | Services |
| 434 | Video tape and disc rental | 532282 | Services |
| 435 | Commercial and industrial machinery and equipment rental and leasing | 532411, 532412, 532420, 532490 | Services |
| 436 | Lessors of nonfinancial intangible assets | 533110 | Services |
| 437 | Legal services | 541110, 541191, 541199 | Services |
| 438 | Accounting, tax preparation, bookkeeping, and payroll services | 541211, 541213, 541214, 541219 | Services |
| 439 | Architectural, engineering, and related services | 541310, 541320, 541330, 541340, 541350, 541360, 541370, 541380 | Services |
| 440 | Specialized design services | 541410, 541420, 541430, 541490 | Services |
| 441 | Custom computer programming services | 541511 | Services |
| 442 | Computer systems design services | 541512 | Services |
| 443 | Other computer related services, including facilities management | 541513, 541519 | Services |
| 444 | Management consulting services | 541611, 541612, 541613, 541614, 541618 | Services |
| 445 | Environmental and other technical consulting services | 541620, 541690 | Services |
| 446 | Scientific research and development services | 541713, 541714, 541715, 541720 | Services |
| 447 | Advertising, public relations, and related services | 541810, 541820, 541830, 541840, 541850, 541860, 541870, 541890 | Services |
| 448 | Photographic services | 541921, 541922 | Services |
| 449 | Veterinary services | 541940 | Services |

Table B.1. IMPLAN 528 Industry Sector Descriptions, NAICS and Agri-Forestry Aggregation Designation

| Sector | Description | 2022 NAICS | Agri-Forestry ^a |
|--------|---|--|----------------------------|
| 450 | All other miscellaneous professional, scientific, and technical services | 541910, 541930, 541990 | Services |
| 451 | Management of companies and enterprises | 551111, 551112, 551114 | Services |
| 452 | Office administrative services | 561110 | Services |
| 453 | Facilities support services | 561210 | Services |
| 454 | Employment services | 561311, 561312, 561320, 561330 | Services |
| 455 | Business support services | 561410, 561421, 561422, 561431, 561439, 561440, 561450, 561491, 561492, 561499 | Services |
| 456 | Travel arrangement and reservation services | 561510, 561520, 561591, 561599 | Services |
| 457 | Investigation and security services | 561611, 561612, 561613, 561621, 561622 | Services |
| 458 | Services to buildings | 561710, 561720, 561740, 561790 | Services |
| 459 | Landscape and horticultural services | 561730 | Services |
| 460 | Other support services | 561910, 561920, 561990 | Services |
| 461 | Waste management and remediation services | 562111, 562112, 562119, 562211, 562212, 562213, 562219, 562910, 562920, 562991, 562998 | Services |
| 462 | Elementary and secondary schools | 611110 | Government |
| 463 | Junior colleges, colleges, universities, and professional schools | 611210, 611310 | Government |
| 464 | Other educational services | 611410, 611420, 611430, 611511, 611512, 611513, 611519, 611610, 611620, 611630, 611691, 611692, 611699, 611710 | Services |
| 465 | Offices of physicians | 621111, 621112 | Services |
| 466 | Offices of dentists | 621210 | Services |
| 467 | Offices of other health practitioners | 621310, 621320, 621330, 621340, 621391, 621399 | Services |
| 468 | Outpatient care centers | 621410, 621420, 621491, 621492, 621493, 621498 | Services |
| 469 | Medical and diagnostic laboratories | 621511, 621512 | Services |
| 470 | Home health care services | 621610 | Services |
| 471 | Other ambulatory health care services | 621910, 621991, 621999 | Services |
| 472 | Hospitals | 622110, 622210, 622310 | Services |
| 473 | Nursing and community care facilities | 623110, 623311, 623312 | Services |
| 474 | Residential mental health, substance abuse, and other residential care facilities | 623210, 623220, 623990 | Services |
| 475 | Individual and family services | 624110, 624120, 624190 | Services |
| 476 | Child day care services | 624410 | Services |
| 477 | Community food, housing, and other relief services, including rehabilitation services | 624210, 624221, 624229, 624230, 624310 | Services |
| 478 | Performing arts companies | 711110, 711120, 711130, 711190 | Services |
| 479 | Commercial Sports Except Racing | 711211, 711219 | Services |
| 480 | Racing and Track Operation | 711212 | Services |
| 481 | Independent artists, writers, and performers | 711510 | Services |
| 482 | Promoters of performing arts and sports and agents for public figures | 711310, 711320, 711410 | Services |
| 483 | Museums, historical sites, zoos, and parks | 712110, 712120, 712130, 712190 | Services |
| 484 | Amusement parks and arcades | 713110, 713120 | Services |
| 485 | Gambling industries (except casino hotels) | 713210, 713290 | Services |
| 486 | Other amusement and recreation industries | 713910, 713920, 713930, 713990 | Services |
| 487 | Fitness and recreational sports centers | 713940 | Services |
| 488 | Bowling centers | 713950 | Services |
| 489 | Hotels and motels, including casino hotels | 721110, 721120 | Services |
| 490 | Other accommodations | 721191, 721199, 721211, 721214, 721310 | Services |
| 491 | Full-service restaurants | 722511 | Services |
| 492 | Limited-service restaurants | 722513 | Services |
| 493 | All other food and drinking places | 722310, 722320, 722330, 722410, 722514, 722515 | Services |
| 494 | Automotive repair and maintenance, except car washes | 811111, 811114, 811121, 811122, 811191, 811198 | Services |
| 495 | Car washes | 811192 | Services |

Table B.1. IMPLAN 528 Industry Sector Descriptions, NAICS and Agri-Forestry Aggregation Designation

| Sector | Description | 2022 NAICS | Agri-Forestry ^a |
|--------|--|--|----------------------------|
| 496 | Electronic and precision equipment repair and maintenance | 811210 | Services |
| 497 | Commercial and industrial machinery and equipment repair and maintenance | 811310 | Services |
| 498 | Personal and household goods repair and maintenance | 811411, 811412, 811420, 811430, 811490 | Services |
| 499 | Personal care services | 812111, 812112, 812113, 812191, 812199 | Services |
| 500 | Death care services | 812210, 812220 | Services |
| 501 | Dry-cleaning and laundry services | 812310, 812320, 812331, 812332 | Services |
| 502 | Other personal services | 812910, 812921, 812922, 812930, 812990 | Services |
| 503 | Religious organizations | 813110 | Miscellaneous |
| 504 | Grantmaking, giving, and social advocacy organizations | 813211, 813212, 813219, 813311, 813312, 813319 | Miscellaneous |
| 505 | Business and professional associations | 813910, 813920 | Miscellaneous |
| 506 | Labor and civic organizations | 813410, 813930, 813940, 813990 | Miscellaneous |
| 507 | Private households | 814110 | Services |
| 508 | Postal service | 491110 | Government |
| 509 | Federal electric utilities | | Government |
| 510 | Other federal government enterprises | | Government |
| 511 | State government passenger transit | | Government |
| 512 | State government electric utilities | | Government |
| 513 | Other state government enterprises | | Government |
| 514 | Local government passenger transit | | Government |
| 515 | Local government electric utilities | | Government |
| 516 | Other local government enterprises | | Government |
| 517 | * Not an industry (Used and secondhand goods) ^b | | Miscellaneous |
| 518 | * Not an industry (Scrap) ^c | | Miscellaneous |
| 519 | * Not an industry (Rest of world adjustment) ^d | | Miscellaneous |
| 520 | * Not an industry (Noncomparable foreign imports) ^e | | Miscellaneous |
| 521 | * Employment and payroll of state govt, education | | Government |
| 522 | * Employment and payroll of state govt, hospitals and health services | | Government |
| 523 | * Employment and payroll of state govt, other services | | Government |
| 524 | * Employment and payroll of local govt, education | | Government |
| 525 | * Employment and payroll of local govt, hospitals and health services | | Government |
| 526 | * Employment and payroll of local govt, other services | | Government |
| 527 | * Employment and payroll of federal govt, military | | Government |
| 528 | * Employment and payroll of federal govt, non-military | | Government |

^aIdentification of North American Industry Classification System (NAICS) sector included in the Agri-Forestry industrial complex

^bGoods (commodities) previously used and then resold.

^cCommodities cast off as part of a production process and then resold as scrap.

^dNet foreign flows of factor income.

^eGoods not available in the nation.

