

Tennessee Ag Stats 2015

Economic Contributions of Agriculture and Forestry in Tennessee

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Tennessee's Agri-Forestry Industrial Complex, 2015

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Executive Summary

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

In 2015, the agri-forestry industrial complex directly and indirectly contributed \$81.8 billion to the Tennessee economy accounting for multiplier effects, which was 12.8 percent of the economic activity conducted in the state. The industry employed an estimated 351,164 individuals, or 9.2 percent of the total number of workers. Agriculture accounted for 9.0 percent of the state's economy and generated \$57.6 billion in output and employed close to 250,000 Tennesseans, with over 96,000 (both full- and part-time) in agricultural production.

The 2015 output and employment multipliers for agricultural commodities and forestry activities (i.e., logging, sawmills, and pulp-, paper-, and paperboard-mills) ranged from 1.09 to 1.85 for total industrial output (economic activity) and 1.03 to 4.81 for employment. Commercial logging's output multiplier of 1.79 indicates that for every dollar invested in the logging industry, an additional \$0.79 of economic activity is generated. The employment multiplier of 1.64 indicates that for every job created in the commercial logging industry, an estimated 0.64 additional jobs are added in other industries.

For purposes of comparison, in 2015 Tennessee's economy totaled \$638.7 billion and had 3.8 million jobs. Industry sectors with larger magnitudes of direct economic activity than the agri-forestry industrial complex were services (\$188.6 billion) and manufacturing (\$134.0 billion), and then agri-forestry (\$81.8 billion) (Figure 1). Industry sectors with larger magnitudes for direct employment than the agri-forestry industrial complex were services (1,728.1 thousand), followed by government (463.4 thousand), retail trade (383.9 thousand), manufacturing (251.1 thousand), construction (210.6 thousand), and then agri-forestry (173.6 thousand) (Figure 2). For direct value-added, the agri-forestry industrial complex ranked seventh at \$14.1 billion led by, in increasing magnitude, retail trade (\$20.0 billion), wholesale trade (\$21.0 billion), real estate (\$34.4 billion), government (\$36.4 billion), manufacturing (\$37.3 billion), and services (\$111.3 billion) (Figure 3).

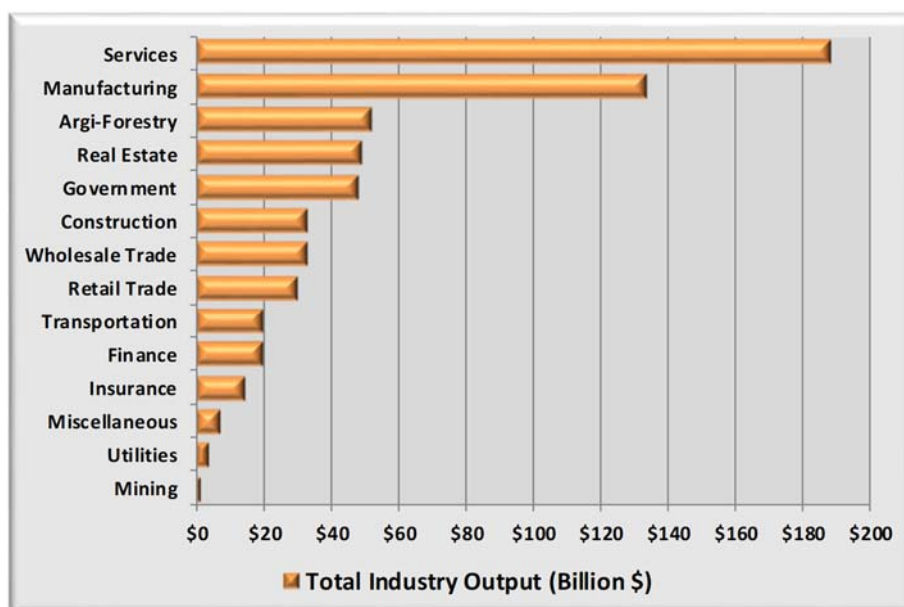


Figure 1. Direct Total Industry Output by Sector, Tennessee Total Economy, 2015

(Source: IMPLAN Group, LLC, 2015)

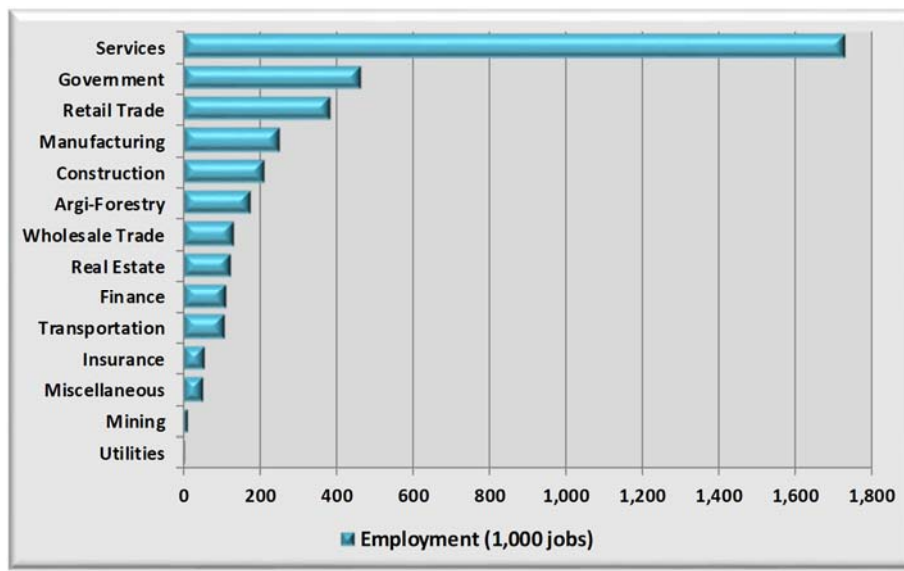


Figure 2. Direct Employment by Sector, Tennessee Total Economy, 2015
(Source: IMPLAN Group, LLC, 2015)

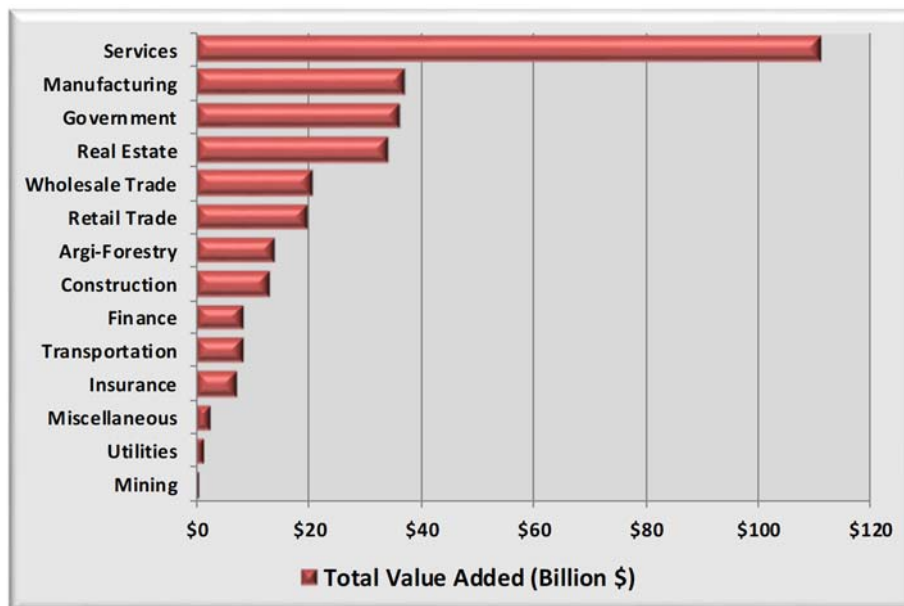


Figure 3. Direct Total Value Added by Sector, Tennessee Total Economy, 2015
(Source: IMPLAN Group, LLC, 2015)

Comparing recent growth for total industry output (economic activity) in agriculture and forestry as a percentage of Tennessee's total economy indicates relatively stagnant growth for the years depicted in Figures 4 and 5. For both **direct** (Figure 4) and **total (with multiplier effects)** (Figure 5) output for agriculture and forestry, the largest growth as a percentage of the state's total economy occurred in 2003.

Comparing **direct** (without multiplier effects) agriculture and forestry economic activity to individual counties total economic activity (all industries) for 2015 in the state, Lake County had the highest level of economic activity for commodity agriculture (including crop production and livestock breeding and feeding) at 19.3 percent. For all agriculture, Moore County had the highest level of economic activity at 83.4 percent (including commodity agriculture, plus the input supplying industries

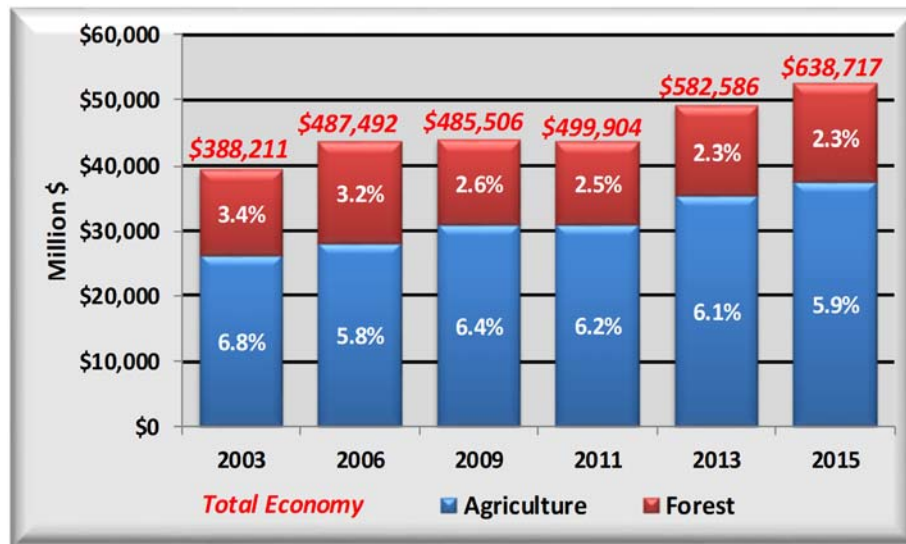


Figure 4. Growth in Direct Agriculture and Forestry as a Percentage of Tennessee's Total Economy
(Source: IMPLAN Group, LLC, 2003-2015)

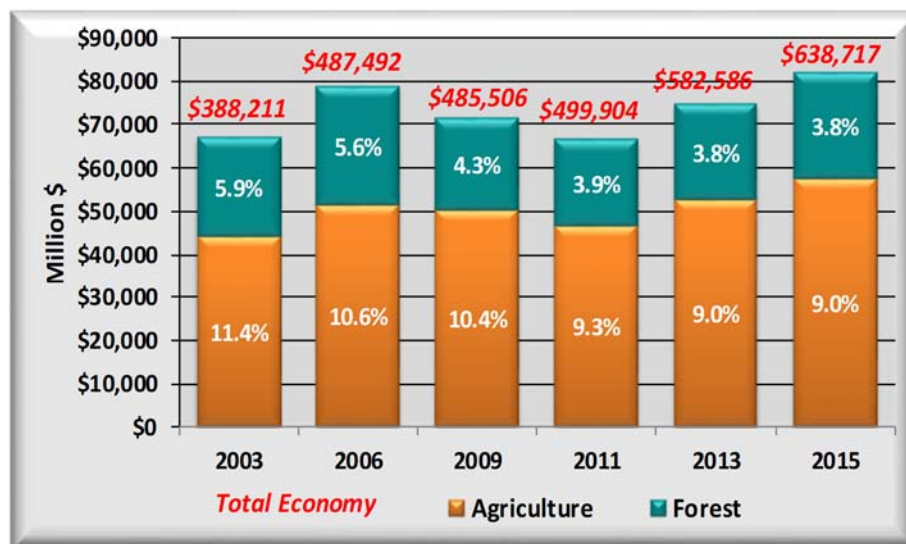


Figure 5. Growth in Total Agriculture and Forestry as a Percentage of Tennessee's Total Economy
(Source: IMPLAN Group, LLC, 2003-2015)

and secondary agriculture, which included manufacturing). For forestry, Van Buren County had the highest level of direct economic activity at 3.7 percent (including the management and logging of trees). For all forestry, Hardin County had the highest level at 35.2 percent (including the management and logging of trees, plus input supplying industries and manufacturing). Combining both agriculture and forestry, Moore, Tipton, and Loudon Counties had the largest levels of economic activity at 83.7 percent, 47.4 percent, and 34.2 percent, respectively (see Table 22, page 48).

Other study highlights:

- Agriculture input supplying industries – agricultural machinery and chemical products – generated nearly \$2.6 billion in cash receipts annually.
- For 2015, Tennessee's wine industry was valued at \$124.4 million and was ranked fourth in economic activity compared to other southern states. The states of Virginia, North Carolina, and

Missouri had larger economic activity whereas the economic activity for wineries were smaller for Georgia, Kentucky, South Carolina, Arkansas, Alabama, and Mississippi.

- Tennessee farmers earned the majority of their cash receipts from soybeans, beef cattle and calves, broilers, corn, miscellaneous crops, dairy products, wheat, hay, tobacco, and cotton.
- Tennessee's average annual sawtimber removals on timberland were estimated at 1.4 billion board feet, with the majority of the removals (88.1 percent) from private landowners. The predominant species removed from private owned lands were white and red oaks, yellow poplar, loblolly/shortleaf pines, and hickory.
- Exports for Tennessee's wood products and furniture and related products outside the United States totaled \$334.6 million. Wood products had the highest export value at \$219.5 million, followed by furniture and related products (\$115.1 million).
- Major importing countries of Tennessee's forestry products (NAICS 113) totaled \$64.5 million with the top five major markets consisting of Canada, China, Italy, United Kingdom, and Malaysia.
- Secondary agriculture manufacturing contributed a total of \$47.9 billion to the state's economy, of which 82.6 percent came from food (\$33.3 billion) and beverages (\$6.3 billion) manufacturing.
- Major markets for Tennessee's exports of agricultural crop products included Viet Nam, China, Mexico, Turkey, and Indonesia; for agricultural livestock products, Mexico, Egypt, France, Israel, and Canada.

This analysis was conducted using the Tennessee Agri-Industry model (TNAIM) and the Impact Analysis for Planning (IMPLAN) model's most recent data set (2015). TNAIM, an input-output model for five trading regions within the state, traces transactions conducted in the economy and attempts to quantify the economic interdependencies within each region's economy for a given point in time. Through these interdependencies, one can evaluate the indirect and induced impacts that economic activity in one region might have on the entire state economy.

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2015 Economic Contributions of Agriculture and Forestry in Tennessee

Introduction

This study provides measures of the economic contributions and importance of agricultural and forestry industrial complexes on Tennessee's economy in 2015.¹ An input-output model reflecting the state's 2015 economy is used to determine direct economic contributions on related input industries, and economic contributions through resulting expenditures by households at both the state and five-region level. The economic contributions are provided for four major indicators: total industry output (a measure of economic activity), employment, labor income, and value-added (gross domestic product (GDP)). 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 objectives of this analysis are to provide: 1) an overview of Tennessee's agriculture and forestry resources based on recent documentation, 2) comparison of livestock and crop statistics for 2013 and 2015, 3) measures of the economic contributions and importance of the agricultural and forestry industrial complex for the state and for specific consumption regions within the state, and 4) measures of agriculture and forestry's tax contributions to the state.

This document is structured along the same theme as the objectives. First, an overview of Tennessee's agriculture and forestry is presented. 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 are discussed. Next, a review of state level changes in livestock and crops for the years 2013 and 2015 is presented. Changes in livestock inventory, crop acreages, prices, including a brief discussion of historical rainfall by climate divisions in the state are discussed in the section. Finally, the remaining document provides measures of the economic contributions and importance of the agricultural and forestry industrial complex for the state and specific consumption regions within the state with an input-output model. After the data and methodology section discussion, direct and total economic contribution results are summarized.

¹This study continues the series of previous reports (English, Jensen, and Menard, 2001 and 2003; Menard, English, and Jensen, 2006, 2009, 2011, 2013, and 2016) where the economic contributions and importance of agricultural and forestry industrial complexes on Tennessee's economy were examined using 1997, 2000, 2003, 2006, 2009, 2013, and 2015 IMPLAN data, respectively. For additional details on the previous studies and the IMPLAN version uses, see Appendix A.

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

Overview of Agriculture and Forestry in Tennessee

In 2015, 67,300 Tennessee farms³ used 10.9 million acres, or close to 41.0 percent of the state's land base. For the ten-year period from 2004 to 2014, the numbers of farms in the state decreased an average of 2.1 percent annually. In 2015, the average Tennessee farm size was 162 acres compared to 441 acres for the United States. Other southeastern states with similar average farm sizes as Tennessee include North Carolina and Kentucky, both at 170 acres. Arkansas, Mississippi, and Missouri have the largest average farm sizes at 317, 294, and 291 acres, respectively. Approximately 63.0 percent of all Tennessee farms had sales in the \$1,000-\$9,999 range, 30.0 percent in the \$10,000-\$99,999 range, and 7.0 percent had sales of \$100,000 or more (USDA/ERS, 2017a).

Cash receipts for all commodities in Tennessee totaled \$3.7 billion in 2015.⁴ Of that total, \$2.1 billion (57.3 percent) was from crops and close to \$1.6 billion (42.7 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 36.6 percent of Tennessee's total harvested cropland acreage (roughly 4.8 million acres) was in hay (all types), followed by soybeans (35.7 percent), corn for grain (15.1 percent), cotton (8.2 percent), and wheat (2.9 percent). Among crops and for available data, soybeans had the largest cash receipts, followed by corn, wheat, hay, tobacco, and cotton. Tennessee's

Table 1. Crops Harvested, Acreage, State Ranking, and Cash Receipts, 2015

Crops	Harvested Acreage (Thousand Acres)	State Ranking	Leading State	Cash Receipts ^a (Thousand \$)	% of Total
Hay (all types)	1,765	^b	Texas	\$127,298	3.5
Soybeans	1,720	17	Iowa	\$744,784	20.3
Corn for grain	730	18	Iowa	\$397,055	10.8
Winter wheat	395	17	Kansas	\$136,797	3.7
Cotton, lint	140	9	Texas	\$108,549	3.0
Corn for silage	40	29	Wisconsin	--	--
All tobacco	20.8	4	N. Carolina	\$117,494	3.2
Vegetables ^c	11.0	^d	^e	\$76,550	2.1

^aFor 2015, cash receipts for all commodities were \$3.7 billion (\$2.1 billion for crops; \$1.6 billion for livestock & products).

^bTennessee is ranked 10th for all hay; 33 for alfalfa.

^cSnap beans, squash, and tomatoes.

^dTennessee is ranked 4th for snap beans, 12th for squash, and 4th for tomatoes.

^eFlorida is the leading state for snap beans, squash, and tomatoes.

Source: USDA/ERS, 2016c, 2016d, and 2017d

³Defined as an establishment with \$1,000 or more of agricultural products sold or would normally be sold during the year (USDA/ERS, 2015a).

⁴Cash receipt sales may not reflect the total values of commodities produced and used. For instance, a vertically integrated agribusiness may use hay or corn produced to feed livestock. Other examples may include farmers' markets or local direct to consumer sales transactions.

top crop counties based on planted acreage included Macon County for all tobacco, Obion County for corn, Haywood County for cotton, Gibson County for wheat and soybeans, and Green County for all other hay (USDA/ERS, 2016c and 2016d; USDA/FSA, 2017). In terms of the number of head, broilers, chickens, cattle and calves, hogs, equine, and milk cows were the predominant livestock in the state (Table 2). According to the USDA's ERS for 2015, cash receipts from farm marketing for these livestock products (except for beef cows and equine) totaled over \$1.5 billion. Of that total, cattle and calves contributed 44.3 percent, broilers 33.7 percent, dairy products 8.8 percent, all chickens 4.4 percent, and hogs 4.0 percent. Tennessee is ranked 12th in the United States for the numbers of beef cows on farms, 16th for broilers, 15th for cattle and calves, 22nd for hogs, 29th for milk cows, and 31st for all chickens (USDA/NASS, 2012a, 2016b, 2016d; USDA/ERS, 2016a and 2016b). Tennessee's top cattle county is Greene County based on numbers for all cattle (includes beef and dairy cows).

Table 2. Livestock Numbers, State Rankings, and Cash Receipts, 2015

Livestock	Inventory (Number)	State Ranking	Leading State	Cash Receipts ^a (Thousand \$)	% of Total
Broilers	185,200,000	16	Georgia	\$528,101	33.7
All chickens ^b	2,495,000	31	Iowa	\$69,571 ^e	4.4
Cattle & calves ^c	1,720,000	15	Texas	\$693,465 ^f	44.3
Beef cows ^c	873,000	12	Texas	--	--
Hogs ^b	220,000	22	Iowa	\$63,251	4.0
Equine ^d	96,541	13	Texas	--	--
Milk cows ^c	47,000	29	California	\$138,556 ^g	8.8

^aFor 2015, cash receipts for all commodities were \$3.7 billion (\$2.1 billion for crops; \$1.6 billion for livestock & products).

^bDecember 2015 inventory.

^cJanuary 2016 inventory.

^d2012 Census of Agriculture.

^eIncludes eggs and farm chickens; excludes commercial broilers.

^fIncludes beef cows; milk cows; replacement heifers; steers and bulls 500 pounds or greater; and calves under 500 pounds.

^gCash receipts from marketing milk and cream, plus value of milk used for home consumption and farm churned butter.

Source: USDA/NASS, 2012a, 2016b, 2016d; USDA/ERS, 2016a, 2016b, and 2017d

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); beef cattle farming; poultry and egg production; grain farming (barley, corn, oats, sorghum, and wheat); all other crop farming (primarily hay and seed); greenhouse, nursery, and floriculture production; dairy cattle and milk production; tobacco farming; cotton farming; animal production, except cattle, poultry, and eggs; and vegetable and melon farming. Tobacco; greenhouse, nursery, and floriculture production; cotton; and oilseeds had the largest U.S. market share at 8.1 percent, 2.4 percent, 2.3 percent, and 2.1 percent, respectively.

Table 3. State Value of Agricultural Commodities and U.S. Market Share, 2015

Commodity	Value (Million \$)	U.S. Market Share (Percent)
Oilseed farming	\$736.0	2.1
Beef cattle farming	\$717.6	0.9
Poultry & egg production	\$627.1	1.3
Grain farming	\$598.9	0.9
All other crop farming ^a	\$471.3	1.9
Greenhouse, nursery, & floriculture production	\$399.6	2.4
Dairy cattle & milk production	\$190.9	0.4
Tobacco farming	\$114.8	8.1
Cotton farming	\$113.7	2.3
Animal production, except cattle & poultry & eggs ^b	\$98.1	0.4
Vegetable & melon farming	\$78.7	0.4
Commercial hunting & trapping	\$35.9	2.4
Fruit farming	\$27.4	0.13
Tree nut farming	\$0.3	0.004

^aPrimarily hay/seed farming.

^bPrimarily hogs, sheep & goats, aquaculture, equine, and apiculture.

Source: IMPLAN Group, LLC, 2015

Compared to 2013, total milk production for the state declined 3.0 percent from 765 million pounds to 742 million. For 2015, dairy products rank sixth in the state in terms of cash receipts (\$138.5 million) preceded by soybeans (\$745.3 million), beef cattle (\$703.7 million), broilers (\$528.1 million), corn (\$397.7 million), and miscellaneous crops (\$327.4 million). From 2013 to 2015, an estimated three thousand cows (from 48,000 to 45,000) exited the dairy industry in the state. Although production per cow increased from 15,938 pounds to 16,489 pounds during that timeframe, overall cash receipts for milk production declined. In 2013, dairy products cash receipts were estimated at \$163.4 million or a 15.2 percent decline from 2015's value. The structure of the dairy industry in Tennessee is comprised of many small farms, but with medium-sized farms comprising the largest percentage of the state's dairy herd. The majority of Grade A licensed dairy cow farms in Tennessee have less than 100 head. Large farms, those with 500 cows or greater, comprised around 13.1 percent of farms for all dairies in the state. The majority of head (59.5 percent), however, are on farms between 100 and 499 head (Moss et al., 2010; USDA/ERS, 2017b and 2017c; USDA/NASS, 2012a).

Tennessee's 2015 agricultural commodity exports totaled \$1.5 billion. The value of the top ten commodities exported included soybeans at \$382.1 million, other plant products (includes sweeteners and products, other horticulture products, planting seeds, and other processed foods) at \$219.7 million, cotton at \$109.4 million, feeds and other feed grains at \$101.5 million, soybean meal at \$97.1 million, tobacco at \$83.0 million, wheat at \$77.1 million, corn at \$73.5 million, vegetable oils at \$59.6 million, and beef and veal at \$56.7 million (USDA/ERS, 2017c). For 2015, Tennessee's exports of agricultural crop products (North American Industry Classification (NAICS) code 111) totaled \$772.5 million with the

top five major markets consisting of Vietnam, China, Mexico, Turkey, and Indonesia. For agricultural livestock products (*NAICS code 112*), exports totaled \$9.8 million with Mexico, Egypt, France, Israel, and Canada the top five markets (USDOC/ITA, 2015b).

In 2015, exports of Tennessee's forest products (wood products (*NAICS code 321*) and furniture and related products (*NAICS code 337*)) outside the U.S. totaled \$334.6 million. Wood products had the highest export value at \$219.5 million, followed by furniture and related products at \$115.1 million. For 2015, Tennessee exports of forestry products (*NAICS code 113*) totaled \$64.5 million with the top five major markets consisting of Canada, China, Italy, United Kingdom, and Malaysia (USDOC/ITA, 2015b).

Roughly 52 percent of Tennessee is covered in forest. 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 United States. There are over 120 tree species in Tennessee. White oak, red oak, hickory, yellow poplar, and maple are some of the more predominant hardwood species. For softwoods, loblolly pine, virginia pine, red cedar, and shortleaf pine were major species. The dominant forest type in the state is oak-hickory, accounting for an estimated 9.9 million acres (Tennessee Forestry Association, 2017). Of the close to 14.0 million acres in forest, 83.3 percent is privately owned with Federal and state/local forests comprising 10.1 percent and 6.6 percent, respectively. For 2014⁵, average annual sawtimber⁶ removals on timberland⁷ were estimated at 1.4 billion board feet (Table 4). Of that value, the majority of the removals, 88.1 percent, were from private landowners (1.2 billion board feet), followed by state (20.8 million board feet) and other federal entities (15.3 million board feet). The predominant species removed on other federal lands were red and white oaks and for state lands yellow poplar, white oaks, and hickory. For private owned lands, white and red oaks, yellow poplar, loblolly/shortleaf pines, and hickory were the predominant species removed (USDA Forest Service, 2014).

Agriculture and forestry manufacturing industries for the state (Figures 6 through 15) 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*). In 2015, \$37.7

⁵Area change, growth, removals, and mortality from 2005-2011 to 2010-2014

⁶Commercial tree species with at least a 12-foot sawlog or two noncontiguous saw logs 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, 2014).

⁷Forest land producing or is capable of producing crops of industrial wood and not withdrawn from timber utilization by statute or administrative regulation (USDA Forest Service, 2014).

Table 4. Average Annual Removals of Sawtimber Trees by Species Group and Owner Class, 2014

Tree Species Group	Other Federal	State	Private	Total ^a
Board Feet (International 1/4-inch rule)				
Loblolly & shortleaf pines			134,657,311 ^b	135,960,929 ^b
Other yellow pines		715,314 ^d	16,077,356 ^c	17,752,108 ^c
Eastern white & red pines			13,778,149 ^d	20,269,695 ^d
Cypress				9,094,378 ^d
Other eastern softwoods			6,188,204 ^d	6,188,204 ^d
Select white oaks	1,394,766 ^d	3,701,948 ^d	237,342,666 ^b	255,466,046 ^b
Select red oaks	914,276 ^d		66,499,605 ^b	67,413,880 ^b
Other white oaks	1,560,646 ^d	2,605,413 ^d	93,532,781 ^b	99,325,206 ^b
Other red oaks	11,403,532 ^d		183,371,737 ^b	241,875,105 ^b
Hickory		2,682,890 ^d	122,067,976 ^b	129,369,875 ^b
Hard maple			12,838,040 ^c	15,220,846 ^c
Soft maple		698,416 ^d	17,454,101 ^c	21,797,873 ^c
Beech			14,085,733 ^c	14,085,733 ^c
Sweetgum			51,200,023 ^c	56,976,263 ^c
Tupelo & blackgum		935,734 ^d	4,316,497 ^c	7,165,591 ^c
Ash			45,550,515 ^c	48,808,036 ^c
Basswood			9,840,946 ^c	9,840,946 ^c
Yellow-poplar		9,430,404 ^d	178,827,098 ^b	212,281,242 ^b
Black walnut			5,803,656 ^c	7,693,315 ^c
Other eastern soft hardwoods			34,015,161 ^c	39,782,866 ^c
Other eastern hard hardwoods			573,788 ^d	1,032,582 ^d
Total	15,273,220^d	20,770,119^c	1,248,021,342^b	1,417,400,718^b

^aTotals do not sum across columns.^bPercent sampling error ≤ 25 percent.^cPercent sampling error > 25 percent and ≤ to 50 percent.^dPercent sampling error > 50 percent.

Source: USDA Forest Service, 2014

billion dollars of goods were shipped and over 78,000 Tennesseans were employed with a payroll of \$3.5 billion (Table 5). Food manufacturing shipped the largest value of goods at \$20.1 billion, followed by beverage and tobacco products manufacturing at \$5.7 billion, and paper manufacturing at \$5.6 billion. As a group, textile mills, including textile product mills and apparel, shipped \$1.7 billion. For the forest products group, which included wood products manufacturing, paper manufacturing, and furniture and related products, \$10.2 billion of goods were shipped. Tennessee's national market share for value of shipments for food manufacturing was 2.6 percent, beverage and tobacco products at 3.6 percent, textile mills at 2.9 percent, textile product mills at 2.0 percent, wood product manufacturing at 2.7 percent, paper manufacturing at 3.0 percent, and furniture and related products at 2.7 percent. Of the value-added agri-forestry sectors, food manufacturing employed the largest share at over 35,500. This was followed by the forest products group (wood product manufacturing, paper manufacturing, and furniture and related products), which employed over 31,500. The textile mills and related products, including apparel, employed over 7,000 workers (U.S. Census Bureau, 2017).

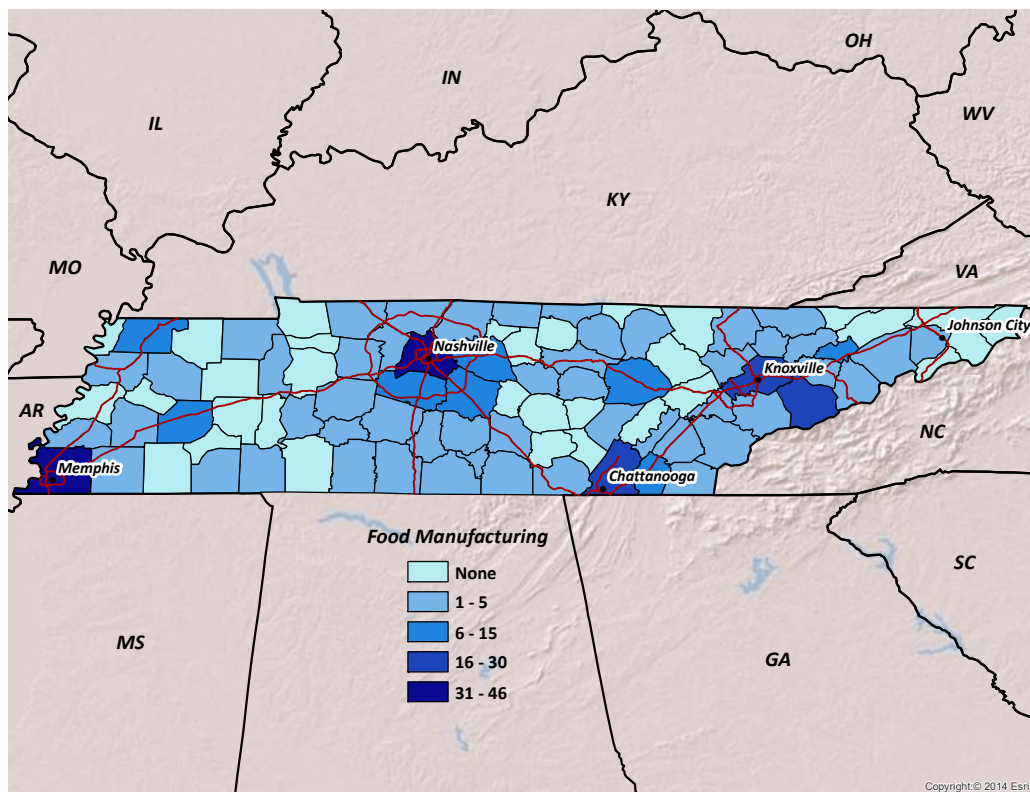


Figure 6. Number of Food Manufacturing Establishments in Tennessee, 2015

(Source: U.S. Census Bureau, 2017)

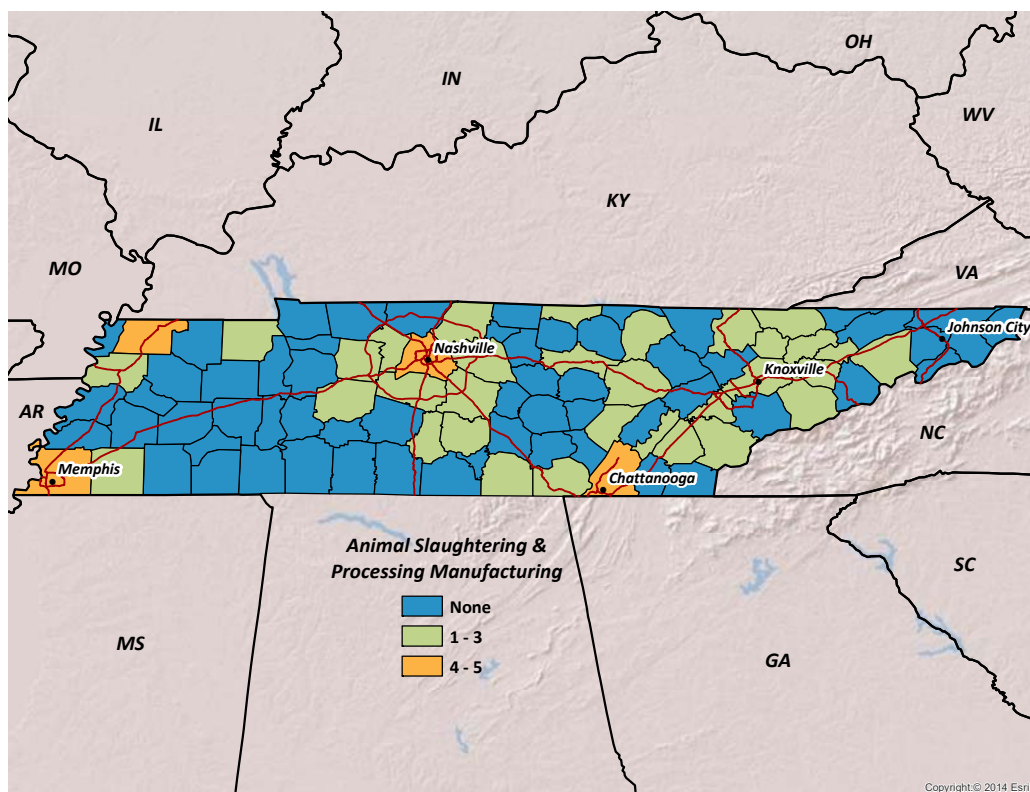


Figure 7. Number of Animal Slaughtering & Processing Establishments in Tennessee, 2015

(Source: U.S. Census Bureau, 2017)

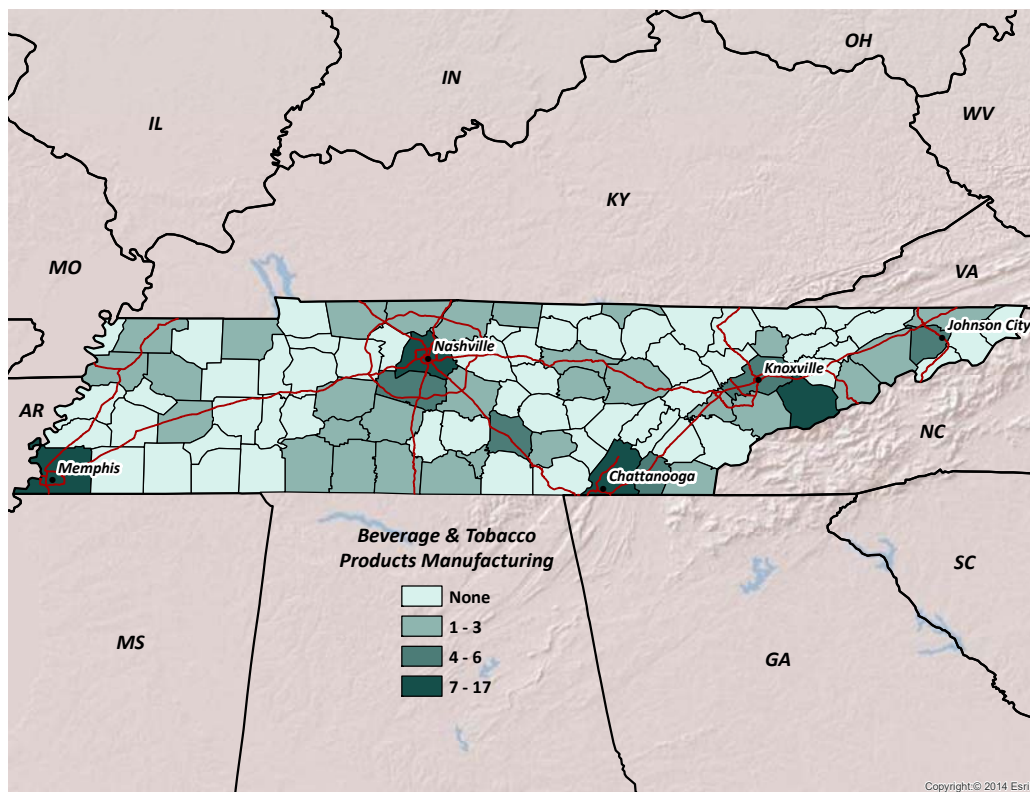


Figure 8. Number of Beverage and Tobacco Products Establishments in Tennessee, 2015
(Source: U.S. Census Bureau, 2017)

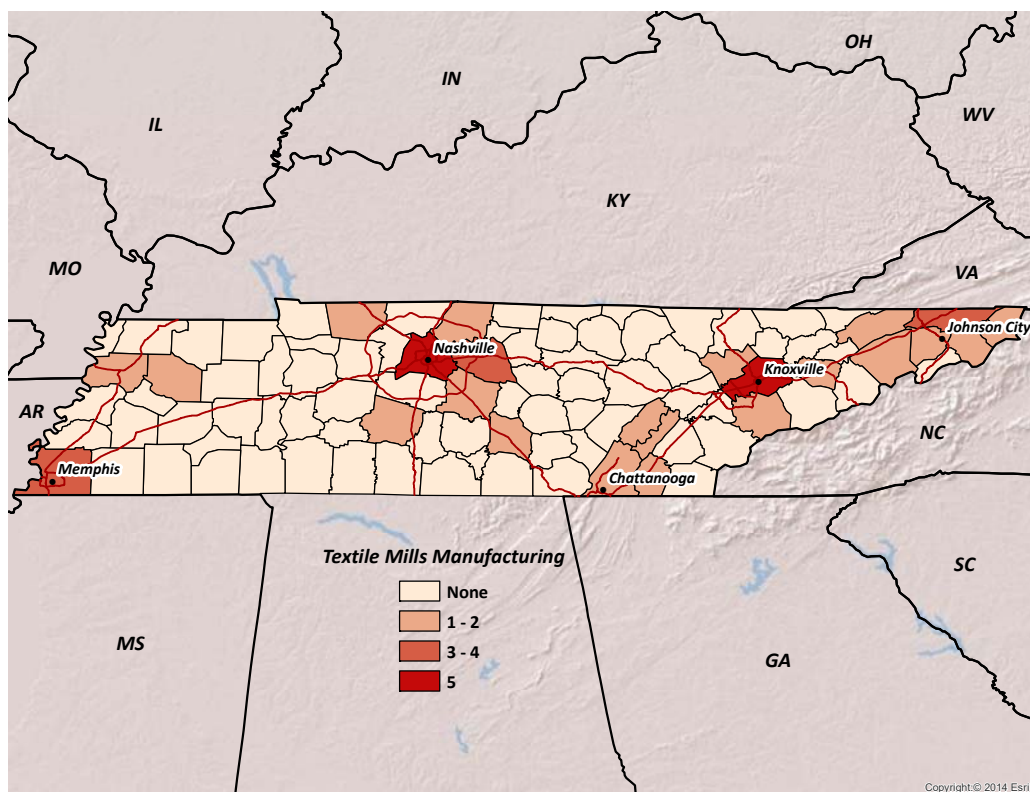


Figure 9. Number of Textile Mill Establishments in Tennessee, 2015
(Source: U.S. Census Bureau, 2017)

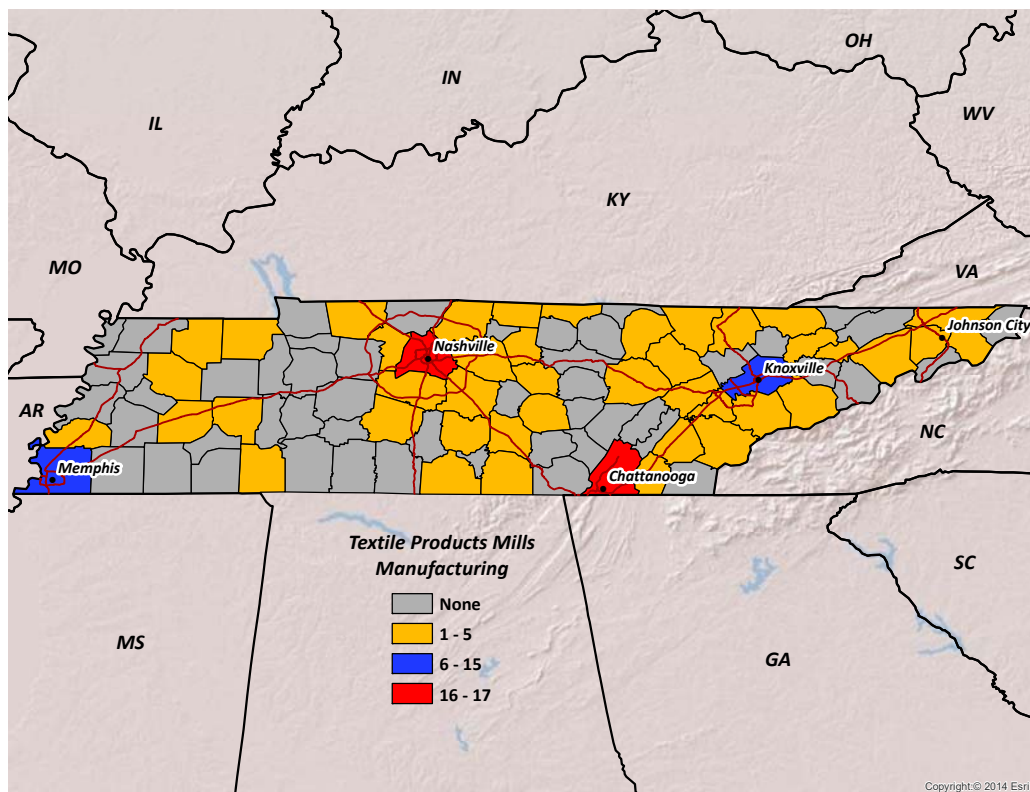


Figure 10. Number of Textile Product Mill Establishments in Tennessee, 2015
(Source: U.S. Census Bureau, 2017)

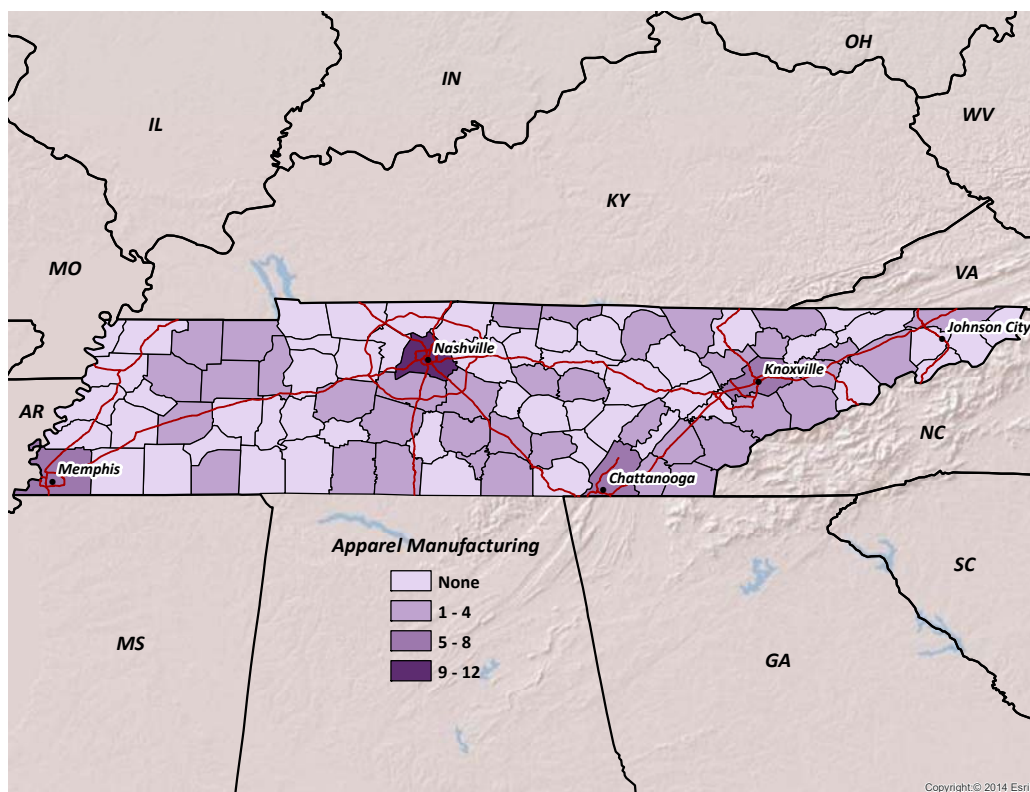


Figure 11. Number of Apparel Manufacturing Establishments in Tennessee, 2015
(Source: U.S. Census Bureau, 2017)