Source: IMPLAN Group, LLC, 2023 Data

Appendix C: Total Industry Output, Employment, Labor Income, and Total Value-Added by Agriculture and Forestry Sectors for Tennessee, 2023

Table C.1. Direct Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO | Employment | Labor Income | TVA |
|---|--------------|---------------|----------------|--------------|
| | (million \$) | (number) | (million \$) | (million \$) |
| <i>Agricultural Inputs</i> | | | | |
| <u>Agricultural Chemicals</u> | | | | |
| Nitrogenous fertilizer | 6 | 3 | 0 ^b | 3 |
| Phosphatic fertilizer | 21 | 14 | 2 | 10 |
| Fertilizer mixing | 12 | 17 | 2 | 2 |
| Pesticide & other agricultural chemical | 651 | 360 | 50 | 196 |
| Lime | 115 | 164 | 22 | 58 |
| <i>Total --</i> | 805 | 558 | 76 | 268 |
| <u>Agricultural Machinery</u> | | | | |
| Farm machinery & equipment | 587 | 782 | 68 | 187 |
| Lawn & garden equipment | 1,018 | 1,667 | 113 | 297 |
| <i>Total --</i> | 1,605 | 2,449 | 181 | 484 |
| <i>Agricultural Inputs Total --</i> | 2,410 | 3,007 | 257 | 752 |
| <i>Primary Agriculture</i> | | | | |
| Oilseed farming | 1,018 | 7,173 | 30 | 621 |
| Grain farming | 954 | 8,505 | 41 | 2 |
| Vegetable & melon farming | 172 | 2,734 | 18 | 85 |
| Fruit farming | 21 | 681 | 3 | 9 |
| Tree nut farming | 2 | 105 | 1 | 2 |
| Greenhouse, nursery, & floriculture production | 424 | 5,624 | 86 | 252 |
| Tobacco farming | 67 | 517 | 9 | 36 |
| Cotton farming | 272 | 1,251 | 47 | 97 |
| All other crop farming | 166 | 10,549 | 23 | 66 |
| Beef cattle farming | 888 | 26,516 | 13 | 189 |
| Dairy cattle & milk production | 102 | 676 | 5 | 25 |
| Poultry & egg production | 937 | 2,190 | 48 | 220 |
| Animal production, except cattle & poultry & eggs | 206 | 8,141 | 23 | 138 |
| Commercial fishing | 13 | 544 | -2 | 13 |
| Commercial hunting & trapping | 26 | 199 | 0 ^b | 24 |
| Support activities for agriculture & forestry | 262 | 7,278 | 238 | 246 |
| <i>Primary Agriculture Total --</i> | 5,529 | 82,684 | 584 | 2,024 |
| <i>Secondary Agriculture</i> | | | | |
| <u>Foods</u> | | | | |
| Dog & cat food | 847 | 801 | 84 | 231 |
| Other animal food | 778 | 473 | 46 | 125 |
| <i>Total --</i> | 1,625 | 1,274 | 130 | 356 |
| <u>Grain & Oilseed Milling</u> | | | | |
| Flour milling | 625 | 448 | 50 | 141 |
| Rice milling | 465 | 487 | 59 | 145 |
| Wet corn milling | 777 | 380 | 54 | 166 |
| Soybean & other oilseed processing | 4,273 | 670 | 77 | 490 |
| Fats & oils refining & blending | 457 | 192 | 17 | 63 |
| Breakfast cereal | 486 | 439 | 60 | 173 |
| <i>Total --</i> | 7,084 | 2,616 | 318 | 1,179 |

Table C.1. Direct Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO | Employment | Labor Income | TVA |
|---|--------------|---------------|--------------|--------------|
| | (million \$) | (number) | (million \$) | (million \$) |
| <u>Sugar & Confectionary Products</u> | | | | |
| Beet sugar | 0 | 0 | 0 | 0 |
| Sugar cane mills & refining | 107 | 82 | 7 | 38 |
| Nonchocolate confectionery | 855 | 1,680 | 150 | 197 |
| Chocolate & confectionery (from cacao beans) | 15 | 26 | 2 | 5 |
| Confectionery (from purchased chocolate) | 616 | 1,297 | 126 | 193 |
| <i>Total --</i> | <i>1,593</i> | <i>3,085</i> | <i>285</i> | <i>433</i> |
| <u>Fruit & Vegetable Preserving & Specialty Foods</u> | | | | |
| Frozen fruits, juices & vegetables | 372 | 535 | 49 | 132 |
| Frozen specialties | 700 | 1,632 | 139 | 227 |
| Canned fruits & vegetables | 674 | 898 | 129 | 268 |
| Canned specialties | 219 | 266 | 22 | 43 |
| Dehydrated food products | 14 | 27 | 2 | 3 |
| <i>Total --</i> | <i>1,979</i> | <i>3,358</i> | <i>341</i> | <i>673</i> |
| <u>Dairy Products</u> | | | | |
| Cheese | 970 | 890 | 70 | 166 |
| Dry, condensed, & evaporated dairy product | 829 | 643 | 56 | 226 |
| Fluid milk | 789 | 945 | 90 | 167 |
| Creamery butter | 164 | 99 | 8 | 22 |
| Ice cream & frozen dessert | 21 | 52 | 2 | 4 |
| <i>Total --</i> | <i>2,773</i> | <i>2,629</i> | <i>225</i> | <i>585</i> |
| <u>Animal Slaughtering & Processing</u> | | | | |
| Poultry processing | 3,825 | 10,198 | 651 | 1,019 |
| Animal, except poultry, slaughtering | 1,331 | 1,784 | 145 | 240 |
| Meat processed from carcasses | 1,062 | 1,862 | 136 | 182 |
| Rendering & meat byproduct processing | 148 | 222 | 17 | 19 |
| <i>Total --</i> | <i>6,367</i> | <i>14,066</i> | <i>949</i> | <i>1,460</i> |
| <u>Seafood product Preparation & Packaging</u> | | | | |
| | 25 | 41 | 4 | 7 |
| <u>Bakeries & Tortillas</u> | | | | |
| Bread & bakery product, except frozen | 1,322 | 6,805 | 361 | 578 |
| Frozen cakes & other pastries | 478 | 1,669 | 162 | 217 |
| Cookie & cracker | 1,275 | 3,033 | 285 | 495 |
| Dry pasta, mixes, & dough | 433 | 576 | 52 | 161 |
| Tortilla | 43 | 143 | 11 | 11 |
| <i>Total --</i> | <i>3,551</i> | <i>12,225</i> | <i>870</i> | <i>1,462</i> |
| <u>Other Foods</u> | | | | |
| Roasted nuts & peanut butter | 35 | 48 | 4 | 5 |
| Other snack food | 2,448 | 3,017 | 262 | 914 |
| Coffee & tea | 1,140 | 1,496 | 124 | 304 |
| Flavoring syrup & concentrate | 26 | 9 | 2 | 15 |
| Mayonnaise, dressing, & sauce | 502 | 743 | 60 | 132 |
| Spice & extract | 34 | 50 | 4 | 10 |
| All other food | 521 | 1,034 | 92 | 145 |
| <i>Total --</i> | <i>4,706</i> | <i>6,397</i> | <i>548</i> | <i>1,527</i> |

Table C.1. Direct Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO | Employment | Labor Income | TVA |
|--|----------------------|-----------------------|---------------------|----------------------|
| | (million \$) | (number) | (million \$) | (million \$) |
| <u>Beverages</u> | | | | |
| Bottled & canned soft drinks & water | 987 | 1,319 | 135 | 306 |
| Breweries | 660 | 2,012 | 95 | 224 |
| Wineries | 256 | 673 | 35 | 88 |
| Distilleries | 2,120 | 2,612 | 237 | 893 |
| <i>Total --</i> | <i>4,023</i> | <i>6,616</i> | <i>502</i> | <i>1,511</i> |
| <u>Tobacco Products</u> | <i>3,928</i> | <i>970</i> | <i>114</i> | <i>2,032</i> |
| <u>Textile Mills</u> | | | | |
| Fiber, yarn, & thread mills | 379 | 1,058 | 76 | 84 |
| Broadwoven fabric mills | 42 | 141 | 9 | 10 |
| Narrow fabric mills & schiffli machine embroidery | 15 | 68 | 4 | 2 |
| Nonwoven fabric mills | 314 | 636 | 49 | 63 |
| Knit fabric mills | 45 | 180 | 9 | 10 |
| Textile & fabric finishing mills | 169 | 508 | 31 | 35 |
| Fabric coating mills | 135 | 340 | 28 | 32 |
| <i>Total --</i> | <i>1,098</i> | <i>2,932</i> | <i>206</i> | <i>235</i> |
| <u>Textile Products Mills</u> | | | | |
| Carpet & rug mills | 43 | 125 | 7 | 8 |
| Curtain & linen mills | 23 | 104 | 5 | 6 |
| Textile bag & canvas mills | 173 | 793 | 43 | 48 |
| Rope, cordage, twine, tire cord & tire fabric mills | 148 | 560 | 37 | 59 |
| Other textile product mills | 129 | 727 | 38 | 44 |
| <i>Total --</i> | <i>516</i> | <i>2,310</i> | <i>130</i> | <i>164</i> |
| <u>Apparel</u> | | | | |
| Apparel knitting mills | 76 | 776 | 32 | 37 |
| Cut & sew apparel contractors | 63 | 712 | 31 | 29 |
| Cut & sew apparel (except contractors) | 379 | 2,291 | 135 | 159 |
| Apparel accessories & other apparel | 25 | 161 | 11 | 12 |
| <i>Total --</i> | <i>543</i> | <i>3,938</i> | <i>209</i> | <i>238</i> |
| <u>Leather & Allied Products</u> | | | | |
| Leather & hide tanning & finishing | 34 | 115 | 7 | 10 |
| Footwear | 31 | 181 | 9 | 9 |
| Other leather & allied product | 25 | 137 | 8 | 9 |
| <i>Total --</i> | <i>91</i> | <i>433</i> | <i>24</i> | <i>27</i> |
| <i>Secondary Agriculture Total --</i> | <i>39,901</i> | <i>62,890</i> | <i>4,855</i> | <i>11,888</i> |
| <i>Agriculture Total --</i> | <i>47,839</i> | <i>148,581</i> | <i>5,696</i> | <i>14,664</i> |
| <u>Forestry Inputs</u> | | | | |
| <u>Sawmill, Woodworking, & Paper Machinery</u> | 72 | 209 | 19 | 6 |
| <u>Timber</u> | | | | |
| Forestry, forest products, & timber tract production | 11 | 116 | 7 | 10 |
| Commercial logging | 230 | 2,620 | 141 | 219 |
| <i>Total --</i> | <i>241</i> | <i>2,736</i> | <i>148</i> | <i>229</i> |

Table C.1. Direct Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO | Employment | Labor Income | TVA |
|--|--------------|--------------|--------------|--------------|
| | (million \$) | (number) | (million \$) | (million \$) |
| Forestry Inputs Total -- | 313 | 2,946 | 167 | 235 |
| Primary Forestry | | | | |
| Sawmills | 1,212 | 2,447 | 138 | 281 |
| Wood preservation | 81 | 80 | 7 | 29 |
| Pulp mills | 49 | 57 | 8 | 19 |
| Paper mills | 1,992 | 1,616 | 258 | 1,015 |
| Paperboard Mills | 1,296 | 1,062 | 155 | 575 |
| Primary Forestry Total -- | 4,629 | 5,262 | 567 | 1,918 |
| Secondary Forestry | | | | |
| <u>Veneer, Plywood, & Engineered Wood Products</u> | | | | |
| Veneer & plywood | 48 | 121 | 7 | 17 |
| Engineered wood member & truss | 648 | 1,491 | 115 | 206 |
| Reconstituted wood product | 217 | 191 | 21 | 90 |
| <i>Total --</i> | <i>913</i> | <i>1,803</i> | <i>144</i> | <i>313</i> |
| <u>Wood Windows & Doors & Millwork</u> | | | | |
| Wood windows & door | 715 | 2,136 | 169 | 281 |
| Cut stock, resawing lumber, & planning | 144 | 333 | 22 | 53 |
| Other millwork, including flooring | 363 | 1,066 | 63 | 133 |
| <i>Total --</i> | <i>1,221</i> | <i>3,535</i> | <i>255</i> | <i>467</i> |
| <u>Wood Containers & Pallets</u> | 736 | 2,785 | 167 | 255 |
| <u>Manufactured Homes (Mobile Homes)</u> | | | | |
| Manufactured home (mobile home) | 1,023 | 3,013 | 278 | 352 |
| Prefabricated wood building | 167 | 422 | 28 | 61 |
| <i>Total --</i> | <i>1,190</i> | <i>3,434</i> | <i>306</i> | <i>413</i> |
| <u>All Other Miscellaneous Wood Products</u> | 191 | 627 | 42 | 74 |
| <u>Paperboard Containers</u> | 4,018 | 6,162 | 530 | 1,250 |
| <u>Paper Bags & Coated & Treated Paper</u> | 1,084 | 1,865 | 171 | 443 |
| <u>Stationery Products</u> | 408 | 809 | 89 | 138 |
| <u>Other Converted Paper Products</u> | | | | |
| Sanitary paper product | 955 | 769 | 97 | 464 |
| All other converted paper product | 294 | 617 | 37 | 115 |
| <i>Total --</i> | <i>1,249</i> | <i>1,387</i> | <i>134</i> | <i>578</i> |
| <u>Wood Kitchen Cabinets & Countertops</u> | 341 | 1,803 | 118 | 131 |
| <u>Household & Institutional Furniture</u> | | | | |
| Upholstered household furniture | 840 | 3,958 | 231 | 255 |
| Nonupholstered wood household furniture | 68 | 385 | 20 | 22 |

Table C.1. Direct Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO | Employment | Labor Income | TVA |
|--|----------------|------------------|----------------|----------------|
| | (million \$) | (number) | (million \$) | (million \$) |
| Other household nonupholstered furniture | 62 | 144 | 10 | 13 |
| Institutional furniture | 153 | 688 | 43 | 48 |
| <i>Total --</i> | <i>1,123</i> | <i>5,175</i> | <i>305</i> | <i>338</i> |
| <u>Office Furniture</u> | | | | |
| Wood office furniture | 16 | 68 | 3 | 4 |
| Custom architectural woodwork & millwork | 99 | 522 | 35 | 17 |
| Showcase, partition, shelving, & locker | 338 | 1,244 | 97 | 114 |
| <i>Total --</i> | <i>453</i> | <i>1,834</i> | <i>135</i> | <i>135</i> |
| <u>Other Furniture Related Products</u> | | | | |
| Mattress | 201 | 489 | 30 | 41 |
| Blind & shade | 19 | 83 | 5 | 2 |
| <i>Total --</i> | <i>220</i> | <i>572</i> | <i>35</i> | <i>43</i> |
| <i>Secondary Forestry Total --</i> | <i>13,147</i> | <i>31,790</i> | <i>2,432</i> | <i>4,578</i> |
| <i>Forestry Total --</i> | <i>18,090</i> | <i>39,998</i> | <i>3,166</i> | <i>6,731</i> |
| <i>Agriculture & Forestry Total --</i> | <i>65,929</i> | <i>188,579</i> | <i>8,862</i> | <i>21,395</i> |
| | | | | |
| <i>Construction --</i> | <i>49,319</i> | <i>285,977</i> | <i>23,657</i> | <i>24,758</i> |
| <i>Finance --</i> | <i>34,640</i> | <i>159,635</i> | <i>10,006</i> | <i>16,239</i> |
| <i>Government --</i> | <i>65,994</i> | <i>492,334</i> | <i>38,480</i> | <i>50,096</i> |
| <i>Insurance --</i> | <i>28,907</i> | <i>75,666</i> | <i>6,931</i> | <i>13,838</i> |
| <i>Manufacturing --</i> | <i>168,121</i> | <i>270,515</i> | <i>26,508</i> | <i>48,131</i> |
| <i>Mining --</i> | <i>3,418</i> | <i>7,344</i> | <i>425</i> | <i>1,231</i> |
| <i>Miscellaneous --</i> | <i>6,498</i> | <i>66,317</i> | <i>4,335</i> | <i>4,504</i> |
| <i>Real Estate --</i> | <i>82,974</i> | <i>201,251</i> | <i>6,988</i> | <i>59,210</i> |
| <i>Retail Trade --</i> | <i>49,670</i> | <i>397,760</i> | <i>19,582</i> | <i>37,106</i> |
| <i>Services --</i> | <i>330,151</i> | <i>2,134,715</i> | <i>154,286</i> | <i>202,448</i> |
| <i>Transportation --</i> | <i>27,000</i> | <i>138,358</i> | <i>10,602</i> | <i>14,014</i> |
| <i>Utilities --</i> | <i>7,074</i> | <i>5,042</i> | <i>1,025</i> | <i>3,827</i> |
| <i>Wholesale Trade --</i> | <i>60,361</i> | <i>149,218</i> | <i>15,779</i> | <i>34,518</i> |
| <i>Total Economy --</i> | <i>980,054</i> | <i>4,572,710</i> | <i>327,466</i> | <i>531,314</i> |