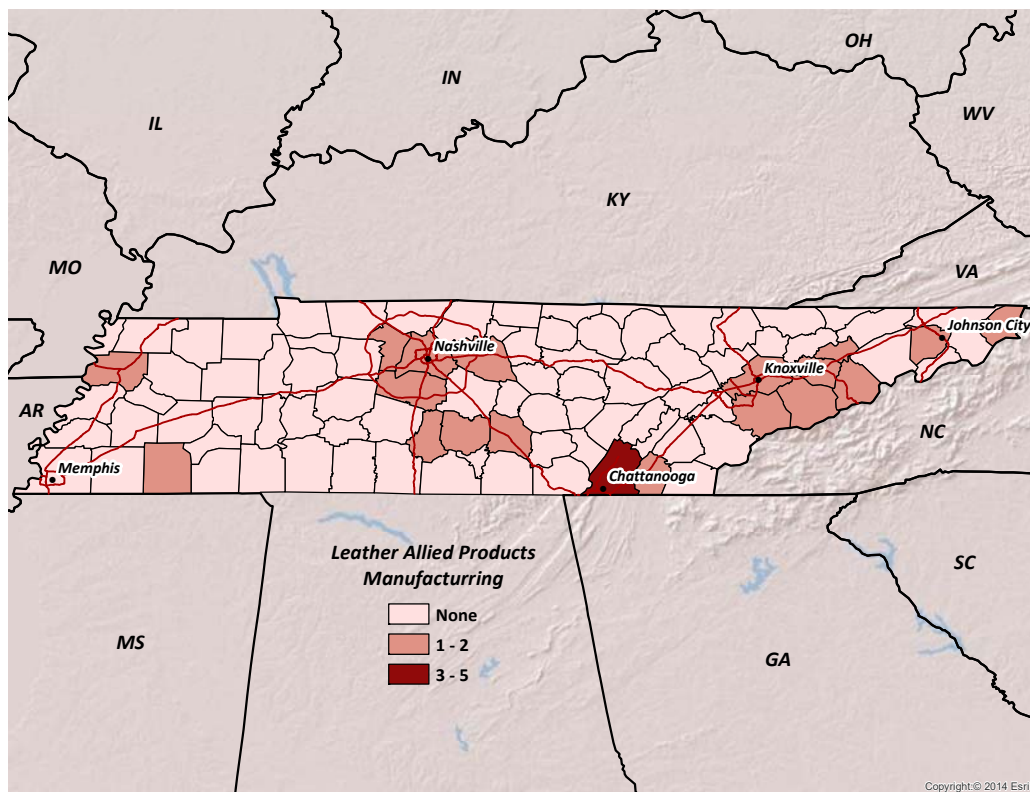


Figure 12. Number of Leather & Allied Product Establishments in Tennessee, 2015
(Source: U.S. Census Bureau, 2017)

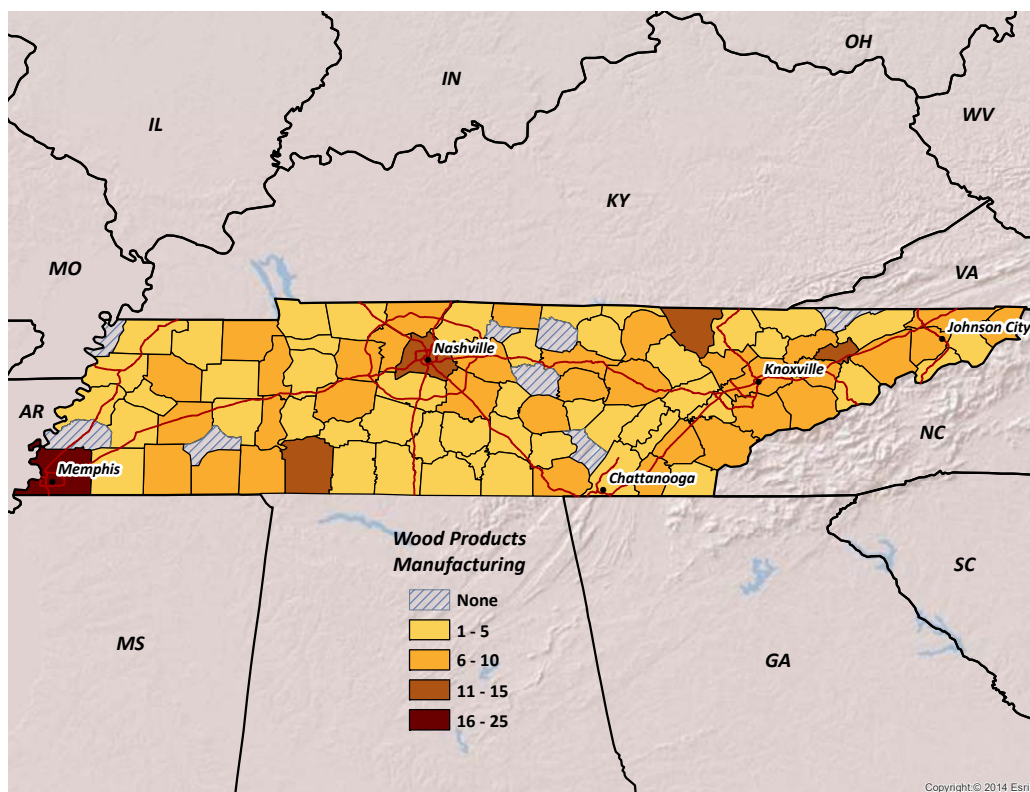


Figure 13. Number of Wood Product Manufacturing Establishments in Tennessee, 2015
(Source: U.S. Census Bureau, 2017)

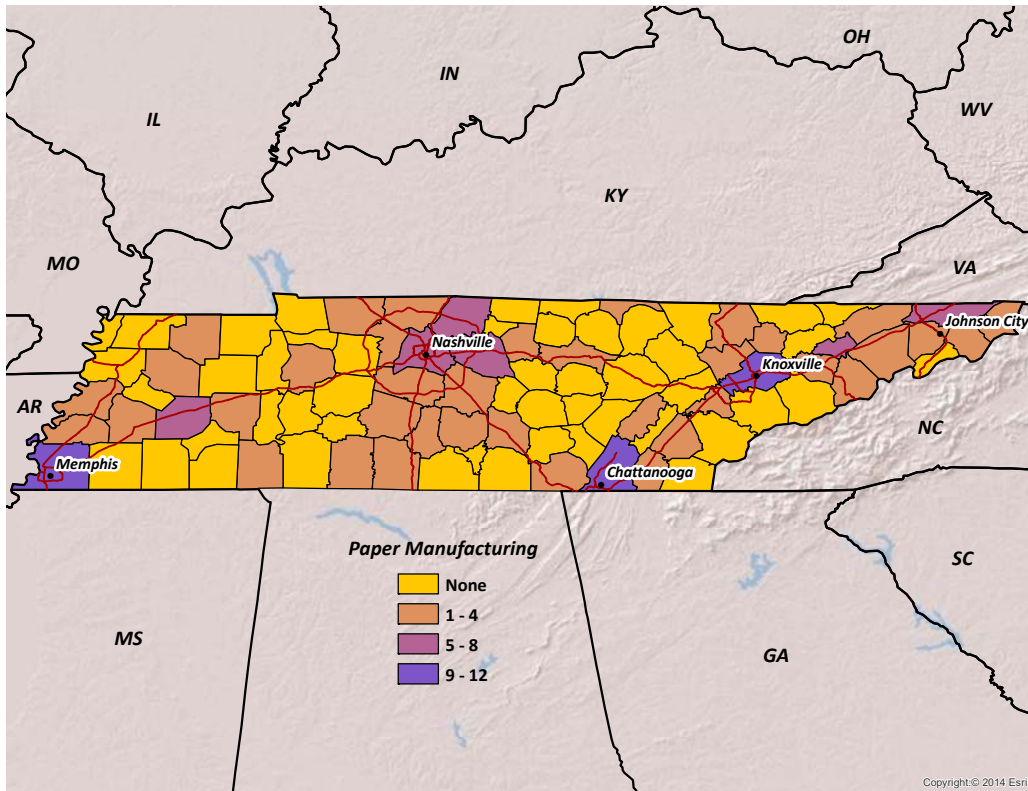


Figure 14. Number of Paper Manufacturing Establishments in Tennessee, 2015
(Source: U.S. Census Bureau, 2017)

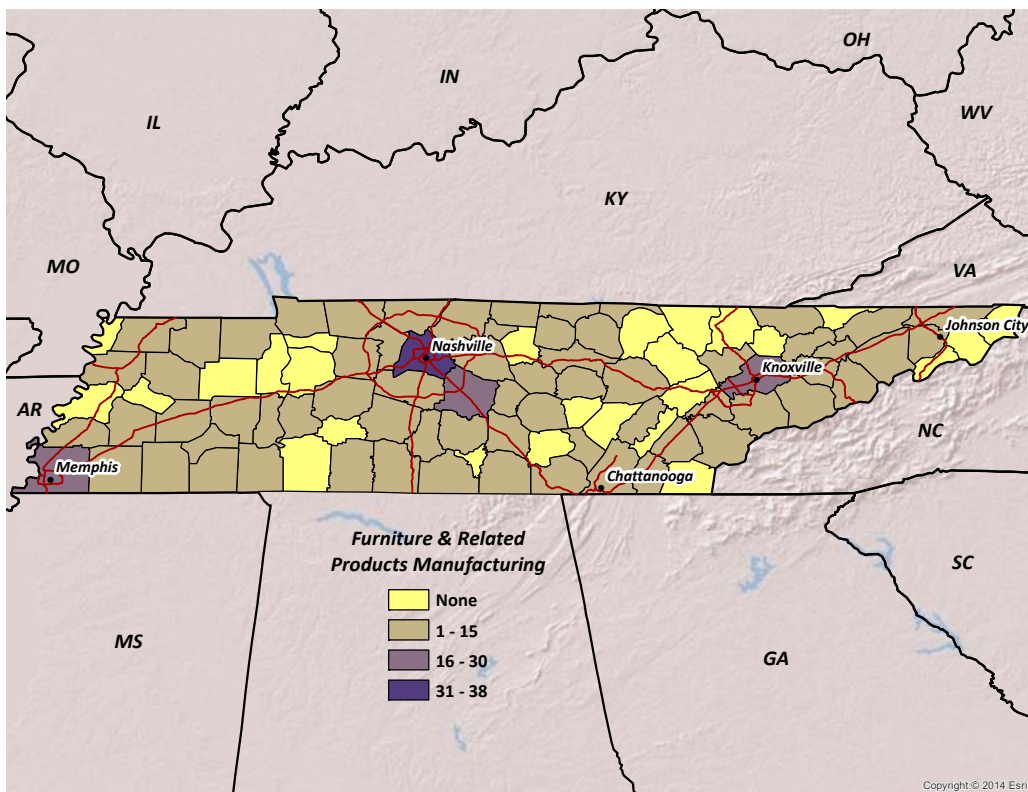


Figure 15. Number of Furniture & Related Products Establishments in Tennessee, 2015
(Source: U.S. Census Bureau, 2017)

Table 5. Manufacturing Statistics for Tennessee, 2015

Manufacturing Industry/NAICS Code	Employees	Payroll	Establishments	Value of Shipments
	(Number)	(Thousand \$)	(Number)	(Thousand \$)
Food (311)	35,581	\$1,623,641	335	\$20,090,125
<i>Animal slaughtering/processing (3116)</i>	<i>10,727</i>	<i>\$364,688</i>	<i>63</i>	<i>\$3,484,417</i>
Beverage & tobacco products (312)	3,303	\$201,774	122	\$5,659,612
Textile mills (313)	2,433	\$107,077	47	\$899,006
Textile product mills (314)	1,893	\$68,507	133	\$524,638
Apparel (315)	2,774	\$81,253	91	\$302,149
Leather & allied products (316)	509	\$13,660	28	\$47,703
Wood products (321)	10,745	\$398,773	455	\$2,614,766
Paper (322)	10,471	\$631,979	132	\$5,595,151
Furniture & related products (337)	10,292	\$395,919	308	\$2,012,146
Total^a	78,001	\$3,522,583	1,651	\$37,744,996

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

Source: U.S. Census Bureau, 2017.

Special Feature: Tennessee's Wine Industry

According to the Census of Agriculture, grape acreage in Tennessee increased from 580 to 905 acres (56.0 percent increase) between 2007 and 2012. Percentage wise this increase in acreage compares favorably to national and neighboring states. The neighboring state of Virginia had the next largest percentage increase at 34.2 percent. Tennessee had 343 farms with grape acreage surpassing Alabama (241 farms), Arkansas (145 farms), and Mississippi (144 farms). The surrounding states with the largest numbers of grape farms were North Carolina (874 farms), Virginia (660 farms), and Missouri (425 farms). Surrounding states having greater acreage than Tennessee were Virginia at 4,371, followed by North Carolina (3,392 acres), Georgia (1,941 acres), Missouri (1,828 acres), and Arkansas (919 acres). Tennessee had greater acreage than Kentucky (626 acres), Alabama (519 acres), and Mississippi (260 acres). The average acreage per producing farm for Tennessee was 2.6 acres, whereas Virginia had 6.6 acres, Arkansas 6.3 acres, Georgia 5.0 acres, Missouri 4.3 acres, and North Carolina 3.9 acres. Georgia had the largest percentage grape acreage that was bearing age at 90.5 percent with Tennessee being the smallest at 71.3 percent. For all states, the average percentage grape acreage that was bearing age was 79.4 percent. Excluding the top three states having the largest percentage bearing age acreage (Georgia, Virginia, and Alabama), the average is 76.1 percent (Hughes et al., 2016USDA/NASS, 2012a).

Although growing, the wine industry in Tennessee is comprised of many new, small producers. The industry standard is that wine labeled as produced in state must be composed of at least 51 percent grapes from in-state vineyards. In addition to selling wine, many wineries may provide additional agritourism services to increase revenues, such as hosting weddings, festivals, meetings, and other events including gift shop items. Tourists are an important market, especially in the Sevier-Gatlinburg

area in East Tennessee or close to interstates and other major arteries of interstate travel. As of October 2015, 67 bonded wineries operated in Tennessee, which was three times the level of bonded wineries existing in 1999. The wine industry in Tennessee grew at a relatively steady pace from 2004 through 2012, but in 2013 growth accelerated and continued through the first half of 2015. This growth rate exceeded increases in reported employment and wages for the industry nationally and in all neighboring states.

For 2015, Tennessee's wine industry was valued at \$124.4 million and was ranked fourth in economic activity compared to selected southern states (Table 6). The states of Virginia, North Carolina, and Missouri had larger economic activity for their wineries at \$630.8 million, \$364.8 million, and \$251.3 million, respectively. Wineries for Georgia, Kentucky, South Carolina, Arkansas, Alabama, and Mississippi had smaller economic activity than Tennessee. Hughes et al. (2016) suggest that with support, the Tennessee wine industry could eventually match the size found in the states of North Carolina and Missouri. The authors' further estimated that the value of Tennessee grapes used in wine is close to \$5.0 million (2015\$). Promotional efforts to differentiate or highlight Tennessee wine to spur economic growth could include a wine quality enhancement program, market education and promotional efforts, a statewide wine trail, and certification designations such as from the American Viticultural Area and/or sustainable in practice certification standards program (SIP) (Hughes et al., 2016).

Table 6. Economic Activity of Wineries for Selected Southern States, 2015

State	Value (Million \$)
Virginia	\$630.8
North Carolina	\$364.8
Missouri	\$251.3
Tennessee	\$124.3
Georgia	\$68.1
Kentucky	\$67.4
South Carolina	\$22.6
Arkansas	\$13.6
Alabama	\$11.4
Mississippi	\$1.5

Source: IMPLAN Group, LLC, 2015

Out of the 95 counties in Tennessee, 43 have at least one winery with a major concentration found in Sevier County as of 2015 where eight (12.8 percent of the listed total) of the reported wineries are located. Shelby County is second with five operations, while Davidson County and Lewis County are tied for third with three operations. Nine counties have two operating wineries based on this Treasury data. As of the second quarter of 2015, the industry in Lewis County (which previously lacked the

sufficient number of wineries with covered employment to report) reported three wineries with covered employment of nine jobs. There is a concentration (geographical clustering) of the industry centering on Sevier County and nearby counties, and in a more general manner in central Tennessee. The clustering of wineries has possible benefits for future growth of the industry at the state and regional (sub-state) levels (Hughes et al., 2016).

New trends in the wine industry focus not only on the use of new technologies in marketing and growing grapes but also on: 1) developing an urban wine industry and internet-based sales; 2) proprietary focuses on sourcing grapes from specific vineyards and on processing and labeling the wine exclusively based on the vineyards in question; 3) marketing of bargain wine sales through the internet (wine flash deals); and 4) the use of drones for scouting and possibly spraying vineyards and laser technology for mapping new vineyard locations. Drone technology can also be used to indicate the optimal time to harvest and vineyard managers see drone based technology as a way to lower cost and worker effort by reducing, for example, the need to physically examine numerous vines, to reduce chemical use, and to enhance the quality of grape production (Hughes et al., 2016).

State Level Changes in Livestock and Crops: 2013 to 2015

Comparing 2013 and 2015 statewide agricultural data revealed a decrease in the numbers of cattle and calves, chickens (excluding broilers), and dairy cattle, while the numbers of hogs, eggs, and broilers increased. Prices increased for all livestock products except for hogs and broilers. Many of the traditional row crops grown in the state experienced decreased planted acreage except for soybeans and the vegetable crops snap beans and tomatoes. Crop prices decreased for all major crops grown except for hay and tomatoes.

Precipitation for the state by climatic division for the 2012-2015 timeframe is displayed in Figure 16. Above average rainfall occurred across the state for the years 2013 through 2015, whereas for 2012, below normal rainfall occurred (U.S. Department of Commerce, 2017).

Livestock Changes in Inventory and Prices

Compared to 2013 production levels, the largest increases in livestock numbers were for hogs (29.4 percent), eggs (6.1 percent), and broilers (1.5 percent). All chickens experienced the largest decrease in numbers at -7.8 percent, followed by cattle and calves (-6.0 percent), and dairy cattle (-2.1 percent) (Table 7). Livestock prices were higher for all livestock products, except for hogs (17.6 percent decrease) and broilers (11.4 percent decrease). All chickens had the greatest price increase at 9.3 percent, followed by all cattle and calves (6.1 percent) and eggs (2.8 percent) (USDA/ERS, 2015a, 2015b, 2016a, and 2016b; USDA/NASS, 2015, 2016a, 2016b, 2016c, 2016d).

Table 7. Comparison of Tennessee Livestock Numbers and Prices, 2013 and 2015^a

Commodity	Inventory		Change	Units	Price		Change	Units
	2013	2015			2013	2015		
			%	1,000	(dollars/unit)		%	
All cattle & calves ^b	1,830	1,720	-6.0	head	\$120.16	\$127.50	6.1	100 lbs
All chickens	2,706	2,495	-7.8	no.	\$7.50	\$8.20	9.3	head
Broilers	182,500	185,200	1.5	no.	\$0.61	\$0.54	-11.4	pound
Eggs	329,000	349,100	6.1	no.	\$2.24	\$2.30	2.8	dozen
Milk cows	48	47	-2.1	head	--	--	--	head
All hogs	170	220	29.4	head	\$66.76	\$54.99	-17.6	100 lbs

^aData in nominal values.

^bPrice is for both cattle and calves (previous reports were for cows only). Live weight adjustments made for changes in inventory and inshipments and receipts includes marketing and sales of farm slaughter.

Source: USDA/ERS, 2015a, 2015b, 2016a, and 2016b; USDA/NASS, 2016a, 2016b, and 2016d

Crop Changes in Acres Planted and Prices

With the exception of soybeans and snap beans, acres of crops harvested decreased from 2013 to 2015 (Table 8). Cotton had the largest decrease in acres harvested at 39.9 percent, followed by wheat (-31.3 percent), corn (-9.9 percent), hay (-7.8 percent), and tobacco (-2.3 percent). Cotton harvested acres decreased from 233 to 140 thousand acres. All the crop commodities experienced lower prices for the timeframe examined except for tomatoes and hay. The largest price decrease was for soybeans at 28.5 percent, followed by wheat, cotton, corn, and snap beans (USDA/NASS, 2017a; USDA/ERS, 2016d).

Table 8. Comparison of Tennessee Crop Acreages and Prices, 2013 and 2015^a

Commodity	Harvested Acres		Change	Price		Change	Units
	2013	2015		2013	2015		
	1,000 acres		%	\$/unit		%	
Hay, all	1,915	1,765	-7.8	\$95.58	\$113.49	18.7	ton
Corn	810	730	-9.9	\$4.87	\$3.92	-19.5	bushel
Soybeans	1,550	1,720	11.0	\$13.00	\$9.29	-28.5	bushel
Cotton	233	140	-39.9	\$0.80	\$0.62	-22.6	pound
Tobacco	21.4	20.9	-2.3	\$2.36	\$2.35	-0.4	pound
Wheat	575	395	-31.3	\$7.00	\$5.22	-25.4	bushel
Tomatoes	3.4	3.4	0.0	\$36.00	\$56.00	55.6	cwt
Snap Beans	4.5	7.0	55.6	\$50.00	\$41.00	-18.0	cwt

^aData in Nominal Values.

Source: USDA/NASS, 2017a; USDA/ERS, 2016d

In 2014, Tennessee had 331 nursery operations with a total of \$128.7 million in nursery stock sold. The majority of the sold nursery stock were for container grown at \$66.4 million, followed by balled and burlapped (\$43.6 million), bareroot (\$18.3 million), and other (\$0.4 million) nursery products. Compared to other states in the U.S., in 2014, Tennessee was ranked seventh in total sales of nursery stock preceded by the states of California, Florida, Oregon, North Carolina, Texas, and Ohio. The state was ranked sixth in numbers of nursery operation preceded by the states of Florida, California, Oregon,

North Carolina, and Pennsylvania. Major nursery categories include broadleaf and coniferous evergreens, deciduous shade and flowering trees, deciduous shrubs, fruit and nut plants, and ornamental grasses. For 2014, the largest numbers of nursery producers are for deciduous flowering trees (227 producers), deciduous shade trees (192 producers), and broadleaf evergreens (187 producers) categories (Table 9). Deciduous flowering and shade trees also had the largest total sale values for this timeframe, \$35.9 million and \$32.8 million, respectively. For numbers sold in 2014, fruit and nut plants had the largest number sold (3.6 million), followed by deciduous flowering trees (3.0 million), broadleaf evergreens (1.9 million), deciduous shrubs (1.4 million), deciduous shade trees (1.3 million), and coniferous evergreens (0.9 million). Comparing gross sales for 2009 and 2014, fruit and nut plants had the largest increase at 31.1 percent, followed by deciduous flowering trees at 3.6 percent. The rest of the nursery categories experienced declines in total sales with coniferous evergreens having the largest decline at 45.1 percent, followed by deciduous shrubs at 44.1 percent (USDA/NASS, 2017b and 2017c).

Table 9. Comparison of Tennessee Nursery Statistics, 2009 and 2014

Category	Producers		Sold		Total Sales		Change
	2009	2014	2009	2014	2009	2014	
	Number		Number (1,000)		\$1,000		%
Broadleaf evergreens	200	187	2,575	1,914	21,125	17,676	-16.3
Coniferous evergreens	188	162	1,584	957	21,855	12,001	-45.1
Deciduous shade trees	199	192	1,813	1,326	38,882	32,877	-15.4
Deciduous flowering trees	223	227	2,375	3,025	34,679	35,922	3.6
Deciduous shrubs	189	175	2,386	1,395	19,041	10,635	-44.1
Fruit & nut plants	69	68	2,648	3,646	11,368	14,902	31.1
Ornamental grasses	68	67	-- ^a	-- ^a	-- ^a	2,336	

^aData not disclosed.

Source: USDA/NASS, 2017b and 2017c

Precipitation

Changes in yields for Tennessee's crops can be attributed to better crop varieties and producer management practices. However, weather plays an important role influencing crop quantities produced too. Precipitation values from 2012 to 2015 are shown in Figure 16. The values shown were departures from average precipitation (from 1895 to 2015) by climate division. For example, for the western climate division in 2012, rainfall was 11.08 inches below average precipitation values. Likewise, for that same climate division for 2013, rainfall was 12.09 inches above average. Rainfall for years 2013 and 2015 were above average for much of the state. On the other hand, rainfall was below average for all climate divisions in 2012 and the eastern climate division for 2014.

Changes in acres, yields, and prices impacted the total industry output (value of production or cash receipts) contributed to the state's economy from crops. Of the five major crops, tobacco had an

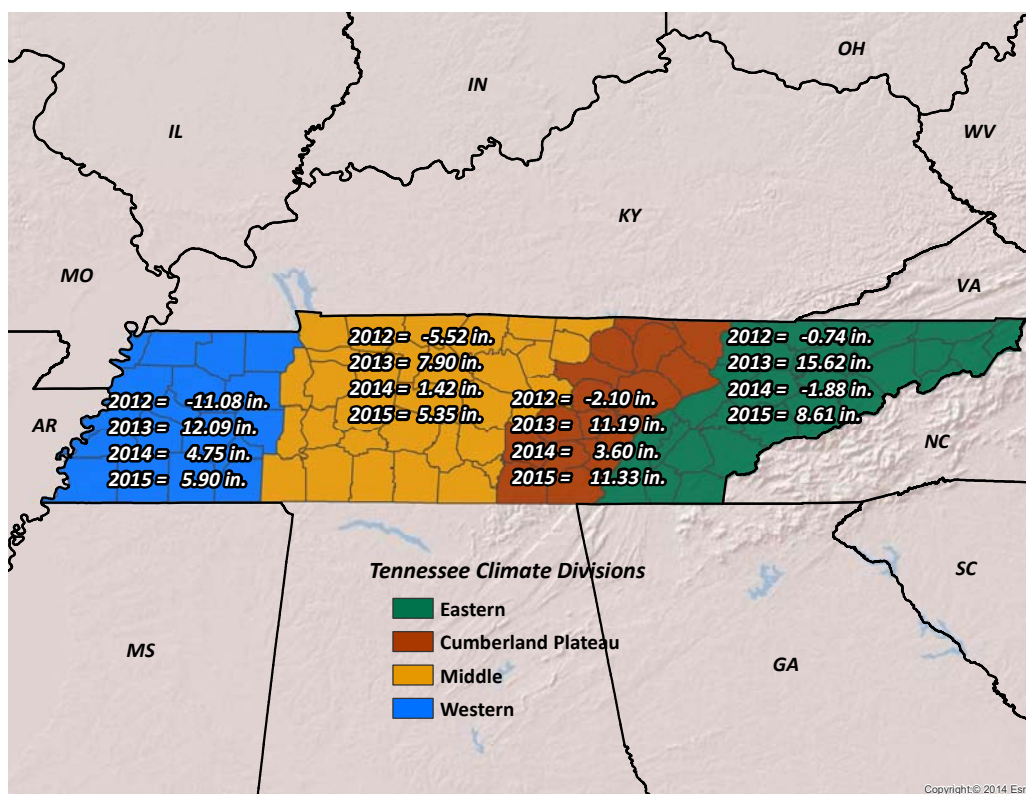


Figure 16. Departure from Average Precipitation for Tennessee's Climate Divisions
(Source: U.S. Department of Commerce, 2017)

increase in gross receipts, comparing 2013 to 2015. Soybeans, corn, wheat, and cotton had a decrease in gross receipts during this timeframe (USDA/ERS, 2016c and 2016d).

Input-Output Analysis: Data and Methods Used

The Tennessee Agri-Industry Model (TN-AIM) was used to model industry and institutional interrelationships in each of five regions in Tennessee. TN-AIM is based on the Impact Analysis for Planning (IMPLAN) model and its databases (Olson and Lindall, 1999). The five regions followed those used by the Bureau of Economic Analysis to represent Tennessee areas of economic consumption (consumption regions), as displayed in Figure 17 (for county listings, see Appendix C) (USDOD, 2011). Regional values were then aggregated to the state level. IMPLAN (Version 3.0) utilizes 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 (Lindall, Olson, and Alward, 2006). For additional information on IMPLAN see Appendix A.

Output from TN-AIM includes descriptive measures of the economy including total industry output (a measure of economic activity), employment, labor income, and total value-added for 536 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**

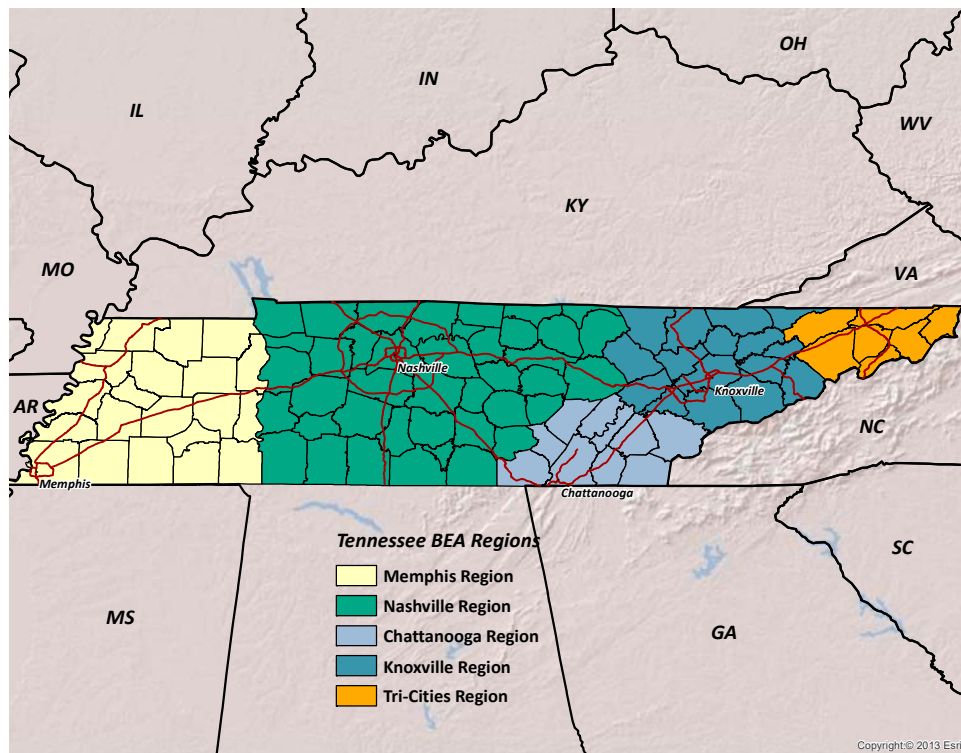


Figure 17. Tennessee Agri-Industry Model Analysis Regions

(Source: U.S. Department of Commerce, 2011)

represents total wage and salary employees, as well as self-employed jobs in a region, for both full-time and part-time workers. **Labor income** is defined as employee compensation, as well as 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 paid by individuals to businesses. Not only does the model describe a regional economy, it can 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) income earned by households because of new outputs, and c) employment (in physical terms) that is expected to be generated because of the new outputs. 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. The Type SAM multipliers take into account 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 along with inter-institutional transfers. As consumers and institutions increase expenditures this leads to increased demands from local industries. To account for double-counting for the economic contributions estimated, regional purchase coefficients⁸ (RPC) are also set to zero for the backward linked supply and service industries.⁹

Results

Tennessee's economy was \$638.7 billion in 2015.¹⁰ The services industry was the largest sector of the economy at \$188.6 billion and over 1.7 million jobs (Table 10). The agri-forestry industrial complex ranked third in terms of total industry output at \$52.5 billion. The state's value-added, or state gross domestic product¹¹ (GDP), is estimated at \$317.1 billion with the agri-forestry industrial complex contributing close to \$14.1 billion towards the state's GDP. For every dollar of sales, the agri-forestry industrial complex contributed \$0.27 to the state's GDP, which is similar to manufacturing.

Sector	TIO ^a	TVA ^b	Jobs	TVA/Job	TVA/TIO
	(Billion \$)		(1,000)		
Services	\$188.6	\$111.3	1,728.1	\$64,403	0.59
Manufacturing	\$134.0	\$37.3	251.1	\$148,599	0.28
Agri-Forest Industry^c	\$52.5	\$14.1	173.6	\$81,001	0.27
Agriculture^c	\$37.6	\$9.7	131.7	\$73,988	0.26
Inputs	\$1.8	\$0.5	2.3	\$212,199	0.27
Production	\$4.4	\$1.6	73.5	\$22,045	0.37
Secondary	\$31.4	\$7.6	55.9	\$136,653	0.24
Forestry^c	\$14.8	\$4.3	41.9	\$103,061	0.29
Inputs	\$0.4	\$0.2	3.9	\$51,408	0.56

⁸IMPLAN'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.

⁹Hence, the analysis provided in this document belongs in the category of contribution analysis. For more details, see Steinback, 2004.

¹⁰Agricultural services (i.e., landscape/horticultural services and veterinary services) are excluded

¹¹The state domestic product is measuring by summing employee compensation, proprietor income, other property type income, and indirect business taxes. It is analogous to Gross Domestic Product for the entire U.S.

Table 10. Estimated Economic Indicators for Tennessee, 2015 (Cont.)

Sector	TIO ^a (Billion \$)	TVA ^b (1,000)	Jobs	TVA/Job	TVA/TIO
Primary Forestry	\$6.2	\$1.9	9.1	\$205,423	0.30
Secondary Forestry	\$8.2	\$2.2	28.9	\$77,974	0.27
Real estate	\$49.3	\$34.4	124.7	\$275,453	0.70
Government	\$48.6	\$36.4	463.4	\$78,504	0.75
Construction	\$33.4	\$13.2	210.6	\$62,621	0.40
Wholesale trade	\$33.1	\$21.0	132.4	\$158,630	0.63
Retail trade	\$30.5	\$20.0	383.9	\$52,067	0.66
Transportation	\$20.3	\$8.6	108.6	\$78,728	0.42
Finance	\$20.0	\$8.6	113.5	\$75,776	0.43
Insurance	\$15.0	\$7.4	57.0	\$129,089	0.49
Miscellaneous	\$7.4	\$2.7	52.6	\$50,451	0.36
Utilities	\$4.3	\$1.7	3.9	\$432,128	0.39
Mining	\$1.8	\$0.7	9.6	\$73,634	0.39
Total^c	\$638.7	\$317.1	3,813.2		

^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 excise and sales taxes paid by individuals to businesses.

^cTotals may not add due to rounding.

Economic Impacts at the State & In-State Region Levels

Direct economic activity for total industry output (TIO), employment, labor income, and total value-added (TVA) for agriculture and forestry for the state and by analysis regions within the state are presented in Table 11. ***In 2015, agriculture and forestry related industries contributed a total of \$52.5 billion in direct economic activity to the state of Tennessee, or 8.2 percent of the state's economy.***

Direct employment in agriculture and forestry related industries was close to 174 thousand persons, or 4.6 percent of the workforce. Direct total value added was \$14.0 billion, with \$7.3 billion in labor income. Much of the industry output generated from agriculture and forestry was through secondary or manufactured products. For agriculture, approximately 44.2 percent of the workforce was employed in secondary industries (agriculture input supplying industries plus manufacturing) and the rest (55.8 percent) in primary industries (crop and livestock commodities). For forestry, however, 68.9 percent of the forestry workforce was employed in secondary industries (wood products manufacturing) and 31.1 percent in primary (commercial logging; pulp, paper, and paperboard mills; sawmills; wood preservation; sawmills, woodworking, and paper machinery; and nursery/timber tracts production).

The largest value of output from both agriculture and forestry, 38.9 percent, originated from the Memphis Region (Figure 17 on page 14), followed by the Nashville Region at 29.5 percent. However, for numbers of jobs, the Nashville Region had the largest value (39.5 percent) followed by the Memphis Region (24.2 percent). For primary agriculture, 42.1 percent of the output originated in the Nashville Region followed by the Memphis Region at 33.4 percent. The Memphis and Nashville Regions also have

Table 11. Direct Economic Activity in Agriculture and Forestry

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
All Sectors (Including Non-Agricultural and Non-Forestry):								
State ^d	638,717		3,813,166		204,751		317,144	
Chattanooga	72,538	11.4%	386,844	10.1%	20,358	9.9%	32,195	10.2%
Knoxville	101,344	15.9%	659,461	17.3%	32,810	16.0%	50,184	15.8%
Memphis	153,441	24.0%	941,720	24.7%	50,397	24.6%	78,786	24.8%
Nashville	270,238	42.3%	1,572,436	41.2%	90,087	44.0%	138,629	43.7%
Tri-Cities	41,157	6.4%	252,705	6.6%	11,099	5.4%	17,350	5.5%
Agriculture & Forestry:								
State ^d	52,455		173,622		7,311		14,063	
Chattanooga	6,428	12.3%	23,048	13.3%	1,116	15.3%	1,663	11.8%
Knoxville	7,316	13.9%	26,793	15.4%	1,035	14.2%	1,800	12.8%
Memphis	20,408	38.9%	42,086	24.2%	2,601	35.6%	5,318	37.8%
Nashville	15,475	29.5%	68,536	39.5%	2,170	29.7%	4,642	33.0%
Tri-Cities	2,828	5.4%	13,158	7.6%	389	5.3%	641	4.6%
Primary & Secondary Agriculture:								
State ^d	37,601		131,741		4,291		9,747	
Chattanooga	4,156	11.1%	16,542	12.6%	694	16.2%	1,086	11.1%
Knoxville	5,408	14.4%	19,816	15.0%	595	13.9%	1,242	12.7%
Memphis	14,156	37.6%	29,967	22.7%	1,329	31.0%	3,293	33.8%
Nashville	11,986	31.9%	54,912	41.7%	1,440	33.6%	3,712	38.1%
Tri-Cities	1,895	5.0%	10,505	8.0%	232	5.4%	414	4.2%
Primary Agriculture:								
State ^d	4,423		73,557		877		1,622	
Chattanooga	440	10.0%	5,862	8.0%	96	10.9%	143	8.8%
Knoxville	358	8.1%	10,185	13.8%	62	7.1%	141	8.7%
Memphis	1,478	33.4%	14,871	20.2%	323	36.9%	541	33.4%
Nashville	1,862	42.1%	35,242	47.9%	345	39.4%	691	42.6%
Tri-Cities	285	6.4%	7,397	10.1%	51	5.8%	106	6.6%
Secondary Agriculture:								
State ^d	33,178		58,184		3,414		8,126	
Chattanooga	3,715	11.2%	10,680	18.4%	598	17.5%	943	11.6%
Knoxville	5,051	15.2%	9,631	16.6%	533	15.6%	1,101	13.6%
Memphis	12,678	38.2%	15,096	25.9%	1,006	29.5%	2,752	33.9%
Nashville	10,124	30.5%	19,670	33.8%	1,095	32.1%	3,022	37.2%
Tri-Cities	1,610	4.9%	3,108	5.3%	182	5.3%	307	3.8%
Primary & Secondary Forestry:								
State ^d	14,855		41,881		3,020		4,316	
Chattanooga	2,272	15.3%	6,506	15.5%	422	14.0%	577	13.4%
Knoxville	1,907	12.8%	6,978	16.7%	440	14.6%	557	12.9%
Memphis	6,252	42.1%	12,120	28.9%	1,271	42.1%	2,024	46.9%
Nashville	3,489	23.5%	13,624	32.5%	730	24.2%	930	21.5%
Tri-Cities	933	6.3%	2,654	6.3%	156	5.2%	227	5.3%
Primary Forestry:								
State ^d	6,608		13,010		1,291		2,065	
Chattanooga	891	13.5%	1,486	11.4%	152	11.8%	247	12.0%

Table 11. Direct Economic Activity in Agriculture and Forestry (Cont.)

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Knoxville	373	5.6%	1,064	8.2%	60	4.6%	85	4.1%
Memphis	4,138	62.6%	5,882	45.2%	839	65.0%	1,408	68.2%
Nashville	920	13.9%	4,016	30.9%	196	15.2%	251	12.2%
Tri-Cities	285	4.3%	564	4.3%	45	3.5%	74	3.6%
Secondary Forestry:								
State ^d	8,246		28,870		1,729		2,251	
Chattanooga	1,382	16.8%	5,020	17.4%	270	15.6%	330	14.7%
Knoxville	1,534	18.6%	5,914	20.5%	381	22.0%	472	21.0%
Memphis	2,114	25.6%	6,238	21.6%	432	25.0%	617	27.4%
Nashville	2,569	31.2%	9,608	33.3%	535	30.9%	679	30.1%
Tri-Cities	648	7.9%	2,090	7.2%	112	6.5%	153	6.8%

^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 excise and sales taxes paid by individuals to businesses.

^cPercent of state total.

^dState totals may not add due to rounding.

the largest value of outputs for secondary agriculture at 38.2 percent and 30.5 percent, respectively.

For both primary and secondary forestry, the Memphis Region had the largest value of total industry output at 42.1 percent followed by the Nashville Region (23.5 percent). The Memphis Region dominates the economic activity for primary forestry at 62.6 percent for the state followed by the Nashville (13.9 percent) and Chattanooga (13.5 percent) Regions. For secondary forestry, the Nashville Region had the largest total industry output and jobs compared to other regions in the state. The Memphis, Knoxville, and Chattanooga Regions also had large numbers of jobs for secondary forestry.

Primary Agricultural Products:

The largest output value (17.6 percent) for the state for the top ten agriculture commodities from farm production was from oilseed farming (primarily soybeans) (Table 12), followed by beef cattle farming (17.2 percent); poultry and egg production (15.0 percent); grain farming (14.3 percent); all other crop farming (primarily hay/seed farming) (11.3 percent); greenhouse, nursery, & floriculture production (9.6 percent); agriculture and forestry support activities¹² (5.1 percent); dairy cattle and milk production (4.6 percent); and tobacco and cotton farming (both at 2.7 percent). In terms of labor income, greenhouse, nursery, & floriculture production had the largest value followed by all other crop farming

¹²Includes 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 12. State Level: Direct Economic Activity in Farm Production

Rank	Sector	TIO ^a (Million \$)	Employment (Number)	Labor Income (Million \$)	TVA ^b (Million \$)
	All Farm Production	4,183	68,451	800	1,479
1	Oilseed farming	736	3,452	127	223
2	Beef cattle farming	718	16,861	85	199
3	Poultry & egg production	627	2,231	72	125
4	Grain farming	599	5,592	36	152
5	All other crop farming	471	27,083	136	214
6	Greenhouse, nursery, & floriculture production	400	5,338	144	216
7	Agriculture & forestry support activities	213	3,954	97	161
8	Dairy cattle & milk production	191	958	32	72
9	Tobacco farming	115	2,111	38	60
10	Cotton farming	114	872	34	57

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

^bTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and excise and sales taxes paid by individuals to businesses.

(primarily hay/seed farming); oilseed farming; agriculture and forestry support activities; and beef cattle farming. The largest total value added contributors included oilseed farming (primarily soybeans); greenhouse, nursery, and floriculture production; all other crop farming (primarily hay/seed farming); beef cattle farming; and agriculture and forestry support activities.

The direct economic activity from farm production by the top ten sectors for each trading region within the state is summarized in Table 13. Poultry and egg production; beef cattle farming; all other crop farming (primarily hay/seed farming); dairy cattle and milk production; and greenhouse, nursery, and floriculture production were primary contributors to total industry output from farm production in the *Chattanooga Region*. In the *Knoxville Region*, beef cattle farming; all other crop farming (primarily hay/seed farming); greenhouse, nursery, and floriculture production; poultry and egg production; and dairy cattle and milk production were important sectors. For the *Memphis Region*, oilseed farming, grain farming, cotton farming, agriculture and forestry support activities, and commercial hunting and trapping had the largest total industry output, while in the *Nashville Region* the greatest total industry output values were from beef cattle farming; poultry and egg production; greenhouse, nursery, and floriculture production; all other crop farming (primarily hay/seed farming); and oilseed farming. Beef cattle farming; all other crop farming (primarily hay/seed farming); poultry and egg production; greenhouse, nursery, and floriculture production; and dairy cattle and milk production were important contributors to total industry output for the *Tri-Cities Region*. For all regions except Memphis, all other crop farming (primarily hay/seed farming) employed the largest number of workers. For the Memphis

Table 13. Region Level: Direct Economic Activity in Farm Production (Top Ten Sectors)

Rank	Sector	TIO ^a (Million \$)	Employment (Number)	Labor Income (Million \$)	TVA ^b (Million \$)
	Chattanooga:	431	5,610	93	137
1	Poultry & egg production	187	640	24	37
2	Beef cattle farming	67	1,294	13	19
3	All other crop farming	52	2,436	18	23
4	Dairy cattle & milk production	48	217	11	18
	Greenhouse, nursery, & floriculture				
5	production	17	228	11	9
6	Oilseed farming	16	79	2	5
	Agriculture & forestry support				
7	activities	15	321	6	11
8	Vegetable & melon farming	15	169	7	10
9	Grain farming	10	95	0 ^c	2
	Animal production, except				
10	cattle/poultry/eggs	4	131	1	2
	Knoxville:	346	9,856	59	134
1	Beef cattle farming	100	2,839	3	28
2	All other crop farming	70	4,809	21	32
	Greenhouse, nursery, & floriculture				
3	production	44	755	18	24
4	Poultry & egg production	42	189	4	8
5	Dairy cattle & milk production	32	220	4	12
6	Vegetable & melon farming	19	202	5	13
	Agriculture & forestry support				
7	activities	15	431	5	9
8	Oilseed farming	11	71	0 ^c	3
9	Grain farming	7	99	0 ^c	2
	Animal production, except				
10	cattle/poultry/eggs	6	242	-1	3
	Memphis:	1,530	15,391	364	578
1	Oilseed farming	498	2,133	100	150
2	Grain farming	439	3,834	29	112
3	Cotton farming	108	834	33	55
	Agriculture & forestry support				
4	activities	100	1,140	53	86
5	Commercial hunting & trapping	93	944	61	62
6	Beef cattle farming	80	1,675	13	22
	Greenhouse, nursery, & floriculture				
7	production	57	799	25	31
8	All other crop farming	53	2,798	18	24
	Animal production, except				
9	cattle/poultry/eggs	52	1,071	25	28
10	Poultry & egg production	49	162	9	10
	Nashville:	1,804	34,193	329	656
1	Beef cattle farming	394	9,077	47	109
2	Poultry & egg production	297	1,021	31	59

Table 13. Region Level: Direct Economic Activity in Farm Production (Top Ten Sectors) (Cont.)

Rank	Sector	TIO ^a (Million \$)	Employment (Number)	Labor Income (Million \$)	TVA ^b (Million \$)
3	Greenhouse, nursery, & floriculture production	252	3,159	83	136
4	All other crop farming	241	13,575	63	109
5	Oilseed farming	207	1,148	25	62
6	Grain farming	139	1,496	6	35
7	Tobacco farming	93	1,655	31	49
8	Dairy cattle & milk production	79	374	9	30
9	Agriculture & forestry support activities	73	1,689	30	50
10	Animal production, except cattle/poultry/eggs	30	999	4	16
Tri-Cities:		276	7,207	49	103
1	Beef cattle farming	76	1,976	9	21
2	All other crop farming	56	3,465	15	25
3	Poultry & egg production	52	220	4	10
4	Greenhouse, nursery, & floriculture production	30	397	8	16
5	Dairy cattle & milk production	20	97	4	7
6	Tobacco farming	11	249	2	6
7	Vegetable & melon farming	10	106	4	7
8	Agriculture & forestry support activities	10	371	13	5
9	Animal production, except cattle/poultry/eggs	6	257	0 ^c	3
10	Grain farming	5	68	0 ^c	1

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

^bTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and excise and sales taxes paid by individuals to businesses.

^cValues of 0 are nonzero values that are less than 1.

Region, grain farming employed the largest numbers, followed by all other crop farming (primarily hay/seed farming) and oilseed farming.

Secondary Agricultural Products:

Among secondary agricultural products, food manufacturing contributed the largest total industry output, followed by beverage manufacturing, tobacco products manufacturing, textile mills, agricultural machinery, agricultural chemicals, textile product mills, apparel manufacturing, and leather and allied product manufacturing (Table 14). Approximately 65.7 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. The Memphis Region had the largest economic activity (total industry output) in food manufacturing, whereas the Nashville Region had the largest

Table 14. Direct Economic Activity in Secondary Agricultural Products

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Total Secondary Agriculture:								
State ^d	33,178		58,184		3,414		8,126	
Chattanooga	3,715	11.2%	10,680	18.4%	598	17.5%	943	11.6%
Knoxville	5,051	15.2%	9,631	16.6%	533	15.6%	1,101	13.6%
Memphis	12,678	38.2%	15,096	25.9%	1,006	29.5%	2,752	33.9%
Nashville	10,124	30.5%	19,670	33.8%	1,095	32.1%	3,022	37.2%
Tri-Cities	1,610	4.9%	3,108	5.3%	182	5.3%	307	3.8%
Food Manufacturing:								
State ^d	21,810		38,566		2,275		4,412	
Chattanooga	2,392	11.0%	6,885	17.9%	392	17.2%	622	14.1%
Knoxville	3,675	16.9%	6,405	16.6%	382	16.8%	749	17.0%
Memphis	9,319	42.7%	10,770	27.9%	720	31.6%	1,617	36.6%
Nashville	5,711	26.2%	13,410	34.8%	715	31.4%	1,314	29.8%
Tri-Cities	713	3.3%	1,096	2.8%	66	2.9%	111	2.5%
Beverage Manufacturing:								
State ^d	4,201		5,154		353		1,131	
Chattanooga	554	13.2%	703	13.6%	55	15.6%	113	10.0%
Knoxville	905	21.5%	1,150	22.3%	65	18.3%	220	19.5%
Memphis	978	23.3%	1,259	24.4%	90	25.6%	209	18.4%
Nashville	1,558	37.1%	1,776	34.4%	125	35.5%	553	48.9%
Tri-Cities	206	4.9%	266	5.2%	18	5.0%	37	3.3%
Tobacco Products Manufacturing:								
State ^d	3,014		921		94		1,436	
Chattanooga	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Knoxville	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Memphis	1,143	37.9%	334	36.3%	38	40.1%	570	39.7%
Nashville	1,871	62.1%	586	63.7%	56	59.9%	865	60.3%
Tri-Cities	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Textile Mills:								
State ^d	1,266		3,524		205		304	
Chattanooga	367	29.0%	1,073	30.4%	53	25.9%	73	24.0%
Knoxville	136	10.7%	449	12.7%	21	10.4%	32	10.4%
Memphis	141	11.1%	385	10.9%	26	12.5%	38	12.6%
Nashville	303	23.9%	745	21.1%	52	25.3%	83	27.3%
Tri-Cities	319	25.2%	873	24.8%	53	25.9%	78	25.8%
Agricultural Machinery:								
State ^d	943		1,704		93		193	
Chattanooga	108	11.5%	175	10.3%	13	14.5%	30	15.3%
Knoxville	22	2.4%	39	2.3%	3	2.8%	5	2.7%
Memphis	437	46.4%	814	47.8%	39	42.2%	80	41.6%
Nashville	43	4.5%	73	4.3%	5	4.9%	10	5.0%
Tri-Cities	332	35.2%	601	35.3%	33	35.6%	68	35.4%
Agricultural Chemicals:								
State ^d	860		608		75		297	
Chattanooga	61	7.1%	35	5.7%	5	6.3%	21	7.2%

Table 14. Direct Economic Activity in Secondary Agricultural Products (Cont.)

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Knoxville	116	13.5%	108	17.7%	10	13.2%	33	11.2%
Memphis	503	58.5%	282	46.4%	45	59.4%	191	64.3%
Nashville	169	19.6%	166	27.2%	14	19.2%	49	16.5%
Tri-Cities	12	1.4%	18	2.9%	1	1.9%	2	0.8%
Textile Product Mills:								
State ^d	505		2,617		116		165	
Chattanooga	68	13.4%	404	15.4%	16	13.9%	21	12.8%
Knoxville	134	26.5%	806	30.8%	31	26.4%	43	26.0%
Memphis	52	10.4%	315	12.0%	15	12.5%	19	11.5%
Nashville	239	47.4%	1,018	38.9%	51	44.2%	77	47.0%
Tri-Cities	12	2.3%	74	2.8%	4	3.0%	4	2.7%
Apparel Manufacturing:								
State ^d	458		4,476		184		172	
Chattanooga	155	33.8%	1,316	29.4%	60	32.9%	62	36.3%
Knoxville	49	10.7%	572	12.8%	19	10.6%	17	10.0%
Memphis	62	13.6%	745	16.6%	30	16.1%	23	13.2%
Nashville	177	38.6%	1,665	37.2%	67	36.7%	64	37.2%
Tri-Cities	15	3.3%	178	4.0%	7	3.7%	6	3.3%
Leather & Allied Product Manufacturing:								
State ^d	120		615		20		16	
Chattanooga	10	8.6%	89	14.5%	3	17.2%	2	9.8%
Knoxville	14	12.0%	101	16.4%	3	13.7%	3	15.7%
Memphis	42	34.9%	192	31.2%	5	24.4%	5	31.1%
Nashville	53	44.3%	232	37.6%	9	44.3%	7	43.3%
Tri-Cities	0 ^e	0.2%	2	0.3%	0 ^e	0.3%	0 ^e	0.2%

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

^bTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and excise and sales taxes paid by individuals to businesses.

^cPercent of state total.

^dState totals may not add due to rounding.

^eValues of 0 are nonzero values that are less than 1.

numbers of jobs. The Nashville Region also had the largest total industry output for beverage manufacturing, tobacco products manufacturing, apparel manufacturing, textile product mills, and leather and allied products manufacturing. The Memphis Region had the largest total industry output for agricultural chemicals and agricultural machinery and was an important contributor to leather and allied products manufacturing. The Chattanooga Region was an important contributor for textile mills and apparel manufacturing. The Tri-Cities Region was an important contributor for agricultural machinery. A more detailed presentation of the total industry output from processing by sub-sector is shown in Appendixes D and E.

Primary Forest Products:

The largest output value for primary forest products was from paper mills, followed by sawmills; paperboard mills; commercial logging; pulp mills; wood preservation; sawmills, woodworking, and paper machinery; and forestry, forest products, and timber tract production¹³ (Table 15). The Memphis Region had the largest output value for paper mills at \$3.0 billion or 70.2 percent of the output value for the state. The paper mills sector employed the largest numbers of individuals, again with the Memphis Region employing the most. The Memphis Region also had the largest output value for paperboard mills and forestry, forest products, and timber track production. The Nashville Region had the largest output value for sawmills and commercial logging. The largest economic activity for wood preservation was from the Tri-Cities Region. For sawmills, woodworking, and paper machinery, 50.0 percent of the economic activity originated from the Chattanooga Region.

Table 15. Direct Economic Activity in Primary Forest Products

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Total Primary Forest Products:								
State ^d	6,608		13,010		1,291		2,065	
Chattanooga	891	13.5%	1,486	11.4%	152	11.8%	247	12.0%
Knoxville	373	5.6%	1,064	8.2%	60	4.6%	85	4.1%
Memphis	4,138	62.6%	5,882	45.2%	839	65.0%	1,408	68.2%
Nashville	920	13.9%	4,016	30.9%	196	15.2%	251	12.2%
Tri-Cities	285	4.3%	564	4.3%	45	3.5%	74	3.6%
Paper Mills:								
State ^d	4,400		4,639		839		1,488	
Chattanooga	564	12.8%	631	13.6%	93	11.1%	168	11.3%
Knoxville	198	4.5%	245	5.3%	26	3.1%	45	3.0%
Memphis	3,091	70.2%	3,119	67.2%	641	76.4%	1,132	76.1%
Nashville	335	7.6%	396	8.5%	48	5.7%	86	5.8%
Tri-Cities	212	4.8%	248	5.3%	31	3.7%	57	3.8%
Sawmills:								
State ^d	862		3,219		132		160	
Chattanooga	29	3.4%	109	3.4%	5	3.7%	6	3.5%
Knoxville	120	13.9%	441	13.7%	19	14.6%	23	14.7%
Memphis	261	30.2%	975	30.3%	40	30.4%	48	30.0%
Nashville	425	49.3%	1,590	49.4%	64	48.4%	78	48.9%
Tri-Cities	28	3.2%	105	3.3%	4	2.9%	5	2.9%
Paperboard Mills:								
State ^d	772		883		99		172	
Chattanooga	75	9.7%	95	10.8%	6	5.9%	10	6.1%
Knoxville	29	3.8%	36	4.1%	3	2.6%	5	2.6%

¹³Includes growing trees for reforestation; growing forest products such as gums, barks, balsam needles, rhizomes, fibers, and ginseng; and timber tracts for selling timber.

Table 15. Direct Economic Activity in Primary Forest Products (Cont.)

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Memphis	668	86.5%	751	85.1%	90	91.5%	157	91.3%
Nashville	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tri-Cities	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Commercial Logging:								
State ^d	294		3,623		169		173	
Chattanooga	26	8.7%	321	8.8%	14	8.6%	15	8.6%
Knoxville	20	6.8%	297	8.2%	10	5.8%	10	5.8%
Memphis	93	31.7%	944	26.1%	61	35.9%	62	35.6%
Nashville	149	50.5%	1,967	54.3%	80	47.6%	83	47.8%
Tri-Cities	7	2.4%	95	2.6%	4	2.2%	4	2.2%
Pulp Mills:								
State ^d	151		200		22		33	
Chattanooga	151	100.0%	200	100.0%	22	100.0%	33	100.0%
Knoxville	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Memphis	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Nashville	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tri-Cities	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Wood Preservation:								
State ^d	61		125		5		9	
Chattanooga	17	28.6%	36	28.9%	2	30.2%	3	26.9%
Knoxville	1	2.3%	3	2.2%	0 ^e	2.2%	0 ^e	2.3%
Memphis	14	23.0%	30	24.0%	1	16.9%	2	17.5%
Nashville	1	2.0%	2	2.0%	0 ^e	2.7%	0 ^e	2.0%
Tri-Cities	27	44.2%	54	42.9%	2	48.1%	5	51.2%
Sawmills, Woodworking, & Paper Machinery:								
State ^d	56		200		19		23	
Chattanooga	28	50.0%	93	46.7%	10	54.9%	13	54.9%
Knoxville	2	3.7%	7	3.6%	1	3.8%	1	3.8%
Memphis	7	12.8%	26	12.8%	3	13.2%	3	12.9%
Nashville	8	14.8%	34	17.0%	2	11.5%	3	11.7%
Tri-Cities	10	18.6%	40	20.0%	3	16.5%	4	16.7%
Forestry, Forest Products, & Timber Tract Operations:								
State ^d	11		121		6		7	
Chattanooga	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Knoxville	3	22.5%	35	29.0%	1	17.6%	1	17.8%
Memphis	5	45.9%	37	31.0%	4	57.4%	4	56.7%
Nashville	2	18.5%	26	21.8%	1	15.9%	1	16.1%
Tri-Cities	1	13.1%	22	18.2%	1	9.1%	1	9.3%

^aTotal Industry Output – annual value of production by industry.^bTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and excise and sales taxes paid by individuals to businesses.^cPercent of state total.^dState totals may not add due to rounding.^eValues of 0 are nonzero values that are less than 1.

Secondary Forest Products:

Paper manufacturing had the largest output value among secondary forest products, followed by furniture and related products manufacturing; other wood products; wood windows and doors and millwork; manufactured home manufacturing; and veneer, plywood, and engineered wood product manufacturing (Table 16). The paper manufacturing sector was comprised of paperboard containers, paper bags and coated and treated paper, stationery 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 wood containers and pallets, miscellaneous wood products, and kitchen cabinets and countertops. The Memphis Region had the largest values for output, labor income, and total value added for paper manufacturing, whereas the Nashville Regions had the largest values for jobs. The Nashville Region also had the largest economic activity for furniture and related products manufacturing and other wood products manufacturing. The Memphis Region had largest output values for wood windows and doors and millwork. The Knoxville Region had the largest output value for manufactured home manufacturing. The Chattanooga Region has the largest output value for veneer, plywood, and engineered wood products manufacturing. The Tri-Cities Region had strong economic activity in wood windows and doors and millwork.

Table 16. Direct Economic Activity in Secondary Forest Products

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Total Secondary Forest Products:								
State ^d	8,246		28,870		1,729		2,251	
Chattanooga	1,382	16.8%	5,020	17.4%	270	15.6%	330	14.7%
Knoxville	1,534	18.6%	5,914	20.5%	381	22.0%	472	21.0%
Memphis	2,114	25.6%	6,238	21.6%	432	25.0%	617	27.4%
Nashville	2,569	31.2%	9,608	33.3%	535	30.9%	679	30.1%
Tri-Cities	648	7.9%	2,090	7.2%	112	6.5%	153	6.8%
Paper Manufacturing:								
State ^d	4,417		9,062		826		1,129	
Chattanooga	632	14.3%	1,424	15.7%	100	12.1%	131	11.6%
Knoxville	667	15.1%	1,376	15.2%	174	21.1%	211	18.7%
Memphis	1,430	32.4%	2,543	28.1%	255	30.9%	393	34.8%
Nashville	1,271	28.8%	2,792	30.8%	242	29.3%	312	27.6%
Tri-Cities	416	9.4%	926	10.2%	54	6.6%	82	7.2%
Furniture & Related Products Manufacturing:								
State ^d	1,594		7,789		361		411	
Chattanooga	500	31.4%	2,524	32.4%	120	33.1%	133	32.2%
Knoxville	350	21.9%	1,917	24.6%	77	21.3%	85	20.7%
Memphis	105	6.6%	625	8.0%	31	8.7%	34	8.3%

Table 16. Direct Economic Activity in Secondary Forest Products (Cont.)

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Nashville	531	33.3%	2,254	28.9%	106	29.4%	128	31.2%
Tri-Cities	108	6.8%	469	6.0%	27	7.5%	31	7.5%
Other Wood Products Manufacturing:								
State ^d	746		5,458		212		244	
Chattanooga	79	10.6%	574	10.5%	24	11.4%	27	11.1%
Knoxville	71	9.5%	540	9.9%	18	8.6%	21	8.5%
Memphis	182	24.5%	1,250	22.9%	59	28.0%	68	27.9%
Nashville	368	49.4%	2,747	50.3%	97	46.1%	114	46.6%
Tri-Cities	45	6.1%	348	6.4%	13	6.0%	14	5.9%
Wood Windows & Doors & Millwork:								
State ^d	639		2,920		134		198	
Chattanooga	34	5.3%	133	4.6%	7	5.2%	11	5.4%
Knoxville	111	17.4%	524	17.9%	20	15.1%	31	15.6%
Memphis	241	37.7%	1,130	38.7%	53	39.5%	75	38.0%
Nashville	188	29.5%	852	29.2%	40	29.4%	59	29.8%
Tri-Cities	65	10.1%	281	9.6%	15	10.8%	22	11.3%
Manufactured Homes Manufacturing:								
State ^d	521		2,478		142		196	
Chattanooga	5	0.9%	23	0.9%	1	0.9%	2	0.9%
Knoxville	299	57.3%	1,388	56.0%	84	59.2%	116	59.3%
Memphis	98	18.9%	494	19.9%	24	17.0%	33	17.0%
Nashville	118	22.6%	564	22.8%	32	22.5%	44	22.4%
Tri-Cities	2	0.4%	10	0.4%	1	0.4%	1	0.4%
Veneer, Plywood, & Engineered Wood Products Manufacturing:								
State ^d	330		1,164		55		73	
Chattanooga	132	39.9%	343	29.5%	18	32.1%	27	37.1%
Knoxville	36	11.0%	169	14.6%	7	13.1%	9	11.6%
Memphis	57	17.3%	197	16.9%	10	17.6%	13	17.5%
Nashville	93	28.1%	398	34.2%	18	32.8%	22	29.8%
Tri-Cities	12	3.6%	56	4.8%	2	4.4%	3	3.9%

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

^bTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and excise and sales taxes paid by individuals to businesses.

^cPercent of state total.

^dState totals may not add due to rounding.

Estimated Total Economic Impacts of Agriculture and Forestry:

The estimated total economic impacts of agriculture and forestry included not only the direct impacts from the industry, but also the impacts the industry had on input supplying industries (indirect impacts) and on expenditures by households and other institutions (induced impacts). The total economic impacts from agriculture and forestry included direct, indirect, and induced impacts. Table 17 includes values for total industry output, employment, labor income, and value added resulting from agriculture and forestry, including each of these impacts. Agriculture and forestry contributed an

Table 17. Estimated Total Economic Impacts from Agriculture and Forestry

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Agriculture & Forestry:								
State	81,854		351,164		16,798		29,349	
Chattanooga	9,288	11.3%	41,862	11.9%	2,024	12.1%	3,124	10.6%
Knoxville	11,096	13.6%	51,735	14.7%	2,269	13.5%	3,779	12.9%
Memphis	30,870	37.7%	102,100	29.1%	5,907	35.2%	10,796	36.8%
Nashville	24,481	29.9%	124,956	35.6%	5,190	30.9%	9,515	32.4%
Tri-Cities	3,787	4.6%	20,648	5.9%	661	3.9%	1,088	3.7%
Intrastate Trade	2,332	2.8%	9,863	2.8%	748	4.4%	1,046	3.6%
Primary & Secondary Agriculture:								
State	57,564		249,827		10,599		20,002	
Chattanooga	5,930	10.3%	28,271	11.3%	1,253	11.8%	1,985	9.9%
Knoxville	8,076	14.0%	37,233	14.9%	1,461	13.8%	2,631	13.2%
Memphis	21,205	36.8%	68,322	27.3%	3,487	32.9%	6,910	34.5%
Nashville	18,568	32.3%	95,827	38.4%	3,595	33.9%	7,239	36.2%
Tri-Cities	2,511	4.4%	15,492	6.2%	404	3.8%	696	3.5%
Intrastate Trade	1,273	2.2%	4,681	1.9%	399	3.8%	541	2.7%
Primary Agriculture:								
State	7,078		96,105		1,735		3,079	
Chattanooga	665	9.4%	7,866	8.2%	163	9.4%	256	8.3%
Knoxville	531	7.5%	12,129	12.6%	114	6.6%	232	7.5%
Memphis	2,348	33.2%	21,142	22.0%	617	35.6%	1,059	34.4%
Nashville	3,082	43.5%	46,868	48.8%	733	42.2%	1,347	43.8%
Tri-Cities	410	5.8%	9,144	9.5%	83	4.8%	164	5.3%
Intrastate Trade	41	0.6%	-1,044	-1.1%	25	1.4%	21	0.7%
Secondary Agriculture:								
State	50,487		153,722		8,864		16,923	
Chattanooga	5,265	10.4%	20,405	13.3%	1,090	12.3%	1,729	10.2%
Knoxville	7,545	14.9%	25,104	16.3%	1,347	15.2%	2,400	14.2%
Memphis	18,857	37.4%	47,180	30.7%	2,870	32.4%	5,851	34.6%
Nashville	15,486	30.7%	48,959	31.8%	2,862	32.3%	5,892	34.8%
Tri-Cities	2,101	4.2%	6,348	4.1%	321	3.6%	532	3.1%
Intrastate Trade	1,232	2.4%	5,725	3.7%	374	4.2%	519	3.1%
Primary & Secondary Forestry:								
State	24,290		101,337		6,199		9,347	
Chattanooga	3,358	13.8%	13,591	13.4%	771	12.4%	1,139	12.2%
Knoxville	3,019	12.4%	14,502	14.3%	808	13.0%	1,148	12.3%
Memphis	9,665	39.8%	33,778	33.3%	2,420	39.0%	3,886	41.6%
Nashville	5,913	24.3%	29,128	28.7%	1,595	25.7%	2,276	24.4%
Tri-Cities	1,275	5.3%	5,156	5.1%	257	4.1%	392	4.2%
Intrastate Trade	1,059	4.4%	5,182	5.1%	349	5.6%	505	5.4%
Primary Forestry:								
State	11,130		40,868		2,779		4,431	
Chattanooga	1,341	12.0%	4,371	10.7%	295	10.6%	476	10.7%
Knoxville	621	5.6%	2,689	6.6%	140	5.0%	213	4.8%
Memphis	6,518	58.6%	20,673	50.6%	1,630	58.6%	2,696	60.8%

Table 17. Estimated Total Economic Impacts from Agriculture and Forestry (Cont.)

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Nashville	1,665	15.0%	8,887	21.7%	453	16.3%	655	14.8%
Tri-Cities	405	3.6%	1,407	3.4%	79	2.8%	131	2.9%
Intrastate Trade	580	5.2%	2,841	7.0%	183	6.6%	260	5.9%
Secondary Forestry:								
State	13,160		60,469		3,420		4,916	
Chattanooga	2,017	15.3%	9,221	15.2%	476	13.9%	663	13.5%
Knoxville	2,398	18.2%	11,813	19.5%	668	19.5%	935	19.0%
Memphis	3,147	23.9%	13,105	21.7%	790	23.1%	1,190	24.2%
Nashville	4,249	32.3%	20,242	33.5%	1,142	33.4%	1,621	33.0%
Tri-Cities	871	6.6%	3,748	6.2%	178	5.2%	262	5.3%
Intrastate Trade	479	3.6%	2,340	3.9%	165	4.8%	245	5.0%

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

^bTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and excise and sales taxes paid by individuals to businesses.

^cPercent of state total.

estimated value of \$81.8 billion to Tennessee's \$638.7 billion economy in 2015. An estimated 70.3 percent of the total economic impacts came from primary and secondary agriculture, while forest operations and forest products contributed about 29.7 percent. Employment in both agriculture and forestry totaled over 351 thousand workers. Of that value, 71.1 percent were affiliated with primary and secondary agriculture production, with 28.9 percent from primary and secondary forest products production. Intrastate trade represented values purchased or imported from outside the regions but within the state. A more detailed total impact presentation of output, employment, labor income, and value added by sub-sector is shown in Appendix E.

Primary Agriculture Products Total Impacts:

Figures 18 through 23 depict the estimated direct, indirect, and induced impacts for some of 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 based on output value are also listed. Using oilseed farming as an example, which has direct sales of \$736.0 million, the indirect economic impacts caused by input supplying industries are \$293.6 million (24.0 percent of total \$1.2 billion) and the induced impacts (expenditures by households are \$194.4 million (15.9 percent of total \$1.2 billion)). The top five sectors most impacted from the indirect impact (in descending order) included agriculture and forestry support activities, wholesale trade, real estate, nonresidential construction maintenance and repair, and truck transportation. Likewise, from household expenditures

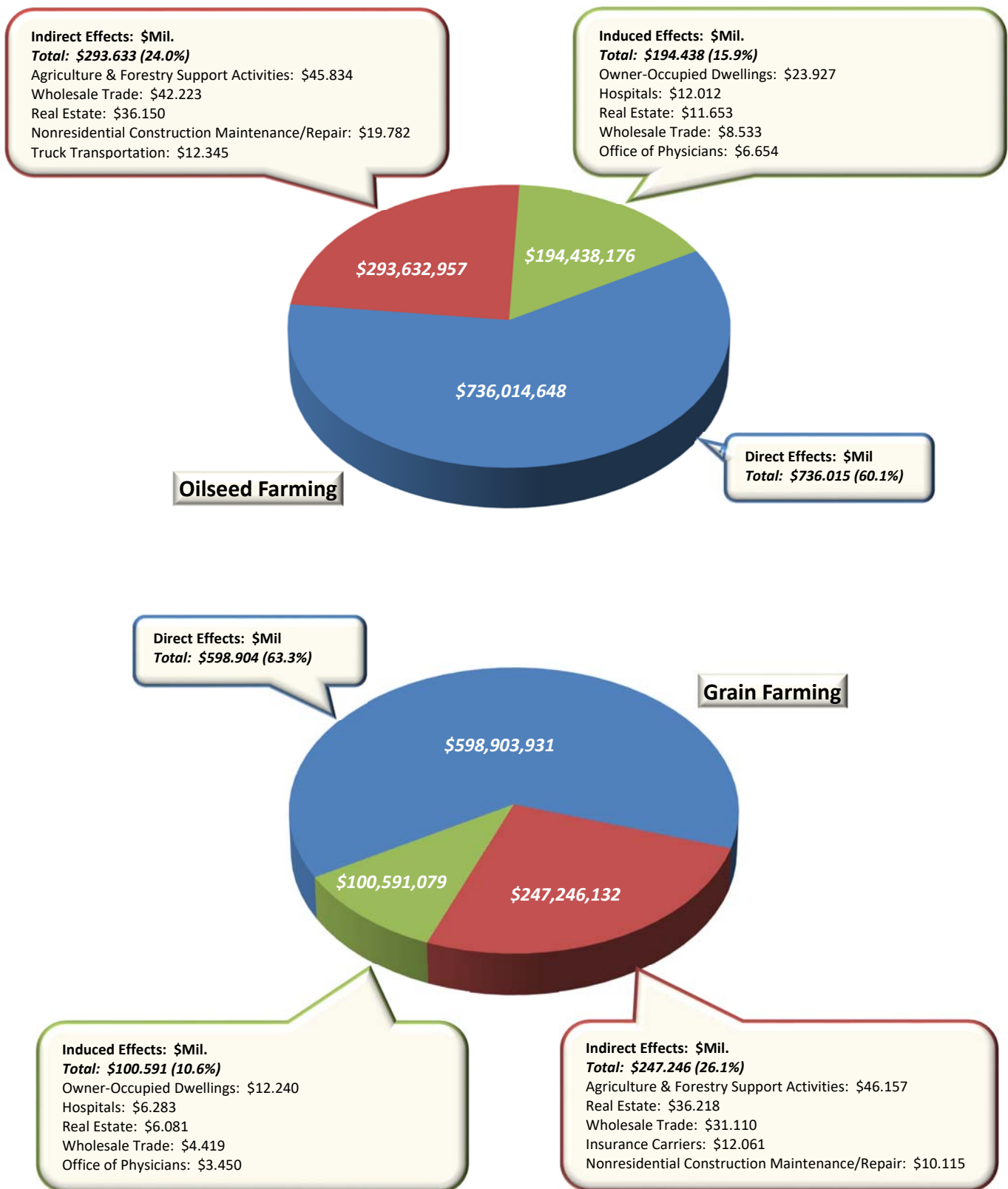


Figure 18. Estimated Direct, Indirect, and Induced Impacts for Oilseed Farming and Grain Farming.

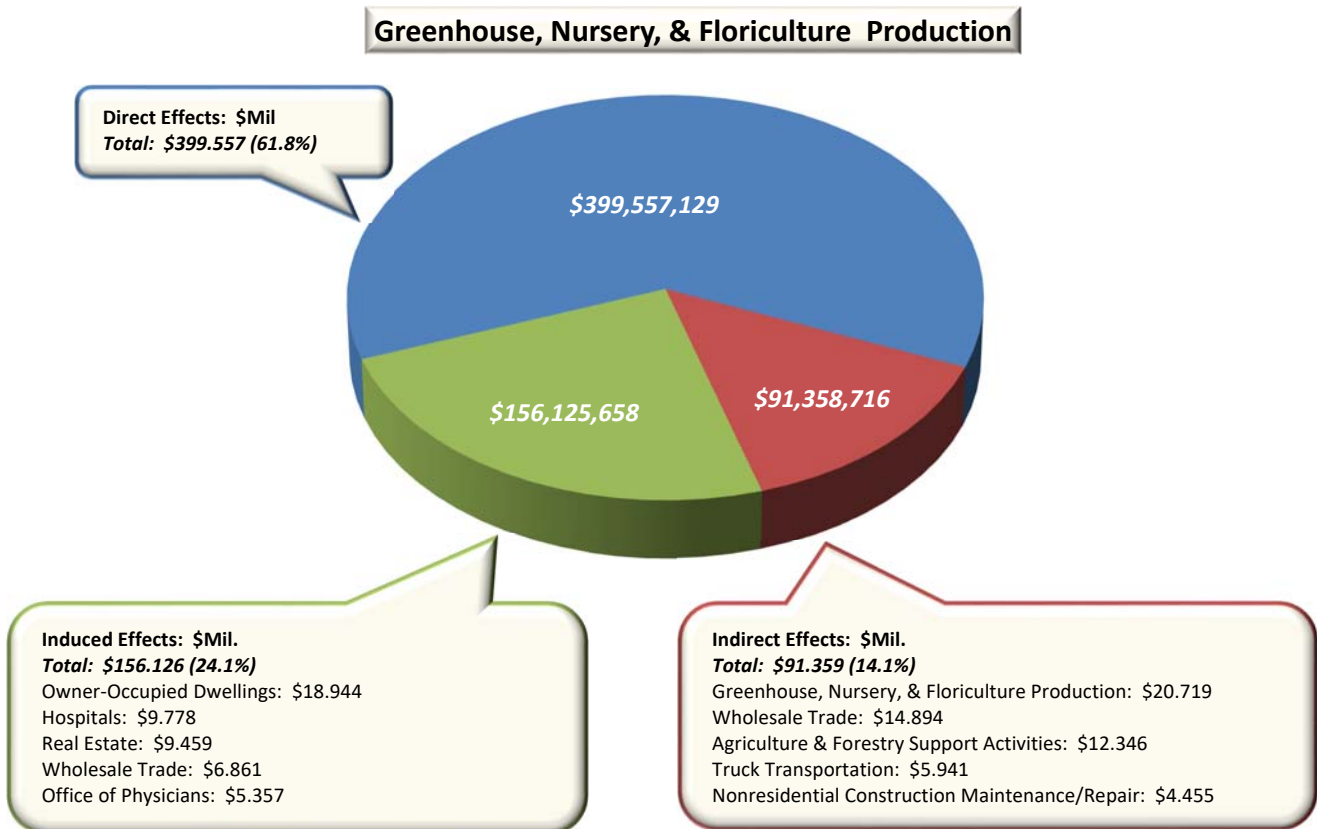
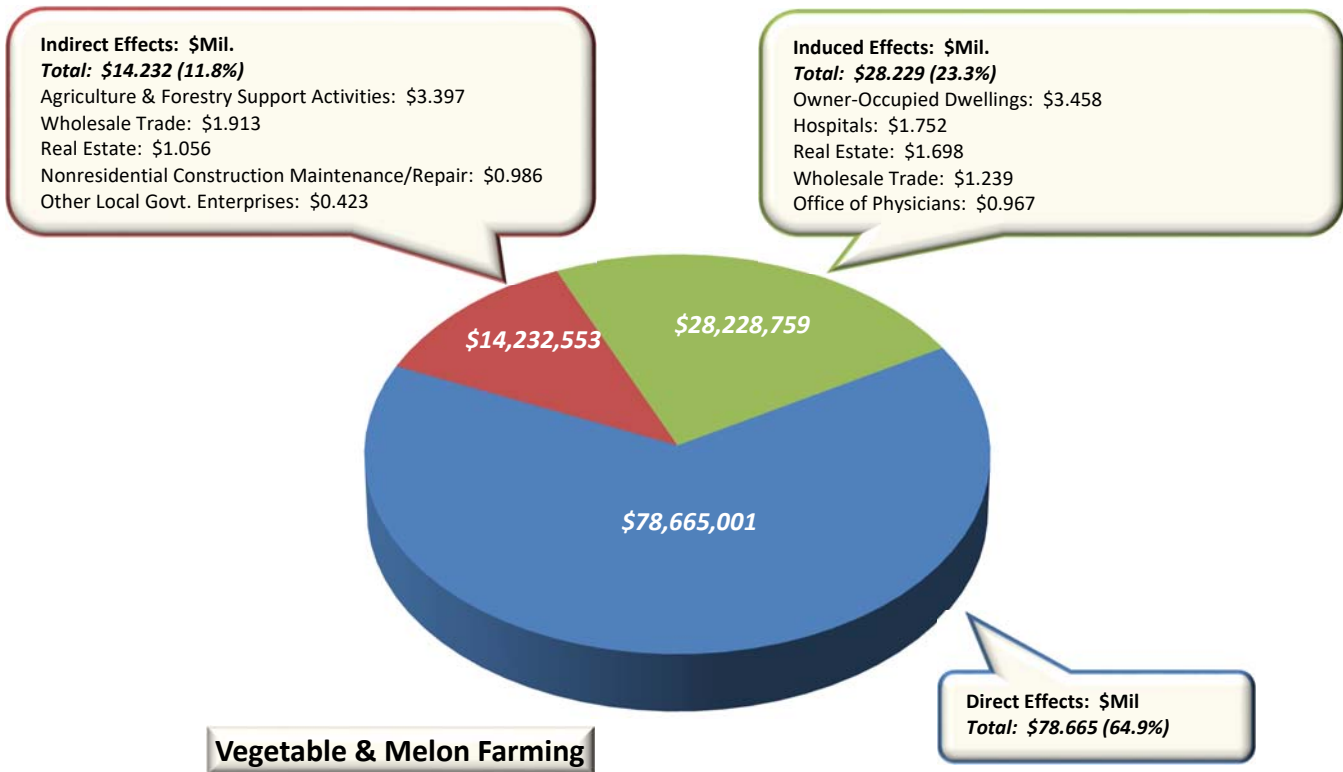


Figure 19. Estimated Direct, Indirect, and Induced Impacts for Vegetable & Melon Farming and Greenhouse, Nursery, & Floriculture Production.

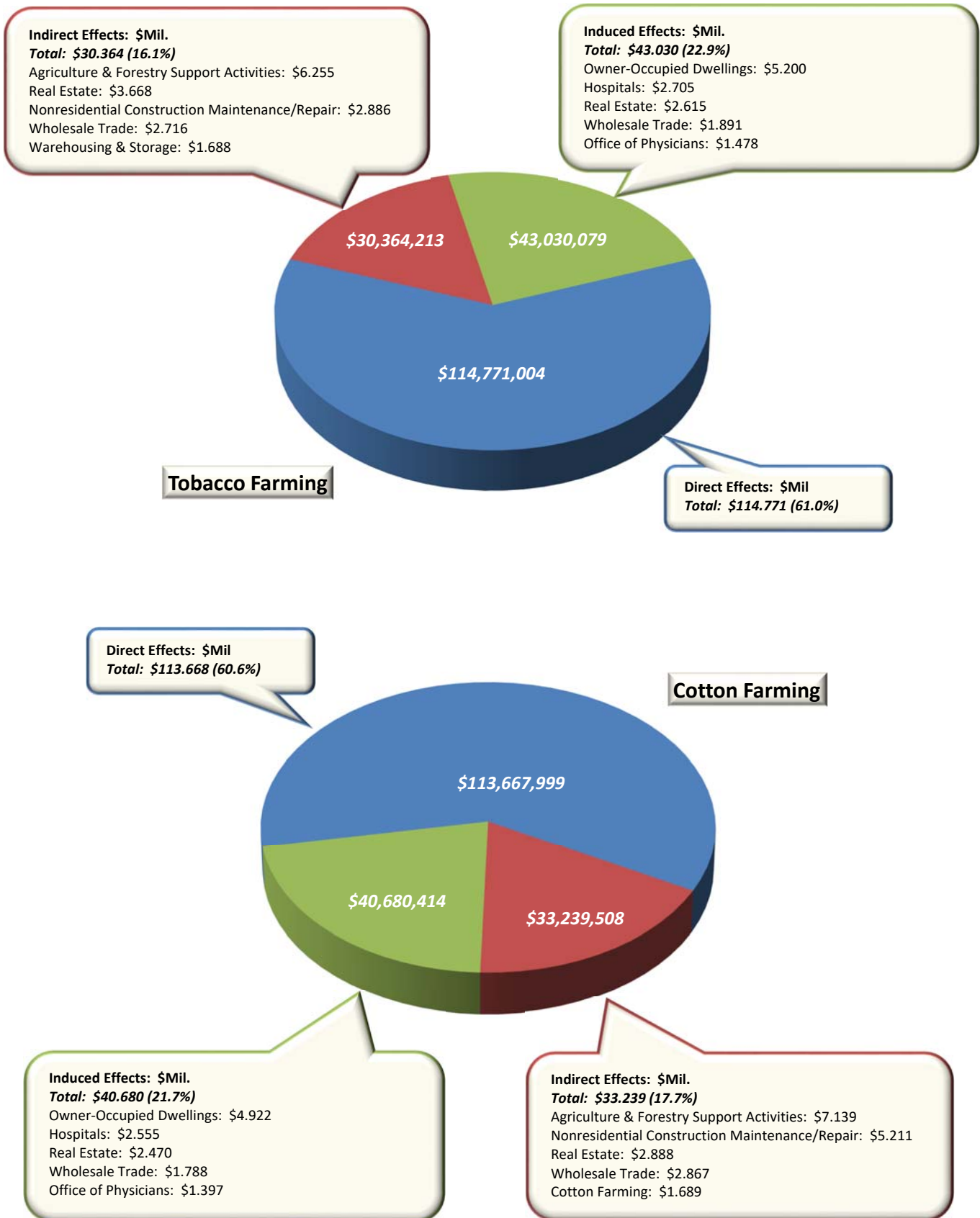


Figure 20. Estimated Direct, Indirect, and Induced Impacts for Tobacco Farming and Cotton Farming.

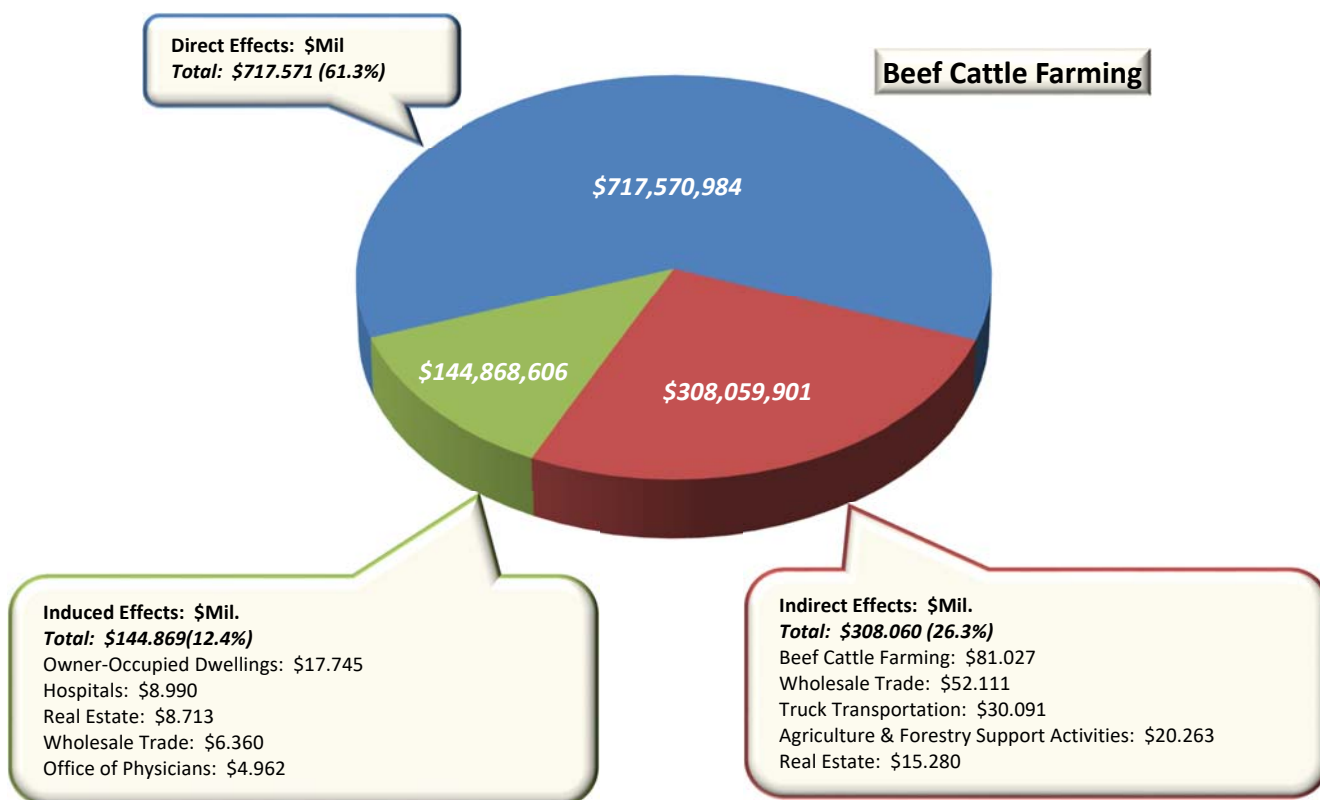
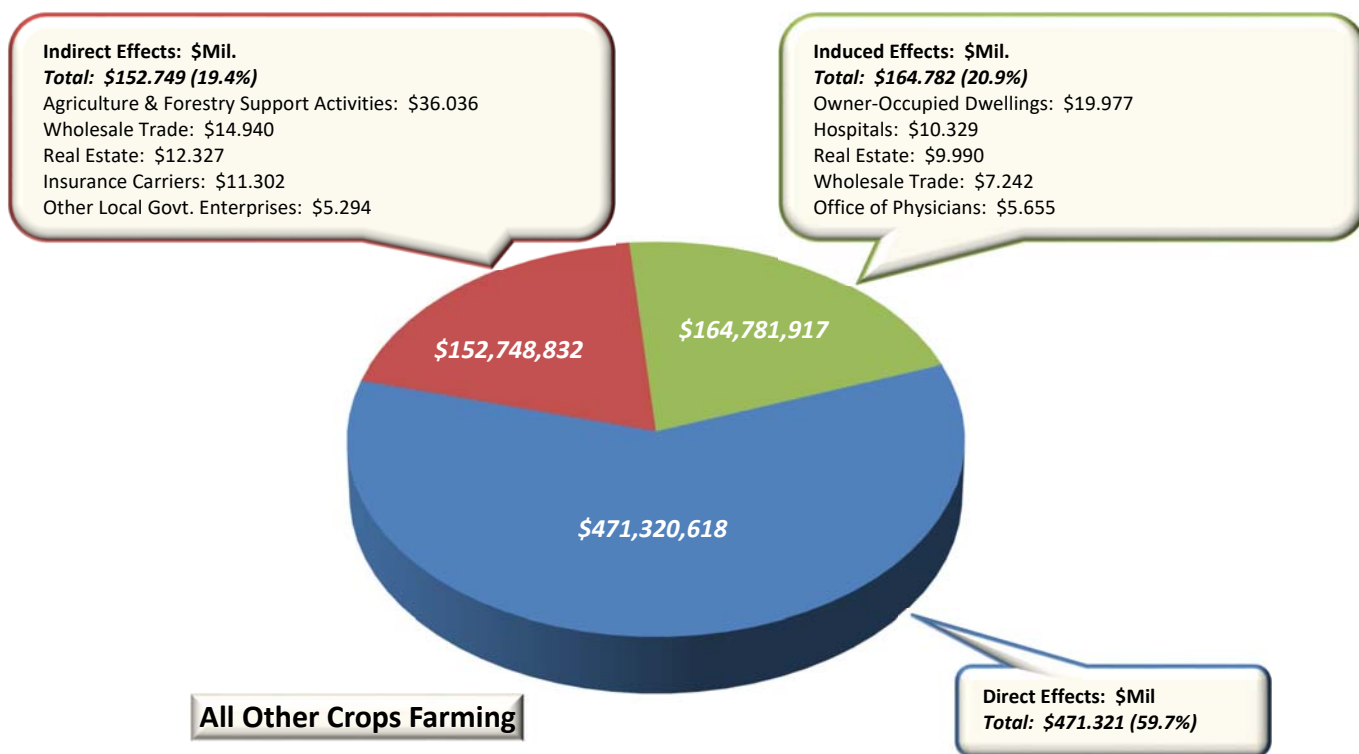


Figure 21. Estimated Direct, Indirect, and Induced Impacts for All Other Crops Farming and Beef Cattle Farming.