**Appendix D. Total Economic Contributions from the Agriculture and Forestry Sectors,
Tennessee, 2023**

Table D.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO (million \$) | | | | Employment (number) | | | | Labor Income (million \$) | | | | TVA (million \$) | | | |
|---|------------------|--------------|-------------|--------------|---------------------|--------------|-------------|--------------|---------------------------|------------|-------------|------------|------------------|--------------|-------------|--------------|
| | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total |
| <i>Agricultural Inputs</i> | | | | | | | | | | | | | | | | |
| <i>Agricultural Chemicals</i> | | | | | | | | | | | | | | | | |
| Nitrogenous fertilizer | 1.41 | 9 | 1.57 | 10 | 4.19 | 13 | 5.98 | 18 | 2.66 | 1 | 3.38 | 2 | 1.51 | 4 | 1.74 | 5 |
| Phosphatic fertilizer | 1.30 | 27 | 1.45 | 30 | 2.63 | 38 | 3.81 | 54 | 1.89 | 4 | 2.41 | 5 | 1.34 | 13 | 1.55 | 15 |
| Fertilizer mixing | 1.37 | 17 | 1.56 | 19 | 2.07 | 35 | 2.79 | 48 | 1.92 | 3 | 2.44 | 4 | 2.04 | 5 | 2.65 | 6 |
| Pesticide & other ag chemicals | 1.30 | 844 | 1.43 | 929 | 2.86 | 1,029 | 4.13 | 1,485 | 2.20 | 109 | 2.80 | 138 | 1.52 | 297 | 1.79 | 350 |
| Lime | 1.39 | 159 | 1.62 | 185 | 1.89 | 310 | 2.75 | 452 | 1.54 | 34 | 1.96 | 43 | 1.36 | 79 | 1.65 | 95 |
| <i>Total --</i> | | 1,056 | | 1,174 | | 1,425 | | 2,057 | | 151 | | 192 | | 398 | | 471 |
| <i>Agricultural Machinery</i> | | | | | | | | | | | | | | | | |
| Farm machinery & equipment | 1.39 | 816 | 1.58 | 927 | 2.13 | 1,663 | 2.89 | 2,259 | 2.08 | 142 | 2.64 | 181 | 1.61 | 301 | 1.99 | 371 |
| Lawn & garden equipment | 1.38 | 1,401 | 1.56 | 1,584 | 1.87 | 3,124 | 2.46 | 4,107 | 2.09 | 235 | 2.65 | 299 | 1.65 | 491 | 2.04 | 605 |
| <i>Total --</i> | | 2,217 | | 2,511 | | 4,786 | | 6,366 | | 377 | | 479 | | 792 | | 976 |
| <i>Agricultural Inputs Total --</i> | | 3,273 | | 3,685 | | 6,211 | | 8,423 | | 528 | | 671 | | 1,190 | | 1,447 |
| <i>Primary Agriculture</i> | | | | | | | | | | | | | | | | |
| Oilseed farming | 1.23 | 1,253 | 1.30 | 1,327 | 1.12 | 8,001 | 1.17 | 8,399 | 3.24 | 96 | 4.11 | 122 | 1.19 | 742 | 1.27 | 789 |
| Grain farming | 1.52 | 1,446 | 1.65 | 1,574 | 1.18 | 10,061 | 1.26 | 10,749 | 3.99 | 165 | 5.08 | 210 | 150.16 | 242 | 199.99 | 323 |
| Vegetable & melon farming | 1.30 | 224 | 1.44 | 248 | 1.06 | 2,896 | 1.11 | 3,024 | 1.76 | 31 | 2.24 | 39 | 1.29 | 110 | 1.46 | 125 |
| Fruit farming | 1.29 | 27 | 1.47 | 31 | 1.03 | 700 | 1.06 | 720 | 1.49 | 5 | 1.90 | 6 | 1.32 | 12 | 1.57 | 14 |
| Tree nut farming | 1.08 | 2 | 1.33 | 2 | 1.00 | 106 | 1.03 | 108 | 1.07 | 1 | 1.35 | 1 | 1.04 | 2 | 1.23 | 2 |
| Greenhouse, nursery, & floriculture production | 1.21 | 513 | 1.41 | 598 | 1.05 | 5,922 | 1.13 | 6,379 | 1.28 | 110 | 1.63 | 140 | 1.18 | 298 | 1.39 | 352 |
| Tobacco farming | 1.28 | 85 | 1.45 | 96 | 1.12 | 581 | 1.24 | 640 | 1.53 | 14 | 1.94 | 18 | 1.25 | 45 | 1.44 | 52 |
| Cotton farming | 1.30 | 354 | 1.50 | 409 | 1.23 | 1,538 | 1.46 | 1,829 | 1.49 | 70 | 1.89 | 89 | 1.42 | 138 | 1.78 | 172 |
| All other crop farming | 1.39 | 229 | 1.57 | 260 | 1.02 | 10,737 | 1.03 | 10,898 | 1.67 | 39 | 2.12 | 50 | 1.46 | 96 | 1.75 | 115 |
| Beef cattle farming | 1.28 | 1,140 | 1.36 | 1,204 | 1.03 | 27,360 | 1.04 | 27,702 | 6.13 | 82 | 7.80 | 105 | 1.65 | 312 | 1.86 | 352 |
| Dairy cattle & milk production | 1.45 | 147 | 1.58 | 161 | 1.22 | 824 | 1.33 | 896 | 3.78 | 17 | 4.81 | 22 | 1.87 | 46 | 2.21 | 54 |
| Poultry & egg production | 1.36 | 1,278 | 1.47 | 1,378 | 1.45 | 3,184 | 1.70 | 3,718 | 2.68 | 129 | 3.41 | 164 | 1.69 | 372 | 1.97 | 435 |
| Commercial fishing | 1.18 | 244 | 1.31 | 270 | 1.02 | 8,275 | 1.03 | 8,415 | 1.47 | 34 | 1.87 | 43 | 1.13 | 156 | 1.25 | 172 |
| Animal production, except cattle, poultry, & eggs | 1.00 | 13 | 0.89 | 11 | 1.00 | 544 | 0.99 | 536 | 0.99 | -2 | 1.28 | -2 | 1.00 | 13 | 0.93 | 12 |
| Commercial hunting & trapping | 1.05 | 27 | 1.07 | 27 | 1.03 | 204 | 1.04 | 207 | 1.93 | 1 | 2.45 | 1 | 1.03 | 24 | 1.04 | 25 |
| Support activities for ag & forestry | 1.04 | 272 | 1.76 | 461 | 1.00 | 7,312 | 1.14 | 8,319 | 1.01 | 241 | 1.29 | 307 | 1.02 | 251 | 1.50 | 369 |