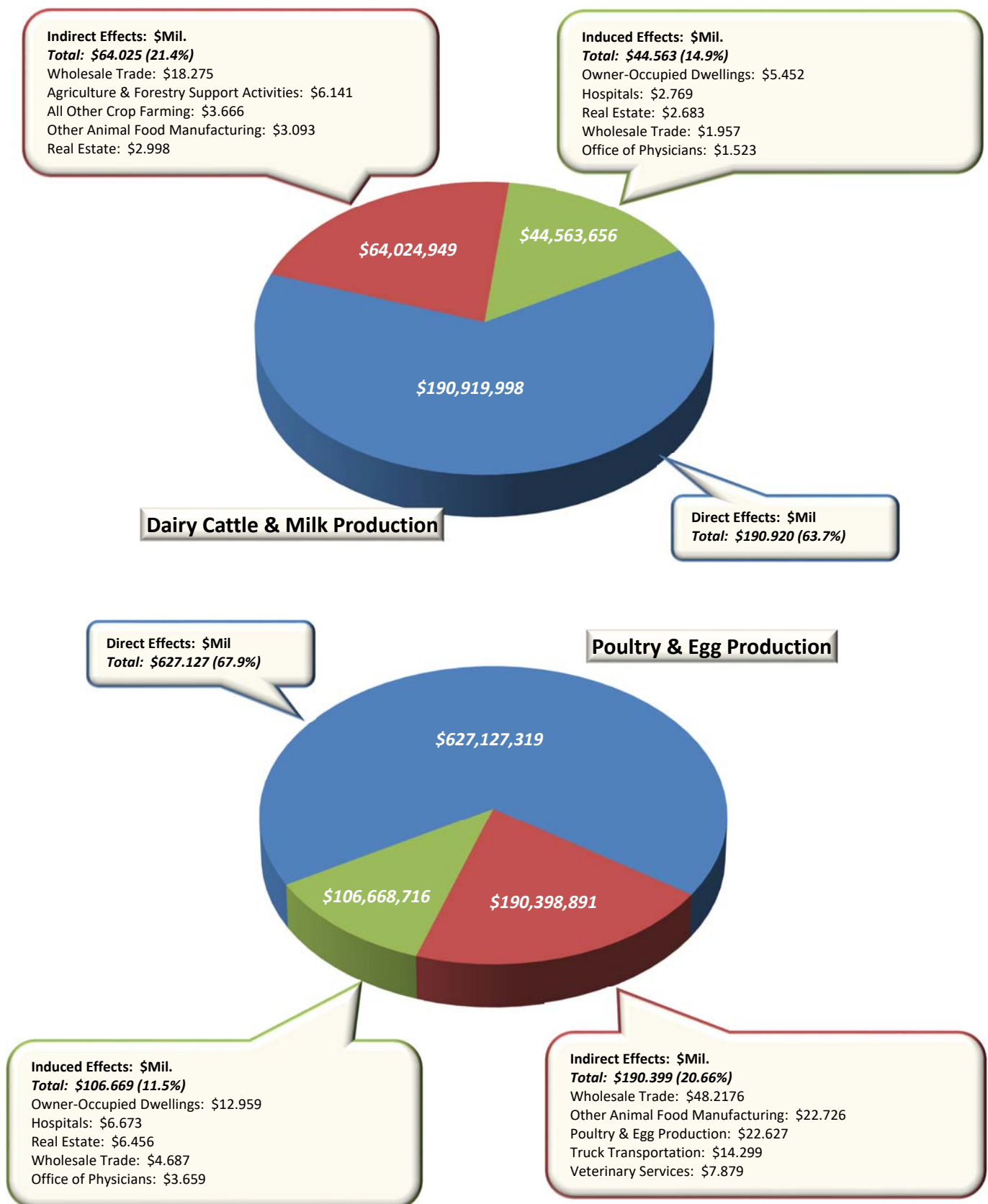


Figure 22. Estimated Direct, Indirect, and Induced Impacts for Dairy Cattle & Milk Production and Poultry & Egg Production.

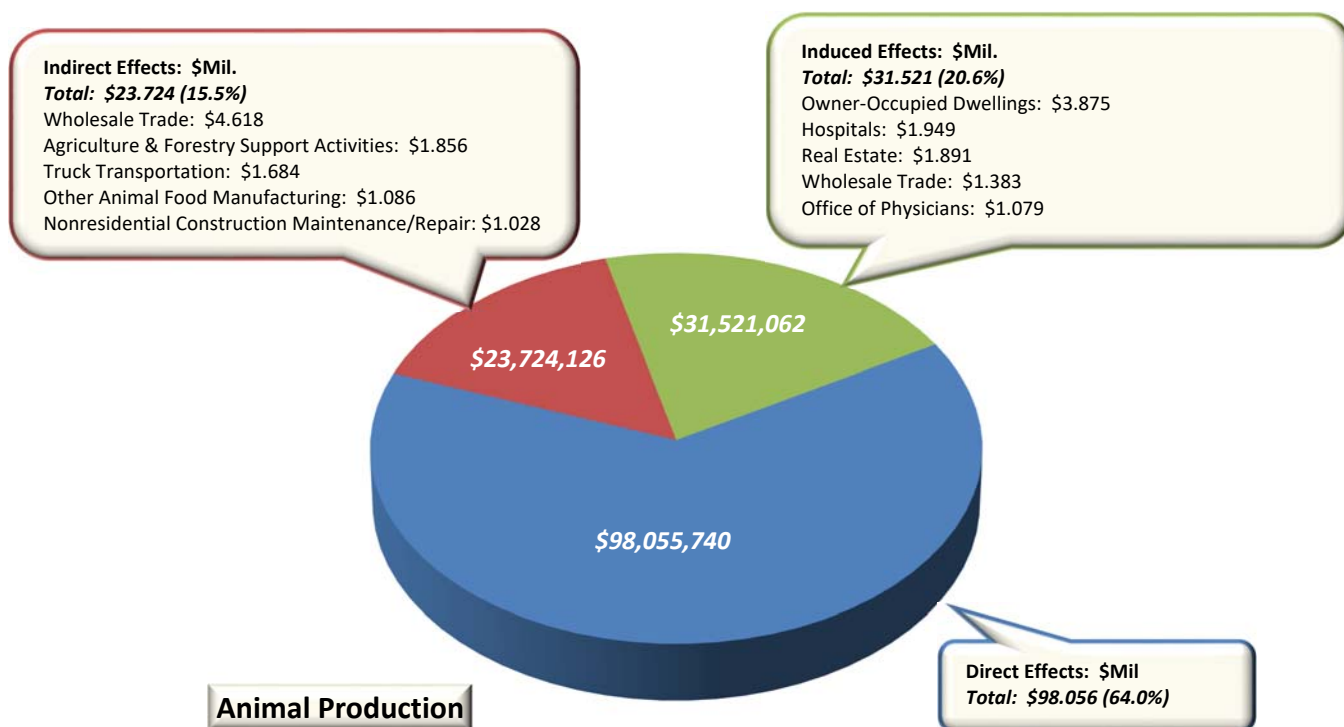


Figure 23. Estimated Direct, Indirect, and Induced Impacts for Animal Production, except Cattle, Poultry, & Eggs.

(induced impacts) the sectors most impacted (in descending order) based on output value included owner-occupied dwellings, hospitals, real estate, wholesale trade, and offices of physicians.

Secondary Agriculture Products Total Impacts:

For secondary agricultural products and for all indicators calculated (output, employment, labor income, and value added), food manufacturing contributed the greatest total economic impact values (Table 18). The Memphis Region exhibited the largest economic activity from *soybean and other oilseed processing* (see Grain & Oilseed Milling in Appendix E); *dry, condensed, and evaporated dairy product manufacturing* (see Dairy Products); and *animal, except poultry, slaughtering* (see Animal Slaughtering & Processing), followed by the Nashville Region from *poultry processing* (see Animal Slaughtering & Processing), *distilleries* (see Beverages), and tobacco products manufacturing. The Nashville Region also produced the largest output values for *men's and boy's cut and sew apparel manufacturing* (see Apparel); *nonwoven fabric mills* (see Textile Mills); *rope, cordage, twine, tire cord and tire fabric mills* (see Textile Product Mills); and *leather and hide tanning and finishing* (see Leather & Allied Products). The Memphis Region had the largest output values for *pesticides and other agricultural chemicals* (see Agricultural Chemicals) and *lawn and garden equipment* (see Agricultural Machinery). *Bottle and canned soft drinks and water* (see Beverages) and *other textile product mills* (see Textile Product Mills) are important industries for the Knoxville Region. The Chattanooga Region had significant economic activity *fiber, yarn, and thread mills* (see Textile Mills). *Lawn and garden equipment manufacturing* (see

Table 18. Estimated Total Economic Impacts from Secondary Agricultural Products

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Total Secondary Agricultural Products:								
State	50,487		153,722		8,864		16,923	
Chattanooga	5,265	10.4%	20,405	13.3%	1,090	12.3%	1,729	10.2%
Knoxville	7,545	14.9%	25,104	16.3%	1,347	15.2%	2,400	14.2%
Memphis	18,857	37.4%	47,180	30.7%	2,870	32.4%	5,851	34.6%
Nashville	15,486	30.7%	48,959	31.8%	2,862	32.3%	5,892	34.8%
Tri-Cities	2,101	4.2%	6,348	4.1%	321	3.6%	532	3.1%
Intrastate Trade	1,232	2.4%	5,725	3.7%	374	4.2%	519	3.1%
Food Manufacturing:								
State	33,265		101,950		5,873		10,133	
Chattanooga	3,428	10.3%	13,270	13.0%	717	12.2%	1,139	11.2%
Knoxville	5,490	16.5%	17,711	17.4%	977	16.6%	1,692	16.7%
Memphis	14,017	42.1%	34,849	34.2%	2,123	36.1%	3,905	38.5%
Nashville	8,638	26.0%	30,131	29.6%	1,702	29.0%	2,854	28.2%
Tri-Cities	954	2.9%	2,545	2.5%	131	2.2%	215	2.1%
Intrastate Trade	737	2.2%	3,444	3.4%	224	3.8%	328	3.2%
Beverage Manufacturing:								
State	6,308		17,438		1,054		2,255	
Chattanooga	765	12.1%	2,066	11.8%	124	11.8%	224	9.9%
Knoxville	1,344	21.3%	3,740	21.4%	204	19.4%	447	19.8%
Memphis	1,420	22.5%	3,973	22.8%	241	22.9%	452	20.0%
Nashville	2,313	36.7%	6,153	35.3%	393	37.3%	975	43.3%
Tri-Cities	265	4.2%	701	4.0%	35	3.4%	66	2.9%
Intrastate Trade	200	3.2%	806	4.6%	56	5.3%	91	4.0%
Tobacco Products:								
State	4,549		7,552		509		2,224	
Chattanooga	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Knoxville	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Memphis	1,676	36.8%	2,488	32.9%	172	33.8%	856	38.5%
Nashville	2,969	65.3%	5,209	69.0%	362	71.2%	1,448	65.1%
Tri-Cities	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Intrastate Trade	-96	-2.1%	-145	-1.9%	-25	-4.9%	-79	-3.6%
Textile Mills:								
State	1,926		7,250		415		634	
Chattanooga	488	25.3%	1,816	25.0%	91	21.8%	132	20.9%
Knoxville	196	10.2%	848	11.7%	42	10.1%	64	10.1%
Memphis	197	10.2%	747	10.3%	45	10.8%	69	10.9%
Nashville	452	23.4%	1,642	22.6%	105	25.2%	165	26.0%
Tri-Cities	418	21.7%	1,556	21.5%	82	19.7%	125	19.7%
Intrastate Trade	175	9.1%	641	8.8%	51	12.3%	79	12.5%
Agricultural Machinery:								
State	1,333		4,021		222		402	
Chattanooga	145	10.9%	418	10.4%	26	11.5%	49	12.2%
Knoxville	30	2.3%	90	2.2%	5	2.3%	9	2.3%
Memphis	586	44.0%	1,728	43.0%	91	40.8%	164	40.9%

Table 18. Estimated Total Economic Impacts from Secondary Agricultural Products (Cont.)

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Nashville	64	4.8%	202	5.0%	12	5.4%	21	5.3%
Tri-Cities	408	30.7%	1,146	28.5%	56	25.2%	106	26.5%
Intrastate Trade	99	7.4%	437	10.9%	33	14.7%	51	12.7%
Agricultural Chemicals:								
State	1,288		3,085		220		526	
Chattanooga	83	6.5%	172	5.6%	12	5.5%	33	6.3%
Knoxville	179	13.9%	484	15.7%	30	13.8%	66	12.5%
Memphis	706	54.8%	1,466	47.5%	114	52.0%	303	57.7%
Nashville	266	20.7%	720	23.3%	49	22.1%	103	19.5%
Tri-Cities	15	1.1%	40	1.3%	2	1.1%	4	0.8%
Intrastate Trade	39	3.0%	203	6.6%	12	5.5%	18	3.4%
Textile Product Mills:								
State	934		5,391		254		371	
Chattanooga	187	20.0%	1,354	25.1%	55	21.6%	73	19.8%
Knoxville	197	21.1%	1,240	23.0%	52	20.3%	77	20.7%
Memphis	77	8.2%	485	9.0%	23	9.1%	33	8.8%
Nashville	404	43.3%	2,013	37.3%	106	41.6%	162	43.6%
Tri-Cities	17	1.8%	110	2.0%	5	2.0%	7	1.8%
Intrastate Trade	52	5.6%	189	3.5%	14	5.3%	19	5.3%
Apparel Manufacturing:								
State	676		5,893		268		316	
Chattanooga	151	22.3%	1,172	19.9%	60	22.3%	72	22.8%
Knoxville	85	12.5%	832	14.1%	32	11.9%	37	11.7%
Memphis	111	16.5%	1,098	18.6%	47	17.7%	51	16.0%
Nashville	283	41.9%	2,408	40.9%	111	41.3%	134	42.3%
Tri-Cities	24	3.5%	247	4.2%	9	3.5%	10	3.2%
Intrastate Trade	22	3.3%	136	2.3%	9	3.3%	12	3.9%
Leather & Allied Product Manufacturing:								
State	208		1,142		49		63	
Chattanooga	18	8.5%	138	12.1%	6	11.8%	5	8.8%
Knoxville	23	11.3%	159	14.0%	6	11.7%	7	11.9%
Memphis	68	32.5%	346	30.3%	13	27.1%	19	29.9%
Nashville	97	46.4%	483	42.3%	23	48.0%	30	48.2%
Tri-Cities	0 ^d	0.1%	2	0.2%	0 ^d	0.2%	0 ^d	0.1%
Intrastate Trade	3	1.2%	14	1.2%	1	1.1%	1	1.0%

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

^bTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and excise and sales taxes paid by individuals to businesses.

^cPercent of state total.

^dValues of 0 are nonzero values that are less than 1.

Agricultural Machinery); *fiber, yarn, and thread mills* (see Textile Mills); and *fabric coating mills* (see Textile Mills) are important industries in the Tri-Cities Region.

Primary Forest Products Total Impacts:

Figures 24 and 25 show 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 values for all the indicators analyzed compared to the other primary forest products sectors (Table 19). The Memphis Region dominated all value indicators for this sector, with the Chattanooga Region having the next largest values. The Memphis Region also had the largest values for paperboard mills and forestry, forest products, and timber tract production. The Nashville Region exhibited the largest output values for sawmills and commercial logging. The Chattanooga Region had the largest output value for pulp mills and sawmills, woodworking, and paper machinery, whereas the Tri-Cities Region had the largest economic activity for wood preservation. For all the primary forest products indicators, the largest output value for the Knoxville Region came from forestry, forest products, and timber tract production and sawmills.

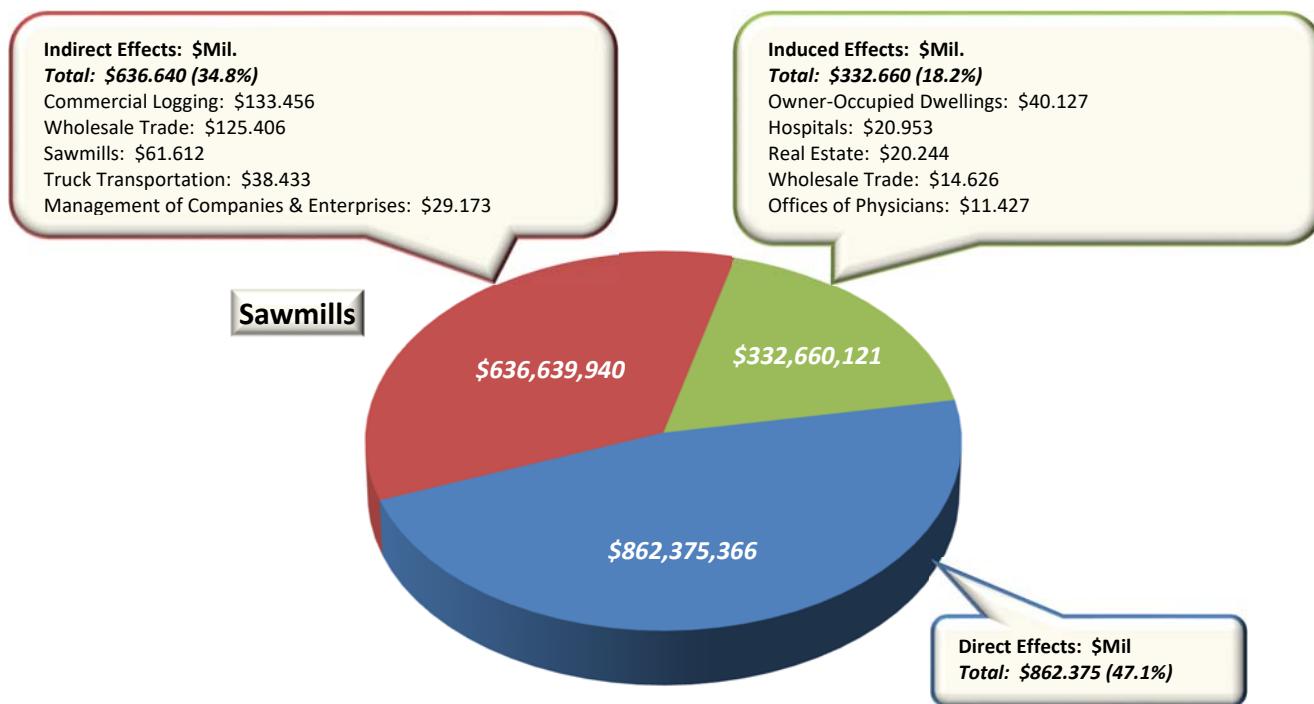


Figure 24. Estimated Direct, Indirect, and Induced Impacts for Sawmills.

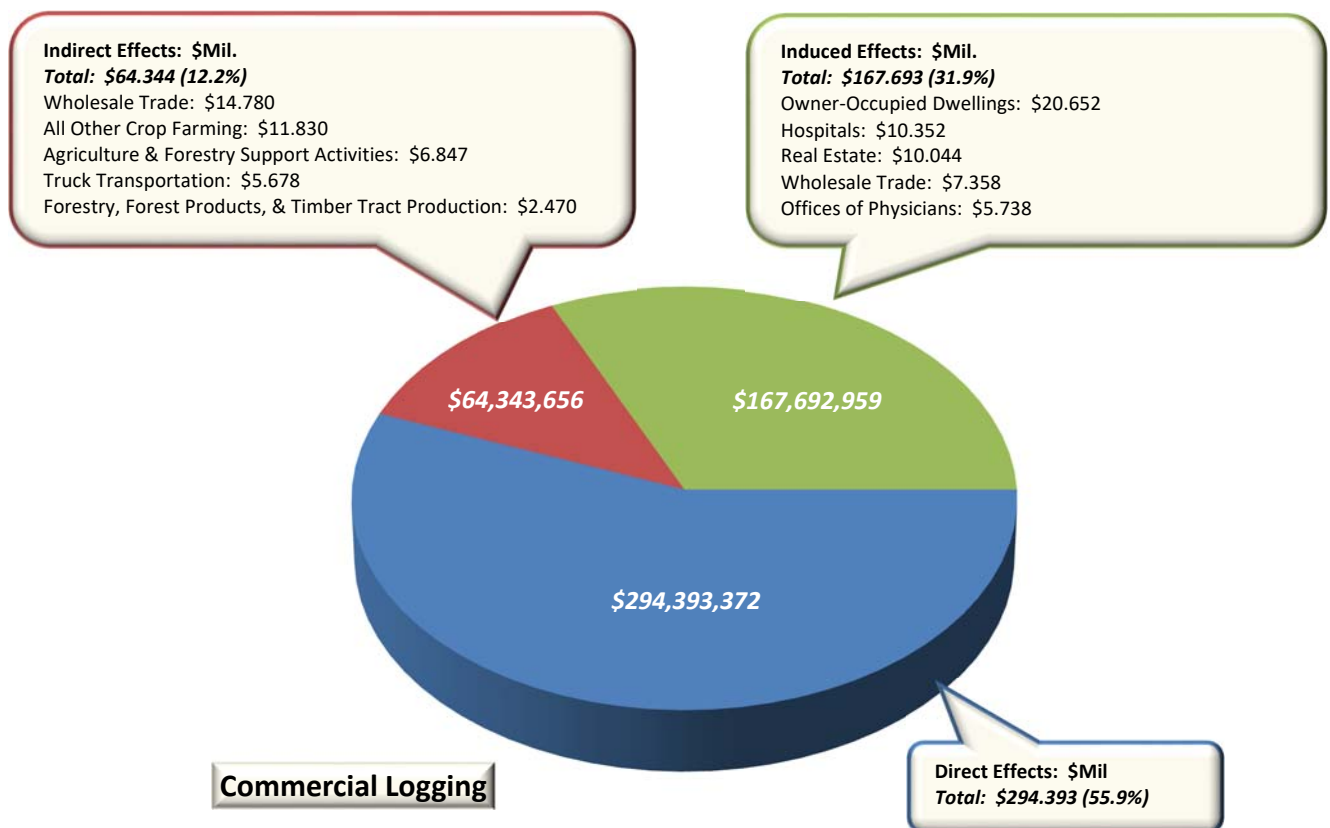


Figure 25. Estimated Direct, Indirect, and Induced Impacts for Commercial Logging.

Table 19. Estimated Total Economic Impacts from Primary Forest Products

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Total Primary Forest Products:								
State	11,130		40,868		2,779		4,431	
Chattanooga	1,341	12.0%	4,371	10.7%	295	10.6%	476	10.7%
Knoxville	621	5.6%	2,689	6.6%	140	5.0%	213	4.8%
Memphis	6,518	58.6%	20,673	50.6%	1,630	58.6%	2,696	60.8%
Nashville	1,665	15.0%	8,887	21.7%	453	16.3%	655	14.8%
Tri-Cities	405	3.6%	1,407	3.4%	79	2.8%	131	2.9%
Intrastate Trade	580	5.2%	2,841	7.0%	183	6.6%	260	5.9%
Paper Mills:								
State	7,174		21,068		1,746		2,935	
Chattanooga	835	11.6%	2,281	10.8%	178	10.2%	304	10.4%
Knoxville	315	4.4%	953	4.5%	63	3.6%	105	3.6%
Memphis	4,750	66.2%	13,364	63.4%	1,192	68.2%	2,032	69.2%
Nashville	558	7.8%	1,684	8.0%	124	7.1%	206	7.0%
Tri-Cities	296	4.1%	810	3.8%	55	3.1%	96	3.3%
Intrastate Trade	419	5.8%	1,976	9.4%	135	7.7%	192	6.5%
Sawmills:								
State	1,594		7,684		377		544	
Chattanooga	47	2.9%	222	2.9%	11	2.8%	15	2.7%

Table 19. Estimated Total Economic Impacts from Primary Forest Products (Cont.)

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Knoxville	212	13.3%	1,030	13.4%	49	13.1%	71	13.1%
Memphis	462	29.0%	2,217	28.9%	108	28.6%	156	28.7%
Nashville	819	51.4%	3,931	51.2%	199	52.9%	289	53.1%
Tri-Cities	41	2.6%	202	2.6%	8	2.1%	11	2.1%
Intrastate Trade	13	0.8%	81	1.1%	2	0.5%	1	0.2%
Paperboard Mills:								
State	1,349		4,248		285		468	
Chattanooga	119	8.8%	353	8.3%	19	6.8%	32	6.8%
Knoxville	50	3.7%	159	3.7%	9	3.2%	15	3.2%
Memphis	1,100	81.5%	3,341	78.7%	232	81.4%	388	82.9%
Nashville	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tri-Cities	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Intrastate Trade	81	6.0%	395	9.3%	24	8.6%	33	7.1%
Commercial Logging:								
State	528		5,929		250		306	
Chattanooga	43	8.1%	517	8.7%	20	8.1%	25	8.0%
Knoxville	34	6.5%	463	7.8%	14	5.8%	18	5.9%
Memphis	162	30.7%	1,538	25.9%	85	34.0%	102	33.3%
Nashville	268	50.8%	3,151	53.1%	123	49.1%	152	49.7%
Tri-Cities	11	2.1%	150	2.5%	5	2.0%	6	1.9%
Intrastate Trade	9	1.7%	110	1.9%	3	1.0%	4	1.3%
Pulp Mills:								
State	264		885		58		90	
Chattanooga	231	87.4%	718	81.1%	47	81.1%	74	81.3%
Knoxville	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Memphis	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Nashville	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tri-Cities	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Intrastate Trade	33	12.6%	167	18.9%	11	18.9%	17	18.7%
Wood Preservation:								
State	111		412		21		35	
Chattanooga	26	23.6%	91	22.0%	4	20.7%	7	20.6%
Knoxville	2	2.1%	9	2.1%	0 ^d	2.0%	1	2.0%
Memphis	24	21.8%	90	21.7%	4	20.0%	7	20.2%
Nashville	2	2.1%	9	2.1%	0 ^d	2.4%	1	2.2%
Tri-Cities	39	35.2%	133	32.3%	6	27.7%	10	30.2%
Intrastate Trade	17	15.2%	81	19.7%	6	27.2%	9	24.7%
Sawmills, Woodworking, & Paper Machinery:								
State	90		431		31		42	
Chattanooga	41	46.0%	190	44.0%	15	48.2%	20	47.6%
Knoxville	3	3.5%	15	3.5%	1	3.6%	1	3.6%
Memphis	11	12.2%	53	12.2%	4	12.5%	5	12.2%
Nashville	13	14.9%	67	15.6%	4	13.1%	6	13.4%
Tri-Cities	14	16.1%	73	16.8%	4	14.3%	6	14.1%
Intrastate Trade	6	7.2%	34	7.8%	3	8.4%	4	9.2%

Table 19. Estimated Total Economic Impacts from Primary Forest Products (Cont.)

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Forestry, Forest Products, & Timber Tract Production:								
State	21		210		10		12	
Chattanooga	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Knoxville	4	21.4%	60	28.6%	2	17.7%	2	18.4%
Memphis	9	44.3%	70	33.4%	5	52.3%	6	50.5%
Nashville	4	18.4%	45	21.2%	2	16.8%	2	17.1%
Tri-Cities	2	11.7%	39	18.5%	1	8.6%	1	8.9%
Intrastate Trade	1	4.2%	-3	-1.6%	0 ^d	4.5%	1	5.1%

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

^bTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and excise and sales taxes paid by individuals to businesses.

^cPercent of state total.

^dValues of 0 are nonzero values that are less than 1.

Secondary Forest Products Total Impacts:

For all indicators for secondary forest products, paper manufacturing and furniture and related product manufacturing were the largest contributors (Table 20). The Memphis and Nashville Regions had the largest output values for paper manufacturing (for Memphis, primarily from paperboard containers manufacturing and *sanitary paper product manufacturing* (see Other Converted Paper Products; for Nashville, from paperboard containers manufacturing); however, for employment and labor income, the Nashville Region had the largest values. For furniture, the Nashville, Chattanooga, and Knoxville Regions had the largest output values. More specifically, for Nashville primarily from *showcase, partition, shelving, and locker manufacturing* (see Office Furniture) and *mattress manufacturing* (see Other Furniture Related Products). For Chattanooga and Knoxville, both primarily from *upholstered household furniture manufacturing* (see Household and Institutional Furniture). The Knoxville Region had the largest output values for *manufactured home (mobile home) manufacturing*. For wood windows and doors and millwork, the Memphis Region had the largest value followed by the Nashville and Knoxville Regions. The Nashville Region also had the largest economic activity for wood kitchen cabinets and countertop maintenance and *engineered wood members and truss manufacturing* (see Veneer, Plywood, and Engineered Wood Products manufacturing). Economic activity for *reconstituted wood product manufacturing* (see Veneer, Plywood, and Engineered Wood Products manufacturing) was the largest for the Chattanooga Region. Important secondary forest products industries for the Tri-Cities Region included paper bags and coated and treated paper manufacturing and *other millwork, including flooring* (see Wood Windows and Doors Millwork).

From a regional perspective, the agri-forestry industrial complex was more important to the economies of Memphis and Chattanooga Regions relative to other regions in the state followed by the

Table 20. Estimated Total Economic Impacts from Secondary Forest Products

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Total Secondary Forest Products:								
State	13,160		60,469		3,420		4,916	
Chattanooga	2,017	15.3%	9,221	15.2%	476	13.9%	663	13.5%
Knoxville	2,398	18.2%	11,813	19.5%	668	19.5%	935	19.0%
Memphis	3,147	23.9%	13,105	21.7%	790	23.1%	1,190	24.2%
Nashville	4,249	32.3%	20,242	33.5%	1,142	33.4%	1,621	33.0%
Tri-Cities	871	6.6%	3,748	6.2%	178	5.2%	262	5.3%
Intrastate Trade	479	3.6%	2,340	3.9%	165	4.8%	245	5.0%
Paper Manufacturing:								
State	6,781		24,349		1,647		2,420	
Chattanooga	898	13.2%	3,244	13.3%	190	11.5%	273	11.3%
Knoxville	1,030	15.2%	3,891	16.0%	296	18.0%	406	16.8%
Memphis	2,062	30.4%	6,707	27.5%	474	28.8%	745	30.8%
Nashville	2,026	29.9%	7,569	31.1%	516	31.3%	738	30.5%
Tri-Cities	540	8.0%	1,853	7.6%	92	5.6%	142	5.9%
Intrastate Trade	225	3.3%	1,085	4.5%	79	4.8%	117	4.8%
Furniture & Related Products Manufacturing:								
State	2,646		14,357		714		977	
Chattanooga	752	28.4%	4,130	28.8%	198	27.8%	264	27.0%
Knoxville	555	21.0%	3,239	22.6%	143	20.0%	195	19.9%
Memphis	168	6.3%	1,052	7.3%	53	7.4%	69	7.1%
Nashville	892	33.7%	4,502	31.4%	235	32.8%	329	33.7%
Tri-Cities	153	5.8%	795	5.5%	40	5.6%	53	5.4%
Intrastate Trade	126	4.8%	640	4.5%	45	6.3%	68	6.9%
Other Wood Products Manufacturing:								
State	1,282		9,004		399		536	
Chattanooga	122	9.5%	876	9.7%	39	9.7%	50	9.3%
Knoxville	116	9.1%	856	9.5%	34	8.4%	45	8.4%
Memphis	295	23.0%	2,021	22.4%	98	24.6%	131	24.4%
Nashville	653	50.9%	4,588	51.0%	201	50.5%	274	51.1%
Tri-Cities	66	5.2%	507	5.6%	19	4.7%	25	4.6%
Intrastate Trade	29	2.3%	157	1.7%	8	2.0%	12	2.2%
Wood Windows & Doors & Millwork:								
State	1,061		5,661		282		429	
Chattanooga	49	4.6%	237	4.2%	12	4.2%	19	4.3%
Knoxville	176	16.6%	961	17.0%	42	14.9%	65	15.2%
Memphis	384	36.2%	2,087	36.9%	104	36.7%	155	36.2%
Nashville	321	30.2%	1,691	29.9%	87	31.0%	133	31.1%
Tri-Cities	90	8.5%	481	8.5%	22	8.0%	35	8.2%
Intrastate Trade	42	3.9%	204	3.6%	15	5.2%	21	5.0%
Manufactured Homes Manufacturing:								
State	852		4,657		253		371	
Chattanooga	7	0.8%	40	0.9%	2	0.8%	3	0.8%
Knoxville	461	54.1%	2,537	54.5%	138	54.5%	202	54.5%
Memphis	148	17.4%	841	18.1%	41	16.2%	60	16.3%

Table 20. Estimated Total Economic Impacts from Secondary Forest Products (Cont.)

Sector	TIO ^a		Employment		Labor Income		TVA ^b	
	(Million \$)	% ^c	(Number)	% ^c	(Million \$)	% ^c	(Million \$)	% ^c
Nashville	197	23.1%	1,076	23.1%	60	23.7%	88	23.6%
Tri-Cities	3	0.3%	17	0.4%	1	0.3%	1	0.3%
Intrastate Trade	36	4.2%	146	3.1%	11	4.4%	16	4.4%
Veneer, Plywood, & Engineered Wood Products Manufacturing:								
State	538		2,441		125		183	
Chattanooga	190	35.3%	694	28.4%	35	28.3%	55	30.2%
Knoxville	60	11.2%	329	13.5%	15	12.3%	21	11.7%
Memphis	89	16.6%	397	16.3%	20	16.4%	30	16.5%
Nashville	160	29.8%	817	33.4%	43	34.0%	60	32.6%
Tri-Cities	18	3.3%	96	4.0%	4	3.3%	6	3.0%
Intrastate Trade	21	3.9%	108	4.4%	7	5.7%	11	6.0%

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

^bTotal Value Added – income to workers paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and excise and sales taxes paid by individuals to businesses.

^cPercent of state total.

Knoxville, Nashville, and Tri-Cities Regions (Table 21). The Memphis Region contributed the largest amount of economic activity for agriculture and forestry, \$30.9 billion, representing 20.1 percent of the total for the region.

Table 21. Regional Importance of Agriculture to that Region's Economy, 2015

Location	Total Economic Activity	Estimated Agri-Forestry Industrial Complex Contributions to the State's Economy			
		Agriculture	Forestry	Total Ag & Forestry	Proportion ^a
	(Million \$)	(Million \$)	(Million \$)	(Million \$)	(Ratio)
State	\$638,717	\$57,564	\$24,290	\$81,854	0.13
Chattanooga	\$72,538	\$5,930	\$3,358	\$9,288	0.13
Knoxville	\$101,344	\$8,076	\$3,019	\$11,096	0.11
Memphis	\$153,441	\$21,205	\$9,665	\$30,870	0.20
Nashville	\$270,238	\$18,568	\$5,913	\$24,481	0.09
Tri-Cities	\$41,157	\$2,511	\$1,275	\$3,787	0.09

^aTotal Economic Activity ÷ Total Ag & Forestry.

Source: IMPLAN Group, LLC, 2015

The 2015 output and employment multipliers for primary agricultural and forestry activities ranged from 1.09 to 1.85 (highlighted in yellow) for total industrial output and 1.03 to 4.81 for employment (Table 22). For interpretation, if commercial logging increased total industry output by \$1 million, the state's economy would increase by an estimated \$0.79 million overall, and for each job created in this same industry an estimated 0.64 additional jobs would be added in other industries. Beef cattle farmers that produce \$1 million of total industry output generated an additional \$0.43 million

Table 22. Output and Employment Multipliers for Selected Agriculture and Forestry Sectors

IMPLAN Sector	TIO ^a		Employment	
	Indirect	Indirect & Induced	Indirect	Indirect & Induced
Oilseed farming	1.40	1.66	1.76	2.18
Grain farming	1.41	1.58	1.39	1.52
Vegetable & melon farming	1.18	1.54	1.15	1.40
Fruit farming	1.20	1.60	1.08	1.19
Tree nut farming	1.18	1.57	1.10	1.24
Greenhouse, nursery, and floriculture	1.23	1.62	1.16	1.37
Tobacco farming	1.26	1.64	1.13	1.28
Cotton farming	1.29	1.65	1.34	1.68
All other crop farming	1.32	1.67	1.05	1.10
Dairy cattle & milk production	1.34	1.57	1.65	2.00
Beef cattle farming	1.43	1.63	1.24	1.31
Poultry & egg production	1.30	1.47	1.41	1.76
Animal production, except cattle/poultry/eggs	1.24	1.56	1.08	1.17
Commercial hunting & trapping	1.29	1.64	1.08	1.19
Agriculture & forestry support activities	1.09 ^b	1.52	1.03 ^b	1.20
Commercial logging	1.22	1.79	1.29	1.64
Sawmills	1.55	1.85 ^b	1.80	2.39
Wood preservation	1.59	1.83	2.46	3.29
Pulp mills	1.48	1.74	2.94	4.42
Paper mills	1.36	1.63	2.64	4.54
Paperboard mills	1.49	1.75	3.16	4.81 ^b
Forestry, forest products, & timber tracts	1.27	1.85 ^b	1.34	1.74

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

^bMultipliers highlighted in yellow denote the range of low to high multipliers for total industrial output and employment.

indirectly through the purchase of inputs and \$0.63 million in total economic activity (purchased inputs plus household spending) within the state.

Figures 23 through 31 show the estimated direct and total economic activity derived from agriculture, forestry, and both agriculture and forestry combined by county for Tennessee. These values were based on total industry output and were compared to the total economic activity for each county. In this analysis, direct agriculture included crop production and livestock breeding and feeding, whereas direct forestry included the management and logging of trees. Total agriculture included direct agriculture, plus the input supplying industries and agriculture manufacturing. Likewise, total forestry included direct forestry, plus input supplying industries and forestry manufacturing. Lake County in the Memphis Region and Bledsoe County in the Chattanooga Region had the highest level of economic activity for commodity agriculture at 19.3 percent and 12.5 percent, respectively (Table 23); for total agriculture, Moore County in the Nashville Region and Loudon County in the Knoxville Region had the highest level at 83.4 percent and 33.9 percent, respectively. For forestry, Van Buren County in the

Table 23. Tennessee Counties with the Highest Proportion of Economic Activity for Agriculture and Forestry by Analysis Region, 2015

	Chatt	%	Knox	%	Memphis	%	Nash	%	Tri	%
Ag:										
Direct	Bledsoe	12.5	Hancock	7.1	Lake	19.3	Clay	10.1	Greene	2.0
Total	Meigs	25.2	Loudon	33.9	Tipton	46.3	Moore	83.4	Greene	15.9
Forestry:										
Direct	Bledsoe	1.0	Morgan	0.3	Hardeman	1.0	Van			
Total	Rhea	11.3	Grainger	21.0	Hardin	35.2	Buren	3.7	Hawkins	0.1
							Wayne	17.0	Greene	5.7
Combined:										
Direct	Bledsoe	13.5	Hancock	7.4	Lake	19.3	Clay	12.6	Greene	2.0
Total	Meigs	26.0	Loudon	34.2	Tipton	47.4	Moore	83.7	Greene	21.6

Nashville Region had the highest level of economic activity at 3.7 percent; for total forestry, Hardin County in the Memphis Region had the highest level at 35.2 percent. Likewise, for both agriculture and forestry combined, Lake County in the Memphis Region (19.3 percent for direct) and Moore County (83.7 percent for total) in the Nashville Region had the largest levels of economic activity.