Table D.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO (million \$) | | | | Employment (number) | | | | Labor Income (million \$) | | | | TVA (million \$) | | | |
|---|------------------|--------------|----------|--------------|---------------------|---------------|----------|---------------|---------------------------|--------------|----------|--------------|------------------|--------------|----------|--------------|
| | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total |
| Primary Agriculture Total -- | | 7,254 | | 8,059 | | 88,244 | | 92,540 | | 1,034 | | 1,315 | | 2,859 | | 3,362 |
| Secondary Agriculture | | | | | | | | | | | | | | | | |
| <u>Foods</u> | | | | | | | | | | | | | | | | |
| Dog & cat food | 1.27 | 1,079 | 1.41 | 1,198 | 2.31 | 1,848 | 3.10 | 2,487 | 1.84 | 154 | 2.34 | 196 | 1.50 | 346 | 1.82 | 420 |
| Other animal food | 1.48 | 1,149 | 1.62 | 1,260 | 5.13 | 2,426 | 6.39 | 3,022 | 3.12 | 144 | 3.96 | 183 | 2.31 | 288 | 2.86 | 357 |
| <i>Total --</i> | | 2,229 | | 2,457 | | 4,274 | | 5,509 | | 298 | | 379 | | 634 | | 778 |
| <u>Grain & Oilseed Milling</u> | | | | | | | | | | | | | | | | |
| Flour milling | 1.66 | 1,039 | 1.85 | 1,159 | 6.25 | 2,796 | 7.69 | 3,443 | 3.11 | 156 | 3.95 | 198 | 2.21 | 311 | 2.74 | 386 |
| Rice milling | 1.55 | 723 | 1.74 | 812 | 4.25 | 2,071 | 5.24 | 2,551 | 1.97 | 116 | 2.50 | 147 | 1.65 | 240 | 2.04 | 296 |
| Wet corn milling | 1.65 | 1,283 | 1.83 | 1,420 | 8.51 | 3,239 | 10.46 | 3,981 | 3.30 | 179 | 4.20 | 227 | 2.25 | 374 | 2.77 | 460 |
| Soybean & other oilseed processing | 1.51 | 6,432 | 1.62 | 6,927 | 15.60 | 10,452 | 19.60 | 13,128 | 8.34 | 645 | 10.58 | 819 | 3.49 | 1,712 | 4.13 | 2,023 |
| Fats & oils refining & blending | 1.26 | 576 | 1.35 | 619 | 3.76 | 720 | 4.96 | 950 | 3.19 | 56 | 4.05 | 71 | 2.02 | 128 | 2.44 | 155 |
| Breakfast cereal | 1.26 | 610 | 1.41 | 686 | 2.14 | 941 | 3.08 | 1,353 | 1.65 | 99 | 2.10 | 126 | 1.37 | 236 | 1.64 | 284 |
| <i>Total --</i> | | 10,663 | | 11,622 | | 20,218 | | 25,406 | | 1,251 | | 1,588 | | 3,001 | | 3,603 |
| <u>Sugar & Confectionary Products</u> | | | | | | | | | | | | | | | | |
| Sugar cane mills & refining | 1.23 | 132 | 1.35 | 144 | 2.27 | 185 | 3.08 | 252 | 2.14 | 16 | 2.71 | 20 | 1.36 | 51 | 1.56 | 59 |
| Nonchocolate confectionery | 1.43 | 1,222 | 1.68 | 1,434 | 1.91 | 3,213 | 2.59 | 4,360 | 1.85 | 277 | 2.35 | 351 | 1.99 | 393 | 2.67 | 526 |
| Chocolate & confectionery from cacao beans | 1.37 | 21 | 1.59 | 24 | 2.49 | 64 | 3.18 | 82 | 1.81 | 4 | 2.30 | 5 | 1.63 | 8 | 2.06 | 10 |
| Confectionery from purchased chocolate | 1.39 | 854 | 1.64 | 1,013 | 1.84 | 2,390 | 2.50 | 3,249 | 1.65 | 207 | 2.09 | 263 | 1.65 | 319 | 2.16 | 419 |
| <i>Total --</i> | | 2,229 | | 2,615 | | 5,852 | | 7,943 | | 504 | | 640 | | 771 | | 1,013 |
| <u>Fruit & Vegetable Preserving & Specialty Foods</u> | | | | | | | | | | | | | | | | |
| Frozen fruits, juices & vegetables | 1.43 | 530 | 1.64 | 611 | 2.45 | 1,309 | 3.26 | 1,746 | 2.14 | 106 | 2.71 | 134 | 1.65 | 217 | 2.04 | 268 |
| Frozen specialties | 1.32 | 925 | 1.55 | 1,082 | 1.76 | 2,865 | 2.28 | 3,714 | 1.48 | 205 | 1.88 | 260 | 1.43 | 326 | 1.87 | 425 |
| Canned fruits & vegetables | 1.31 | 883 | 1.54 | 1,039 | 2.01 | 1,805 | 2.95 | 2,647 | 1.58 | 203 | 2.00 | 258 | 1.42 | 380 | 1.78 | 478 |
| Canned specialties | 1.19 | 260 | 1.32 | 288 | 1.79 | 474 | 2.36 | 626 | 1.65 | 37 | 2.09 | 46 | 1.50 | 65 | 1.91 | 83 |
| Dehydrated food products | 1.23 | 18 | 1.40 | 20 | 1.53 | 41 | 2.01 | 55 | 1.62 | 3 | 2.05 | 4 | 1.70 | 4 | 2.30 | 6 |
| <i>Total --</i> | | 2,616 | | 3,040 | | 6,494 | | 8,788 | | 554 | | 703 | | 993 | | 1,259 |

Table D.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO (million \$) | | | | Employment (number) | | | | Labor Income (million \$) | | | | TVA (million \$) | | | |
|---|------------------|----------|----------|--------|---------------------|----------|----------|--------|---------------------------|----------|----------|-------|------------------|----------|----------|-------|
| | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total |
| <u>Dairy Products</u> | | | | | | | | | | | | | | | | |
| Cheese | 1.31 | 1,275 | 1.44 | 1,402 | 2.69 | 2,394 | 3.47 | 3,083 | 2.39 | 166 | 3.04 | 211 | 1.92 | 318 | 2.40 | 398 |
| Dry, condensed, & evaporated dairy products | 1.33 | 1,102 | 1.46 | 1,212 | 2.87 | 1,843 | 3.79 | 2,436 | 2.56 | 143 | 3.26 | 182 | 1.61 | 365 | 1.92 | 434 |
| Fluid milk | 1.38 | 1,086 | 1.56 | 1,228 | 2.54 | 2,397 | 3.35 | 3,167 | 2.06 | 186 | 2.62 | 236 | 1.90 | 316 | 2.43 | 406 |
| Creamery butter | 1.43 | 234 | 1.58 | 260 | 4.30 | 427 | 5.68 | 564 | 4.31 | 33 | 5.47 | 42 | 2.72 | 61 | 3.43 | 77 |
| Ice cream & frozen dessert | 1.41 | 30 | 1.60 | 34 | 1.69 | 89 | 2.11 | 111 | 2.26 | 5 | 2.87 | 7 | 2.15 | 9 | 2.79 | 11 |
| <i>Total --</i> | | 3,727 | | 4,136 | | 7,149 | | 9,360 | | 533 | | 677 | | 1,068 | | 1,325 |
| <u>Animal Slaughtering & Processing</u> | | | | | | | | | | | | | | | | |
| Poultry processing | 1.34 | 5,143 | 1.54 | 5,891 | 1.49 | 15,208 | 1.89 | 19,254 | 1.50 | 977 | 1.90 | 1,240 | 1.55 | 1,583 | 2.01 | 2,053 |
| Animal, except poultry, slaughtering | 1.75 | 2,324 | 1.93 | 2,568 | 11.82 | 21,091 | 12.56 | 22,411 | 2.20 | 319 | 2.79 | 405 | 2.60 | 625 | 3.24 | 778 |
| Meat processed from carcasses | 1.47 | 1,562 | 1.65 | 1,749 | 5.13 | 9,546 | 5.67 | 10,558 | 1.80 | 244 | 2.28 | 310 | 2.18 | 396 | 2.82 | 513 |
| Rendering & meat byproduct processing | 1.44 | 214 | 1.66 | 247 | 2.51 | 557 | 3.30 | 734 | 2.48 | 43 | 3.14 | 54 | 2.84 | 55 | 3.91 | 75 |
| <i>Total --</i> | | 9,243 | | 10,455 | | 46,402 | | 52,957 | | 1,583 | | 2,009 | | 2,658 | | 3,419 |
| <u>Seafood Product Prep & Packaging</u> | | | | | | | | | | | | | | | | |
| | 1.34 | 34 | 1.54 | 39 | 2.29 | 95 | 2.95 | 122 | 1.87 | 7 | 2.38 | 8 | 1.70 | 12 | 2.17 | 15 |
| <u>Bakeries & Tortillas</u> | | | | | | | | | | | | | | | | |
| Frozen cakes & other pastries | 1.32 | 631 | 1.67 | 798 | 1.38 | 2,297 | 1.92 | 3,200 | 1.34 | 218 | 1.71 | 277 | 1.39 | 301 | 1.87 | 405 |
| Bread & bakery product, except frozen | 1.37 | 1,809 | 1.68 | 2,221 | 1.32 | 9,015 | 1.65 | 11,244 | 1.49 | 538 | 1.89 | 683 | 1.44 | 833 | 1.89 | 1,092 |
| Cookies & crackers | 1.33 | 1,699 | 1.60 | 2,035 | 1.59 | 4,821 | 2.19 | 6,636 | 1.54 | 438 | 1.95 | 556 | 1.45 | 718 | 1.88 | 929 |
| Dry pasta, mixes, & dough | 1.36 | 589 | 1.55 | 670 | 2.23 | 1,284 | 2.99 | 1,723 | 2.03 | 106 | 2.58 | 135 | 1.49 | 241 | 1.81 | 292 |
| Tortilla | 1.40 | 60 | 1.70 | 73 | 1.53 | 218 | 2.01 | 286 | 1.55 | 16 | 1.96 | 21 | 1.79 | 20 | 2.51 | 28 |
| <i>Total --</i> | | 4,789 | | 5,797 | | 17,635 | | 23,088 | | 1,316 | | 1,671 | | 2,112 | | 2,745 |
| <u>Other Foods</u> | | | | | | | | | | | | | | | | |
| Roasted nuts & peanut butter | 1.63 | 57 | 1.87 | 66 | 3.52 | 169 | 4.51 | 216 | 3.14 | 11 | 3.98 | 15 | 3.44 | 17 | 4.57 | 22 |
| Other snack food | 1.34 | 3,280 | 1.50 | 3,680 | 3.17 | 9,576 | 3.89 | 11,738 | 1.99 | 522 | 2.53 | 663 | 1.46 | 1,337 | 1.74 | 1,588 |
| Coffee & tea | 1.40 | 1,594 | 1.58 | 1,803 | 3.07 | 4,601 | 3.83 | 5,731 | 2.20 | 273 | 2.79 | 346 | 1.78 | 542 | 2.21 | 673 |
| Flavoring syrup & concentrate | 1.24 | 32 | 1.36 | 35 | 4.46 | 38 | 6.45 | 55 | 2.11 | 4 | 2.68 | 5 | 1.21 | 19 | 1.34 | 21 |