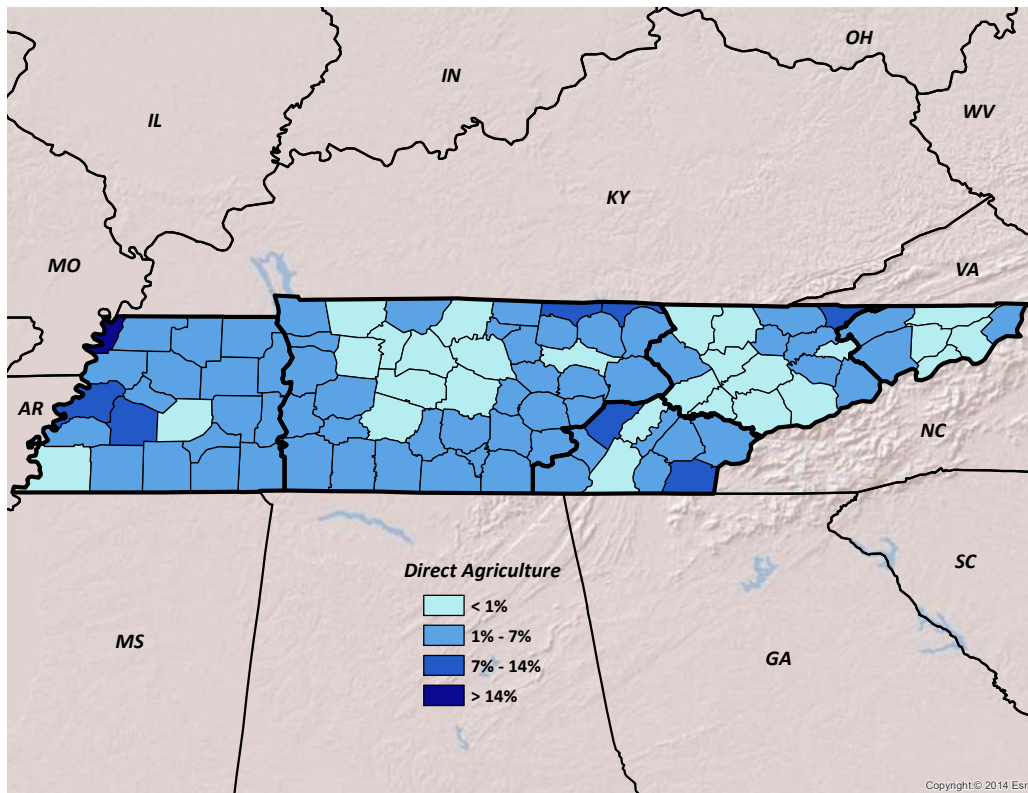


Figure 26. Percent of Economic Activity from Direct Agriculture, 2015
(Source: IMPLAN Group, LLC, 2015)

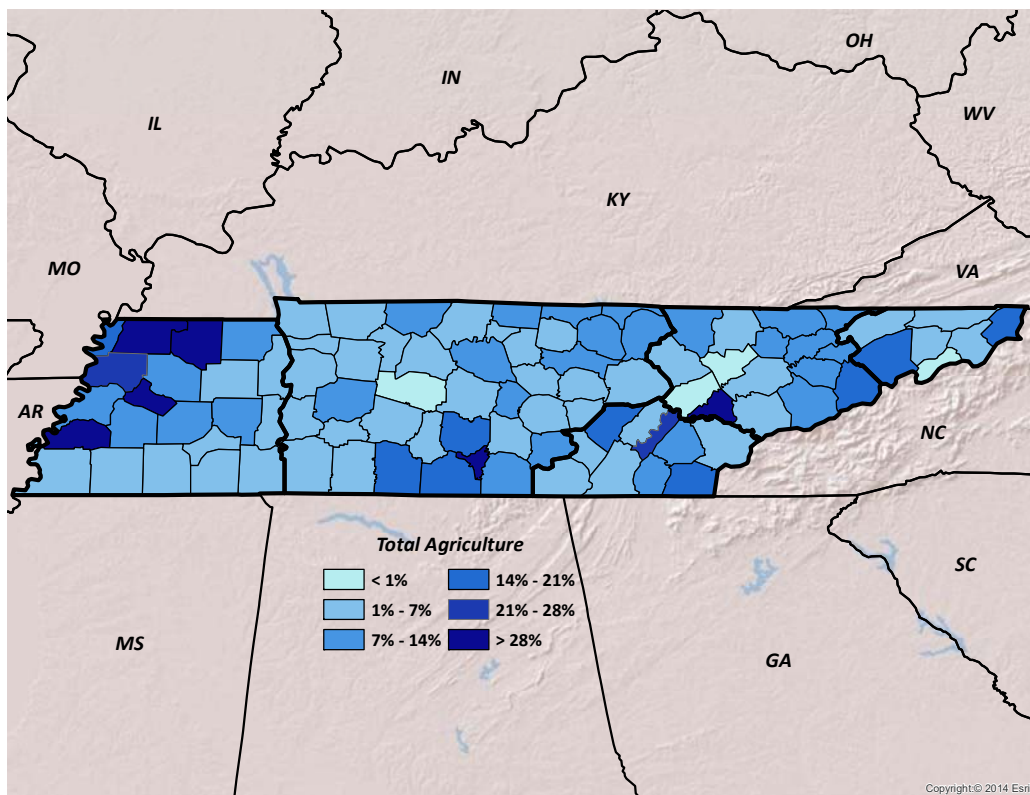


Figure 27. Percent of Economic Activity from Total Agriculture, 2015
(Source: IMPLAN Group, LLC, 2015)

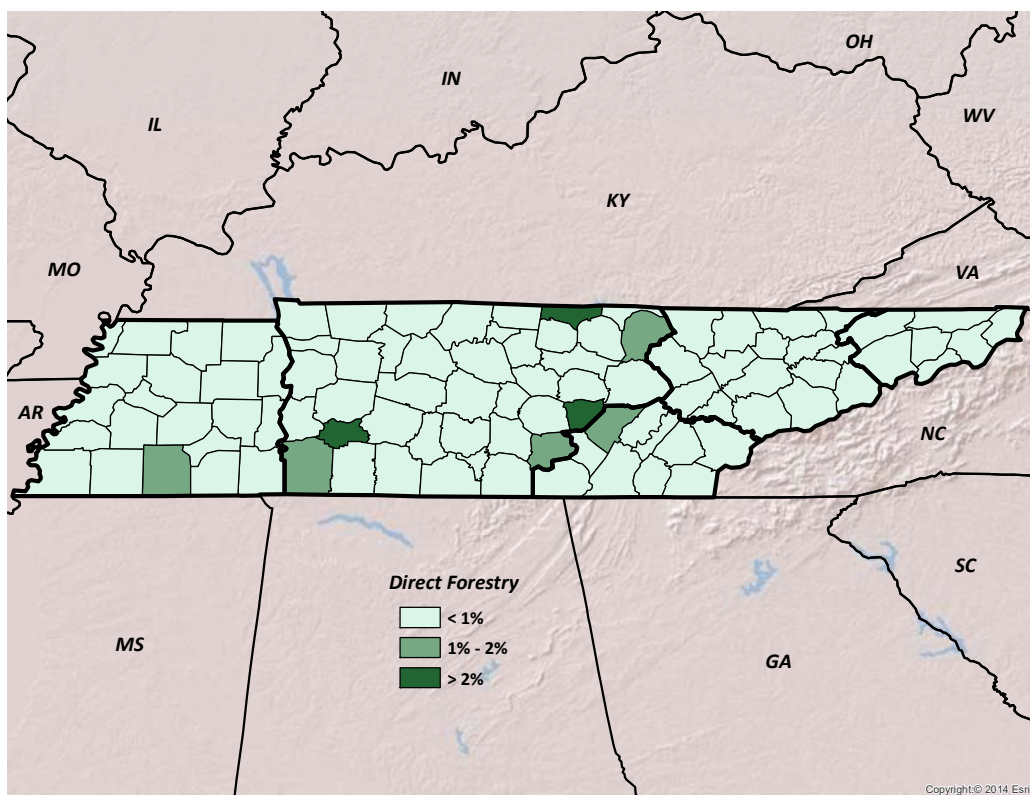


Figure 28. Percent of Economic Activity from Direct Forestry, 2015
(Source: IMPLAN Group, LLC, 2015)

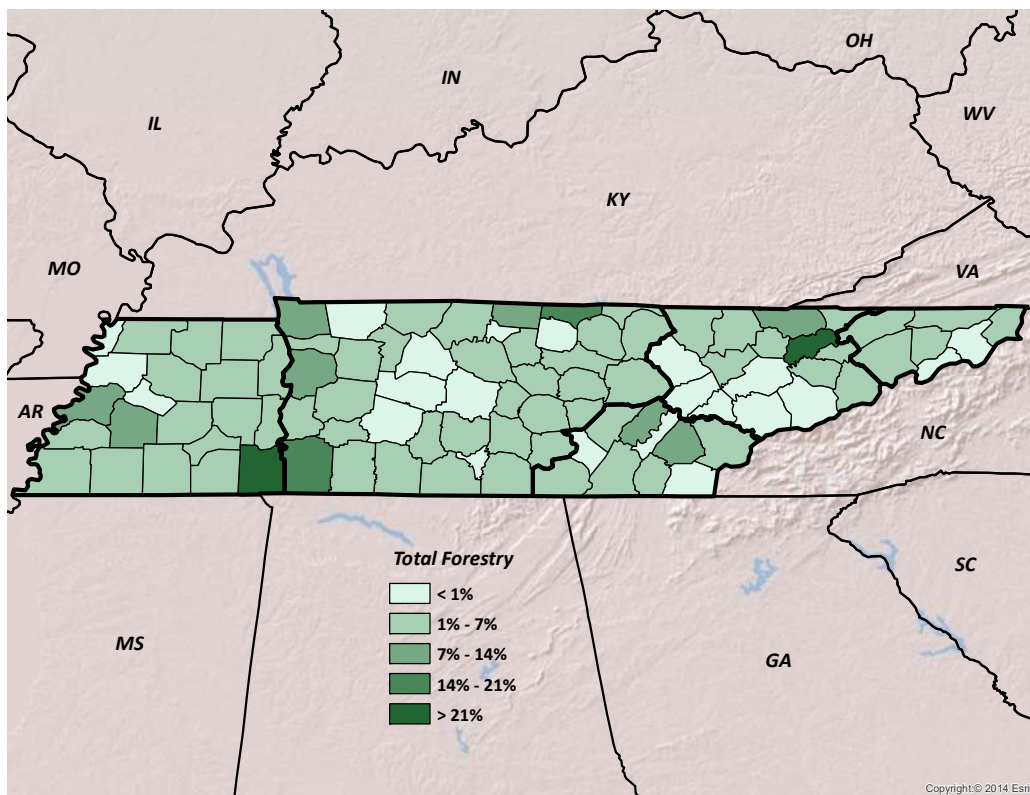


Figure 29. Percent of Economic Activity from Total Forestry, 2015
(Source: IMPLAN Group, LLC, 2015)

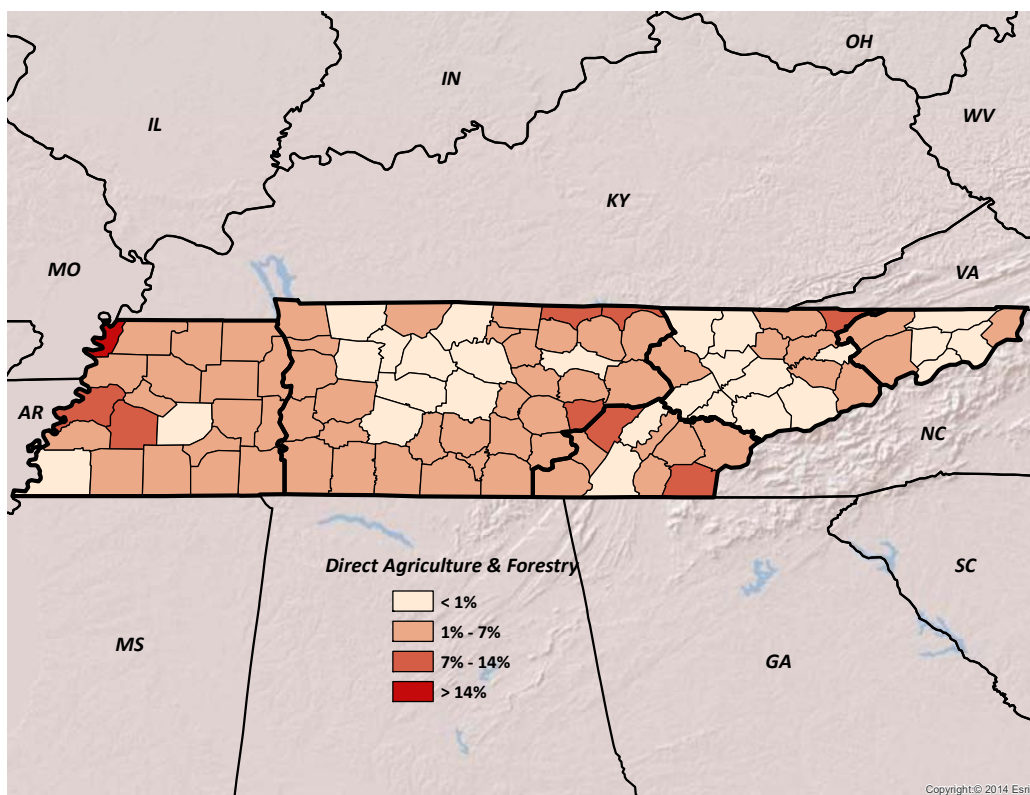


Figure 30. Percent of Economic Activity from Direct Agriculture and Forestry, 2015
(Source: IMPLAN Group, LLC, 2015)

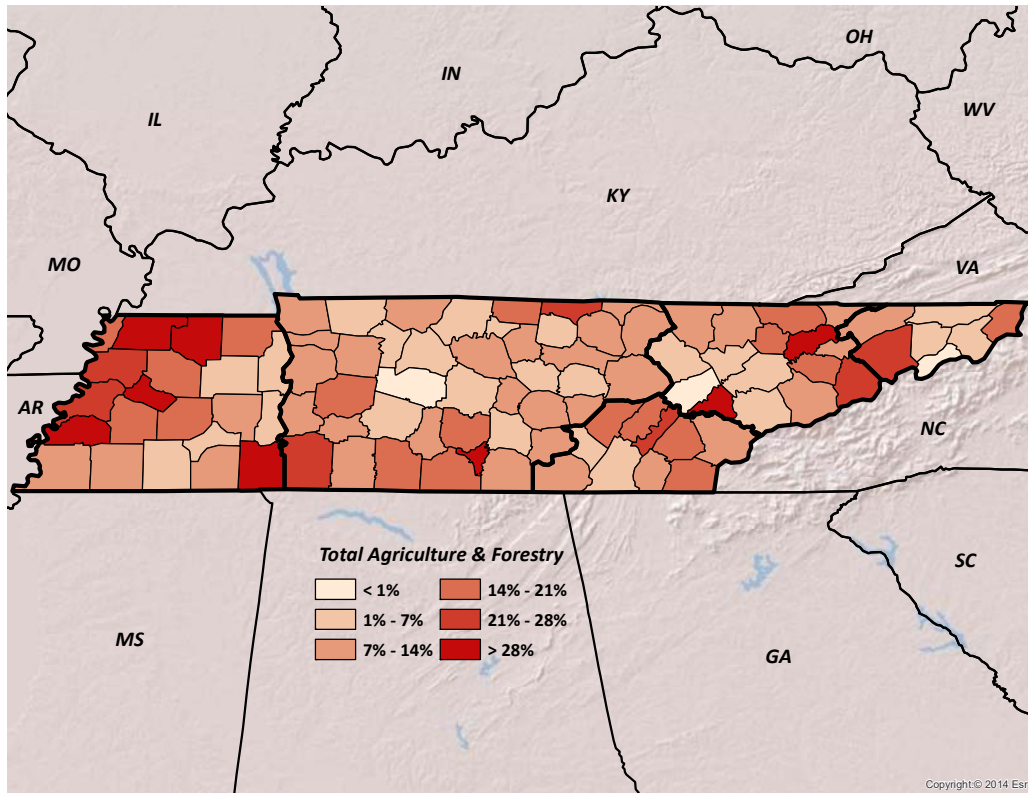


Figure 31. Percent of Economic Activity from Total Agriculture and Forestry, 2015
(Source: IMPLAN Group, LLC, 2015)

Tax Impacts from Tennessee Agriculture and Forestry

Revenues for Tennessee in 2015 were estimated at \$13.1 billion in the form of local and state taxes (TN Department of Revenue, 2017). Based on the IMPLAN data for Tennessee in 2015, tax impacts at the state and local level 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 \$2.19 billion (Table 24). An additional \$4.21 billion is generated for the federal government. Agriculture tax revenues are estimated at \$1.6 billion for state/local and \$2.8 billion for federal; for forestry, \$0.6 billion in tax revenues are generated for state/local and \$1.4 billion in federal. For state/local tax revenues, taxes on imports and product for both agriculture and forestry have the largest value; for federal tax revenues, personal taxes have the largest value.

Table 24. Estimated State/Local and Federal Tax Revenues from Tennessee Agriculture and Forestry, 2015

	State & Local Revenues	Federal Revenues
	(Million \$)	
Agriculture^a		
Production & import taxes ^b	\$1,371.3	\$192.1
Corporate profits taxes ^c	\$138.5	\$644.1
Personal (household) taxes ^d	\$73.2	\$1,938.7

Table 24. Estimated State/Local and Federal Tax Revenues from Tennessee Agriculture and Forestry, 2015 (Cont.)

	State & Local Revenues	Federal Revenues
	(Million \$)	
Total	\$1,583.0	\$2,775.0
Forestry^a		
Production & import taxes ^b	\$516.7	\$72.4
Corporate profits taxes ^c	\$45.7	\$212.5
Personal (household) taxes ^d	\$43.4	\$1,149.5
Total	\$605.8	\$1,434.4
Agriculture & Forestry Total	\$2,188.8	\$4,209.4

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

^bFor state/local, sales taxes, property taxes, motor vehicle licenses taxes, severance taxes, other taxes, and state/local non-taxes; for federal, excise taxes, custom duty taxes, and non-taxes.

^cFor state/local, includes dividends and corporate profits tax; for federal, corporate profit tax only.

^dFor state/local, income taxes, non-taxes (fines & fees), motor vehicle license taxes, property taxes, and other taxes (fishing/hunting); for federal, income taxes.

Source: IMPLAN Group, LLC, 2015

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 2015, the agri-forestry industrial complex contributed \$81.8 billion to the Tennessee economy, which was 12.8 percent of the economic activity conducted in the state, and employed an estimated 351,164 individuals, or 9.2 percent of the total number of workers. Agriculture, a subset of the agri-forestry industrial complex, includes farming and related industries, as well as value-added food and fiber production, processing and manufacturing. Agriculture accounted for 9.0 percent of the state's economy and generated \$57.6 billion in output. Agriculture employed close to 250,000 Tennesseans, with over 96,000 (both full- and part-time) 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 3.8 percent of the state's economy, employed over 101,337 Tennesseans, and generated \$24.3 billion in output.

When comparing county level total economic activity (across all industries) with county level agricultural economic activity, the counties with the highest percentages were Moore (83.4 percent) in the Nashville Region, Tipton (46.3 percent) in the Memphis Region, Loudon (33.9 percent) in the

Knoxville Region, Meigs (25.2 percent) in the Chattanooga Region, and Greene (15.9 percent) in the Tri-Cities Region. Likewise, for forestry, Hardin County (35.2 percent) had the highest level of forestry economic activity percentage in the Memphis Region, followed by Grainer County (21.0 percent) in the Knoxville Region, Wayne County (17.0 percent) in the Nashville Region, Rhea County (11.3 percent) in the Chattanooga Region, and Greene County (5.7 percent) in the Tri-Cities Region. Combining both agriculture and forestry economic activity levels and comparing to the total, the counties with the highest percentages were Moore (83.7 percent) in the Nashville Region, Tipton (47.4 percent) in the Memphis Region, Loudon (34.2 percent) in the Knoxville Region, Meigs (26.0 percent) in the Chattanooga Region, and Greene (21.6 percent) in the Tri-Cities Region.

Comparing 2013 and 2015 statewide agricultural data revealed a decrease in the numbers of cattle and calves, chickens (excluding broilers), and dairy cattle, while the numbers of hogs, eggs, and broilers increased. Prices increased for all livestock products except for hogs and broilers (Table 7). Many of the traditional row crops grown in the state experienced decreased planted acreage except for soybeans and snap beans. Crop prices decreased for all major crops grown except for hay and tomatoes (Table 8). In general, above average rainfall occurred across the state for the years 2013 through 2015, whereas for 2012, below normal rainfall occurred (Figure 16).

Comparing 2015 major industry sectors to previous studies using 2006, 2009, 2011, and 2013 IMPLAN data, direct economic activity for agriculture increased an average of 7.6 percent, whereas economic activity for forestry remained relatively flat (-0.3 percent) in nominal terms. Most other major industrial sectors had increases in economic activity for this timeframe with services having the largest average increase at 15.5 percent, followed by government (13.3 percent), construction (13.1 percent), wholesale trade (10.2 percent), mining (7.8 percent), manufacturing (4.0 percent), and retail trade (3.0 percent). For workers or jobs in agriculture and forestry, forestry had the largest average decrease at 7.5 percent with agriculture having a 4.8 percent decrease. For workers or jobs in other industries, the largest average increase was for mining at 16.6 percent, followed by services (5.8 percent) and government (2.6 percent). The largest average decrease was for manufacturing at 2.7 percent, followed by wholesale trade (1.8 percent), retail trade (1.5 percent), and construction (0.6 percent).

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Appendix A: IMPLAN Methodology

Input-output model results from previous studies (English, Jensen, and Menard, 2001 and 2003) in this series were based on the Standard Industrial Classification (SIC) system as defined by the United States Census Bureau. Beginning in 2006 (Menard, English, and Jensen), results are based on the North American Industrial Classification System (NAICS) (Census NAICS, 2002, 2007, 2012). 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 in 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.

Like the previous analysis conducted for 2013, this analysis uses IMPLAN Version 3.0. IMPLAN's sectoring scheme relies on the Bureau of Economic (BEA) Analysis's Benchmark input-output study (IMPLAN Group, LLC, 2013; USDOC, 2015a). When a new BEA Benchmark is released, the IMPLAN sectoring scheme requires modification. Previous studies used IMPLAN Pro 2.0 and had either a 528 or 509 industrial sectoring scheme and for IMPLAN Version 3.0 a 440 industrial sectoring scheme. With the release of the 2015 Benchmark, which is what IMPLAN Version 3.0 uses and affects the IMPLAN 2015 data release year, a 536 industrial sectoring scheme is used.

IMPLAN uses a regional social accounting system and generates a set of balanced economic/social accounts and multipliers. The social accounting system is an extension of input-output analysis.¹⁴ 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

¹⁴ Input-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.

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.

	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 536 Industry Sector Descriptions, NAICS, and Agri-Forestry Designation

Sector	Description	2012 NAICS	Agri-Forestry^a
1	Oilseed farming	11111-2	Primary Ag
2	Grain farming	11113-6, 11119	Primary Ag
3	Vegetable and melon farming	1112	Primary Ag
		111331-2, 111331-4,	
4	Fruit farming	111336, 111339	Primary Ag
5	Tree nut farming	111335, 111336	Primary Ag
6	Greenhouse, nursery, and floriculture production	1114, 1125	Primary Ag
7	Tobacco farming	11191	Primary Ag
8	Cotton farming	11192	Primary Ag
9	Sugarcane and sugar beet farming	11193, 111991	Primary Ag
10	All other crop farming	11194, 111992, 111998	Primary Ag
	Beef cattle farming, including feedlots and dual-purpose		
11	ranching and farming	11211, 11213	Primary Ag
12	Dairy cattle and milk production	11212	Primary Ag
13	Poultry and egg production	1123	Primary Ag
14	Animal production, except cattle and poultry and eggs	1122, 1124, 1125, 1129	Primary Ag
15	Forestry, forest products, and timber tract production	1131-2	For Inputs
16	Commercial logging	1133	For Inputs
17	Commercial fishing	1141	Primary Ag
18	Commercial hunting and trapping	1142	Primary Ag
19	Support activities for agriculture and forestry	115	Primary Ag
20	Extraction of natural gas and crude petroleum	211111	
21	Extraction of natural gas liquids	211112	
22	Coal mining	2121	
23	Iron ore mining	212210	
24	Gold ore mining	212221	
25	Silver ore mining	212222	
26	Lead and zinc ore mining	212231	
27	Copper ore mining	212234	
28	Uranium-radium-vanadium ore mining	212291	
29	Other metal ore mining	212299	
30	Stone mining and quarrying	21231	
31	Sand and gravel mining	212321-4	
32	Other clay, ceramic, refractory minerals mining	212325	
33	Potash, soda, and borate mineral mining	212391	
34	Phosphate rock mining	212392	
35	Other chemical and fertilizer mineral mining	212393	
36	Other nonmetallic minerals	212399	
37	Drilling oil and gas wells	213111	
38	Support activities for oil and gas operations	213112	
39	Metal mining services	213114	
40	Other nonmetallic minerals services	213113, 213115	
41	Electric power generation - Hydroelectric	221111	
42	Electric power generation - Fossil fuel	221112	
43	Electric power generation - Nuclear	221113	
44	Electric power generation - Solar	221114	
45	Electric power generation - Wind	221115	
46	Electric power generation - Geothermal	221116	
47	Electric power generation - Biomass	221117	
48	Electric power generation - All other	221118	
49	Electric power transmission and distribution	22112	
50	Natural gas distribution	2212	

Table B.1. IMPLAN 536 Industry Sector Descriptions and NAICS (Cont.)

Sector	Description	2012 NAICS	Agri-Forestry^a
51	Water, sewage and other systems	2213	
52	Construction of new health care structures	23	
53	Construction of new manufacturing structures	23	
54	Construction of new power and communication structures	23	
55	Construction of new educational and vocational structures	23	
56	Construction of new highways and streets	23	
	Construction of new commercial structures, including farm		
57	structures	23	
58	Construction of other new nonresidential structures	23	
59	Construction of new single-family residential structures	23	
60	Construction of new multifamily residential structures	23	
61	Construction of other new residential structures	23	
	Maintenance and repair construction of nonresidential		
62	structures	23	
	Maintenance and repair construction of residential		
63	structures	23	
	Maintenance and repair construction of highways, streets,		
64	bridges, and tunnels	23	
65	Dog and cat food manufacturing	311111	Secondary Ag
66	Other animal food manufacturing	311119	Secondary Ag
67	Flour milling	311211	Secondary Ag
68	Rice milling	311212	Secondary Ag
69	Malt manufacturing	311213	Secondary Ag
70	Wet corn milling	311221	Secondary Ag
71	Soybean and other oilseed processing	311224	Secondary Ag
72	Fats and oils refining and blending	311225	Secondary Ag
73	Breakfast cereal manufacturing	31123	Secondary Ag
74	Beet sugar manufacturing	311313	Secondary Ag
75	Sugar cane mills and refining	311314	Secondary Ag
76	Nonchocolate confectionery manufacturing	31134	Secondary Ag
	Chocolate and confectionery manufacturing from cacao		
77	beans	311351	Secondary Ag
78	Confectionery manufacturing from purchased chocolate	311352	Secondary Ag
79	Frozen fruits, juices and vegetables manufacturing	311411	Secondary Ag
80	Frozen specialties manufacturing	311412	Secondary Ag
81	Canned fruits and vegetables manufacturing	311421	Secondary Ag
82	Canned specialties	311422	Secondary Ag
83	Dehydrated food products manufacturing	311423	Secondary Ag
84	Fluid milk manufacturing	311511	Secondary Ag
85	Creamery butter manufacturing	311512	Secondary Ag
86	Cheese manufacturing	311513	Secondary Ag
	Dry, condensed, and evaporated dairy product		
87	manufacturing	311514	Secondary Ag
88	Ice cream and frozen dessert manufacturing	31152	Secondary Ag
89	Animal, except poultry, slaughtering	311611	Secondary Ag
90	Meat processed from carcasses	311612	Secondary Ag
91	Rendering and meat byproduct processing	311613	Secondary Ag
92	Poultry processing	311615	Secondary Ag
93	Seafood product preparation and packaging	3117	Secondary Ag
94	Bread and bakery product, except frozen, manufacturing	311811-2	Secondary Ag
95	Frozen cakes and other pastries manufacturing	311813	Secondary Ag
96	Cookie and cracker manufacturing	311821	Secondary Ag

Table B.1. IMPLAN 536 Industry Sector Descriptions and NAICS (Cont.)

Sector	Description	2012 NAICS	Agri-Forestry^a
97	Dry pasta, mixes, and dough manufacturing	311824	Secondary Ag
98	Tortilla manufacturing	31183	Secondary Ag
99	Roasted nuts and peanut butter manufacturing	311911	Secondary Ag
100	Other snack food manufacturing	311919	Secondary Ag
101	Coffee and tea manufacturing	31192	Secondary Ag
102	Flavoring syrup and concentrate manufacturing	31193	Secondary Ag
103	Mayonnaise, dressing, and sauce manufacturing	311941	Secondary Ag
104	Spice and extract manufacturing	311942	Secondary Ag
105	All other food manufacturing	31199	Secondary Ag
106	Bottled and canned soft drinks & water	312111-2	Secondary Ag
107	Manufactured ice	312113	
108	Breweries	31212	Secondary Ag
109	Wineries	31213	Secondary Ag
110	Distilleries	31214	Secondary Ag
111	Tobacco product manufacturing	3122	Secondary Ag
112	Fiber, yarn, and thread mills	3131	Secondary Ag
113	Broadwoven fabric mills	31321	Secondary Ag
114	Narrow fabric mills and schiffli machine embroidery	31322	Secondary Ag
115	Nonwoven fabric mills	31323	Secondary Ag
116	Knit fabric mills	31324	Secondary Ag
117	Textile and fabric finishing mills	31331	Secondary Ag
118	Fabric coating mills	31332	Secondary Ag
119	Carpet and rug mills	31411	Secondary Ag
120	Curtain and linen mills	31412	Secondary Ag
121	Textile bag and canvas mills	31491	Secondary Ag
122	Rope, cordage, twine, tire cord and tire fabric mills	314994	Secondary Ag
123	Other textile product mills	314999	Secondary Ag
124	Hosiery and sock mills	31511	Secondary Ag
125	Other apparel knitting mills	31519	Secondary Ag
126	Cut and sew apparel contractors	31521	Secondary Ag
127	Men's and boys' cut and sew apparel manufacturing	31522	Secondary Ag
128	Women's and girls' cut and sew apparel manufacturing	31524	Secondary Ag
129	Other cut and sew apparel manufacturing	31528	Secondary Ag
130	Apparel accessories and other apparel manufacturing	3159	Secondary Ag
131	Leather and hide tanning and finishing	3161	Secondary Ag
132	Footwear manufacturing	3162	Secondary Ag
133	Other leather and allied product manufacturing	3169	Secondary Ag
134	Sawmills	321113	Primary For
135	Wood preservation	321114	Primary For
136	Veneer and plywood manufacturing	321211-2	Secondary For
137	Engineered wood member and truss manufacturing	321213-4	Secondary For
138	Reconstituted wood product manufacturing	321219	Secondary For
139	Wood windows and door manufacturing	321911	Secondary For
140	Cut stock, resawing lumber, and planing	321912	Secondary For
141	Other millwork, including flooring	321918	Secondary For
142	Wood container and pallet manufacturing	32192	Secondary For
143	Manufactured home (mobile home) manufacturing	321991	Secondary For
144	Prefabricated wood building manufacturing	321992	Secondary For
145	All other miscellaneous wood product manufacturing	321999	Secondary For
146	Pulp mills	32211	Primary For
147	Paper mills	32212	Primary For
148	Paperboard mills	32213	Primary For

Table B.1. IMPLAN 536 Industry Sector Descriptions and NAICS (Cont.)

Sector	Description	2012 NAICS	Agri-Forestry^a
149	Paperboard container manufacturing	32221	Secondary For
150	Paper bag and coated and treated paper manufacturing	32222	Secondary For
151	Stationery product manufacturing	32223	Secondary For
152	Sanitary paper product manufacturing	322291	Secondary For
153	All other converted paper product manufacturing	322299	Secondary For
154	Printing	32311	
155	Support activities for printing	32312	
156	Petroleum refineries	32411	
157	Asphalt paving mixture and block manufacturing	324121	
158	Asphalt shingle and coating materials manufacturing	324122	
159	Petroleum lubricating oil and grease manufacturing	324191	
160	All other petroleum and coal products manufacturing	324199	
161	Petrochemical manufacturing	32511	
162	Industrial gas manufacturing	32512	
163	Synthetic dye and pigment manufacturing	32513	
164	Other basic inorganic chemical manufacturing	32518	
165	Other basic organic chemical manufacturing	32519	
166	Plastics material and resin manufacturing	325211	
167	Synthetic rubber manufacturing	325212	
168	Artificial and synthetic fibers and filaments manufacturing	32522	
169	Nitrogenous fertilizer manufacturing	325311	Ag Inputs
170	Phosphatic fertilizer manufacturing	325312	Ag Inputs
171	Fertilizer mixing	325314	Ag Inputs
172	Pesticide and other agricultural chemical manufacturing	32532	Ag Inputs
173	Medicinal and botanical manufacturing	325411	
174	Pharmaceutical preparation manufacturing	325412	
175	In-vitro diagnostic substance manufacturing	325413	
176	Biological product (except diagnostic) manufacturing	325414	
177	Paint and coating manufacturing	32551	
178	Adhesive manufacturing	32552	
179	Soap and other detergent manufacturing	325611	
180	Polish and other sanitation good manufacturing	325612	
181	Surface active agent manufacturing	325613	
182	Toilet preparation manufacturing	32562	
183	Printing ink manufacturing	32591	
184	Explosives manufacturing	32592	
185	Custom compounding of purchased resins	325991	
186	Photographic film and chemical manufacturing	325992	
187	Other miscellaneous chemical product manufacturing	325998	
188	Plastics packaging materials and unlaminated film and sheet manufacturing	32611	
189	Unlaminated plastics profile shape manufacturing	326121	
190	Plastics pipe and pipe fitting manufacturing	326122	
191	Laminated plastics plate, sheet (except packaging), and shape manufacturing	326130	
192	Polystyrene foam product manufacturing	326140	
193	Urethane and other foam product (except polystyrene) manufacturing	326150	
194	Plastics bottle manufacturing	326160	
195	Other plastics product manufacturing	326190	
196	Tire manufacturing	326210	
197	Rubber and plastics hoses and belting manufacturing	326220	

Table B.1. IMPLAN 536 Industry Sector Descriptions and NAICS (Cont.)

Sector	Description	2012 NAICS	Agri-Forestry ^a
198	Other rubber product manufacturing	326290	
199	Pottery, ceramics, and plumbing fixture manufacturing	327110	
200	Brick, tile, and other structural clay product manufacturing	327120	
201	Flat glass manufacturing	327211	
	Other pressed and blown glass and glassware		
202	manufacturing	327212	
203	Glass container manufacturing	327213	
204	Glass product manufacturing made of purchased glass	327215	
205	Cement manufacturing	32731	
206	Ready-mix concrete manufacturing	32732	
207	Concrete block and brick manufacturing	327331	
208	Concrete pipe manufacturing	327332	
209	Other concrete product manufacturing	32739	
210	Lime manufacturing	32741	Ag Inputs
211	Gypsum product manufacturing	32742	
212	Abrasive product manufacturing	32791	
213	Cut stone and stone product manufacturing	327991	
214	Ground or treated mineral and earth manufacturing	327992	
215	Mineral wool manufacturing	327993	
216	Miscellaneous nonmetallic mineral products manufacturing	327999	
217	Iron and steel mills and ferroalloy manufacturing	33111	
	Iron, steel pipe and tube manufacturing from purchased		
218	steel	33121	
219	Rolled steel shape manufacturing	331221	
220	Steel wire drawing	331222	
221	Alumina refining and primary aluminum production	331313	
222	Secondary smelting and alloying of aluminum	331314	
223	Aluminum sheet, plate, and foil manufacturing	331315	
224	Other aluminum rolling, drawing and extruding	331318	
225	Nonferrous metal (exc aluminum) smelting and refining	33141	
226	Copper rolling, drawing, extruding and alloying	33142	
227	Nonferrous metal, except copper and aluminum, shaping	331491	
228	Secondary processing of other nonferrous metals	331492	
229	Ferrous metal foundries	33151	
230	Nonferrous metal foundries	33152	
231	Iron and steel forging	332111	
232	Nonferrous forging	332112	
233	Custom roll forming	332114	
234	Crown and closure manufacturing and metal stamping	332117-9	
235	Cutlery, utensil, pot, and pan manufacturing	332215	
236	Hand tool manufacturing	332216	
	Prefabricated metal buildings and components		
237	manufacturing	332311	
238	Fabricated structural metal manufacturing	332312	
239	Plate work manufacturing	332313	
240	Metal window and door manufacturing	332321	
241	Sheet metal work manufacturing	332322	
242	Ornamental and architectural metal work manufacturing	332323	
243	Power boiler and heat exchanger manufacturing	33241	
244	Metal tank (heavy gauge) manufacturing	33242	
245	Metal cans manufacturing	332431	
246	Metal barrels, drums and pails manufacturing	332439	

Table B.1. IMPLAN 536 Industry Sector Descriptions and NAICS (Cont.)

Sector	Description	2012 NAICS	Agri-Forestry ^a
247	Hardware manufacturing	3325	
248	Spring and wire product manufacturing	3326	
249	Machine shops	33271	
250	Turned product and screw, nut, and bolt manufacturing	33272	
251	Metal heat treating	332811	
252	Metal coating and nonprecious engraving	332812	
253	Electroplating, anodizing, and coloring metal	332813	
		332911, 332912,	
254	Valve and fittings, other than plumbing, manufacturing	332919	
255	Plumbing fixture fitting and trim manufacturing	332913	
256	Ball and roller bearing manufacturing	332991	
257	Small arms ammunition manufacturing	332992	
258	Ammunition, except for small arms, manufacturing	332993	
259	Small arms, ordnance, and accessories manufacturing	332994	
260	Fabricated pipe and pipe fitting manufacturing	332996	
261	Other fabricated metal manufacturing	332999	
262	Farm machinery and equipment manufacturing	333111	Ag Inputs
263	Lawn and garden equipment manufacturing	333112	Ag Inputs
264	Construction machinery manufacturing	33312	
265	Mining machinery and equipment manufacturing	333131	
266	Oil and gas field machinery and equipment manufacturing	333132	
267	Food product machinery manufacturing	333241	
268	Semiconductor machinery manufacturing	333242	
269	Sawmill, woodworking, and paper machinery	333243	Primary For
270	Printing machinery and equipment manufacturing	333244	
271	All other industrial machinery manufacturing	333249	
272	Optical instrument and lens manufacturing	333314	
273	Photographic and photocopying equipment manufacturing	333316	
	Other commercial service industry machinery		
274	manufacturing	333318	
275	Air purification and ventilation equipment manufacturing	333413	
	Heating equipment (except warm air furnaces)		
276	manufacturing	333414	
	Air conditioning, refrigeration, and warm air heating		
277	equipment manufacturing	333415	
278	Industrial mold manufacturing	333511	
279	Special tool, die, jig, and fixture manufacturing	333514	
280	Cutting tool and machine tool accessory manufacturing	333515	
281	Machine tool manufacturing	333517	
	Rolling mill and other metalworking machinery		
282	manufacturing	333519	
283	Turbine and turbine generator set units manufacturing	333611	
	Speed changer, industrial high-speed drive, and gear		
284	manufacturing	333612	
285	Mechanical power transmission equipment manufacturing	333613	
286	Other engine equipment manufacturing	333618	
287	Pump and pumping equipment manufacturing	333911	
288	Air and gas compressor manufacturing	333912	
289	Measuring and dispensing pump manufacturing	333913	
290	Elevator and moving stairway manufacturing	333921	
291	Conveyor and conveying equipment manufacturing	333922	

Table B.1. IMPLAN 536 Industry Sector Descriptions and NAICS (Cont.)

Sector	Description	2012 NAICS	Agri-Forestry^a
	Overhead cranes, hoists, and monorail systems		
292	manufacturing	333923	
293	Industrial truck, trailer, and stacker manufacturing	333924	
294	Power-driven hand tool manufacturing	333991	
295	Welding and soldering equipment manufacturing	333992	
296	Packaging machinery manufacturing	333993	
297	Industrial process furnace and oven manufacturing	333994	
298	Fluid power cylinder and actuator manufacturing	333995	
299	Fluid power pump and motor manufacturing	333996	
	Scales, balances, and miscellaneous general purpose		
300	machinery manufacturing	333997-9	
301	Electronic computer manufacturing	334111	
302	Computer storage device manufacturing	334112	
	Computer terminals and other computer peripheral		
303	equipment manufacturing	334118	
304	Telephone apparatus manufacturing	33421	
	Broadcast and wireless communications equipment		
305	manufacturing	33422	
306	Other communications equipment manufacturing	33429	
307	Audio and video equipment manufacturing	3343	
308	Bare printed circuit board manufacturing	334412	
309	Semiconductor and related device manufacturing	334413	
	Capacitor, resistor, coil, transformer, and other inductor		
310	manufacturing	334416	
311	Electronic connector manufacturing	334417	
	Printed circuit assembly (electronic assembly)		
312	manufacturing	334418	
313	Other electronic component manufacturing	334419	
	Electromedical and electrotherapeutic apparatus		
314	manufacturing	334510	
	Search, detection, and navigation instruments		
315	manufacturing	334511	
316	Automatic environmental control manufacturing	334512	
317	Industrial process variable instruments manufacturing	334513	
318	Totalizing fluid meter and counting device manufacturing	334514	
319	Electricity and signal testing instruments manufacturing	334515	
320	Analytical laboratory instrument manufacturing	334516	
321	Irradiation apparatus manufacturing	334517	
	Watch, clock, and other measuring and controlling device		
322	manufacturing	334519	
323	Blank magnetic and optical recording media manufacturing	334613	
324	Software and other prerecorded and record reproducing	334614	
325	Electric lamp bulb and part manufacturing	33511	
326	Lighting fixture manufacturing	335120	
327	Small electrical appliance manufacturing	33521	
328	Household cooking appliance manufacturing	335221	
329	Household refrigerator and home freezer manufacturing	335222	
330	Household laundry equipment manufacturing	335224	
331	Other major household appliance manufacturing	335228	
	Power, distribution, and specialty transformer		
332	manufacturing	335311	
333	Motor and generator manufacturing	335312	

Table B.1. IMPLAN 536 Industry Sector Descriptions and NAICS (Cont.)

Sector	Description	2012 NAICS	Agri-Forestry^a
334	Switchgear and switchboard apparatus manufacturing	335313	
335	Relay and industrial control manufacturing	335314	
336	Storage battery manufacturing	335911	
337	Primary battery manufacturing	335912	
338	Fiber optic cable manufacturing	335921	
339	Other communication and energy wire manufacturing	335929	
340	Wiring device manufacturing	33593	
341	Carbon and graphite product manufacturing	335991	
	All other miscellaneous electrical equipment and		
342	component manufacturing	335999	
343	Automobile manufacturing	336111	
344	Light truck and utility vehicle manufacturing	336112	
345	Heavy duty truck manufacturing	33612	
346	Motor vehicle body manufacturing	336211	
347	Truck trailer manufacturing	336212	
348	Motor home manufacturing	336213	
349	Travel trailer and camper manufacturing	336214	
	Motor vehicle gasoline engine and engine parts		
350	manufacturing	33631	
	Motor vehicle electrical and electronic equipment		
351	manufacturing	33632	
	Motor vehicle steering, suspension component (except		
352	spring), and brake systems manufacturing	33633-4	
	Motor vehicle transmission and power train parts		
353	manufacturing	33635	
354	Motor vehicle seating and interior trim manufacturing	33636	
355	Motor vehicle metal stamping	33637	
356	Other motor vehicle parts manufacturing	33639	
357	Aircraft manufacturing	336411	
358	Aircraft engine and engine parts manufacturing	336412	
359	Other aircraft parts and auxiliary equipment manufacturing	336413	
360	Guided missile and space vehicle manufacturing	336414	
	Propulsion units and parts for space vehicles and guided		
361	missiles manufacturing	336415-9	
362	Railroad rolling stock manufacturing	3365	
363	Ship building and repairing	336611	
364	Boat building	336612	
365	Motorcycle, bicycle, and parts manufacturing	336991	
	Military armored vehicle, tank, and tank component		
366	manufacturing	336992	
367	All other transportation equipment manufacturing	336999	
368	Wood kitchen cabinet and countertop manufacturing	33711	Secondary For
369	Upholstered household furniture manufacturing	337121	Secondary For
370	Nonupholstered wood household furniture manufacturing	337122	Secondary For
371	Other household nonupholstered furniture manufacturing	337124-5	Secondary For
372	Institutional furniture manufacturing	337127	Secondary For
373	Wood office furniture manufacturing	337211	Secondary For
374	Custom architectural woodwork and millwork	337212	Secondary For
375	Office furniture, except wood, manufacturing	337214	
376	Showcase, partition, shelving, and locker manufacturing	337215	Secondary For
377	Mattress manufacturing	33791	Secondary For

Table B.1. IMPLAN 536 Industry Sector Descriptions and NAICS (Cont.)

Sector	Description	2012 NAICS	Agri-Forestry^a
378	Blind and shade manufacturing	33792	Secondary For
379	Surgical and medical instrument manufacturing	339112	
380	Surgical appliance and supplies manufacturing	339113	
381	Dental equipment and supplies manufacturing	339114	
382	Ophthalmic goods manufacturing	339115	
383	Dental laboratories	339116	
384	Jewelry and silverware manufacturing	33991	
385	Sporting and athletic goods manufacturing	33992	
386	Doll, toy, and game manufacturing	33993	
387	Office supplies (except paper) manufacturing	33994	
388	Sign manufacturing	33995	
389	Gasket, packing, and sealing device manufacturing	339991	
390	Musical instrument manufacturing	339992	
391	Fasteners, buttons, needles, and pins manufacturing	339993	
392	Broom, brush, and mop manufacturing	339994	
393	Burial casket manufacturing	339995	
394	All other miscellaneous manufacturing	339999	
395	Wholesale trade	42	
396	Retail - Motor vehicle and parts dealers	441	
397	Retail - Furniture and home furnishings stores	442	
398	Retail - Electronics and appliance stores	443	
399	Retail - Building material and garden equipment and supplies stores	444	
400	Retail - Food and beverage stores	445	
401	Retail - Health and personal care stores	446	
402	Retail - Gasoline stores	447	
403	Retail - Clothing and clothing accessories stores	448	
404	Retail - Sporting goods, hobby, musical instrument and book stores	451	
405	Retail - General merchandise stores	452	
406	Retail - Miscellaneous store retailers	453	
407	Retail - Nonstore retailers	454	
408	Air transportation	481	
409	Rail transportation	482	
410	Water transportation	483	
411	Truck transportation	484	
412	Transit and ground passenger transportation	485	
413	Pipeline transportation	486	
414	Scenic and sightseeing transportation and support activities for transportation	487, 488	
415	Couriers and messengers	492	
416	Warehousing and storage	493	
417	Newspaper publishers	51111	
418	Periodical publishers	51112	
419	Book publishers	51113	
420	Directory, mailing list, and other publishers	51114, 511199	
421	Greeting card publishing	511191	
422	Software publishers	5112	
423	Motion picture and video industries	5121	
424	Sound recording industries	5122	
425	Radio and television broadcasting	5151	

Table B.1. IMPLAN 536 Industry Sector Descriptions and NAICS (Cont.)

Sector	Description	2012 NAICS	Agri-Forestry^a
426	Cable and other subscription programming	5152	
427	Wired telecommunications carriers	51711	
428	Wireless telecommunications carriers (except satellite)	51721	
429	Satellite, telecommunications resellers, and all other telecommunications	51741, 51791	
430	Data processing, hosting, and related services	5182	
431	News syndicates, libraries, archives and all other information services	51911-2, 51919	
432	Internet publishing and broadcasting and web search portals	51913	
433	Monetary authorities and depository credit intermediation	5,215,221	
434	Nondepository credit intermediation and related activities	5222-3	
435	Securities and commodity contracts intermediation and brokerage	5231-2	
436	Other financial investment activities	5239	
437	Insurance carriers	5241	
438	Insurance agencies, brokerages, and related activities	5242	
439	Funds, trusts, and other financial vehicles	525	
440	Real estate	531	
441	Owner-occupied dwellings	NA	
442	Automotive equipment rental and leasing	5321	
443	General and consumer goods rental except video tapes and discs	532221-2, 53229, 5323	
444	Video tape and disc rental	53223	
445	Commercial and industrial machinery and equipment rental and leasing	5324	
446	Lessors of nonfinancial intangible assets	533	
447	Legal services	5411	
448	Accounting, tax preparation, bookkeeping, and payroll services	5412	
449	Architectural, engineering, and related services	5413	
450	Specialized design services	5414	
451	Custom computer programming services	541511	
452	Computer systems design services	541512	
453	Other computer related services, including facilities management	54151A	
454	Management consulting services	54161	
455	Environmental and other technical consulting services	54162-9	
456	Scientific research and development services	5417	
457	Advertising, public relations, and related services	5418	
458	Photographic services	54192	
459	Veterinary services	54194	
460	Marketing research and all other miscellaneous professional, scientific, and technical services	54191, 54193, 54199	
461	Management of companies and enterprises	55	
462	Office administrative services	5611	
463	Facilities support services	5612	
464	Employment services	5613	
465	Business support services	5614	
466	Travel arrangement and reservation services	5615	
467	Investigation and security services	5616	
468	Services to buildings	56171-2, 56174-9	

Table B.1. IMPLAN 536 Industry Sector Descriptions and NAICS (Cont.)

Sector	Description	2012 NAICS	Agri-Forestry^a
469	Landscape and horticultural services	56173	
470	Other support services	5619	
471	Waste management and remediation services	562	
472	Elementary and secondary schools	6111	
	Junior colleges, colleges, universities, and professional		
473	schools	6112-3	
474	Other educational services	6114-7	
475	Offices of physicians	6211	
476	Offices of dentists	6212	
477	Offices of other health practitioners	6213	
478	Outpatient care centers	6214	
479	Medical and diagnostic laboratories	6215	
480	Home health care services	6216	
481	Other ambulatory health care services	6219	
482	Hospitals	622	
483	Nursing and community care facilities	6231, 6233	
	Residential mental retardation, mental health, substance		
484	abuse and other facilities	6232, 6239	
485	Individual and family services	6241	
	Community food, housing, and other relief services,		
486	including rehabilitation services	6242-3	
487	Child day care services	6244	
488	Performing arts companies	7111	
489	Commercial Sports Except Racing	711211, 711219	
490	Racing and Track Operation	711212	
	Promoters of performing arts and sports and agents for		
491	public figures	7113-4	
492	Independent artists, writers, and performers	7115	
493	Museums, historical sites, zoos, and parks	712	
494	Amusement parks and arcades	7131	
495	Gambling industries (except casino hotels)	7132	
496	Other amusement and recreation industries	71391-3, 71399	
497	Fitness and recreational sports centers	71394	
498	Bowling centers	71395	
499	Hotels and motels, including casino hotels	72111-2	
500	Other accommodations	72119, 7212-3	
501	Full-service restaurants	722511	
502	Limited-service restaurants	722513	
503	All other food and drinking places	7223-4, 722514-5	
		81111-2,	
504	Automotive repair and maintenance, except car washes	811191, 811198	
505	Car washes	811192	
506	Electronic and precision equipment repair and maintenance	8112	
	Commercial and industrial machinery and equipment repair		
507	and maintenance	8113	
508	Personal and household goods repair and maintenance	8114	
509	Personal care services	8121	
510	Death care services	8122	
511	Dry-cleaning and laundry services	8123	
512	Other personal services	8129	
513	Religious organizations	8131	
514	Grant making, giving, and social advocacy organizations	8132-3	

Table B.1. IMPLAN 536 Industry Sector Descriptions and NAICS (Cont.)