Table D.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO (million \$) | | | | Employment (number) | | | | Labor Income (million \$) | | | | TVA (million \$) | | | |
|---|------------------|----------|----------|-------|---------------------|----------|----------|--------|---------------------------|----------|----------|-------|------------------|----------|----------|-------|
| | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total |
| Mayonnaise, dressing, & sauce | 1.31 | 656 | 1.47 | 736 | 1.93 | 1,434 | 2.51 | 1,869 | 1.76 | 105 | 2.23 | 133 | 1.57 | 207 | 1.95 | 258 |
| Spice & extract | 1.41 | 48 | 1.62 | 55 | 3.11 | 154 | 3.86 | 192 | 2.08 | 9 | 2.64 | 11 | 1.70 | 18 | 2.11 | 22 |
| All other food | 1.40 | 731 | 1.64 | 854 | 2.17 | 2,240 | 2.81 | 2,908 | 1.74 | 161 | 2.21 | 205 | 1.75 | 255 | 2.28 | 332 |
| <i>Total --</i> | | 6,398 | | 7,229 | | 18,213 | | 22,709 | | 1,085 | | 1,378 | | 2,393 | | 2,916 |
| <u>Beverages</u> | | | | | | | | | | | | | | | | |
| Bottled & canned soft drinks & water | 1.34 | 1,321 | 1.53 | 1,510 | 2.07 | 2,731 | 2.84 | 3,752 | 1.82 | 245 | 2.31 | 312 | 1.58 | 483 | 1.96 | 601 |
| Breweries | 1.34 | 882 | 1.53 | 1,008 | 1.57 | 3,157 | 1.91 | 3,840 | 1.73 | 165 | 2.19 | 209 | 1.49 | 335 | 1.85 | 414 |
| Wineries | 1.43 | 367 | 1.65 | 423 | 1.75 | 1,178 | 2.20 | 1,482 | 2.09 | 73 | 2.66 | 93 | 1.68 | 149 | 2.08 | 184 |
| Distilleries | 1.39 | 2,952 | 1.57 | 3,328 | 2.24 | 5,841 | 3.01 | 7,875 | 2.07 | 490 | 2.63 | 622 | 1.51 | 1,347 | 1.77 | 1,583 |
| <i>Total --</i> | | 5,522 | | 6,269 | | 12,906 | | 16,949 | | 973 | | 1,236 | | 2,313 | | 2,782 |
| <u>Tobacco Products</u> | 1.35 | 5,290 | 1.46 | 5,749 | 6.81 | 6,603 | 9.37 | 9,083 | 5.23 | 598 | 6.64 | 759 | 1.36 | 2,753 | 1.50 | 3,041 |
| <u>Textile Mills</u> | | | | | | | | | | | | | | | | |
| Fiber, yarn, & thread mills | 1.39 | 526 | 1.62 | 616 | 1.89 | 2,004 | 2.35 | 2,489 | 1.54 | 117 | 1.96 | 149 | 1.83 | 154 | 2.50 | 210 |
| Broadwoven fabric mills | 1.39 | 59 | 1.64 | 69 | 1.46 | 206 | 1.86 | 262 | 1.60 | 14 | 2.03 | 17 | 1.85 | 18 | 2.54 | 24 |
| Narrow fabric mills & schiffli machine embroidery | 1.42 | 21 | 1.72 | 25 | 1.34 | 91 | 1.69 | 114 | 1.54 | 6 | 1.95 | 7 | 2.42 | 5 | 3.69 | 8 |
| Nonwoven fabric mills | 1.31 | 411 | 1.50 | 470 | 1.58 | 1,005 | 2.09 | 1,326 | 1.57 | 78 | 1.99 | 98 | 1.75 | 110 | 2.35 | 147 |
| Knit fabric mills | 1.46 | 66 | 1.73 | 78 | 1.46 | 263 | 1.83 | 329 | 1.76 | 16 | 2.23 | 20 | 2.10 | 20 | 2.88 | 28 |
| Textile & fabric finishing mills | 1.37 | 231 | 1.61 | 271 | 1.53 | 777 | 1.96 | 996 | 1.70 | 53 | 2.16 | 67 | 1.96 | 69 | 2.68 | 94 |
| Fabric coating mills | 1.32 | 177 | 1.56 | 209 | 1.48 | 503 | 1.98 | 676 | 1.50 | 42 | 1.91 | 53 | 1.69 | 54 | 2.31 | 74 |
| <i>Total --</i> | | 1,491 | | 1,739 | | 4,850 | | 6,192 | | 325 | | 412 | | 429 | | 585 |
| <u>Textile Product Mills</u> | | | | | | | | | | | | | | | | |
| Carpet & rug mills | 1.32 | 57 | 1.50 | 65 | 1.30 | 163 | 1.64 | 206 | 1.53 | 10 | 1.93 | 13 | 1.76 | 14 | 2.37 | 19 |
| Curtain & linen mills | 1.33 | 30 | 1.59 | 36 | 1.29 | 134 | 1.60 | 166 | 1.46 | 8 | 1.85 | 10 | 1.66 | 10 | 2.28 | 14 |
| Textile bag & canvas mills | 1.25 | 215 | 1.50 | 259 | 1.25 | 988 | 1.54 | 1,225 | 1.35 | 57 | 1.71 | 73 | 1.47 | 70 | 2.04 | 98 |
| Rope, cordage, twine, tire cord & tire fabric mills | 1.25 | 185 | 1.49 | 221 | 1.21 | 678 | 1.56 | 873 | 1.27 | 47 | 1.62 | 60 | 1.30 | 76 | 1.68 | 99 |
| Other textile product mills | 1.33 | 171 | 1.63 | 210 | 1.23 | 895 | 1.52 | 1,106 | 1.33 | 51 | 1.68 | 64 | 1.48 | 65 | 2.04 | 89 |
| <i>Total --</i> | | 659 | | 791 | | 2,859 | | 3,576 | | 174 | | 220 | | 236 | | 319 |

Table D.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO (million \$) | | | | Employment (number) | | | | Labor Income (million \$) | | | | TVA (million \$) | | | |
|---|------------------|---------------|----------|---------------|---------------------|----------------|----------|----------------|---------------------------|---------------|----------|---------------|------------------|---------------|----------|---------------|
| | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total |
| <u>Apparel</u> | | | | | | | | | | | | | | | | |
| Apparel knitting mills | 1.37 | 104 | 1.77 | 136 | 1.14 | 883 | 1.36 | 1,053 | 1.28 | 41 | 1.63 | 52 | 1.40 | 52 | 1.92 | 72 |
| Cut & sew apparel contractors | 1.24 | 78 | 1.68 | 106 | 1.10 | 783 | 1.31 | 934 | 1.18 | 36 | 1.49 | 46 | 1.28 | 38 | 1.88 | 55 |
| Cut & sew apparel except contractors | 1.25 | 474 | 1.59 | 603 | 1.21 | 2,771 | 1.52 | 3,471 | 1.25 | 169 | 1.59 | 215 | 1.33 | 212 | 1.84 | 293 |
| Apparel accessories & other apparel | 1.31 | 33 | 1.72 | 43 | 1.29 | 207 | 1.63 | 262 | 1.25 | 13 | 1.58 | 17 | 1.36 | 16 | 1.89 | 23 |
| <i>Total --</i> | | 689 | | 888 | | 4,645 | | 5,720 | | 260 | | 330 | | 318 | | 443 |
| <u>Leather & Allied Products</u> | | | | | | | | | | | | | | | | |
| Leather & hide tanning & finishing | 1.39 | 48 | 1.64 | 56 | 1.45 | 166 | 1.84 | 211 | 1.62 | 11 | 2.06 | 14 | 1.72 | 17 | 2.26 | 22 |
| Footwear | 1.75 | 54 | 2.15 | 66 | 1.49 | 270 | 1.86 | 336 | 1.82 | 16 | 2.31 | 20 | 2.30 | 21 | 3.14 | 29 |
| Other leather & allied products | 1.74 | 44 | 2.16 | 55 | 1.53 | 210 | 1.95 | 268 | 1.71 | 14 | 2.17 | 18 | 2.10 | 18 | 2.89 | 25 |
| <i>Total --</i> | | 146 | | 177 | | 646 | | 815 | | 41 | | 52 | | 56 | | 76 |
| <i>Secondary Agriculture Total --</i> | | 55,725 | | 63,006 | | 158,841 | | 198,217 | | 9,502 | | 12,062 | | 19,747 | | 24,320 |
| <i>Agriculture Total --</i> | | 66,251 | | 74,749 | | 253,296 | | 299,180 | | 11,064 | | 14,048 | | 23,795 | | 29,129 |
| <u>Forestry Inputs</u> | | | | | | | | | | | | | | | | |
| <u>Sawmill, woodworking, & paper machinery</u> | 1.71 | 124 | 2.17 | 157 | 2.29 | 479 | 3.15 | 660 | 2.23 | 43 | 2.83 | 55 | 6.18 | 35 | 9.84 | 57 |
| <u>Timber</u> | | | | | | | | | | | | | | | | |
| Forestry, forest products, & timber tract production | 1.05 | 11 | 1.61 | 17 | 1.12 | 130 | 1.40 | 162 | 1.06 | 8 | 1.36 | 10 | 1.05 | 10 | 1.44 | 14 |
| Commercial logging | 1.02 | 235 | 1.52 | 350 | 1.03 | 2,706 | 1.27 | 3,323 | 1.02 | 143 | 1.30 | 183 | 1.02 | 223 | 1.34 | 294 |
| <i>Total --</i> | | 247 | | 367 | | 2,835 | | 3,485 | | 151 | | 193 | | 233 | | 308 |
| <i>Forestry Inputs Total --</i> | | 370 | | 525 | | 3,314 | | 4,145 | | 194 | | 248 | | 268 | | 365 |
| <u>Primary Forestry</u> | | | | | | | | | | | | | | | | |
| Sawmills | 1.56 | 1,886 | 1.81 | 2,198 | 2.51 | 6,134 | 3.19 | 7,807 | 2.88 | 397 | 3.66 | 506 | 2.46 | 689 | 3.15 | 884 |
| Wood preservation | 1.35 | 109 | 1.51 | 122 | 2.45 | 196 | 3.33 | 266 | 2.25 | 17 | 2.87 | 21 | 1.54 | 44 | 1.82 | 52 |
| Pulp mills | 1.41 | 70 | 1.65 | 81 | 2.55 | 146 | 3.65 | 209 | 1.81 | 15 | 2.31 | 19 | 1.56 | 30 | 1.95 | 37 |
| Paper mills | 1.29 | 2,572 | 1.47 | 2,924 | 2.44 | 3,936 | 3.60 | 5,821 | 1.74 | 448 | 2.21 | 570 | 1.30 | 1,315 | 1.51 | 1,534 |
| Paperboard Mills | 1.39 | 1,801 | 1.58 | 2,052 | 2.88 | 3,056 | 4.15 | 4,406 | 2.02 | 314 | 2.59 | 402 | 1.44 | 830 | 1.72 | 987 |
| <i>Primary Forestry Total --</i> | | 6,437 | | 7,377 | | 13,467 | | 18,509 | | 1,190 | | 1,518 | | 2,908 | | 3,494 |

Table D.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO (million \$) | | | | Employment (number) | | | | Labor Income (million \$) | | | | TVA (million \$) | | | |
|--|------------------|----------|-------------|-------|---------------------|----------|-------------|--------|---------------------------|----------|-------------|-------|------------------|----------|-------------|-------|
| | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total |
| <i>Secondary Forestry</i> | | | | | | | | | | | | | | | | |
| <u>Veneer, Plywood, & Engineered Wood Products</u> | | | | | | | | | | | | | | | | |
| Veneer & plywood | 1.30 | 62 | 1.50 | 72 | 1.63 | 198 | 2.07 | 251 | 1.75 | 13 | 2.22 | 16 | 1.50 | 25 | 1.86 | 31 |
| Engineered wood member & truss | 1.43 | 926 | 1.67 | 1,083 | 1.75 | 2,603 | 2.31 | 3,443 | 1.74 | 201 | 2.21 | 255 | 1.67 | 346 | 2.15 | 443 |
| Reconstituted wood products | 1.24 | 269 | 1.37 | 298 | 2.07 | 395 | 2.90 | 553 | 1.76 | 38 | 2.24 | 48 | 1.28 | 115 | 1.48 | 133 |
| <i>Total --</i> | | 1,257 | | 1,453 | | 3,196 | | 4,248 | | 251 | | 319 | | 486 | | 608 |
| <u>Wood Windows & Doors & Millwork</u> | | | | | | | | | | | | | | | | |
| Wood windows & door | 1.38 | 985 | 1.66 | 1,189 | 1.55 | 3,304 | 2.06 | 4,396 | 1.54 | 261 | 1.96 | 332 | 1.50 | 421 | 1.95 | 548 |
| Cut stock, resawing lumber, & planing | 1.46 | 210 | 1.69 | 243 | 1.86 | 621 | 2.40 | 800 | 1.91 | 43 | 2.43 | 54 | 1.62 | 86 | 2.01 | 107 |
| Other millworks, including floors | 1.47 | 534 | 1.72 | 625 | 1.69 | 1,801 | 2.15 | 2,291 | 1.85 | 117 | 2.36 | 149 | 1.64 | 219 | 2.07 | 276 |
| <i>Total --</i> | | 1,729 | | 2,057 | | 5,726 | | 7,487 | | 421 | | 535 | | 726 | | 931 |
| <u>Wood Containers & Pallets</u> | 1.45 | 1,071 | 1.74 | 1,281 | 1.48 | 4,132 | 1.89 | 5,259 | 1.61 | 269 | 2.05 | 343 | 1.65 | 419 | 2.16 | 550 |
| <u>Manufactured Homes (Mobile Homes)</u> | | | | | | | | | | | | | | | | |
| Manufactured homes (mobile homes) | 1.33 | 1,362 | 1.62 | 1,662 | 1.50 | 4,526 | 2.04 | 6,133 | 1.38 | 385 | 1.76 | 489 | 1.50 | 528 | 2.03 | 714 |
| Prefabricated wood buildings | 1.37 | 228 | 1.59 | 265 | 1.63 | 687 | 2.10 | 885 | 1.69 | 47 | 2.15 | 60 | 1.51 | 91 | 1.89 | 114 |
| <i>Total --</i> | | 1,590 | | 1,926 | | 5,213 | | 7,019 | | 432 | | 549 | | 619 | | 829 |
| <u>All Other Miscellaneous Wood Products</u> | | | | | | | | | | | | | | | | |
| | 1.41 | 270 | 1.69 | 323 | 1.56 | 981 | 2.02 | 1,269 | 1.62 | 69 | 2.06 | 88 | 1.54 | 114 | 1.99 | 148 |
| <u>Paperboard Containers</u> | 1.40 | 5,640 | 1.61 | 6,455 | 2.06 | 12,699 | 2.77 | 17,072 | 1.97 | 1,046 | 2.51 | 1,330 | 1.69 | 2,114 | 2.10 | 2,622 |
| <u>Paper Bags & Coated & Treated Paper</u> | 1.28 | 1,386 | 1.47 | 1,595 | 1.64 | 3,067 | 2.24 | 4,186 | 1.57 | 268 | 2.00 | 341 | 1.36 | 601 | 1.65 | 731 |