Sector	Description	2012 NAICS	Agri-Forestry^a
515	Business and professional associations	81391-2	
516	Labor and civic organizations	8134, 81393-9	
517	Private households	814	
518	Postal service	491	
519	Federal electric utilities	92	
520	Other federal government enterprises	92	
521	State government passenger transit	92	
522	State government electric utilities	92	
523	Other state government enterprises	92	
524	Local government passenger transit	92	
525	Local government electric utilities	92	
526	Other local government enterprises	92	
527	Used and secondhand goods ^b	n/a	
528	Scrap ^c	n/a	
529	Rest of the world adjustment ^d	n/a	
530	Non-comparable imports ^e	n/a	
531	Employment and payroll of state govt, non-education	92	
532	Employment and payroll of state govt, education	92	
533	Employment and payroll of local govt, non-education	92	
534	Employment and payroll of local govt, education	92	
535	Employment and payroll of federal govt, non-military	92	
536	Employment and payroll of federal govt, military	92	

^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, 2015

Appendix C: County Region Identification Table

Table C.1. County Assignment to TNAIM's Modeling Regions

Memphis	Nashville		Chattanooga	Knoxville	Tri-Cities
Benton	Bedford	Macon	Bledsoe	Anderson	Carter
Carroll	Cannon	Marshall	Bradley	Blount	Greene
Chester	Cheatham	Mauzy	Hamilton	Campbell	Hawkins
Crockett	Clay	Montgomery	McMinn	Claiborne	Johnson
Decatur	Coffee	Moore	Marion	Cocke	Sullivan
Dyer	Cumberland	Overton	Meigs	Grainger	Unicoi
Fayette	Davidson	Perry	Monroe	Hamblen	Washington
Gibson	DeKalb	Pickett	Polk	Hancock	
Hardeman	Dickson	Putnam	Rhea	Jefferson	
Hardin	Fentress	Robertson	Sequatchie	Knox	
Haywood	Franklin	Rutherford		Loudon	
Henderson	Giles	Smith		Morgan	
Henry	Grundy	Stewart		Roane	
Lake	Hickman	Sumner		Scott	
Lauderdale	Houston	Trousdale		Sevier	
McNairy	Humphreys	Van Buren		Union	
Madison	Jackson	Warren			
Obion	Lawrence	Wayne			
Shelby	Lewis	White			
Tipton	Lincoln	Williamson			
Weakley		Wilson			

Source: U.S. Department of Commerce, 2011

Appendix D: Total Industry Output, Employment, Labor Income, and Total Value-Added by Agriculture and Forestry Sectors for Tennessee, 2015

Table D.1. Direct Impacts from Agriculture and Forestry^a, Tennessee, 2015

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
<i>Agricultural Inputs</i>				
<u>Agricultural Chemicals</u>				
Nitrogenous fertilizer	0	0	0	0
Phosphatic fertilizer	43	19	2	7
Fertilizer mixing	65	105	6	10
Pesticide & other agricultural chemical	694	377	60	267
Lime	58	108	8	13
Total --	860	608	75	297
<u>Agricultural Machinery</u>				
Farm machinery & equipment	230	383	27	58
Lawn & garden equipment	713	1,321	66	135
Total --	943	1,704	93	193
<i>Agricultural Inputs Total --</i>	1,803	2,311	168	490
<i>Primary Agriculture</i>				
Oilseed farming	736	3,452	127	222
Grain farming	599	5,592	36	152
Vegetable & melon farming	79	832	27	53
Fruit farming	27	733	10	18
Tree nut farming	0 ^b	6	0 ^b	0 ^b
Greenhouse, nursery, & floriculture production	400	5,338	144	216
Tobacco farming	115	2,111	38	60
Cotton farming	114	872	34	57
Sugarcane & sugar beet farming	0	0	0	0
All other crop farming	471	27,083	136	214
Beef cattle farming	718	16,861	85	199
Dairy cattle & milk production	191	958	32	72
Poultry & egg production	627	2,231	72	125
Animal production, except cattle & poultry & eggs	98	2,700	29	52
Commercial fishing	0	0	0	0
Commercial hunting & trapping	36	836	11	19
Support activities for agriculture & forestry	213	3,954	97	161
<i>Primary Agriculture Total --</i>	4,423	73,557	877	1,622
<i>Secondary Agriculture</i>				
<u>Foods</u>				
Dog & cat food	625	371	42	191
Other animal food	153	117	5	12
Total --	779	488	47	203
<u>Grain & Oilseed Milling</u>				
Flour milling	724	477	47	106
Rice milling	54	59	5	8
Malt	0	0	0	0
Wet corn milling	1,198	531	73	222
Soybean & other oilseed processing	1,777	340	33	98
Fats & oils refining & blending	429	217	20	39

Table D.1. Direct Impacts from Agriculture and Forestry^a, Tennessee, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
Breakfast cereal	577	525	62	248
Total --	4,759	2,149	241	721
<u>Sugar & Confectionary Products</u>				
Beet sugar	0	0	0	0
Sugar cane mills & refining	37	41	3	6
Nonchocolate confectionery	417	1,004	64	116
Chocolate & confectionery (from cacao beans)	77	122	3	7
Confectionery (from purchased chocolate)	541	1,492	93	171
Total --	1,073	2,659	163	300
<u>Fruit & Vegetable Preserving & Specialty Foods</u>				
Frozen fruits, juices & vegetables	428	858	79	119
Frozen specialties	645	1,711	106	135
Canned fruits & vegetables	581	1,071	96	131
Canned specialties	0	0	0	0
Dehydrated food products	115	216	25	35
Total --	1,770	3,856	307	420
<u>Dairy Products</u>				
Fluid milk	568	672	46	82
Creamery butter	0	0	0	0
Cheese	257	252	5	8
Dry, condensed, & evaporated dairy product	1,824	1,053	79	171
Ice cream & frozen dessert	206	455	34	65
Total --	2,854	2,431	163	327
<u>Animal Slaughtering & Processing</u>				
Animal (except poultry) slaughtering	2,496	3,343	177	381
Meat processed from carcasses	834	1,563	73	108
Rendering & meat byproduct processing	116	204	12	15
Poultry processing	1,821	6,194	249	307
Total --	5,267	11,303	511	810
<u>Seafood product Preparation & Packaging</u>				
	0	0	0	0
<u>Bakeries & Tortillas</u>				
Bread & bakery product, except frozen	930	7,171	297	397
Frozen cakes & other pastries	75	399	21	33
Cookie & cracker	1,047	2,580	184	348
Dry pasta, mixes, & dough	207	381	20	48
Tortilla	22	99	5	8
Total --	2,281	10,629	527	834
<u>Other Foods</u>				
Roasted nuts & peanut butter	10	17	1	1
Other snack food	1,545	2,127	143	493
Coffee & tea	644	1,085	70	137
Flavoring syrup & concentrate	49	27	2	12

Table D.1. Direct Impacts from Agriculture and Forestry^a, Tennessee, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
Mayonnaise, dressing, & sauce	318	526	29	59
Spice & extract	27	54	2	3
All other food	435	1,214	70	92
Total --	3,028	5,050	316	797
<u>Beverages</u>				
Bottled & canned soft drinks & water	2,531	3,221	238	478
Breweries	269	350	16	53
Wineries	124	462	15	22
Distilleries	1,276	1,120	84	578
Total --	4,201	5,154	353	1,131
<u>Tobacco Products</u>				
	3,014	921	94	1,436
<u>Textile Mills</u>				
Fiber, yarn, & thread mills	529	1,475	79	100
Broadwoven fabric mills	22	74	5	8
Narrow fabric mills & schiffli machine embroidery	11	65	3	3
Nonwoven fabric mills	338	693	59	101
Knit fabric mills	27	119	6	8
Textile & fabric finishing mills	165	642	26	38
Fabric coating mills	174	456	27	45
Total --	1,266	3,524	205	304
<u>Textile Products Mills</u>				
Carpet & rug mills	36	98	7	9
Curtain & linen mills	29	167	5	8
Textile bag & canvas mills	113	699	29	37
Rope, cordage, twine, tire cord & tire fabric mills	159	516	29	52
Other textile product mills	167	1,137	46	58
Total --	505	2,617	116	165
<u>Apparel</u>				
Hosiery & sock mills	59	553	20	21
Other apparel knitting mills	24	131	5	6
Cut & sew apparel contractors	53	1,250	37	19
Men's & boy's cut & sew apparel	264	2,053	106	110
Women's & girl's cut & sew apparel	27	182	4	4
Other cut & sew apparel	23	220	8	8
Apparel accessories & other apparel	9	86	3	3
Total --	458	4,476	184	172
<u>Leather & Allied Products</u>				
Leather & hide tanning & finishing	48	89	3	3
Footwear	45	290	9	9
Other leather & allied product	27	236	8	4
Total --	120	615	20	16

Table D.1. Direct Impacts from Agriculture and Forestry^a, Tennessee, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
<i>Secondary Agriculture Total --</i>	31,374	55,873	3,246	7,635
<i>Agriculture Total --</i>	37,601	131,741	4,291	9,747
<i>Forestry Inputs</i>				
<u>Sawmill, Woodworking, & Paper Machinery</u>	56	200	19	23
<u>Timber</u>				
Forestry, forest products, & timber tract production	11	121	6	7
Commercial logging	294	3,623	169	173
Total --	306	3,744	175	180
<i>Forestry Inputs Total --</i>	362	3,945	194	203
<i>Primary Forestry</i>				
Sawmills	862	3,219	132	160
Wood preservation	61	125	5	9
Pulp mills	151	200	22	33
Paper mills	4,400	4,639	839	1,488
Paperboard Mills	772	883	99	172
<i>Primary Forestry Total --</i>	6,247	9,066	1,097	1,862
<i>Secondary Forestry</i>				
<u>Veneer, Plywood, & Engineered Wood Products</u>				
Veneer & plywood	23	91	3	4
Engineered wood member & truss	156	731	34	39
Reconstituted wood product	151	341	18	30
Total --	330	1,164	55	73
<u>Wood Windows & Doors & Millwork</u>				
Wood windows & door	193	879	48	63
Cut stock, resawing lumber, & planning	129	482	21	38
Other millwork, including flooring	317	1,559	66	97
Total --	639	2,920	134	198
<u>Wood Containers & Pallets</u>	361	2,608	101	119
<u>Manufactured Homes (Mobile Homes)</u>				
Manufactured home (mobile home)	438	2,071	119	165
Prefabricated wood building	83	407	22	31
Total --	521	2,478	142	196
<u>All Other Miscellaneous Wood Products</u>	128	790	28	38
<u>Paperboard Containers</u>	2,477	5,271	443	561
<u>Paper Bags & Coated & Treated Paper</u>	865	1,705	170	238
<u>Stationery Products</u>	395	934	95	124

Table D.1. Direct Impacts from Agriculture and Forestry^a, Tennessee, 2015 (Cont.)

Sector	TIO (million \$)	Employment (number)	Labor Income (million \$)	TVA (million \$)
<u>Other Converted Paper Products</u>				
Sanitary paper product	446	552	47	126
All other converted paper product	233	599	71	80
Total --	680	1,151	117	206
<u>Wood Kitchen Cabinets & Countertops</u>	257	2,060	83	86
<u>Household & Institutional Furniture</u>				
Upholstered household furniture	783	3,998	188	207
Nonupholstered wood household furniture	85	731	26	29
Other household nonupholstered furniture	34	147	6	7
Institutional furniture	88	515	24	26
Total --	989	5,392	245	270
<u>Office Furniture</u>				
Wood office furniture	20	117	4	5
Custom architectural woodwork & millwork	50	342	18	19
Showcase, partition, shelving, & locker	243	1,235	65	73
Total --	314	1,694	87	97
<u>Other Furniture Related Products</u>				
Mattress	287	680	28	43
Blind & shade	3	23	1	1
Total --	291	704	28	44
Secondary Forestry Total --	8,246	28,870	1,729	2,251
Forestry Total --	14,855	41,881	3,020	4,316
Agriculture & Forestry Total --	52,455	173,622	7,311	14,063
Construction --	33,380	210,587	11,910	13,187
Finance --	19,960	113,510	6,969	8,601
Government --	48,640	463,367	28,904	36,376
Insurance --	14,960	57,044	4,038	7,364
Manufacturing --	133,978	251,096	18,594	37,313
Mining --	1,800	9,604	347	707
Miscellaneous --	7,376	52,593	1,787	2,653
Real Estate --	49,275	124,735	3,588	34,359
Retail Trade --	30,506	383,946	13,038	19,991
Services --	188,622	1,728,146	90,803	111,299
Transportations --	20,299	108,650	6,545	8,554
Utilities --	4,315	3,879	384	1,676
Wholesale Trade --	33,149	132,389	10,533	21,001
Total Economy --	638,717	3,813,166	204,751	317,144

^aTotals may not add due to rounding.^bValues of zero are nonzero values less than 1.

Table D.2. Direct Impacts from Agriculture and Forestry^a, Chattanooga, 2015

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
<i>Agricultural Inputs</i>				
<u>Agricultural Chemicals</u>				
Nitrogenous fertilizer	0	0	0	0
Phosphatic fertilizer	0	0	0	0
Fertilizer mixing	0	0	0	0
Pesticide & other agricultural chemical	61	35	5	21
Lime	0	0	0	0
Total --	61	35	5	21
<u>Agricultural Machinery</u>				
Farm machinery & equipment	108	175	13	30
Lawn & garden equipment	0	0	0	0
Total --	108	175	13	30
<i>Agricultural Inputs Total --</i>	169	210	18	51
<i>Primary Agriculture</i>				
Oilseed farming	16	79	2	5
Grain farming	10	95	0 ^b	2
Vegetable & melon farming	15	169	7	10
Fruit farming	3	86	2	2
Tree nut farming	0	0	0	0
Greenhouse, nursery, & floriculture production	17	228	11	9
Tobacco farming	2	45	1	1
Cotton farming	0	0	0	0
Sugarcane & sugar beet farming	0	0	0	0
All other crop farming	52	2,436	18	23
Beef cattle farming	67	1,294	13	19
Dairy cattle & milk production	48	217	11	18
Poultry & egg production	187	640	24	37
Animal production, except cattle & poultry & eggs	4	131	1	2
Commercial fishing	0	0	0	0
Commercial hunting & trapping	4	120	1	1
Support activities for agriculture & forestry	15	321	6	11
<i>Primary Agriculture Total --</i>	440	5,862	96	143
<i>Secondary Agriculture</i>				
<u>Foods</u>				
Dog & cat food	18	14	0 ^b	2
Other animal food	19	15	0 ^b	1
Total --	36	28	1	2
<u>Grain & Oilseed Milling</u>				
Flour milling	178	122	9	20
Rice milling	0	0	0	0
Malt	0	0	0	0
Wet corn milling	0	0	0	0
Soybean & other oilseed processing	0	0	0	0
Fats & oils refining & blending	9	5	0 ^b	0 ^b

Table D.2. Direct Impacts from Agriculture and Forestry^a, Chattanooga, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
Breakfast cereal	0	0	0	0
Total --	187	127	9	20
<u>Sugar & Confectionary Products</u>				
Beet sugar	0	0	0	0
Sugar cane mills & refining	0	0	0	0
Nonchocolate confectionery	103	259	14	25
Chocolate & confectionery (from cacao beans)	14	21	1	2
Confectionery (from purchased chocolate)	208	531	41	76
Total --	324	811	56	103
<u>Fruit & Vegetable Preserving & Specialty Foods</u>				
Frozen fruits, juices & vegetables	91	167	20	31
Frozen specialties	106	286	16	20
Canned fruits & vegetables	63	120	9	12
Canned specialties	0	0	0	0
Dehydrated food products	0	0	0	0
Total --	259	572	45	63
<u>Dairy Products</u>				
Fluid milk	162	194	12	22
Creamery butter	0	0	0	0
Cheese	11	11	0 ^b	0 ^b
Dry, condensed, & evaporated dairy product	0	0	0	0
Ice cream & frozen dessert	66	148	10	20
Total --	239	354	22	42
<u>Animal Slaughtering & Processing</u>				
Animal (except poultry) slaughtering	17	22	2	3
Meat processed from carcasses	8	14	1	1
Rendering & meat byproduct processing	6	11	0 ^b	0 ^b
Poultry processing	533	1,852	65	81
Total --	564	1,900	68	85
<u>Seafood product Preparation & Packaging</u>				
	0	0	0	0
<u>Bakeries & Tortillas</u>				
Bread & bakery product, except frozen	312	2,107	118	155
Frozen cakes & other pastries	3	22	1	1
Cookie & cracker	329	781	62	117
Dry pasta, mixes, & dough	64	111	7	18
Tortilla	0	0	0	0
Total --	708	3,021	187	291
<u>Other Foods</u>				
Roasted nuts & peanut butter	5	10	0 ^b	0 ^b
Other snack food	12	19	1	2
Coffee & tea	8	16	1	1
Flavoring syrup & concentrate	49	27	2	12

Table D.2. Direct Impacts from Agriculture and Forestry^a, Chattanooga, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
Mayonnaise, dressing, & sauce	0	0	0	0
Spice & extract	0	0	0	0
All other food	0	0	0	0
Total --	74	72	3	15
<u>Beverages</u>				
Bottled & canned soft drinks & water	498	630	48	96
Breweries	32	40	4	7
Wineries	3	14	0 ^b	0 ^b
Distilleries	21	19	3	9
Total --	554	703	55	113
<u>Tobacco Products</u>	0	0	0	0
<u>Textile Mills</u>				
Fiber, yarn, & thread mills	276	795	36	45
Broadwoven fabric mills	4	12	1	2
Narrow fabric mills & schiffli machine embroidery	0	0	0	0
Nonwoven fabric mills	42	82	8	14
Knit fabric mills	22	97	5	7
Textile & fabric finishing mills	22	86	4	5
Fabric coating mills	0	0	0	0
Total --	367	1,073	53	73
<u>Textile Products Mills</u>				
Carpet & rug mills	7	18	2	2
Curtain & linen mills	5	29	1	1
Textile bag & canvas mills	45	291	11	14
Rope, cordage, twine, tire cord & tire fabric mills	0	0	0	0
Other textile product mills	10	66	3	4
Total --	68	404	16	21
<u>Apparel</u>				
Hosiery & sock mills	59	553	20	21
Other apparel knitting mills	0	0	0	0
Cut & sew apparel contractors	4	66	3	2
Men's & boy's cut & sew apparel	88	664	37	38
Women's & girl's cut & sew apparel	1	7	0 ^b	0 ^b
Other cut & sew apparel	3	25	1	1
Apparel accessories & other apparel	0	0	0	0
Total --	155	1,316	60	62
<u>Leather & Allied Products</u>				
Leather & hide tanning & finishing	0	0	0	0
Footwear	0	0	0	0
Other leather & allied product	10	89	3	2
Total --	10	89	3	2

Table D.2. Direct Impacts from Agriculture and Forestry^a, Chattanooga, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
<i>Secondary Agriculture Total --</i>	3,546	10,469	580	892
<i>Agriculture Total --</i>	4,156	16,542	694	1,086
<i>Forestry Inputs</i>				
<u>Sawmill, Woodworking, & Paper Machinery</u>	28	93	10	13
<u>Timber</u>				
Forestry, forest products, & timber tract production	0	0	0	0
Commercial logging	29	109	5	6
Total --	17	36	2	3
<i>Forestry Inputs Total --</i>	151	200	22	33
<i>Primary Forestry</i>	564	631	93	168
Sawmills	75	95	6	10
Wood preservation	837	1,072	127	220
Pulp mills				
Paper mills				
Paperboard Mills	0	0	0	0
<i>Primary Forestry Total --</i>	19	88	4	5
<i>Secondary Forestry</i>	113	256	13	22
<u>Veneer, Plywood, & Engineered Wood Products</u>	132	343	18	27
Veneer & plywood				
Engineered wood member & truss	8	33	2	3
Reconstituted wood product	22	86	3	6
Total --	4	15	1	2
<u>Wood Windows & Doors & Millwork</u>	34	133	7	11
Wood windows & door				
Cut stock, resawing lumber, & planning	49	351	14	16
Other millwork, including flooring				
Total --	0	0	0	0
<u>Wood Containers & Pallets</u>	5	23	1	2
	5	23	1	2
<u>Manufactured Homes (Mobile Homes)</u>	29	109	5	6
Manufactured home (mobile home)	17	36	2	3
Prefabricated wood building	151	200	22	33
Total --	564	631	93	168
<u>All Other Miscellaneous Wood Products</u>	6	24	3	3
<u>Paperboard Containers</u>	530	1,168	81	106
<u>Paper Bags & Coated & Treated Paper</u>	37	64	10	13
<u>Stationery Products</u>	40	119	4	6

Table D.2. Direct Impacts from Agriculture and Forestry^a, Chattanooga, 2015 (Cont.)

Sector	TIO (million \$)	Employment (number)	Labor Income (million \$)	TVA (million \$)
<u>Other Converted Paper Products</u>				
Sanitary paper product	0	0	0	0
All other converted paper product	25	73	5	6
Total --	25	73	5	6
<u>Wood Kitchen Cabinets & Countertops</u>	24	199	8	8
<u>Household & Institutional Furniture</u>				
Upholstered household furniture	456	2,310	112	123
Nonupholstered wood household furniture	1	14	0 ^b	0 ^b
Other household nonupholstered furniture	0	0	0	0
Institutional furniture	2	16	0 ^b	0 ^b
Total --	459	2,340	112	124
<u>Office Furniture</u>				
Wood office furniture	12	67	2	2
Custom architectural woodwork & millwork	5	32	2	2
Showcase, partition, shelving, & locker	9	46	2	2
Total --	25	146	6	7
<u>Other Furniture Related Products</u>				
Mattress	16	39	1	2
Blind & shade	0	0	0	0
Total --	16	39	1	2
Secondary Forestry Total --	1,382	5,020	270	330
Forestry Total --	2,272	6,506	422	577
Agriculture & Forestry Total --	6,428	23,048	1,116	1,663
Construction --	3,425	21,508	1,234	1,374
Finance --	1,729	10,659	487	644
Government --	8,794	46,147	3,303	4,438
Insurance --	2,881	8,506	623	1,385
Manufacturing --	19,020	35,297	2,656	5,220
Mining --	133	1,065	24	51
Miscellaneous --	749	5,256	207	283
Real Estate --	4,492	10,937	172	3,067
Retail Trade --	2,958	37,257	1,295	1,936
Services --	16,171	160,584	7,480	9,180
Transportations --	2,684	15,063	887	1,123
Utilities --	376	425	39	151
Wholesale Trade --	2,696	11,093	836	1,678
Total Economy --	72,538	386,844	20,358	32,195

^aTotals may not add due to rounding.^bValues of zero are nonzero values less than 1.

Table D.3. Direct Impacts from Agriculture and Forestry^a, Knoxville, 2015

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
<i>Agricultural Inputs</i>				
<u>Agricultural Chemicals</u>				
Nitrogenous fertilizer	0	0	0	0
Phosphatic fertilizer	0	0	0	0
Fertilizer mixing	0	0	0	0
Pesticide & other agricultural chemical	86	52	6	27
Lime	30	56	4	7
Total --	116	108	10	33
<u>Agricultural Machinery</u>				
Farm machinery & equipment	4	7	0 ^b	1
Lawn & garden equipment	18	32	2	4
Total --	22	39	3	5
<i>Agricultural Inputs Total --</i>	138	147	13	38
<i>Primary Agriculture</i>				
Oilseed farming	11	71	0 ^b	3
Grain farming	7	99	0 ^b	2
Vegetable & melon farming	19	202	5	13
Fruit farming	5	142	2	3
Tree nut farming	0 ^b	1	0 ^b	0 ^b
Greenhouse, nursery, & floriculture production	44	755	18	24
Tobacco farming	4	95	1	2
Cotton farming	0	0	0	0
Sugarcane & sugar beet farming	0	0	0	0
All other crop farming	70	4,809	21	32
Beef cattle farming	100	2,839	3	28
Dairy cattle & milk production	32	220	4	12
Poultry & egg production	42	189	4	8
Animal production, except cattle & poultry & eggs	6	242	-1	3
Commercial fishing	0	0	0	0
Commercial hunting & trapping	3	91	1	2
Support activities for agriculture & forestry	15	431	5	9
<i>Primary Agriculture Total --</i>	358	10,185	62	141
<i>Secondary Agriculture</i>				
<u>Foods</u>				
Dog & cat food	0	0	0	0
Other animal food	50	38	2	4
Total --	50	38	2	4
<u>Grain & Oilseed Milling</u>				
Flour milling	10	6	1	2
Rice milling	0	0	0	0
Malt	0	0	0	0
Wet corn milling	1,198	531	73	222
Soybean & other oilseed processing	0	0	0	0
Fats & oils refining & blending	0	0	0	0

Table D.3. Direct Impacts from Agriculture and Forestry^a, Knoxville, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
Breakfast cereal	0	0	0	0
Total --	1,208	537	74	224
<u>Sugar & Confectionary Products</u>				
Beet sugar	0	0	0	0
Sugar cane mills & refining	0	0	0	0
Nonchocolate confectionery	15	45	1	2
Chocolate & confectionery (from cacao beans)	22	37	0 ^b	1
Confectionery (from purchased chocolate)	34	107	4	7
Total --	71	188	6	10
<u>Fruit & Vegetable Preserving & Specialty Foods</u>				
Frozen fruits, juices & vegetables	0	0	0	0
Frozen specialties	40	107	7	9
Canned fruits & vegetables	372	678	63	87
Canned specialties	0	0	0	0
Dehydrated food products	0	0	0	0
Total --	412	785	70	96
<u>Dairy Products</u>				
Fluid milk	28	33	2	4
Creamery butter	0	0	0	0
Cheese	2	2	0 ^b	0 ^b
Dry, condensed, & evaporated dairy product	0	0	0	0
Ice cream & frozen dessert	5	8	1	2
Total --	34	43	3	6
<u>Animal Slaughtering & Processing</u>				
Animal (except poultry) slaughtering	333	445	24	52
Meat processed from carcasses	154	294	12	18
Rendering & meat byproduct processing	44	78	5	6
Poultry processing	331	1,155	39	49
Total --	863	1,972	80	124
<u>Seafood product Preparation & Packaging</u>				
	0	0	0	0
<u>Bakeries & Tortillas</u>				
Bread & bakery product, except frozen	141	1,176	38	53
Frozen cakes & other pastries	7	44	1	2
Cookie & cracker	161	405	27	51
Dry pasta, mixes, & dough	23	44	2	4
Tortilla	0	0	0	0
Total --	331	1,669	68	111
<u>Other Foods</u>				
Roasted nuts & peanut butter	0	0	0	0
Other snack food	92	94	13	45
Coffee & tea	579	977	61	123
Flavoring syrup & concentrate	0	0	0	0

Table D.3. Direct Impacts from Agriculture and Forestry^a, Knoxville, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
Mayonnaise, dressing, & sauce	0	0	0	0
Spice & extract	0	0	0	0
All other food	35	102	5	6
Total --	706	1,173	79	174
<u>Beverages</u>				
Bottled & canned soft drinks & water	536	687	49	98
Breweries	38	51	1	6
Wineries	27	105	3	4
Distilleries	303	307	12	112
Total --	905	1,150	65	220
<u>Tobacco Products</u>				
	0	0	0	0
<u>Textile Mills</u>				
Fiber, yarn, & thread mills	29	77	5	6
Broadwoven fabric mills	6	19	1	2
Narrow fabric mills & schiffli machine embroidery	2	12	0 ^b	0 ^b
Nonwoven fabric mills	20	45	3	5
Knit fabric mills	5	22	1	1
Textile & fabric finishing mills	57	228	8	12
Fabric coating mills	18	47	3	4
Total --	136	449	21	32
<u>Textile Products Mills</u>				
Carpet & rug mills	1	2	0 ^b	0 ^b
Curtain & linen mills	5	29	1	2
Textile bag & canvas mills	26	167	6	8
Rope, cordage, twine, tire cord & tire fabric mills	30	92	6	11
Other textile product mills	71	516	17	21
Total --	134	806	31	43
<u>Apparel</u>				
Hosiery & sock mills	0	0	0	0
Other apparel knitting mills	0	0	0	0
Cut & sew apparel contractors	8	223	5	2
Men's & boy's cut & sew apparel	35	290	13	13
Women's & girl's cut & sew apparel	0 ^b	2	0 ^b	0 ^b
Other cut & sew apparel	5	57	1	1
Apparel accessories & other apparel	0	0	0	0
Total --	49	572	19	17
<u>Leather & Allied Products</u>				
Leather & hide tanning & finishing	0	0	0	0
Footwear	12	80	2	2
Other leather & allied product	2	20	0 ^b	0 ^b
Total --	14	101	3	3

Table D.3. Direct Impacts from Agriculture and Forestry^a, Knoxville, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
<i>Secondary Agriculture Total --</i>	4,913	9,484	521	1,063
<i>Agriculture Total --</i>	5,408	19,816	595	1,242
<i>Forestry Inputs</i>				
<u>Sawmill, Woodworking, & Paper Machinery</u>	2	7	1	1
<u>Timber</u>				
Forestry, forest products, & timber tract production	3	35	1	1
Commercial logging	20	297	10	10
Total --	23	332	11	11
<i>Forestry Inputs Total --</i>	25	339	12	12
<i>Primary Forestry</i>				
Sawmills	120	441	19	23
Wood preservation	1	3	0 ^b	0 ^b
Pulp mills	0	0	0	0
Paper mills	198	245	26	45
Paperboard Mills	29	36	3	5
<i>Primary Forestry Total --</i>	349	725	48	73
<i>Secondary Forestry</i>				
<u>Veneer, Plywood, & Engineered Wood Products</u>				
Veneer & plywood	4	17	1	1
Engineered wood member & truss	32	153	6	8
Reconstituted wood product	0	0	0	0
Total --	36	169	7	9
<u>Wood Windows & Doors & Millwork</u>				
Wood windows & door	25	116	6	8
Cut stock, resawing lumber, & planning	32	124	5	9
Other millwork, including flooring	54	283	10	14
Total --	111	524	20	31
<u>Wood Containers & Pallets</u>	29	237	6	7
<u>Manufactured Homes (Mobile Homes)</u>				
Manufactured home (mobile home)	269	1,249	75	104
Prefabricated wood building	30	138	9	12
Total --	299	1,388	84	116
<u>All Other Miscellaneous Wood Products</u>	15	95	3	4
<u>Paperboard Containers</u>	396	834	73	93
<u>Paper Bags & Coated & Treated Paper</u>	22	34	8	9
<u>Stationery Products</u>	151	326	44	56

Table D.3. Direct Impacts from Agriculture and Forestry^a, Knoxville, 2015 (Cont.)

Sector	TIO (million \$)	Employment (number)	Labor Income (million \$)	TVA (million \$)
<u>Other Converted Paper Products</u>				
Sanitary paper product	0	0	0	0
All other converted paper product	100	183	50	53
Total --	100	183	50	53
<u>Wood Kitchen Cabinets & Countertops</u>	26	208	9	9
<u>Household & Institutional Furniture</u>				
Upholstered household furniture	234	1,241	50	55
Nonupholstered wood household furniture	27	227	8	9
Other household nonupholstered furniture	14	66	2	2
Institutional furniture	25	146	7	7
Total --	300	1,681	67	74
<u>Office Furniture</u>				
Wood office furniture	1	6	0 ^b	0 ^b
Custom architectural woodwork & millwork	9	75	2	2
Showcase, partition, shelving, & locker	21	107	5	6
Total --	31	189	8	9
<u>Other Furniture Related Products</u>				
Mattress	19	46	2	2
Blind & shade	0	0	0	0
Total --	19	46	2	2
Secondary Forestry Total --	1,534	5,914	381	472
Forestry Total --	1,907	6,978	440	557
Agriculture & Forestry Total --	7,316	26,793	1,035	1,800
Construction --	5,805	37,430	2,008	2,232
Finance --	3,191	19,757	929	1,239
Government --	8,543	88,790	5,583	6,926
Insurance --	1,516	6,803	402	693
Manufacturing --	18,946	41,801	3,061	5,371
Mining --	411	1,756	73	105
Miscellaneous --	1,677	11,621	416	517
Real Estate --	8,066	21,522	603	5,470
Retail Trade --	5,658	73,008	2,312	3,661
Services --	31,664	291,309	13,769	17,537
Transportations --	3,060	18,203	987	1,265
Utilities --	430	459	35	162
Wholesale Trade --	5,061	20,209	1,598	3,207
Total Economy --	101,344	659,461	32,810	50,184

^aTotals may not add due to rounding.^bValues of zero are nonzero values less than 1.

Table D.4. Direct Impacts from Agriculture and Forestry^a, Memphis, 2015

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
<i>Agricultural Inputs</i>				
<u>Agricultural Chemicals</u>				
Nitrogenous fertilizer	0	0	0	0
Phosphatic fertilizer	43	19	2	7
Fertilizer mixing	23	37	2	4
Pesticide & other agricultural chemical	437	226	41	180
Lime	0	0	0	0
Total --	503	282	45	191
<u>Agricultural Machinery</u>				
Farm machinery & equipment	39	66	5	10
Lawn & garden equipment	398	749	35	71
Total --	437	814	39	80
<i>Agricultural Inputs Total --</i>	941	1,096	84	272
<i>Primary Agriculture</i>				
Oilseed farming	498	2,133	100	150
Grain farming	439	3,834	29	112
Vegetable & melon farming	12	128	4	8
Fruit farming	3	91	1	2
Tree nut farming	0 ^b	2	0 ^b	0 ^b
Greenhouse, nursery, & floriculture production	57	799	25	31
Tobacco farming	5	67	3	3
Cotton farming	108	834	33	55
Sugarcane & sugar beet farming	0	0	0	0
All other crop farming	53	2,798	18	24
Beef cattle farming	80	1,675	13	22
Dairy cattle & milk production	12	49	4	4
Poultry & egg production	49	162	9	10
Animal production, except cattle & poultry & eggs	52	1,071	25	28
Commercial fishing	0	0	0	0
Commercial hunting & trapping	9	87	7	7
Support activities for agriculture & forestry	100	1,140	53	86
<i>Primary Agriculture Total --</i>	1,478	14,871	323	541
<i>Secondary Agriculture</i>				
<u>Foods</u>				
Dog & cat food	38	21	3	14
Other animal food	22	16	1	2
Total --	60	37	4	16
<u>Grain & Oilseed Milling</u>				
Flour milling	390	256	26	59
Rice milling	54	59	5	8
Malt	0	0	0	0
Wet corn milling	0	0	0	0
Soybean & other oilseed processing	1,777	340	33	98
Fats & oils refining & blending	372	187	19	36

Table D.4. Direct Impacts from Agriculture and Forestry^a, Memphis, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
Breakfast cereal	575	522	62	247
Total --	3,168	1,364	145	448
<u>Sugar & Confectionary Products</u>				
Beet sugar	0	0	0	0
Sugar cane mills & refining	37	41	3	6
Nonchocolate confectionery	279	652	46	83
Chocolate & confectionery (from cacao beans)	9	15	0 ^b	1
Confectionery (from purchased chocolate)	38	99	7	13
Total --	362	808	56	103
<u>Fruit & Vegetable Preserving & Specialty Foods</u>				
Frozen fruits, juices & vegetables	338	691	59	89
Frozen specialties	337	893	56	71
Canned fruits & vegetables	46	78	10	13
Canned specialties	0	0	0	0
Dehydrated food products	0	0	0	0
Total --	721	1,662	124	173
<u>Dairy Products</u>				
Fluid milk	137	162	11	20
Creamery butter	0	0	0	0
Cheese	93	91	2	3
Dry, condensed, & evaporated dairy product	1,460	847	60	131
Ice cream & frozen dessert	135	298	22	44
Total --	1,825	1,398	96	197
<u>Animal Slaughtering & Processing</u>				
Animal (except poultry) slaughtering	1,729	2,312	123	265
Meat processed from carcasses	73	137	6	9
Rendering & meat byproduct processing	65	115	7	8
Poultry processing	0	0	0	0
Total --	1,867	2,564	136	283
<u>Seafood product Preparation & Packaging</u>				
	0	0	0	0
<u>Bakeries & Tortillas</u>				
Bread & bakery product, except frozen	106	871	31	41
Frozen cakes & other pastries	20	101	6	9
Cookie & cracker	123	341	16	31
Dry pasta, mixes, & dough	31	59	3	6
Tortilla	0	0	0	0
Total --	279	1,372	56	87
<u>Other Foods</u>				
Roasted nuts & peanut butter	5	8	0 ^b	1
Other snack food	870	1,197	80	277
Coffee & tea	5	7	1	1
Flavoring syrup & concentrate	0	0	0	0

Table D.4. Direct Impacts from Agriculture and Forestry^a, Memphis, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
Mayonnaise, dressing, & sauce	67	112	6	11
Spice & extract	8	17	1	1
All other food	82	224	14	18
Total --	1,035	1,566	102	309
<u>Beverages</u>				
Bottled & canned soft drinks & water	832	1,054	79	160
Breweries	54	72	2	10
Wineries	21	74	3	4
Distilleries	71	58	6	35
Total --	978	1,259	90	209
<u>Tobacco Products</u>	1,143	334	38	570
<u>Textile Mills</u>				
Fiber, yarn, & thread mills	49	128	9	11
Broadwoven fabric mills	10	32	2	3
Narrow fabric mills & schiffli machine embroidery	0	0	0	0
Nonwoven fabric mills	38	75	7	12
Knit fabric mills	0	0	0	0
Textile & fabric finishing mills	25	98	4	6
Fabric coating mills	20	51	3	5
Total --	141	385	26	38
<u>Textile Products Mills</u>				
Carpet & rug mills	0	0	0	0
Curtain & linen mills	5	30	1	1
Textile bag & canvas mills	18	105	5	7
Rope, cordage, twine, tire cord & tire fabric mills	2	7	0 ^b	1
Other textile product mills	27	173	8	10
Total --	52	315	15	19
<u>Apparel</u>				
Hosiery & sock mills	0	0	0	0
Other apparel knitting mills	0	0	0	0
Cut & sew apparel contractors	18	428	14	6
Men's & boy's cut & sew apparel	26	187	12	12
Women's & girl's cut & sew apparel	15	100	2	2
Other cut & sew apparel	3	24	1	1
Apparel accessories & other apparel	1	6	1	1
Total --	62	745	30	23
<u>Leather & Allied Products</u>				
Leather & hide tanning & finishing	19	35	1	1
Footwear	22	144	4	4
Other leather & allied product	1	13	0 ^b	0 ^b
Total --	42	192	5	5

Table D.4. Direct Impacts from Agriculture and Forestry^a, Memphis, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
<i>Secondary Agriculture Total --</i>	11,737	13,999	922	2,480
<i>Agriculture Total --</i>	14,156	29,967	1,329	3,293
<i>Forestry Inputs</i>				
<u>Sawmill, Woodworking, & Paper Machinery</u>	7	26	3	3
<u>Timber</u>				
Forestry, forest products, & timber tract production	5	37	4	4
Commercial logging	93	944	61	62
Total --	98	981	64	65
<i>Forestry Inputs Total --</i>	106	1,007	67	68
<i>Primary Forestry</i>				
Sawmills	261	975	40	48
Wood preservation	14	30	1	2
Pulp mills	0	0	0	0
Paper mills	3,091	3,119	641	1,132
Paperboard Mills	668	751	90	157
<i>Primary Forestry Total --</i>	4,033	4,874	772	1,339
<i>Secondary Forestry</i>				
<u>Veneer, Plywood, & Engineered Wood Products</u>				
Veneer & plywood	9	37	1	2
Engineered wood member & truss	23	105	5	6
Reconstituted wood product	25	56	3	5
Total --	57	197	10	13
<u>Wood Windows & Doors & Millwork</u>				
Wood windows & door	104	468	27	35
Cut stock, resawing lumber, & planning	17	64	3	5
Other millwork, including flooring	120	599	24	35
Total --	241	1,130	53	75
<u>Wood Containers & Pallets</u>	128	879	40	47
<u>Manufactured Homes (Mobile Homes)</u>				
Manufactured home (mobile home)	95	477	23	32
Prefabricated wood building	3	17	1	1
Total --	98	494	24	33
<u>All Other Miscellaneous Wood Products</u>	12	73	2	3
<u>Paperboard Containers</u>	527	1,120	95	120
<u>Paper Bags & Coated & Treated Paper</u>	382	725	85	115
<u>Stationery Products</u>	74	145	28	32

Table D.4. Direct Impacts from Agriculture and Forestry^a, Memphis, 2015 (Cont.)

Sector	TIO (million \$)	Employment (number)	Labor Income (million \$)	TVA (million \$)
<u>Other Converted Paper Products</u>				
Sanitary paper product	446	552	47	126
All other converted paper product	0	0	0	0
Total --	446	552	47	126
 <u>Wood Kitchen Cabinets & Countertops</u>	 42	 298	 17	 18
 <u>Household & Institutional Furniture</u>				
Upholstered household furniture	14	64	4	5
Nonupholstered wood household furniture	14	122	4	5
Other household nonupholstered furniture	0	0	0	0
Institutional furniture	53	312	15	16
Total --	82	497	24	26
<u>Office Furniture</u>				
Wood office furniture	3	18	1	1
Custom architectural woodwork & millwork	6	36	3	3
Showcase, partition, shelving, & locker	14	71	4	4
Total --	23	125	7	8
<u>Other Furniture Related Products</u>				
Mattress	0	0	0	0
Blind & shade	1	3	0 ^b	0 ^b
Total --	1	3	0 ^b	0 ^b
Secondary Forestry Total --	2,114	6,238	432	617
 Forestry Total --	 6,252	 12,120	 1,271	 2,024
 Agriculture & Forestry Total --	 20,408	 42,086	 2,601	 5,318
 Construction --	 7,078	 43,882	 2,631	 2,905
Finance --	5,291	28,547	2,080	2,437
Government --	11,070	115,569	7,412	9,162
Insurance --	2,227	10,257	650	1,043
Manufacturing --	25,247	48,726	3,905	8,059
Mining --	187	1,139	50	95
Miscellaneous --	1,462	10,399	372	662
Real Estate --	12,468	28,125	997	9,072
Retail Trade --	7,415	90,280	3,204	4,936
Services --	44,064	451,797	21,070	25,754
Transportations --	5,859	31,389	1,992	2,566
Utilities --	519	468	61	215
Wholesale Trade --	10,145	39,057	3,372	6,561
Total Economy --	153,441	941,720	50,397	78,786

^aTotals may not add due to rounding.^bValues of zero are nonzero values less than 1.