Table D.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO (million \$) | | | | Employment (number) | | | | Labor Income (million \$) | | | | TVA (million \$) | | | |
|--|------------------|---------------|----------|---------------|---------------------|---------------|----------|---------------|---------------------------|--------------|----------|--------------|------------------|---------------|----------|---------------|
| | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total |
| <u>Stationery Products</u> | 1.37 | 561 | 1.65 | 673 | 1.80 | 1,456 | 2.54 | 2,055 | 1.58 | 141 | 2.02 | 180 | 1.60 | 221 | 2.10 | 291 |
| <u>Other Converted Paper Products</u> | | | | | | | | | | | | | | | | |
| Sanitary paper products | 1.22 | 1,163 | 1.35 | 1,290 | 2.05 | 1,580 | 2.94 | 2,262 | 1.68 | 163 | 2.14 | 207 | 1.24 | 573 | 1.41 | 653 |
| All other converted paper products | 1.38 | 406 | 1.59 | 468 | 1.80 | 1,108 | 2.33 | 1,440 | 2.08 | 78 | 2.65 | 99 | 1.52 | 174 | 1.85 | 213 |
| <i>Total --</i> | | 1,569 | | 1,757 | | 2,689 | | 3,702 | | 241 | | 306 | | 748 | | 865 |
| <u>Wood Kitchen Cabinets & Countertops</u> | | | | | | | | | | | | | | | | |
| | 1.35 | 463 | 1.71 | 585 | 1.28 | 2,310 | 1.65 | 2,967 | 1.33 | 157 | 1.69 | 200 | 1.48 | 194 | 2.06 | 271 |
| <u>Household & Institutional Furniture</u> | | | | | | | | | | | | | | | | |
| Upholstered household furniture | 1.41 | 1,180 | 1.72 | 1,447 | 1.35 | 5,355 | 1.72 | 6,788 | 1.48 | 342 | 1.88 | 435 | 1.69 | 431 | 2.34 | 598 |
| Nonupholstered wood household furniture | 1.41 | 96 | 1.74 | 118 | 1.30 | 500 | 1.61 | 621 | 1.45 | 29 | 1.84 | 37 | 1.66 | 36 | 2.30 | 51 |
| Other household nonupholstered furniture | 1.45 | 90 | 1.70 | 105 | 1.84 | 264 | 2.41 | 346 | 1.88 | 20 | 2.39 | 25 | 2.13 | 28 | 2.86 | 37 |
| Institutional furniture | 1.40 | 214 | 1.72 | 263 | 1.37 | 946 | 1.76 | 1,210 | 1.46 | 63 | 1.85 | 80 | 1.65 | 79 | 2.29 | 110 |
| <i>Total --</i> | | 1,579 | | 1,933 | | 7,065 | | 8,966 | | 453 | | 577 | | 574 | | 795 |
| <u>Office Furniture</u> | | | | | | | | | | | | | | | | |
| Wood office furniture | 1.50 | 24 | 1.79 | 28 | 1.50 | 102 | 1.86 | 127 | 1.83 | 6 | 2.32 | 7 | 2.10 | 8 | 2.84 | 11 |
| Custom architectural woodwork & millwork | 1.46 | 144 | 1.85 | 183 | 1.38 | 717 | 1.77 | 924 | 1.42 | 49 | 1.80 | 63 | 2.34 | 40 | 3.75 | 64 |
| Showcase, partition, shelving, & locker | 1.33 | 449 | 1.64 | 553 | 1.36 | 1,687 | 1.80 | 2,244 | 1.36 | 133 | 1.73 | 169 | 1.49 | 170 | 2.05 | 235 |
| <i>Total --</i> | | 617 | | 764 | | 2,507 | | 3,295 | | 188 | | 239 | | 218 | | 309 |
| <u>Other Furniture Related Products</u> | | | | | | | | | | | | | | | | |
| Mattresses | 1.37 | 276 | 1.60 | 321 | 1.68 | 823 | 2.18 | 1,063 | 1.90 | 57 | 2.42 | 73 | 1.95 | 79 | 2.63 | 107 |
| Blind & shades | 1.59 | 30 | 1.93 | 36 | 1.53 | 127 | 1.94 | 161 | 1.79 | 8 | 2.28 | 10 | 4.07 | 8 | 6.11 | 12 |
| <i>Total --</i> | | 306 | | 357 | | 949 | | 1,224 | | 65 | | 83 | | 87 | | 119 |
| Secondary Forestry Total -- | | 18,039 | | 21,160 | | 51,990 | | 68,749 | | 4,001 | | 5,090 | | 7,121 | | 9,069 |
| Forestry Total -- | | 24,847 | | 29,061 | | 68,772 | | 91,402 | | 5,386 | | 6,856 | | 10,297 | | 12,928 |

Table D.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2023

| Sector | TIO (million \$) | | | | Employment (number) | | | | Labor Income (million \$) | | | | TVA (million \$) | | | |
|---|------------------|----------------------|-------------|-----------------------|---------------------|-----------------------|-------------|-----------------------|---------------------------|----------------------|-------------|----------------------|------------------|----------------------|-------------|----------------------|
| | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total | Type I | Indirect | Type Sam | Total |
| <i>Agriculture & Forestry Total --</i> | | <i>91,098</i> | | <i>103,810</i> | | <i>322,068</i> | | <i>390,583</i> | | <i>16,450</i> | | <i>20,904</i> | | <i>34,093</i> | | <i>42,057</i> |
| <i>Construction --</i> | | \$69,892 | | \$93,693 | | 371,027 | | 498,856 | | \$30,063 | | \$38,362 | | \$36,068 | | \$50,916 |
| <i>Finance --</i> | | \$53,301 | | \$66,319 | | 255,929 | | 325,778 | | \$16,672 | | \$21,210 | | \$26,131 | | \$34,253 |
| <i>Government --</i> | | \$75,238 | | \$107,213 | | 523,242 | | 694,747 | | \$41,119 | | \$52,263 | | \$53,961 | | \$73,912 |
| <i>Insurance --</i> | | \$50,354 | | \$60,948 | | 154,787 | | 211,622 | | \$13,595 | | \$17,288 | | \$24,707 | | \$31,317 |
| <i>Manufacturing --</i> | | \$233,310 | | \$270,141 | | 518,142 | | 715,735 | | \$46,847 | | \$59,684 | | \$80,464 | | \$103,444 |
| <i>Mining --</i> | | \$5,151 | | \$6,054 | | 15,394 | | 20,241 | | \$1,155 | | \$1,470 | | \$2,181 | | \$2,745 |
| <i>Miscellaneous --</i> | | \$8,673 | | \$12,632 | | 77,502 | | 98,739 | | \$5,080 | | \$6,460 | | \$5,637 | | \$8,107 |
| <i>Real Estate --</i> | | \$111,182 | | \$124,082 | | 317,869 | | 377,648 | | \$14,021 | | \$17,902 | | \$73,900 | | \$81,948 |
| <i>Retail Trade --</i> | | \$63,844 | | \$83,279 | | 472,365 | | 576,686 | | \$24,752 | | \$31,528 | | \$44,694 | | \$56,820 |
| <i>Services --</i> | | \$463,180 | | \$623,060 | | 2,820,806 | | 3,679,036 | | \$203,397 | | \$259,137 | | \$274,952 | | \$374,698 |
| <i>Transportation --</i> | | \$40,009 | | \$52,517 | | 212,446 | | 279,574 | | \$15,954 | | \$20,314 | | \$21,631 | | \$29,435 |
| <i>Utilities --</i> | | \$8,554 | | \$9,630 | | 8,152 | | 13,930 | | \$1,364 | | \$1,739 | | \$4,321 | | \$4,992 |
| <i>Wholesale Trade --</i> | | \$86,291 | | \$106,828 | | 292,104 | | 402,288 | | \$26,295 | | \$33,453 | | \$49,450 | | \$62,262 |

^aTotals may not add due to rounding.

^bValues of zero are nonzero values less than 1.

^cNegative values.



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