Table D.5. Direct Impacts from Agriculture and Forestry^a, Nashville, 2015

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
<i>Agricultural Inputs</i>				
<u>Agricultural Chemicals</u>				
Nitrogenous fertilizer	0	0	0	0
Phosphatic fertilizer	0	0	0	0
Fertilizer mixing	30	50	2	4
Pesticide & other agricultural chemical	110	63	9	39
Lime	28	53	4	6
Total --	169	166	14	49
<u>Agricultural Machinery</u>				
Farm machinery & equipment	43	73	5	10
Lawn & garden equipment	0	0	0	0
Total --	43	73	5	10
<i>Agricultural Inputs Total --</i>	212	239	19	59
<i>Primary Agriculture</i>				
Oilseed farming	207	1,148	25	62
Grain farming	139	1,496	6	35
Vegetable & melon farming	22	227	7	15
Fruit farming	13	335	4	9
Tree nut farming	0 ^b	2	0 ^b	0 ^b
Greenhouse, nursery, & floriculture production	252	3,159	83	136
Tobacco farming	93	1,655	31	49
Cotton farming	5	38	2	3
Sugarcane & sugar beet farming	0	0	0	0
All other crop farming	241	13,575	63	109
Beef cattle farming	394	9,077	47	109
Dairy cattle & milk production	79	374	9	30
Poultry & egg production	297	1,021	31	59
Animal production, except cattle & poultry & eggs	30	999	4	16
Commercial fishing	0	0	0	0
Commercial hunting & trapping	17	447	2	8
Support activities for agriculture & forestry	73	1,689	30	50
<i>Primary Agriculture Total --</i>	1,862	35,242	345	691
<i>Secondary Agriculture</i>				
<u>Foods</u>				
Dog & cat food	569	337	38	175
Other animal food	55	42	2	4
Total --	625	379	40	179
<u>Grain & Oilseed Milling</u>				
Flour milling	146	93	11	25
Rice milling	0	0	0	0
Malt	0	0	0	0
Wet corn milling	0	0	0	0
Soybean & other oilseed processing	0	0	0	0
Fats & oils refining & blending	47	25	2	3

Table D.5. Direct Impacts from Agriculture and Forestry^a, Nashville, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
Breakfast cereal	2	3	0 ^b	1
Total --	195	121	13	29
<u>Sugar & Confectionary Products</u>				
Beet sugar	0	0	0	0
Sugar cane mills & refining	0	0	0	0
Nonchocolate confectionery	6	14	1	1
Chocolate & confectionery (from cacao beans)	32	50	1	4
Confectionery (from purchased chocolate)	262	754	41	74
Total --	300	818	43	80
<u>Fruit & Vegetable Preserving & Specialty Foods</u>				
Frozen fruits, juices & vegetables	0	0	0	0
Frozen specialties	162	426	27	35
Canned fruits & vegetables	93	181	13	17
Canned specialties	0	0	0	0
Dehydrated food products	0	0	0	0
Total --	255	607	40	52
<u>Dairy Products</u>				
Fluid milk	202	236	18	31
Creamery butter	0	0	0	0
Cheese	17	17	0 ^b	1
Dry, condensed, & evaporated dairy product	40	24	1	2
Ice cream & frozen dessert	0	0	0	0
Total --	259	277	19	34
<u>Animal Slaughtering & Processing</u>				
Animal (except poultry) slaughtering	398	537	27	58
Meat processed from carcasses	599	1,119	54	79
Rendering & meat byproduct processing	0	0	0	0
Poultry processing	957	3,186	145	178
Total --	1,954	4,842	225	315
<u>Seafood product Preparation & Packaging</u>				
	0	0	0	0
<u>Bakeries & Tortillas</u>				
Bread & bakery product, except frozen	323	2,596	97	130
Frozen cakes & other pastries	42	214	13	20
Cookie & cracker	435	1,052	79	149
Dry pasta, mixes, & dough	90	167	9	20
Tortilla	22	99	5	8
Total --	911	4,128	203	327
<u>Other Foods</u>				
Roasted nuts & peanut butter	0	0	0	0
Other snack food	572	816	49	168
Coffee & tea	52	84	7	13
Flavoring syrup & concentrate	0	0	0	0

Table D.5. Direct Impacts from Agriculture and Forestry^a, Nashville, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
Mayonnaise, dressing, & sauce	251	414	23	47
Spice & extract	18	37	1	2
All other food	318	887	51	68
Total --	1,212	2,238	131	298
<u>Beverages</u>				
Bottled & canned soft drinks & water	473	600	45	90
Breweries	136	174	8	28
Wineries	73	269	9	13
Distilleries	876	731	63	421
Total --	1,558	1,776	125	553
<u>Tobacco Products</u>				
	1,871	586	56	865
<u>Textile Mills</u>				
Fiber, yarn, & thread mills	51	143	7	10
Broadwoven fabric mills	0	0	0	0
Narrow fabric mills & schiffli machine embroidery	9	53	3	3
Nonwoven fabric mills	208	427	36	62
Knit fabric mills	0	0	0	0
Textile & fabric finishing mills	26	100	5	7
Fabric coating mills	8	22	1	2
Total --	303	745	52	83
<u>Textile Products Mills</u>				
Carpet & rug mills	28	78	5	7
Curtain & linen mills	13	75	2	3
Textile bag & canvas mills	20	122	5	7
Rope, cordage, twine, tire cord & tire fabric mills	127	417	23	41
Other textile product mills	51	326	16	19
Total --	239	1,018	51	77
<u>Apparel</u>				
Hosiery & sock mills	0	0	0	0
Other apparel knitting mills	24	131	5	6
Cut & sew apparel contractors	19	455	13	7
Men's & boy's cut & sew apparel	105	831	41	43
Women's & girl's cut & sew apparel	10	68	1	1
Other cut & sew apparel	11	100	4	4
Apparel accessories & other apparel	8	80	3	3
Total --	177	1,665	67	64
<u>Leather & Allied Products</u>				
Leather & hide tanning & finishing	29	53	2	2
Footwear	11	66	3	3
Other leather & allied product	13	112	4	2
Total --	53	232	9	7

Table D.5. Direct Impacts from Agriculture and Forestry^a, Nashville, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
<i>Secondary Agriculture Total --</i>	9,912	19,431	1,076	2,963
<i>Agriculture Total --</i>	11,986	54,912	1,440	3,712
<i>Forestry Inputs</i>				
<u>Sawmill, Woodworking, & Paper Machinery</u>	8	34	2	3
<u>Timber</u>				
Forestry, forest products, & timber tract production	2	26	1	1
Commercial logging	149	1,967	80	83
Total --	151	1,993	81	84
<i>Forestry Inputs Total --</i>	159	2,027	83	87
<i>Primary Forestry</i>				
Sawmills	425	1,590	64	78
Wood preservation	1	2	0 ^b	0 ^b
Pulp mills	0	0	0	0
Paper mills	335	396	48	86
Paperboard Mills	0	0	0	0
<i>Primary Forestry Total --</i>	761	1,989	112	165
<i>Secondary Forestry</i>				
<u>Veneer, Plywood, & Engineered Wood Products</u>				
Veneer & plywood	8	31	1	1
Engineered wood member & truss	72	337	16	18
Reconstituted wood product	13	30	2	3
Total --	93	398	18	22
<u>Wood Windows & Doors & Millwork</u>				
Wood windows & door	48	222	11	15
Cut stock, resawing lumber, & planning	44	159	8	14
Other millwork, including flooring	97	470	21	30
Total --	188	852	40	59
<u>Wood Containers & Pallets</u>	125	925	33	39
<u>Manufactured Homes (Mobile Homes)</u>				
Manufactured home (mobile home)	74	344	21	29
Prefabricated wood building	43	220	11	15
Total --	118	564	32	44
<u>All Other Miscellaneous Wood Products</u>	95	595	20	28
<u>Paperboard Containers</u>	921	1,915	180	225
<u>Paper Bags & Coated & Treated Paper</u>	129	243	28	39
<u>Stationery Products</u>	129	343	20	30

Table D.5. Direct Impacts from Agriculture and Forestry^a, Nashville, 2015 (Cont.)

Sector	TIO (million \$)	Employment (number)	Labor Income (million \$)	TVA (million \$)
<u>Other Converted Paper Products</u>				
Sanitary paper product	0	0	0	0
All other converted paper product	92	291	14	18
Total --	92	291	14	18
<u>Wood Kitchen Cabinets & Countertops</u>	149	1,227	45	47
<u>Household & Institutional Furniture</u>				
Upholstered household furniture	4	22	1	1
Nonupholstered wood household furniture	42	367	13	14
Other household nonupholstered furniture	16	69	3	4
Institutional furniture	7	42	2	2
Total --	70	499	19	22
<u>Office Furniture</u>				
Wood office furniture	4	25	1	1
Custom architectural woodwork & millwork	29	189	11	12
Showcase, partition, shelving, & locker	194	982	52	58
Total --	227	1,195	64	71
<u>Other Furniture Related Products</u>				
Mattress	232	549	23	35
Blind & shade	1	11	0 ^b	0 ^b
Total --	234	560	23	36
Secondary Forestry Total --	2,569	9,608	535	679
Forestry Total --	3,489	13,624	730	930
Agriculture & Forestry Total --	15,475	68,536	2,170	4,642
Construction --	14,842	91,956	5,393	5,948
Finance --	8,529	46,684	3,137	3,827
Government --	17,308	175,777	10,637	13,402
Insurance --	8,059	29,801	2,295	4,139
Manufacturing --	57,798	102,933	7,225	15,385
Mining --	972	4,810	183	419
Miscellaneous --	2,999	21,798	676	1,049
Real Estate --	21,712	57,957	1,736	15,133
Retail Trade --	12,488	156,078	5,441	8,216
Services --	85,842	720,369	44,235	53,486
Transportations --	7,729	37,954	2,406	3,238
Utilities --	2,660	2,190	219	1,020
Wholesale Trade --	13,825	55,594	4,333	8,724
Total Economy --	270,238	1,572,436	90,087	138,629

^aTotals may not add due to rounding.^bValues of zero are nonzero values less than 1.

Table D.6. Direct Impacts from Agriculture and Forestry^a, TriCities, 2015

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
<i>Agricultural Inputs</i>				
<u>Agricultural Chemicals</u>				
Nitrogenous fertilizer	0	0	0	0
Phosphatic fertilizer	0	0	0	0
Fertilizer mixing	12	18	1	2
Pesticide & other agricultural chemical	0	0	0	0
Lime	0	0	0	0
Total --	12	18	1	2
<u>Agricultural Machinery</u>				
Farm machinery & equipment	36	62	4	8
Lawn & garden equipment	296	540	29	60
Total --	332	601	33	68
<i>Agricultural Inputs Total --</i>	344	619	34	71
<i>Primary Agriculture</i>				
Oilseed farming	3	21	1	1
Grain farming	5	68	0 ^b	1
Vegetable & melon farming	10	106	4	7
Fruit farming	3	78	1	2
Tree nut farming	0	0	0	0
Greenhouse, nursery, & floriculture production	30	397	8	16
Tobacco farming	11	249	2	6
Cotton farming	0	0	0	0
Sugarcane & sugar beet farming	0	0	0	0
All other crop farming	56	3,465	15	25
Beef cattle farming	76	1,976	9	21
Dairy cattle & milk production	20	97	4	7
Poultry & egg production	52	220	4	10
Animal production, except cattle & poultry & eggs	6	257	0	3
Commercial fishing	0	0	0	0
Commercial hunting & trapping	3	90	0 ^b	1
Support activities for agriculture & forestry	10	371	3	5
<i>Primary Agriculture Total --</i>	285	7,397	51	106
<i>Secondary Agriculture</i>				
<u>Foods</u>				
Dog & cat food	0	0	0	0
Other animal food	8	6	0 ^b	1
Total --	8	6	0 ^b	1
<u>Grain & Oilseed Milling</u>				
Flour milling	0	0	0	0
Rice milling	0	0	0	0
Malt	0	0	0	0
Wet corn milling	0	0	0	0
Soybean & other oilseed processing	0	0	0	0
Fats & oils refining & blending	0	0	0	0

Table D.6. Direct Impacts from Agriculture and Forestry^a, TriCities, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
Breakfast cereal	0	0	0	0
Total --	0	0	0	0
<u>Sugar & Confectionary Products</u>				
Beet sugar	0	0	0	0
Sugar cane mills & refining	0	0	0	0
Nonchocolate confectionery	15	34	3	5
Chocolate & confectionery (from cacao beans)	0	0	0	0
Confectionery (from purchased chocolate)	0	0	0	0
Total --	15	34	3	5
<u>Fruit & Vegetable Preserving & Specialty Foods</u>				
Frozen fruits, juices & vegetables	0	0	0	0
Frozen specialties	0	0	0	0
Canned fruits & vegetables	7	14	1	1
Canned specialties	0	0	0	0
Dehydrated food products	115	216	25	35
Total --	122	230	26	37
<u>Dairy Products</u>				
Fluid milk	39	46	3	5
Creamery butter	0	0	0	0
Cheese	134	131	2	4
Dry, condensed, & evaporated dairy product	324	182	18	38
Ice cream & frozen dessert	0	0	0	0
Total --	498	360	23	48
<u>Animal Slaughtering & Processing</u>				
Animal (except poultry) slaughtering	19	26	1	3
Meat processed from carcasses	0	0	0	0
Rendering & meat byproduct processing	0	0	0	0
Poultry processing	0	0	0	0
Total --	19	26	1	3
<u>Seafood product Preparation & Packaging</u>				
	0	0	0	0
<u>Bakeries & Tortillas</u>				
Bread & bakery product, except frozen	49	422	12	17
Frozen cakes & other pastries	3	18	0 ^b	1
Cookie & cracker	0	0	0	0
Dry pasta, mixes, & dough	0	0	0	0
Tortilla	0	0	0	0
Total --	51	439	13	18
<u>Other Foods</u>				
Roasted nuts & peanut butter	0	0	0	0
Other snack food	0	0	0	0
Coffee & tea	0	0	0	0
Flavoring syrup & concentrate	0	0	0	0

Table D.6. Direct Impacts from Agriculture and Forestry^a, TriCities, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
Mayonnaise, dressing, & sauce	0	0	0	0
Spice & extract	0	0	0	0
All other food	0 ^b	1	0 ^b	0 ^b
Total --	0 ^b	1	0 ^b	0 ^b
<u>Beverages</u>				
Bottled & canned soft drinks & water	193	250	17	34
Breweries	9	12	0 ^b	1
Wineries	0	0	0	0
Distilleries	4	4	0 ^b	1
Total --	206	266	18	37
<u>Tobacco Products</u>				
	0	0	0	0
<u>Textile Mills</u>				
Fiber, yarn, & thread mills	124	333	22	28
Broadwoven fabric mills	3	11	1	1
Narrow fabric mills & schiffli machine embroidery	0	0	0	0
Nonwoven fabric mills	30	64	5	8
Knit fabric mills	0	0	0	0
Textile & fabric finishing mills	33	130	5	8
Fabric coating mills	128	335	21	34
Total --	319	873	53	78
<u>Textile Products Mills</u>				
Carpet & rug mills	0	0	0	0
Curtain & linen mills	1	3	0 ^b	0 ^b
Textile bag & canvas mills	3	14	1	1
Rope, cordage, twine, tire cord & tire fabric mills	0	0	0	0
Other textile product mills	9	57	3	3
Total --	12	74	4	4
<u>Apparel</u>				
Hosiery & sock mills	0	0	0	0
Other apparel knitting mills	0	0	0	0
Cut & sew apparel contractors	3	79	2	1
Men's & boy's cut & sew apparel	10	81	4	4
Women's & girl's cut & sew apparel	0 ^b	3	0 ^b	0 ^b
Other cut & sew apparel	1	14	0 ^b	1
Apparel accessories & other apparel	0	0	0	0
Total --	15	178	7	6
<u>Leather & Allied Products</u>				
Leather & hide tanning & finishing	0	0	0	0
Footwear	0	0	0	0
Other leather & allied product	0 ^b	2	0 ^b	0 ^b
Total --	0 ^b	2	0 ^b	0 ^b

Table D.6. Direct Impacts from Agriculture and Forestry^a, TriCities, 2015 (Cont.)

Sector	TIO	Employment	Labor Income	TVA
	(million \$)	(number)	(million \$)	(million \$)
<i>Secondary Agriculture Total --</i>	1,266	2,489	147	237
<i>Agriculture Total --</i>	1,895	10,505	232	414
<i>Forestry Inputs</i>				
<u>Sawmill, Woodworking, & Paper Machinery</u>	10	40	3	4
<u>Timber</u>				
Forestry, forest products, & timber tract production	1	22	1	1
Commercial logging	7	95	4	4
Total --	8	117	4	4
<i>Forestry Inputs Total --</i>	19	157	7	8
<i>Primary Forestry</i>				
Sawmills	28	105	4	5
Wood preservation	27	54	2	5
Pulp mills	0	0	0	0
Paper mills	212	248	31	57
Paperboard Mills	0	0	0	0
<i>Primary Forestry Total --</i>	267	406	37	66
<i>Secondary Forestry</i>				
<u>Veneer, Plywood, & Engineered Wood Products</u>				
Veneer & plywood	1	6	0 ^b	0 ^b
Engineered wood member & truss	11	50	2	3
Reconstituted wood product	0	0	0	0
Total --	12	56	2	3
<u>Wood Windows & Doors & Millwork</u>				
Wood windows & door	9	41	2	3
Cut stock, resawing lumber, & planning	14	49	2	4
Other millwork, including flooring	42	191	10	15
Total --	65	281	15	22
<u>Wood Containers & Pallets</u>	30	216	8	10
<u>Manufactured Homes (Mobile Homes)</u>				
Manufactured home (mobile home)	0	0	0	0
Prefabricated wood building	2	10	1	1
Total --	2	10	1	1
<u>All Other Miscellaneous Wood Products</u>	0 ^b	3	0 ^b	0 ^b
<u>Paperboard Containers</u>	103	235	13	17
<u>Paper Bags & Coated & Treated Paper</u>	296	639	39	61
<u>Stationery Products</u>	0	0	0	0

Table D.6. Direct Impacts from Agriculture and Forestry^a, TriCities, 2015 (Cont.)

Sector	TIO (million \$)	Employment (number)	Labor Income (million \$)	TVA (million \$)
<u>Other Converted Paper Products</u>				
Sanitary paper product	0	0	0	0
All other converted paper product	17	52	3	4
Total --	17	52	3	4
<u>Wood Kitchen Cabinets & Countertops</u>	15	129	4	5
<u>Household & Institutional Furniture</u>				
Upholstered household furniture	75	361	21	23
Nonupholstered wood household furniture	0 ^b	2	0 ^b	0 ^b
Other household nonupholstered furniture	3	12	1	1
Institutional furniture	0	0	0	0
Total --	79	374	22	25
<u>Office Furniture</u>				
Wood office furniture	0	0	0	0
Custom architectural woodwork & millwork	1	10	0 ^b	0 ^b
Showcase, partition, shelving, & locker	6	30	2	2
Total --	8	39	2	3
<u>Other Furniture Related Products</u>				
Mattress	20	47	2	3
Blind & shade	1	9	0 ^b	0 ^b
Total --	21	56	2	3
Secondary Forestry Total --	648	2,090	112	153
Forestry Total --	933	2,654	156	227
Agriculture & Forestry Total --	2,828	13,158	389	641
Construction --	2,231	15,811	645	728
Finance --	1,221	7,863	335	455
Government --	2,925	37,084	1,970	2,449
Insurance --	278	1,677	68	103
Manufacturing --	12,967	22,338	1,747	3,277
Mining --	97	835	18	37
Miscellaneous --	489	3,519	116	142
Real Estate --	2,537	6,195	80	1,616
Retail Trade --	1,987	27,322	786	1,241
Services --	10,880	104,088	4,249	5,341
Transportations --	966	6,041	272	361
Utilities --	329	337	30	128
Wholesale Trade --	1,422	6,437	394	831
Total Economy --	41,157	252,705	11,099	17,350

^aTotals may not add due to rounding.^bValues of zero are nonzero values less than 1.

**Appendix E. Total Impacts from the Agriculture and Forestry Sectors,
Tennessee, 2015**

Table E.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2015

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	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Phosphatic fertilizer	1.34	58	1.48	64	5.06	94	7.33	136	3.94	6	5.18	8	2.11	15	2.57	18
Fertilizer mixing	1.25	82	1.41	92	1.85	193	2.55	267	1.97	11	2.58	15	1.88	19	2.43	25
Pesticide & other agricultural chemicals	1.31	907	1.48	1,026	3.81	1,434	6.14	2,313	2.21	133	2.90	175	1.42	378	1.67	447
Lime	1.56	91	1.82	106	2.39	258	3.41	369	2.20	17	2.89	22	2.18	28	2.86	36
Total --		1,137		1,288		1,980		3,085		168		220		440		526
<i>Agricultural Machinery</i>																
Farm machinery & equipment	1.29	297	1.48	340	1.93	738	2.76	1,058	1.82	49	2.40	64	1.58	92	2.01	117
Lawn & garden equipment	1.24	884	1.39	993	1.64	2,167	2.24	2,964	1.83	121	2.40	159	1.65	223	2.11	285
Total --		1,181		1,333		2,904		4,021		169		222		315		402
<i>Agricultural Inputs Total --</i>		2,318		2,620		4,884		7,106		337		443		755		928
<i>Primary Agriculture</i>																
Oilseed farming	1.40	1,030	1.66	1,224	1.76	6,082	2.18	7,516	1.74	222	2.28	290	1.76	390	2.26	501
Grain farming	1.41	846	1.58	947	1.39	7,782	1.52	8,523	3.19	114	4.18	149	1.95	298	2.33	355
Vegetable & melon farming	1.18	93	1.54	121	1.15	961	1.40	1,169	1.18	32	1.54	42	1.16	62	1.46	78
Fruit farming	1.20	33	1.60	44	1.08	789	1.19	870	1.19	12	1.56	16	1.18	21	1.53	28
Tree nut farming	1.18	0 ^b	1.57	0 ^b	1.10	6	1.24	7	1.17	0 ^b	1.54	0 ^b	1.16	0 ^b	1.48	0 ^b
Greenhouse, nursery, & floriculture production	1.23	491	1.62	647	1.16	6,183	1.37	7,333	1.22	176	1.60	231	1.24	267	1.65	357
Tobacco farming	1.26	145	1.64	188	1.13	2,389	1.28	2,705	1.28	48	1.67	63	1.30	78	1.71	102
Cotton farming	1.29	147	1.65	188	1.34	1,167	1.68	1,466	1.33	46	1.74	60	1.33	76	1.74	99
Sugarcane & sugar beet farming	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other crop farming	1.32	624	1.67	789	1.05	28,509	1.10	29,722	1.37	186	1.79	244	1.41	303	1.85	397
Beef cattle farming	1.43	1,026	1.63	1,170	1.24	20,974	1.31	22,042	1.94	165	2.54	215	1.72	341	2.13	424
Dairy cattle & milk production	1.34	255	1.57	300	1.65	1,585	2.00	1,914	1.60	51	2.09	66	1.46	106	1.82	131
Poultry & egg production	1.30	818	1.47	924	1.41	3,147	1.76	3,933	1.67	120	2.19	158	1.65	207	2.13	268

Table E.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2015 (Cont.)

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
Animal production, except cattle/poultry/eggs	1.24	122	1.56	153	1.08	2,922	1.17	3,155	1.26	36	1.65	47	1.23	64	1.58	82
Commercial fishing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Commercial hunting & trapping	1.29	46	1.64	59	1.08	905	1.19	998	1.36	14	1.78	19	1.30	24	1.69	31
Support activities for agriculture & forestry	1.09	232	1.52	323	1.03	4,077	1.20	4,751	1.07	104	1.40	136	1.07	172	1.39	224
Primary Agriculture Total --		5,907		7,078		87,477		96,105		1,325		1,735		2,409		3,079
Secondary Agriculture																
<u>Foods</u>																
Dog & cat food	1.33	832	1.47	917	3.32	1,234	5.00	1,857	2.26	95	2.97	125	1.43	274	1.69	322
Other animal food	1.46	224	1.60	246	3.41	398	4.76	554	4.37	24	5.74	31	3.61	43	4.65	55
Total --		1,056		1,163		1,632		2,412		119		156		316		377
<u>Grain & Oilseed Milling</u>																
Flour milling	1.52	1,097	1.72	1,243	4.73	2,253	6.97	3,322	3.47	163	4.56	214	2.75	292	3.54	375
Rice milling	1.33	72	1.51	82	2.60	152	3.82	224	2.28	11	3.00	14	2.27	18	2.96	24
Malt	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Wet corn milling	1.45	1,741	1.64	1,960	6.09	3,235	9.11	4,840	3.35	245	4.40	322	2.23	495	2.80	620
Soybean & other oilseed processing	1.38	2,446	1.49	2,653	9.80	3,332	14.28	4,852	6.99	232	9.18	305	4.38	429	5.59	547
Fats & oils refining & blending	1.44	618	1.56	671	3.64	790	5.42	1,177	2.88	59	3.78	77	2.71	105	3.48	136
Breakfast cereal	1.31	757	1.48	856	2.40	1,261	3.79	1,991	1.79	111	2.35	146	1.31	324	1.54	381
Total --		6,731		7,465		11,023		16,406		821		1,079		1,664		2,084
<u>Sugar & Confectionary Products</u>																
Beet sugar	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Sugar cane mills & refining	1.30	47	1.46	53	2.46	101	3.50	144	2.35	7	3.08	9	1.90	12	2.42	15
Nonchocolate confectionery	1.39	579	1.63	679	1.72	1,722	2.45	2,459	1.75	112	2.30	148	1.66	193	2.16	250
Chocolate & confectionery from cacao beans	1.41	109	1.56	121	2.21	270	2.91	356	3.95	13	5.19	17	3.13	23	4.04	30
Confectionery from purchased chocolate	1.35	733	1.60	866	1.55	2,305	2.20	3,281	1.60	149	2.11	195	1.53	262	1.98	338
Total --		1,468		1,719		4,399		6,240		281		369		490		633

Table E.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2015 (Cont.)

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>Fruit & Vegetable Preserving & Specialty Foods</u>																
Frozen fruits, juices & vegetables	1.45	623	1.75	749	2.06	1,765	3.13	2,688	1.77	141	2.33	185	1.83	218	2.43	290
Frozen specialties	1.38	892	1.63	1,048	1.60	2,734	2.27	3,879	1.65	174	2.17	229	1.83	246	2.49	335
Canned fruits & vegetables	1.38	801	1.63	949	2.02	2,161	3.04	3,251	1.73	166	2.28	218	1.85	243	2.50	328
Canned specialties	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Dehydrated food products	1.31	151	1.60	184	1.79	387	2.91	628	1.45	37	1.90	48	1.48	52	2.01	71
Total --		2,467		2,931		7,046		10,446		518		681		759		1,024
<u>Dairy Products</u>																
Fluid milk	1.34	761	1.50	851	2.30	1,546	3.29	2,210	2.20	101	2.88	133	2.05	168	2.67	220
Creamery butter	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Cheese	1.31	338	1.42	364	2.51	632	3.27	823	6.28	29	8.24	38	5.91	47	7.78	62
Dry, condensed, & evaporated dairy products	1.41	2,569	1.54	2,808	3.73	3,927	5.39	5,676	3.38	267	4.44	350	2.77	474	3.57	611
Ice cream & frozen desserts	1.36	279	1.59	326	1.64	745	2.40	1,089	1.56	53	2.06	69	1.46	96	1.87	122
Total --		3,948		4,349		6,850		9,797		450		591		785		1,015
<u>Animal Slaughtering & Processing</u>																
Animal (except poultry) slaughtering	1.18	2,944	1.30	3,242	1.79	5,983	2.44	8,170	1.88	334	2.47	438	1.56	595	2.01	766
Meat processed from carcasses	1.28	1,065	1.42	1,181	1.59	2,489	2.14	3,340	1.78	130	2.33	170	1.81	194	2.42	261
Rendering & meat byproduct processing	1.61	186	1.88	218	2.94	600	4.08	832	3.06	35	4.02	47	3.13	46	4.36	65
Poultry processing	1.24	2,267	1.43	2,610	1.37	8,463	1.77	10,978	1.54	383	2.02	503	1.62	497	2.25	693
Total --		6,462		7,251		17,536		23,320		882		1,159		1,332		1,783
<u>Seafood Product Preparation & Packaging</u>																
	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<u>Bakeries & Tortillas</u>																
Bread & bakery product, except frozen	1.37	1,271	1.76	1,634	1.23	8,839	1.60	11,500	1.37	407	1.80	534	1.41	559	1.93	767
Frozen cakes & other pastries	1.36	102	1.72	129	1.30	519	1.79	713	1.39	30	1.82	39	1.39	45	1.85	61

Table E.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2015 (Cont.)

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
Cookie & cracker	1.37	1,435	1.63	1,704	1.69	4,353	2.45	6,328	1.64	301	2.15	395	1.51	527	1.96	680
Dry pasta, mixes, & dough	1.50	311	1.71	354	2.11	801	2.92	1,113	2.42	48	3.18	62	1.94	93	2.45	118
Tortilla	1.47	32	1.79	39	1.39	137	1.89	188	1.50	8	1.97	10	1.54	12	2.05	16
Total --		3,152		3,859		14,649		19,841		792		1,041		1,236		1,641
<u>Other Foods</u>																
Roasted nuts & peanut butter	1.41	14	1.59	16	2.26	39	3.02	52	3.07	2	4.03	3	3.31	3	4.47	4
Other snack food	1.29	1,997	1.45	2,242	1.90	4,040	2.75	5,840	1.92	274	2.52	361	1.44	712	1.73	852
Coffee & tea	1.33	858	1.53	988	2.12	2,298	3.00	3,253	2.08	146	2.73	191	1.84	253	2.38	327
Flavoring syrup & concentrate	1.39	68	1.51	74	4.10	109	5.80	154	4.11	7	5.40	9	1.69	21	1.98	24
Mayonnaise, dressing, & sauce	1.33	422	1.48	471	1.76	926	2.44	1,283	1.90	54	2.50	72	1.70	100	2.18	128
Spice & extract	1.38	37	1.56	41	1.96	106	2.60	141	2.66	5	3.50	7	2.84	8	3.84	10
All other food	1.35	589	1.60	695	1.63	1,983	2.28	2,764	1.71	119	2.25	157	1.83	169	2.48	229
Total --		3,984		4,528		9,501		13,488		608		799		1,264		1,575
<u>Beverages</u>																
Bottled & canned soft drinks & water	1.36	3,439	1.54	3,911	2.44	7,867	3.52	11,327	2.22	528	2.91	693	1.97	941	2.53	1,210
Breweries	1.45	391	1.63	437	2.50	877	3.47	1,217	3.33	52	4.37	68	2.07	109	2.57	136
Wineries	1.40	175	1.64	204	1.58	729	2.04	944	2.16	33	2.83	43	2.24	49	3.00	66
Distilleries	1.24	1,587	1.38	1,756	2.42	2,707	3.53	3,950	2.26	190	2.96	249	1.29	746	1.46	842
Total --		5,592		6,308		12,179		17,438		802		1,054		1,845		2,255
<u>Tobacco Products</u>																
	1.39	4,203	1.51	4,549	5.45	5,012	8.20	7,552	4.13	387	5.43	509	1.41	2,026	1.55	2,224
<u>Textile Mills</u>																
Fiber, yarn, & thread mills	1.28	678	1.48	784	1.38	2,035	1.91	2,813	1.50	118	1.97	156	1.60	161	2.21	221
Broadwoven fabric mills	1.29	29	1.59	36	1.40	103	2.07	152	1.36	7	1.79	10	1.36	11	1.83	15
Narrow fabric mills & schiffli machine embroidery	1.32	14	1.66	18	1.24	81	1.67	108	1.35	4	1.77	5	1.45	5	2.06	7
Nonwoven fabric mills	1.29	437	1.53	516	1.64	1,135	2.47	1,714	1.50	88	1.98	116	1.44	145	1.89	191
Knit fabric mills	1.36	37	1.65	45	1.43	171	1.92	229	1.56	9	2.05	12	1.58	12	2.15	17

Table E.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2015 (Cont.)

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
Textile & fabric finishing mills	1.35	222	1.59	262	1.48	948	1.93	1,242	1.75	45	2.30	59	1.77	68	2.36	91
Fabric coating mills	1.30	226	1.53	265	1.54	704	2.17	991	1.60	44	2.10	57	1.54	69	2.04	92
Total --		1,643		1,926		5,176		7,250		316		415		472		634
<u>Textile Product Mills</u>																
Carpet & rug mills	1.26	46	1.49	54	1.35	132	1.98	193	1.33	9	1.75	12	1.39	13	1.90	18
Curtain & linen mills	1.29	37	1.52	44	1.25	210	1.55	259	1.54	8	2.02	10	1.55	12	2.06	16
Textile bag & canvas mills	1.22	138	1.52	172	1.21	844	1.56	1,091	1.31	38	1.72	49	1.35	50	1.86	69
Rope, cordage, twine, tire cord & tire fabric mills	1.31	209	1.55	247	1.41	729	1.96	1,010	1.46	43	1.92	56	1.42	74	1.83	96
Other textile product mills	1.32	221	1.65	277	1.23	1,399	1.59	1,809	1.35	62	1.77	82	1.43	83	1.98	115
Hosiery & sock mills	1.31	77	1.69	100	1.15	636	1.45	802	1.29	25	1.69	33	1.42	29	2.05	42
Other apparel knitting mills	1.38	33	1.68	41	1.33	174	1.73	227	1.54	8	2.02	11	1.80	10	2.51	14
Total --		761		934		4,124		5,391		193		254		272		371
<u>Apparel</u>																
Cut & sew apparel contractors	1.41	74	2.17	114	1.11	1,381	1.34	1,678	1.22	45	1.60	59	1.62	31	2.84	54
Men's & boy's cut & sew apparel	1.28	338	1.74	458	1.24	2,536	1.66	3,417	1.26	134	1.66	176	1.38	152	2.00	221
Women's & girl's cut & sew apparel	1.44	39	1.72	46	1.46	265	1.76	321	2.18	9	2.86	11	2.53	11	3.52	15
Other cut & sew apparel	1.36	31	1.79	41	1.23	271	1.56	344	1.39	11	1.82	15	1.56	13	2.24	19
Apparel accessories & other apparel	1.36	12	1.79	16	1.22	105	1.55	133	1.34	4	1.76	6	1.52	5	2.17	7
Total --		494		676		4,558		5,893		204		268		212		316
<u>Leather & Allied Products</u>																
Leather & hide tanning & finishing	1.51	73	1.70	82	2.33	206	3.06	271	3.44	10	4.51	13	4.45	14	6.00	20
Footwear	1.38	62	1.68	75	1.32	383	1.65	480	1.65	15	2.17	19	2.02	19	2.84	26
Other leather & allied products	1.49	40	1.89	51	1.31	310	1.66	391	1.58	12	2.08	16	2.92	11	4.65	17
Total --		175		208		900		1,142		37		49		44		63
Secondary Agriculture Total --		42,137		47,866		104,586		146,616		6,410		8,421		12,719		15,995
Agriculture Total --		50,362		57,564		196,947		249,827		8,072		10,599		15,883		20,002
Forestry Inputs																

Table E.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2015 (Cont.)

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>Sawmill, woodworking, & paper machinery</u>	1.23	69	1.60	90	1.38	275	2.16	431	1.24	24	1.63	31	1.29	30	1.83	42
<u>Timber</u>																
Forestry, forest products, & timber tract production	1.27	14	1.85	21	1.34	162	1.74	210	1.18	7	1.54	10	1.29	8	1.87	12
Commercial logging	1.22	360	1.79	528	1.29	4,691	1.64	5,929	1.13	191	1.48	250	1.21	210	1.76	306
Total --		374		548		4,853		6,139		199		260		218		318
Forestry Inputs Total --		443		638		5,128		6,571		222		291		248		359
Primary Forestry																
Sawmills	1.55	1,337	1.85	1,594	1.80	5,794	2.39	7,684	2.17	287	2.85	377	2.48	397	3.40	544
Wood preservation	1.59	96	1.83	111	2.46	308	3.29	412	3.14	16	4.13	21	2.79	26	3.65	35
Pulp mills	1.48	224	1.74	264	2.94	589	4.42	885	2.03	44	2.67	58	2.03	67	2.72	90
Paper mills	1.36	5,976	1.63	7,174	2.64	12,263	4.54	21,068	1.58	1,327	2.08	1,746	1.51	2,250	1.97	2,935
Paperboard Mills	1.49	1,151	1.75	1,349	3.16	2,787	4.81	4,248	2.19	216	2.89	285	2.06	354	2.72	468
Primary Forestry Total --		8,784		10,492		21,742		34,297		1,889		2,488		3,095		4,071
Secondary Forestry																
<u>Veneer, Plywood, & Engineered Wood Products</u>																
Veneer & plywood	1.45	33	1.69	38	1.59	145	2.05	186	2.17	6	2.85	8	2.40	9	3.28	12
Engineered wood member & truss	1.41	220	1.73	270	1.49	1,091	2.00	1,460	1.65	56	2.17	74	1.85	73	2.57	102
Reconstituted wood products	1.32	200	1.52	229	1.70	579	2.33	795	1.80	33	2.37	43	1.76	53	2.31	70
Total --		452		538		1,815		2,441		95		125		135		183
<u>Wood Windows & Doors & Millwork</u>																
Wood windows & door	1.41	272	1.75	339	1.51	1,325	2.07	1,818	1.55	75	2.04	98	1.63	103	2.23	141
Cut stock, resawing lumber, & planing	1.29	166	1.52	196	1.44	694	1.90	917	1.63	34	2.14	44	1.51	58	1.97	75
Other millworks, including floors	1.36	432	1.66	527	1.43	2,226	1.88	2,926	1.62	106	2.13	140	1.64	158	2.20	213
Total --		869		1,061		4,245		5,661		215		282		319		429
<u>Wood Containers & Pallets</u>	1.33	481	1.69	608	1.25	3,270	1.61	4,206	1.41	142	1.85	187	1.53	181	2.14	254

Table E.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2015 (Cont.)

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>Manufactured Homes (Mobile Homes)</u>																
Manufactured homes (mobile homes)	1.30	568	1.62	711	1.36	2,811	1.87	3,866	1.34	160	1.76	210	1.37	227	1.87	309
Prefabricated wood buildings	1.34	111	1.68	140	1.42	579	1.94	791	1.44	32	1.89	42	1.46	46	1.99	62
Total --		679		852		3,390		4,657		192		253		272		371
<u>All Other Miscellaneous Wood Products</u>	1.42	182	1.75	223	1.41	1,111	1.80	1,419	1.68	47	2.21	61	1.73	66	2.35	90
<u>Paperboard Containers</u>																
	1.29	3,207	1.55	3,833	1.83	9,624	2.70	14,235	1.58	702	2.08	921	1.70	951	2.33	1,309
<u>Paper Bags & Coated & Treated Paper</u>																
	1.25	1,083	1.50	1,298	1.66	2,836	2.59	4,418	1.42	241	1.86	317	1.46	348	1.98	471
<u>Stationery Products</u>																
	1.28	504	1.58	623	1.62	1,516	2.56	2,390	1.39	132	1.82	174	1.45	180	2.00	248
<u>Other Converted Paper Products</u>																
Sanitary paper products	1.26	561	1.43	637	2.08	1,147	3.08	1,700	1.81	84	2.37	110	1.46	184	1.80	227
All other converted paper products	1.31	306	1.67	390	1.64	983	2.68	1,606	1.35	95	1.77	125	1.46	117	2.06	166
Total --		867		1,027		2,130		3,306		179		235		301		392
<u>Wood Kitchen Cabinets & Countertops</u>																
	1.36	349	1.75	451	1.28	2,627	1.64	3,380	1.39	115	1.82	150	1.54	133	2.22	192
<u>Household & Institutional Furniture</u>																
Upholstered household furniture	1.36	1,062	1.67	1,308	1.34	5,377	1.80	7,191	1.46	275	1.92	361	1.68	348	2.36	489
Nonupholstered wood household furniture	1.34	113	1.72	145	1.22	891	1.54	1,127	1.37	36	1.80	47	1.50	44	2.13	62
Other household nonupholstered furniture	1.36	46	1.64	56	1.48	217	1.95	287	1.65	11	2.17	14	1.85	14	2.57	19
Institutional furniture	1.34	117	1.70	149	1.34	690	1.79	920	1.42	35	1.87	46	1.58	42	2.26	60
Total --		1,338		1,658		7,176		9,525		356		468		448		631
<u>Office Furniture</u>																
Wood office furniture	1.41	29	1.71	35	1.43	167	1.81	211	1.77	7	2.32	9	1.99	9	2.76	13

Table E.1. Total Impacts from Agriculture and Forestry^a, Tennessee, 2015 (Cont.)

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
Custom architectural woodwork & millwork	1.27	64	1.68	84	1.24	426	1.68	575	1.27	23	1.67	30	1.38	26	1.99	38
Showcase, partition, shelving, & locker	1.31	318	1.64	399	1.34	1,652	1.82	2,249	1.38	90	1.82	119	1.51	110	2.15	157
Total --		411		518		2,245		3,036		120		158		146		207
<u>Other Furniture Related Products</u>																
Mattresses	1.41	406	1.62	465	1.95	1,324	2.59	1,760	2.40	66	3.15	87	2.39	103	3.17	137
Blind & shades	1.31	4	1.63	6	1.23	29	1.57	37	1.37	1	1.80	2	1.56	1	2.22	2
Total --		410		471		1,353		1,797		67		89		105		139
Secondary Forestry Total --		10,832		13,160		43,337		60,469		2,604		3,420		3,585		4,916
Forestry Total --		20,058		24,290		70,207		101,337		4,716		6,199		6,928		9,347
Agriculture & Forestry Total --		70,420		81,854		267,154		351,164		12,788		16,798		22,811		29,349
Construction --		48,006		63,045		311,141		421,862		16,938		22,207		20,964		29,564
Finance --		31,960		42,113		195,151		269,813		11,336		14,894		14,524		20,325
Government --		55,029		82,688		495,111		698,411		30,764		40,461		39,339		55,073
Insurance --		25,515		32,287		117,947		167,746		7,559		9,933		12,544		16,414
Manufacturing --		173,538		201,858		455,390		663,600		31,456		41,384		57,183		73,363
Mining --		2,354		2,819		12,545		15,969		522		685		970		1,189
Miscellaneous --		12,251		15,324		86,754		109,355		3,434		4,511		5,278		7,034
Real Estate --		65,163		73,349		181,129		220,406		6,025		7,893		43,001		47,682
Retail Trade --		41,244		56,151		454,600		564,246		16,673		21,897		26,093		34,613
Services --		255,872		358,689		2,203,859		2,960,286		115,187		151,219		149,477		208,246
Transportation --		29,955		39,096		170,548		237,776		10,216		13,420		14,008		19,232
Utilities --		5,224		5,756		6,970		10,883		594		781		2,043		2,348
Wholesale Trade --		45,231		58,790		215,204		314,912		15,129		19,883		27,989		35,737

^aTotals may not add due to rounding.

^bValues of zero are nonzero values less than 1.

Table E.2. Total Impacts from Agriculture and Forestry^a, Chattanooga, 2015

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	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Phosphatic fertilizer	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Fertilizer mixing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Pesticide & other agricultural chemicals	1.25	76	1.37	83	3.38	118	4.94	172	2.05	10	2.55	12	1.36	29	1.55	33
Lime	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		76		83		118		172		10		12		29		33
<i>Agricultural Machinery</i>																
Farm machinery & equipment	1.20	130	1.34	145	1.73	303	2.38	418	1.53	21	1.90	26	1.37	41	1.66	49
Lawn & garden equipment	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		130		145		303		418		21		26		41		49
<i>Agricultural Inputs Total --</i>		206		228		421		590		30		38		70		82
<i>Primary Agriculture</i>																
Oilseed farming	1.36	22	1.51	24	1.73	137	1.97	156	2.07	3	2.58	4	1.66	8	1.95	9
Grain farming	1.38	13	1.49	14	1.38	130	1.46	138	4.00	1	4.97	2	1.86	5	2.10	5
Vegetable & melon farming	1.17	17	1.55	23	1.15	195	1.41	239	1.12	8	1.40	9	1.14	11	1.46	15
Fruit farming	1.20	4	1.62	6	1.09	94	1.22	105	1.13	2	1.41	2	1.17	3	1.53	4
Tree nut farming	1.17	0 ^b	1.35	0 ^b	1.11	0 ^b	1.18	0 ^b	1.33	0 ^b	1.66	0 ^b	1.15	0 ^b	1.29	0 ^b
Greenhouse, nursery, & floriculture production	1.15	20	1.65	28	1.11	254	1.40	320	1.09	12	1.35	15	1.16	11	1.68	16
Tobacco farming	1.24	3	1.49	4	1.14	51	1.24	56	1.30	1	1.61	1	1.26	2	1.53	2
Cotton farming	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Sugarcane & sugar beet farming	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other crop farming	1.31	68	1.64	84	1.07	2,602	1.12	2,731	1.28	23	1.59	28	1.39	32	1.79	42
Beef cattle farming	1.54	103	1.78	119	1.41	1,824	1.51	1,949	1.71	22	2.14	27	1.79	33	2.28	42
Dairy cattle & milk production	1.31	63	1.55	74	1.72	374	2.13	462	1.37	16	1.70	19	1.40	25	1.76	32
Poultry & egg production	1.23	229	1.36	255	1.35	864	1.66	1,062	1.45	35	1.80	44	1.48	55	1.87	70
Animal production, except cattle/poultry/eggs	1.22	5	1.39	6	1.08	141	1.13	147	1.36	1	1.69	1	1.20	3	1.39	3
Commercial fishing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0

Table E.2. Total Impacts from Agriculture and Forestry^a, Chattanooga, 2015 (Cont.)

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
Commercial hunting & trapping	1.28	5	1.48	6	1.07	129	1.12	135	1.61	1	2.00	1	1.40	2	1.70	3
Support activities for agriculture & forestry	1.08	16	1.39	21	1.03	330	1.14	366	1.07	6	1.33	8	1.06	12	1.30	14
Primary Agriculture Total --		568		665		7,127		7,866		131		163		202		256
Secondary Agriculture																
<u>Foods</u>																
Dog & cat food	1.21	22	1.28	23	2.63	36	3.29	45	4.01	2	4.98	2	2.14	4	2.55	4
Other animal food	1.29	24	1.37	25	2.80	41	3.54	52	5.72	2	7.10	2	4.76	3	5.89	4
Total --		45		48		77		97		4		4		7		8
<u>Grain & Oilseed Milling</u>																
Flour milling	1.44	256	1.57	280	4.17	509	5.65	689	3.76	32	4.67	40	2.93	58	3.60	71
Rice milling	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Malt	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Wet corn milling	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Soybean & other oilseed processing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Fats & oils refining & blending	1.18	11	1.22	11	2.65	14	3.32	17	6.28	1	7.80	1	5.88	1	7.29	1
Breakfast cereal	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		267		291		522		706		33		41		59		72
<u>Sugar & Confectionary Products</u>																
Beet sugar	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Sugar cane mills & refining	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Nonchocolate confectionery	1.26	130	1.42	146	1.56	404	2.04	528	1.63	22	2.02	28	1.54	38	1.91	47
Chocolate & confectionery from cacao beans	1.28	18	1.41	19	1.98	41	2.63	54	1.98	2	2.46	3	1.94	4	2.43	5
Confectionery from purchased chocolate	1.23	255	1.42	295	1.42	756	2.00	1,061	1.34	55	1.66	68	1.29	98	1.59	120
Total --		402		460		1,201		1,643		80		99		140		173
<u>Fruit & Vegetable Preserving & Specialty Foods</u>																
Frozen fruits, juices & vegetables	1.34	121	1.58	143	1.88	313	2.87	478	1.46	30	1.81	37	1.49	46	1.89	58
Frozen specialties	1.29	137	1.46	154	1.47	421	1.95	557	1.54	25	1.91	31	1.68	34	2.17	44
Canned fruits & vegetables	1.28	80	1.45	91	1.81	218	2.49	300	1.63	15	2.02	18	1.72	21	2.20	27

Table E.2. Total Impacts from Agriculture and Forestry^a, Chattanooga, 2015 (Cont.)

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
Canned specialties	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Dehydrated food products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		338		388		953		1,335		69		86		101		129
<u>Dairy Products</u>																
Fluid milk	1.26	204	1.37	222	2.09	405	2.78	540	2.00	24	2.49	30	1.85	41	2.31	50
Creamery butter	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Cheese	1.23	14	1.29	15	2.24	25	2.70	30	7.66	1	9.51	1	8.55	1	10.81	2
Dry, condensed, & evaporated dairy products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Ice cream & frozen desserts	1.25	82	1.41	92	1.50	223	2.04	303	1.44	14	1.79	18	1.35	27	1.65	33
Total --		300		329		653		873		40		49		69		85
<u>Animal Slaughtering & Processing</u>																
Animal (except poultry) slaughtering	1.15	19	1.25	21	1.71	38	2.31	52	1.55	2	1.93	3	1.47	4	1.87	5
Meat processed from carcasses	1.12	9	1.24	10	1.40	19	1.91	26	1.31	1	1.63	2	1.35	2	1.76	2
Rendering & meat byproduct processing	1.52	9	1.69	10	2.72	31	3.42	39	4.26	1	5.29	2	4.22	2	5.53	2
Poultry processing	1.19	636	1.32	705	1.31	2,422	1.59	2,951	1.46	96	1.82	119	1.53	123	2.01	162
Total --		673		746		2,510		3,068		101		125		130		171
<u>Seafood Product Preparation & Packaging</u>																
	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<u>Bakeries & Tortillas</u>																
Bread & bakery product, except frozen	1.24	387	1.57	489	1.20	2,523	1.57	3,305	1.20	141	1.49	175	1.22	190	1.59	247
Frozen cakes & other pastries	1.31	4	1.53	5	1.24	27	1.51	33	1.45	1	1.80	1	1.44	2	1.82	2
Cookie & cracker	1.26	414	1.45	477	1.57	1,227	2.19	1,710	1.41	87	1.75	108	1.33	155	1.63	191
Dry pasta, mixes, & dough	1.36	87	1.50	97	1.90	211	2.54	282	1.84	13	2.29	16	1.53	27	1.82	33
Tortilla	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		892		1,068		3,988		5,329		242		301		374		473
<u>Other Foods</u>																
Roasted nuts & peanut butter	1.36	7	1.47	8	2.10	20	2.57	25	4.30	1	5.35	1	5.26	1	6.80	1

Table E.2. Total Impacts from Agriculture and Forestry^a, Chattanooga, 2015 (Cont.)

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
Other snack food	1.22	14	1.32	16	1.67	32	2.13	41	2.01	2	2.50	2	1.59	4	1.89	4
Coffee & tea	1.30	11	1.42	12	1.94	32	2.42	39	2.60	1	3.23	2	3.17	2	4.12	2
Flavoring syrup & concentrate	1.22	60	1.29	63	3.26	86	4.31	114	2.99	5	3.72	6	1.43	18	1.60	20
Mayonnaise, dressing, & sauce	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Spice & extract	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other food	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		92		98		170		219		9		11		24		28
<u>Beverages</u>																
Bottled & canned soft drinks & water	1.25	622	1.38	686	2.16	1,361	2.94	1,851	1.84	88	2.28	110	1.66	159	2.04	195
Breweries	1.30	42	1.46	47	2.18	88	3.14	127	1.75	7	2.17	9	1.63	12	2.04	14
Wineries	1.34	4	1.46	5	1.47	20	1.67	23	3.85	1	4.78	1	3.68	1	4.64	1
Distilleries	1.18	25	1.33	28	2.13	41	3.39	65	1.43	4	1.78	5	1.22	11	1.41	13
Total --		693		765		1,510		2,066		100		124		183		224
<u>Tobacco Products</u>																
	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<u>Textile Mills</u>																
Fiber, yarn, & thread mills	1.17	324	1.30	359	1.28	1,018	1.62	1,289	1.38	49	1.71	61	1.44	66	1.88	86
Broadwoven fabric mills	1.17	5	1.42	6	1.32	15	1.99	23	1.18	1	1.47	2	1.18	2	1.50	3
Narrow fabric mills & schiffli machine embroidery	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Nonwoven fabric mills	1.19	50	1.37	58	1.51	124	2.22	182	1.30	11	1.61	13	1.26	18	1.57	22
Knit fabric mills	1.26	28	1.48	33	1.37	134	1.75	171	1.40	7	1.74	8	1.41	9	1.82	12
Textile & fabric finishing mills	1.26	28	1.44	32	1.40	121	1.75	151	1.54	5	1.91	7	1.54	8	1.96	10
Fabric coating mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		435		488		1,412		1,816		73		91		103		132
<u>Textile Product Mills</u>																
Carpet & rug mills	1.14	8	1.32	9	1.24	22	1.78	32	1.17	2	1.45	2	1.20	2	1.55	3
Curtain & linen mills	1.21	6	1.36	7	1.20	35	1.39	41	1.48	1	1.84	1	1.46	2	1.83	2

Table E.2. Total Impacts from Agriculture and Forestry^a, Chattanooga, 2015 (Cont.)

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
Textile bag & canvas mills	1.16	53	1.37	62	1.17	342	1.43	415	1.24	13	1.54	17	1.27	18	1.67	23
Rope, cordage, twine, tire cord & tire fabric mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Other textile product mills	1.21	13	1.48	16	1.19	78	1.52	100	1.20	4	1.49	5	1.25	5	1.64	7
Hosiery & sock mills	1.29	76	1.58	93	1.14	632	1.38	766	1.24	24	1.54	30	1.38	29	1.86	38
Other apparel knitting mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		155		187		1,109		1,354		44		55		55		73
<u>Apparel</u>																
Cut & sew apparel contractors	1.21	5	1.78	7	1.09	72	1.36	90	1.11	3	1.38	4	1.19	3	1.75	4
Men's & boy's cut & sew apparel	1.21	106	1.56	137	1.19	793	1.56	1,033	1.18	43	1.46	54	1.26	48	1.72	65
Women's & girl's cut & sew apparel	1.28	2	1.58	2	1.40	11	1.80	14	1.36	1	1.69	1	1.50	1	2.03	1
Other cut & sew apparel	1.29	3	1.61	4	1.21	30	1.45	36	1.31	1	1.62	1	1.44	1	1.95	2
Apparel accessories & other apparel	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		116		151		906		1,172		48		60		53		72
<u>Leather & Allied Products</u>																
Leather & hide tanning & finishing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Footwear	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Other leather & allied products	1.37	14	1.70	18	1.26	112	1.55	138	1.37	5	1.70	6	2.29	4	3.49	5
Total --		14		18		112		138		5		6		4		5
Secondary Agriculture Total --		4,422		5,037		15,124		19,815		847		1,052		1,301		1,647
Agriculture Total --		5,197		5,930		22,672		28,271		1,009		1,253		1,573		1,985
<u>Forestry Inputs</u>																
<u>Sawmill, woodworking, & paper machinery</u>	1.16	33	1.48	41	1.32	123	2.03	190	1.16	12	1.44	15	1.19	15	1.58	20
<u>Timber</u>																
Forestry, forest products, & timber tract production	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Commercial logging	1.21	31	1.68	43	1.32	425	1.61	517	1.13	16	1.40	20	1.19	18	1.65	25
Total --		31		43		425		517		16		20		18		25

Table E.2. Total Impacts from Agriculture and Forestry^a, Chattanooga, 2015 (Cont.)

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
Forestry Inputs Total --		63		84		548		707		28		35		33		44
Primary Forestry																
Sawmills	1.38	40	1.59	47	1.60	174	2.04	222	1.74	9	2.16	11	2.01	11	2.64	15
Wood preservation	1.36	24	1.50	26	1.97	71	2.51	91	2.28	3	2.84	4	2.23	6	2.79	7
Pulp mills	1.34	203	1.52	231	2.52	504	3.59	718	1.74	38	2.17	47	1.74	58	2.21	74
Paper mills	1.29	730	1.48	835	2.34	1,479	3.61	2,281	1.54	143	1.92	178	1.46	245	1.81	304
Paperboard Mills	1.42	107	1.58	119	2.76	263	3.70	353	2.67	16	3.34	19	2.42	25	3.06	32
Primary Forestry Total --		1,103		1,257		2,492		3,664		209		260		345		431
Secondary Forestry																
<u>Veneer, Plywood, & Engineered Wood Products</u>																
Veneer & plywood	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Engineered wood member & truss	1.32	25	1.57	29	1.41	124	1.81	159	1.48	6	1.83	8	1.64	8	2.17	10
Reconstituted wood products	1.28	144	1.42	160	1.61	411	2.09	535	1.66	22	2.06	28	1.60	36	2.00	45
Total --		169		190		535		694		29		35		44		55
<u>Wood Windows & Doors & Millwork</u>																
Wood windows & door	1.27	10	1.56	12	1.41	46	1.96	64	1.28	3	1.60	4	1.34	4	1.77	5
Cut stock, resawing lumber, & planing	1.22	27	1.38	31	1.37	117	1.69	144	1.53	5	1.90	6	1.41	9	1.74	11
Other millworks, including floors	1.23	4	1.55	6	1.36	20	1.96	29	1.22	2	1.52	2	1.28	2	1.71	3
Total --		42		49		183		237		10		12		15		19
<u>Wood Containers & Pallets</u>	1.25	61	1.52	74	1.21	425	1.50	526	1.29	18	1.61	23	1.38	23	1.84	30
<u>Manufactured Homes (Mobile Homes)</u>																
Manufactured homes (mobile homes)	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Prefabricated wood buildings	1.26	6	1.53	7	1.35	30	1.77	40	1.30	2	1.62	2	1.35	2	1.76	3
Total --		6		7		30		40		2		2		2		3
<u>All Other Miscellaneous Wood Products</u>	1.24	7	1.64	9	1.34	32	2.05	50	1.17	3	1.46	4	1.23	3	1.69	5
<u>Paperboard Containers</u>	1.25	661	1.42	753	1.72	2,003	2.31	2,703	1.55	126	1.92	157	1.63	173	2.12	225

Table E.2. Total Impacts from Agriculture and Forestry^a, Chattanooga, 2015 (Cont.)

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>Paper Bags & Coated & Treated Paper</u>	1.17	43	1.41	52	1.54	99	2.61	167	1.19	12	1.48	15	1.23	16	1.61	21
<u>Stationery Products</u>	1.27	51	1.41	57	1.53	182	1.88	224	1.91	7	2.38	9	1.91	11	2.43	14
<u>Other Converted Paper Products</u>																
Sanitary paper products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other converted paper products	1.27	32	1.47	37	1.53	111	2.06	150	1.46	7	1.82	9	1.54	9	2.00	12
Total --		32		37		111		150		7		9		9		12
<u>Wood Kitchen Cabinets & Countertops</u>	1.28	31	1.57	38	1.24	245	1.51	300	1.30	10	1.62	12	1.42	11	1.93	15
<u>Household & Institutional Furniture</u>																
Upholstered household furniture	1.27	579	1.51	686	1.28	2,950	1.63	3,769	1.32	147	1.64	183	1.49	183	1.98	243
Nonupholstered wood household furniture	1.29	2	1.55	2	1.18	16	1.40	19	1.36	1	1.69	1	1.50	1	2.01	1
Other household nonupholstered furniture	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Institutional furniture	1.29	3	1.50	4	1.29	20	1.53	24	1.50	1	1.87	1	1.69	1	2.25	1
Total --		584		692		2,987		3,812		149		185		184		245
<u>Office Furniture</u>																
Wood office furniture	1.32	15	1.52	18	1.36	92	1.63	110	1.60	3	1.99	4	1.77	4	2.32	6
Custom architectural woodwork & millwork	1.21	6	1.51	7	1.20	39	1.53	50	1.21	2	1.50	2	1.29	2	1.75	3
Showcase, partition, shelving, & locker	1.23	11	1.46	13	1.28	59	1.61	74	1.33	3	1.65	3	1.43	3	1.92	4
Total --		32		38		189		234		8		10		10		13
<u>Other Furniture Related Products</u>																
Mattresses	1.30	21	1.43	23	1.74	67	2.17	84	2.08	3	2.58	4	2.08	5	2.62	6
Blind & shades	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		21		23		67		84		3		4		5		6
Secondary Forestry Total --		1,738		2,017		7,089		9,221		383		476		507		663
Forestry Total --		2,905		3,358		10,129		13,591		620		771		885		1,139

Table E.2. Total Impacts from Agriculture and Forestry^a, Chattanooga, 2015 (Cont.)

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>8,103</i>		<i>9,288</i>		<i>32,801</i>		<i>41,862</i>		<i>1,629</i>		<i>2,024</i>		<i>2,458</i>		<i>3,124</i>
<i>Construction --</i>		4,551		5,751		29,995		39,172		1,639		2,039		1,984		2,659
<i>Finance --</i>		2,625		3,185		17,444		21,720		769		955		1,045		1,359
<i>Government --</i>		10,117		12,718		50,153		70,024		3,579		4,446		4,895		6,356
<i>Insurance --</i>		4,008		4,698		14,938		20,210		947		1,177		1,906		2,294
<i>Manufacturing --</i>		23,119		26,037		58,559		80,856		4,002		4,974		7,281		8,920
<i>Mining --</i>		167		193		1,295		1,490		35		43		67		81
<i>Miscellaneous --</i>		1,137		1,369		8,242		10,015		319		396		477		608
<i>Real Estate --</i>		5,833		6,290		15,579		17,573		357		444		3,773		4,029
<i>Retail Trade --</i>		3,834		4,980		43,452		52,212		1,570		1,952		2,412		3,056
<i>Services --</i>		21,135		27,799		198,502		249,447		9,127		11,347		11,875		15,620
<i>Transportation --</i>		3,685		4,603		22,208		29,222		1,260		1,565		1,679		2,194
<i>Utilities --</i>		453		495		788		1,104		57		71		178		201
<i>Wholesale Trade --</i>		3,530		4,355		17,339		23,639		1,132		1,407		2,139		2,603

^aTotals may not add due to rounding.

^bValues of zero are nonzero values less than 1.

Table E.3. Total Impacts from Agriculture and Forestry^a, Knoxville, 2015

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	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Phosphatic fertilizer	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Fertilizer mixing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Pesticide & other agricultural chemicals	1.34	115	1.49	128	3.86	202	5.80	303	2.64	16	3.35	20	1.55	41	1.82	49
Lime	1.49	44	1.71	51	2.32	129	3.25	181	2.05	8	2.60	10	2.00	13	2.56	17
Total --		159		179		331		484		24		30		55		66
<i>Agricultural Machinery</i>																
Farm machinery & equipment	1.26	5	1.41	5	1.84	13	2.47	17	2.04	1	2.59	1	1.71	1	2.11	2
Lawn & garden equipment	1.19	22	1.34	25	1.58	51	2.26	73	1.53	3	1.94	4	1.43	6	1.79	8
Total --		27		30		64		90		4		5		8		9
<i>Agricultural Inputs Total --</i>		186		209		395		574		28		36		62		75
<i>Primary Agriculture</i>																
Oilseed farming	1.35	15	1.44	16	1.64	116	1.75	124	18.07	1	22.96	2	1.63	5	1.80	6
Grain farming	1.36	10	1.45	10	1.30	129	1.35	134	25.00	1	31.75	1	1.78	3	1.98	4
Vegetable & melon farming	1.17	22	1.40	27	1.19	240	1.37	276	1.21	6	1.54	7	1.13	15	1.33	17
Fruit farming	1.18	5	1.52	7	1.08	153	1.17	166	1.15	2	1.46	2	1.15	3	1.44	4
Tree nut farming	1.16	0 ^b	1.38	0 ^b	1.10	1	1.16	1	1.23	0 ^b	1.56	0 ^b	1.13	0 ^b	1.31	0 ^b
Greenhouse, nursery, & floriculture production	1.17	51	1.55	68	1.11	840	1.29	971	1.14	20	1.45	26	1.17	28	1.57	37
Tobacco farming	1.23	5	1.51	6	1.11	106	1.20	114	1.28	1	1.62	2	1.24	2	1.54	3
Cotton farming	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Sugarcane & sugar beet farming	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other crop farming	1.28	90	1.60	112	1.05	5,066	1.09	5,240	1.28	27	1.62	35	1.34	43	1.72	55
Beef cattle farming	1.39	139	1.49	149	1.24	3,523	1.27	3,598	4.07	12	5.17	15	1.63	45	1.83	51
Dairy cattle & milk production	1.31	42	1.48	47	1.55	341	1.75	383	1.71	7	2.18	8	1.42	17	1.67	20
Poultry & egg production	1.23	52	1.35	57	1.29	244	1.50	284	1.75	6	2.23	8	1.53	13	1.87	16
Animal production, except cattle/poultry/eggs	1.21	7	1.16	7	1.06	255	1.05	253	0.00	0 ^b	0.00	0 ^b	1.20	4	1.15	3
Commercial fishing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0

Table E.3. Total Impacts from Agriculture and Forestry^a, Knoxville, 2015 (Cont.)

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
Commercial hunting & trapping	1.30	4	1.54	5	1.08	99	1.15	106	1.59	1	2.02	1	1.35	2	1.65	3
Support activities for agriculture & forestry	1.12	17	1.43	21	1.03	443	1.11	480	1.14	6	1.44	7	1.11	10	1.38	13
Primary Agriculture Total --		459		531		11,557		12,129		90		114		191		232
Secondary Agriculture																
<u>Foods</u>																
Dog & cat food	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Other animal food	1.33	66	1.43	71	3.10	117	4.21	159	4.00	7	5.08	8	3.12	12	3.89	15
Total --		66		71		117		159		7		8		12		15
<u>Grain & Oilseed Milling</u>																
Flour milling	1.38	14	1.57	16	4.42	26	6.91	41	2.17	2	2.76	3	1.84	4	2.28	5
Rice milling	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Malt	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Wet corn milling	1.40	1,680	1.56	1,866	5.87	3,118	8.61	4,576	3.13	229	3.97	291	2.11	468	2.58	571
Soybean & other oilseed processing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Fats & oils refining & blending	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Breakfast cereal	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		1,694		1,882		3,144		4,617		232		294		472		577
<u>Sugar & Confectionary Products</u>																
Beet sugar	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Sugar cane mills & refining	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Nonchocolate confectionery	1.43	22	1.59	24	1.69	76	2.14	96	2.83	3	3.59	4	2.69	5	3.44	7
Chocolate & confectionery from cacao beans	1.38	30	1.49	33	2.15	79	2.68	99	7.82	3	9.93	4	5.08	5	6.40	7
Confectionery from purchased chocolate	1.34	45	1.52	52	1.51	161	1.97	210	1.89	8	2.40	10	1.79	13	2.27	17
Total --		98		109		316		404		14		18		24		30
<u>Fruit & Vegetable Preserving & Specialty Foods</u>																
Frozen fruits, juices & vegetables	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Frozen specialties	1.29	52	1.50	61	1.52	162	2.13	228	1.52	10	1.93	13	1.67	14	2.21	19
Canned fruits & vegetables	1.35	502	1.58	587	1.98	1,339	2.96	2,004	1.65	105	2.09	133	1.76	153	2.30	200

Table E.3. Total Impacts from Agriculture and Forestry^a, Knoxville, 2015 (Cont.)

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
Canned specialties	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Dehydrated food products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		555		648		1,502		2,232		115		146		168		219
<u>Dairy Products</u>																
Fluid milk	1.26	35	1.39	38	2.18	73	3.01	100	2.18	4	2.77	6	2.02	7	2.57	9
Creamery butter	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Cheese	1.25	2	1.34	2	2.41	4	3.18	5	3.60	0 ^b	4.57	0 ^b	3.42	0 ^b	4.37	0 ^b
Dry, condensed, & evaporated dairy products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Ice cream & frozen desserts	1.20	6	1.44	7	1.55	13	2.64	22	1.25	1	1.59	2	1.21	3	1.51	3
Total --		42		47		89		127		6		8		10		13
<u>Animal Slaughtering & Processing</u>																
Animal (except poultry) slaughtering	1.17	390	1.27	425	1.79	795	2.41	1,072	1.81	43	2.30	55	1.51	78	1.89	98
Meat processed from carcasses	1.23	191	1.35	208	1.54	453	2.01	590	1.79	22	2.27	27	1.81	32	2.35	42
Rendering & meat byproduct processing	1.59	70	1.83	81	2.97	231	4.06	316	2.87	13	3.64	17	2.91	17	3.93	23
Poultry processing	1.24	410	1.39	461	1.36	1,575	1.71	1,973	1.59	63	2.02	79	1.68	81	2.26	110
Total --		1,061		1,175		3,055		3,951		141		179		209		273
<u>Seafood Product Preparation & Packaging</u>																
	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<u>Bakeries & Tortillas</u>																
Bread & bakery product, except frozen	1.33	186	1.64	231	1.21	1,426	1.51	1,773	1.41	54	1.80	69	1.44	77	1.90	101
Frozen cakes & other pastries	1.34	9	1.59	11	1.26	56	1.55	69	1.65	2	2.10	3	1.60	3	2.05	4
Cookie & cracker	1.29	208	1.51	243	1.62	655	2.29	927	1.59	43	2.02	54	1.47	75	1.84	94
Dry pasta, mixes, & dough	1.35	31	1.51	34	1.92	84	2.53	111	2.54	4	3.23	5	1.96	8	2.40	10
Tortilla	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		434		518		2,221		2,878		103		131		163		210
<u>Other Foods</u>																
Roasted nuts & peanut butter	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0

Table E.3. Total Impacts from Agriculture and Forestry^a, Knoxville, 2015 (Cont.)

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
Other snack food	1.18	108	1.34	123	1.83	172	3.06	288	1.40	18	1.78	23	1.19	54	1.37	62
Coffee & tea	1.31	761	1.49	864	2.09	2,042	2.91	2,841	2.05	126	2.60	160	1.80	221	2.26	278
Flavoring syrup & concentrate	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Mayonnaise, dressing, & sauce	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Spice & extract	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other food	1.32	46	1.51	52	1.60	163	2.11	215	1.83	8	2.32	10	1.97	12	2.61	15
Total --		915		1,039		2,377		3,344		152		193		287		355
<u>Beverages</u>																
Bottled & canned soft drinks & water	1.38	740	1.55	829	2.47	1,699	3.48	2,394	2.26	109	2.86	139	2.01	197	2.52	246
Breweries	1.42	54	1.55	59	2.43	124	3.20	164	4.66	6	5.92	8	2.20	14	2.65	17
Wineries	1.41	39	1.60	44	1.57	165	1.97	207	2.39	7	3.03	8	2.39	10	3.09	13
Distilleries	1.26	381	1.36	412	2.38	729	3.18	975	3.24	39	4.11	49	1.37	154	1.53	171
Total --		1,214		1,344		2,717		3,740		161		204		374		447
<u>Tobacco Products</u>																
	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<u>Textile Mills</u>																
Fiber, yarn, & thread mills	1.15	33	1.33	38	1.29	99	1.83	140	1.27	6	1.61	8	1.33	9	1.79	11
Broadwoven fabric mills	1.20	7	1.45	8	1.34	25	1.91	36	1.31	2	1.66	2	1.30	3	1.70	3
Narrow fabric mills & schiffli machine embroidery	1.25	2	1.45	2	1.20	14	1.42	16	1.59	0 ^b	2.02	1	1.74	0 ^b	2.37	1
Nonwoven fabric mills	1.23	25	1.41	29	1.57	70	2.20	99	1.56	4	1.98	6	1.49	7	1.89	9
Knit fabric mills	1.27	6	1.51	7	1.39	30	1.81	40	1.51	1	1.92	2	1.52	2	2.01	3
Textile & fabric finishing mills	1.31	75	1.52	87	1.45	330	1.85	422	1.75	14	2.22	18	1.75	22	2.28	28
Fabric coating mills	1.23	22	1.42	25	1.49	70	2.03	96	1.56	4	1.98	5	1.50	6	1.93	8
Total --		170		196		639		848		33		42		49		64
<u>Textile Product Mills</u>																
Carpet & rug mills	1.11	1	1.33	1	1.24	3	1.91	4	1.15	0 ^b	1.46	0 ^b	1.18	0 ^b	1.57	0 ^b
Curtain & linen mills	1.21	6	1.43	8	1.22	36	1.54	45	1.36	1	1.73	2	1.38	2	1.78	3

Table E.3. Total Impacts from Agriculture and Forestry^a, Knoxville, 2015 (Cont.)

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
Textile bag & canvas mills	1.18	31	1.44	38	1.18	198	1.49	250	1.29	8	1.64	10	1.32	11	1.76	15
Rope, cordage, twine, tire cord & tire fabric mills	1.19	36	1.41	43	1.34	123	1.90	175	1.28	8	1.62	10	1.26	14	1.59	18
Other textile product mills	1.26	89	1.52	108	1.21	622	1.49	766	1.35	23	1.72	29	1.44	31	1.92	41
Hosiery & sock mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Other apparel knitting mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		164		197		982		1,240		41		52		58		77
<u>Apparel</u>																
Cut & sew apparel contractors	1.43	12	2.07	17	1.10	246	1.29	287	1.25	7	1.59	8	1.82	4	3.08	7
Men's & boy's cut & sew apparel	1.28	45	1.66	58	1.22	354	1.58	458	1.28	16	1.62	21	1.41	19	1.96	26
Women's & girl's cut & sew apparel	1.35	1	1.68	1	1.44	3	1.88	4	1.49	0 ^b	1.89	0 ^b	1.68	0 ^b	2.33	0 ^b
Other cut & sew apparel	1.39	7	1.71	9	1.23	69	1.45	82	1.55	2	1.97	3	1.80	2	2.47	3
Apparel accessories & other apparel	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		64		85		673		832		25		32		26		37
<u>Leather & Allied Products</u>																
Leather & hide tanning & finishing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Footwear	1.35	17	1.60	20	1.30	104	1.59	128	1.64	4	2.08	5	2.01	5	2.73	6
Other leather & allied products	1.47	3	1.75	4	1.29	26	1.53	31	1.85	1	2.35	1	3.75	1	5.49	1
Total --		20		23		131		159		4		6		5		7
Secondary Agriculture Total --		6,497		7,336		17,961		24,531		1,033		1,312		1,858		2,325
Agriculture Total --		7,141		8,076		29,912		37,233		1,151		1,461		2,111		2,631
<u>Forestry Inputs</u>																
<u>Sawmill, woodworking, & paper machinery</u>	1.20	2	1.54	3	1.35	10	2.14	15	1.20	1	1.52	1	1.24	1	1.70	1
<u>Timber</u>																
Forestry, forest products, & timber tract production	1.31	3	1.76	4	1.46	51	1.71	60	1.22	1	1.56	2	1.39	2	1.93	2
Commercial logging	1.24	25	1.71	34	1.31	389	1.56	463	1.17	11	1.49	14	1.26	13	1.77	18
Total --		28		39		441		523		13		16		14		20
Forestry Inputs Total --		31		42		450		538		14		17		15		22

Table E.3. Total Impacts from Agriculture and Forestry^a, Knoxville, 2015 (Cont.)

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 Forestry																
Sawmills	1.51	180	1.77	212	1.77	782	2.34	1,030	2.01	39	2.56	49	2.29	54	3.04	71
Wood preservation	1.52	2	1.72	2	2.36	7	3.10	9	2.96	0 ^b	3.76	0 ^b	2.58	1	3.27	1
Pulp mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Paper mills	1.38	274	1.59	315	2.58	632	3.89	953	1.92	50	2.44	63	1.83	82	2.34	105
Paperboard Mills	1.49	44	1.69	50	3.11	113	4.38	159	2.76	7	3.52	9	2.53	12	3.25	15
Primary Forestry Total --		501		579		1,533		2,151		96		122		148		191
Secondary Forestry																
<u>Veneer, Plywood, & Engineered Wood Products</u>																
Veneer & plywood	1.39	6	1.64	7	1.57	26	2.09	35	1.78	1	2.26	2	2.00	2	2.69	2
Engineered wood member & truss	1.39	44	1.66	53	1.48	226	1.93	295	1.67	11	2.12	14	1.86	14	2.50	19
Reconstituted wood products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		50		60		252		329		12		15		16		21
<u>Wood Windows & Doors & Millwork</u>																
Wood windows & door	1.39	35	1.69	42	1.49	174	1.99	231	1.54	9	1.95	11	1.61	13	2.14	17
Cut stock, resawing lumber, & planing	1.26	41	1.46	47	1.41	176	1.82	226	1.60	8	2.03	10	1.51	13	1.91	17
Other millworks, including floors	1.36	74	1.60	87	1.41	400	1.78	504	1.70	16	2.16	21	1.72	24	2.23	32
Total --		149		176		750		961		33		42		50		65
<u>Wood Containers & Pallets</u>																
	1.34	39	1.60	47	1.24	294	1.49	354	1.57	9	1.99	12	1.72	12	2.32	17
<u>Manufactured Homes (Mobile Homes)</u>																
Manufactured homes (mobile homes)	1.24	334	1.54	413	1.32	1,653	1.82	2,270	1.29	97	1.63	123	1.31	136	1.73	180
Prefabricated wood buildings	1.28	39	1.60	48	1.39	192	1.93	267	1.35	12	1.71	15	1.36	17	1.78	22
Total --		373		461		1,845		2,537		108		138		153		202
<u>All Other Miscellaneous Wood Products</u>																
	1.39	21	1.67	25	1.38	131	1.73	164	1.65	5	2.10	7	1.71	7	2.26	10
<u>Paperboard Containers</u>																
	1.28	506	1.51	598	1.82	1,517	2.68	2,233	1.53	112	1.94	142	1.63	151	2.18	202

Table E.3. Total Impacts from Agriculture and Forestry^a, Knoxville, 2015 (Cont.)

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>Paper Bags & Coated & Treated Paper</u>	1.19	26	1.53	33	1.65	55	3.39	114	1.17	9	1.49	12	1.22	11	1.68	15
<u>Stationery Products</u>	1.24	187	1.55	233	1.61	526	2.72	886	1.28	56	1.63	71	1.33	75	1.79	100
<u>Other Converted Paper Products</u>																
Sanitary paper products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other converted paper products	1.20	119	1.66	166	1.60	292	3.60	658	1.13	56	1.44	72	1.19	63	1.68	89
Total --		119		166		292		658		56		72		63		89
<u>Wood Kitchen Cabinets & Countertops</u>	1.32	35	1.68	44	1.26	262	1.63	338	1.32	12	1.68	15	1.46	14	2.04	19
<u>Household & Institutional Furniture</u>																
Upholstered household furniture	1.33	312	1.59	372	1.31	1,631	1.69	2,102	1.47	74	1.87	94	1.72	95	2.33	128
Nonupholstered wood household furniture	1.30	35	1.64	44	1.20	273	1.52	345	1.32	11	1.67	14	1.44	14	1.97	19
Other household nonupholstered furniture	1.35	19	1.56	22	1.44	96	1.80	120	1.83	4	2.32	5	2.06	5	2.75	7
Institutional furniture	1.30	32	1.61	40	1.32	193	1.73	253	1.38	9	1.75	12	1.53	11	2.10	16
Total --		398		478		2,193		2,819		98		125		125		169
<u>Office Furniture</u>																
Wood office furniture	1.36	2	1.64	2	1.40	9	1.81	12	1.55	0 ^b	1.97	1	1.76	1	2.40	1
Custom architectural woodwork & millwork	1.28	12	1.56	15	1.22	92	1.49	113	1.40	3	1.78	4	1.56	4	2.14	5
Showcase, partition, shelving, & locker	1.28	26	1.56	32	1.32	141	1.74	186	1.37	7	1.74	9	1.50	9	2.07	12
Total --		40		49		242		311		11		14		13		18
<u>Other Furniture Related Products</u>																
Mattresses	1.35	26	1.51	29	1.82	84	2.34	109	2.27	4	2.89	5	2.44	6	3.17	8
Blind & shades	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		26		29		84		109		4		5		6		8
Secondary Forestry Total --		1,969		2,398		8,443		11,813		526		668		696		935
Forestry Total --		2,500		3,019		10,427		14,502		635		808		859		1,148
Agriculture & Forestry Total --		9,641		11,096		40,339		51,735		1,786		2,269		2,970		3,779

Table E.3. Total Impacts from Agriculture and Forestry^a, Knoxville, 2015 (Cont.)

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
Construction --		8,115		10,431		54,647		72,823		2,825		3,593		3,476		4,765
Finance --		4,987		6,226		32,857		42,576		1,521		1,932		2,068		2,757
Government --		9,572		14,367		94,385		131,977		5,894		7,485		7,387		10,047
Insurance --		2,762		3,407		14,528		19,588		791		1,005		1,262		1,621
Manufacturing --		24,438		28,451		71,967		103,437		4,907		6,238		8,174		10,405
Mining --		548		644		2,580		3,335		118		150		210		248
Miscellaneous --		2,697		3,298		19,404		24,118		737		936		1,039		1,373
Real Estate --		10,644		11,884		31,148		37,597		999		1,271		6,834		7,524
Retail Trade --		7,534		9,919		85,587		104,295		2,922		3,713		4,685		6,011
Services --		42,875		57,307		371,645		484,831		17,672		22,457		23,684		31,706
Transportation --		4,300		5,485		27,158		36,449		1,452		1,845		1,947		2,606
Utilities --		560		616		1,027		1,465		68		87		209		240
Wholesale Trade --		6,762		8,568		32,284		46,445		2,216		2,815		4,153		5,156

^aTotals may not add due to rounding.

^bValues of zero are nonzero values less than 1.

Table E.4. Total Impacts from Agriculture and Forestry^a, Memphis, 2015

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	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Phosphatic fertilizer	1.33	57	1.44	62	4.87	90	6.84	127	3.85	6	4.85	8	2.09	15	2.47	17
Fertilizer mixing	1.25	29	1.38	32	1.81	67	2.48	92	1.84	4	2.33	5	1.87	7	2.37	9
Pesticide & other agricultural chemicals	1.26	551	1.40	612	3.43	775	5.51	1,247	1.97	80	2.49	101	1.34	242	1.54	277
Lime	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		638		706		933		1,466		91		114		264		303
<i>Agricultural Machinery</i>																
Farm machinery & equipment	1.25	49	1.40	55	1.84	120	2.55	167	1.77	8	2.23	10	1.56	15	1.92	18
Lawn & garden equipment	1.21	483	1.33	531	1.58	1,185	2.08	1,561	1.85	64	2.33	81	1.67	118	2.06	146
Total --		532		586		1,306		1,728		72		91		133		164
<i>Agricultural Inputs Total --</i>		1,169		1,292		2,238		3,194		163		205		397		468
<i>Primary Agriculture</i>																
Oilseed farming	1.39	692	1.64	819	1.61	3,440	2.08	4,426	1.65	165	2.09	209	1.79	269	2.28	342
Grain farming	1.41	616	1.56	683	1.31	5,028	1.45	5,546	3.00	87	3.79	110	2.00	223	2.35	262
Vegetable & melon farming	1.18	15	1.50	19	1.12	143	1.37	175	1.18	5	1.49	7	1.16	10	1.44	12
Fruit farming	1.19	4	1.56	5	1.06	96	1.16	106	1.18	2	1.49	2	1.19	3	1.51	3
Tree nut farming	1.18	0 ^b	1.60	0 ^b	1.08	2	1.26	3	1.15	0 ^b	1.45	0 ^b	1.17	0 ^b	1.52	0 ^b
Greenhouse, nursery, & floriculture production	1.19	68	1.58	90	1.10	877	1.31	1,048	1.16	29	1.46	36	1.21	37	1.63	50
Tobacco farming	1.27	6	1.80	9	1.15	76	1.46	97	1.16	4	1.46	4	1.32	3	1.90	5
Cotton farming	1.31	142	1.63	176	1.29	1,072	1.60	1,336	1.37	45	1.73	56	1.38	75	1.73	95
Sugarcane & sugar beet farming	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other crop farming	1.31	69	1.65	88	1.04	2,911	1.09	3,054	1.31	24	1.65	30	1.42	34	1.86	45
Beef cattle farming	1.32	105	1.52	121	1.12	1,868	1.19	1,992	1.60	21	2.02	26	1.62	36	2.03	45
Dairy cattle & milk production	1.33	16	1.66	20	1.51	75	2.14	106	1.31	5	1.66	6	1.49	7	2.00	9
Poultry & egg production	1.25	62	1.44	71	1.38	223	1.82	295	1.43	12	1.80	15	1.63	16	2.17	21

Table E.4. Total Impacts from Agriculture and Forestry^a, Memphis, 2015 (Cont.)

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
Animal production, except cattle/poultry/eggs	1.22	64	1.65	86	1.08	1,156	1.24	1,328	1.16	29	1.47	36	1.23	34	1.69	47
Commercial fishing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Commercial hunting & trapping	1.12	10	1.73	15	1.08	94	1.56	136	1.06	7	1.34	9	1.08	8	1.52	11
Support activities for agriculture & forestry	1.05	105	1.47	147	1.03	1,172	1.31	1,496	1.04	54	1.31	69	1.03	89	1.31	112
Primary Agriculture Total --		1,975		2,348		18,234		21,142		489		617		844		1,059
Secondary Agriculture																
<u>Foods</u>																
Dog & cat food	1.26	48	1.38	53	3.11	64	4.79	99	1.85	6	2.34	7	1.30	18	1.48	21
Other animal food	1.48	32	1.61	35	3.45	56	4.83	78	3.52	4	4.44	5	3.01	7	3.73	9
Total --		81		88		120		177		10		12		25		29
<u>Grain & Oilseed Milling</u>																
Flour milling	1.54	600	1.71	669	4.78	1,222	6.87	1,757	3.49	91	4.39	115	2.79	165	3.46	205
Rice milling	1.33	73	1.49	81	2.60	152	3.71	217	2.32	11	2.92	14	2.33	19	2.93	24
Malt	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Wet corn milling	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Soybean & other oilseed processing	1.41	2,509	1.52	2,698	10.10	3,432	14.42	4,901	7.55	251	9.52	316	4.72	463	5.83	572
Fats & oils refining & blending	1.52	566	1.64	609	3.87	725	5.64	1,056	3.03	57	3.82	71	2.85	102	3.54	126
Breakfast cereal	1.32	757	1.46	840	2.36	1,234	3.60	1,880	1.77	110	2.24	139	1.31	324	1.51	372
Total --		4,505		4,897		6,765		9,811		520		655		1,073		1,298
<u>Sugar & Confectionary Products</u>																
Beet sugar	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Sugar cane mills & refining	1.29	47	1.43	52	2.41	100	3.33	138	2.32	6	2.92	8	1.89	12	2.33	15
Nonchocolate confectionery	1.35	376	1.55	433	1.67	1,087	2.34	1,528	1.64	75	2.07	95	1.57	130	1.96	163
Chocolate & confectionery from cacao beans	1.42	13	1.54	14	2.18	33	2.74	41	5.50	1	6.93	2	4.23	3	5.29	3
Confectionery from purchased chocolate	1.33	50	1.54	58	1.51	150	2.15	213	1.50	11	1.89	14	1.46	19	1.82	24
Total --		486		557		1,370		1,920		94		118		164		205
<u>Fruit & Vegetable Preserving & Specialty Foods</u>																

Table E.4. Total Impacts from Agriculture and Forestry^a, Memphis, 2015 (Cont.)

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
Frozen fruits, juices & vegetables	1.51	510	1.76	595	2.11	1,458	3.06	2,116	1.90	112	2.40	142	1.98	176	2.53	225
Canned fruits & vegetables	1.40	471	1.61	541	1.59	1,418	2.20	1,961	1.67	93	2.10	117	1.87	132	2.44	173
Canned specialties	1.32	61	1.56	72	1.96	152	3.07	238	1.50	15	1.89	19	1.59	21	2.06	28
Dehydrated food products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<u>Dairy Products</u>		1,042		1,208		3,028		4,316		220		277		330		425
Fluid milk	1.36	187	1.50	206	2.29	372	3.20	519	2.22	25	2.79	32	2.08	42	2.62	53
Creamery butter	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Cheese	1.34	124	1.43	132	2.52	229	3.23	293	6.74	11	8.49	14	6.56	18	8.31	22
Dry, condensed, & evaporated dairy products	1.47	2,147	1.59	2,315	3.82	3,238	5.36	4,543	3.69	223	4.65	281	3.03	397	3.77	493
Ice cream & frozen desserts	1.38	187	1.57	213	1.63	485	2.31	689	1.56	35	1.96	44	1.46	64	1.80	79
Total --		2,645		2,866		4,324		6,044		293		370		520		647
<u>Animal Slaughtering & Processing</u>																
Animal (except poultry) slaughtering	1.18	2,038	1.28	2,213	1.76	4,061	2.34	5,422	1.88	232	2.37	293	1.57	417	1.95	517
Meat processed from carcasses	1.29	94	1.41	103	1.57	215	2.06	281	1.75	11	2.21	14	1.83	17	2.36	22
Rendering & meat byproduct processing	1.60	104	1.83	119	2.85	327	3.87	444	3.03	20	3.82	25	3.12	26	4.15	35
Poultry processing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		2,236		2,435		4,603		6,147		264		332		460		574
<u>Seafood Product Preparation & Packaging</u>	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<u>Bakeries & Tortillas</u>																
Bread & bakery product, except frozen	1.38	146	1.70	179	1.22	1,062	1.51	1,319	1.40	44	1.76	55	1.46	60	1.92	79
Frozen cakes & other pastries	1.35	27	1.65	33	1.29	130	1.76	178	1.33	8	1.68	10	1.34	12	1.72	16
Cookie & cracker	1.42	175	1.61	198	1.66	566	2.20	749	1.92	31	2.42	39	1.77	54	2.21	68
Dry pasta, mixes, & dough	1.60	49	1.78	54	2.16	128	2.87	170	2.86	7	3.61	9	2.34	14	2.88	17

Table E.4. Total Impacts from Agriculture and Forestry^a, Memphis, 2015 (Cont.)

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
Tortilla	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		397		465		1,887		2,416		90		114		140		179
<u>Other Foods</u>																
Roasted nuts & peanut butter	1.38	7	1.56	7	2.21	17	3.05	24	2.30	1	2.91	1	2.39	2	3.10	2
Other snack food	1.30	1,130	1.43	1,247	1.89	2,257	2.64	3,165	1.94	155	2.45	195	1.46	404	1.70	471
Coffee & tea	1.30	6	1.57	7	2.09	15	3.44	25	1.42	2	1.80	2	1.63	2	2.24	3
Flavoring syrup & concentrate	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Mayonnaise, dressing, & sauce	1.36	91	1.49	99	1.76	197	2.36	264	1.95	11	2.46	14	1.80	20	2.24	25
Spice & extract	1.38	11	1.53	13	1.92	33	2.51	43	2.51	2	3.17	2	3.19	2	4.23	3
All other food	1.34	109	1.56	127	1.61	360	2.22	497	1.63	23	2.05	29	1.77	32	2.32	43
Total --		1,354		1,501		2,880		4,018		194		245		463		547
<u>Beverages</u>																
Bottled & canned soft drinks & water	1.30	1,084	1.45	1,209	2.31	2,433	3.23	3,402	2.09	165	2.63	208	1.86	297	2.31	369
Breweries	1.43	77	1.56	84	2.37	170	3.12	225	4.14	9	5.22	12	2.14	21	2.56	25
Wineries	1.36	28	1.57	32	1.53	114	2.00	149	1.80	6	2.28	7	1.99	8	2.62	11
Distilleries	1.20	86	1.32	94	2.30	134	3.40	198	1.92	11	2.42	14	1.23	43	1.37	48
Total --		1,275		1,420		2,851		3,973		191		241		369		452
<u>Tobacco Products</u>																
	1.38	1,573	1.47	1,676	5.06	1,690	7.45	2,488	3.63	136	4.57	172	1.40	797	1.50	856
<u>Textile Mills</u>																
Fiber, yarn, & thread mills	1.15	56	1.33	65	1.28	164	1.81	232	1.26	12	1.59	15	1.33	15	1.77	20
Broadwoven fabric mills	1.19	11	1.42	14	1.32	43	1.85	60	1.29	3	1.63	4	1.29	4	1.67	6
Narrow fabric mills & schiffli machine embroidery	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Nonwoven fabric mills	1.21	46	1.40	53	1.54	116	2.30	172	1.37	10	1.73	12	1.33	16	1.68	20
Knit fabric mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Textile & fabric finishing mills	1.30	33	1.50	38	1.43	141	1.84	181	1.65	7	2.08	9	1.67	10	2.15	13
Fabric coating mills	1.22	24	1.39	27	1.46	75	1.99	102	1.48	5	1.87	6	1.45	7	1.84	9

Table E.4. Total Impacts from Agriculture and Forestry^a, Memphis, 2015 (Cont.)

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
Total --		160		183		575		765		33		41		41		54
<u>Textile Product Mills</u>																
Carpet & rug mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Curtain & linen mills	1.22	6	1.41	7	1.22	37	1.47	45	1.47	1	1.86	2	1.48	2	1.88	3
Textile bag & canvas mills	1.16	21	1.42	26	1.18	124	1.55	162	1.21	6	1.52	8	1.23	9	1.63	11
Rope, cordage, twine, tire cord & tire fabric mills	1.21	3	1.39	3	1.34	10	1.73	12	1.46	0 ^b	1.83	1	1.42	1	1.77	1
Other textile product mills	1.23	33	1.52	40	1.20	208	1.54	267	1.27	10	1.59	13	1.34	13	1.77	18
Hosiery & sock mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Other apparel knitting mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		63		77		378		485		18		23		25		33
<u>Apparel</u>																
Cut & sew apparel contractors	1.37	24	2.07	36	1.09	468	1.32	563	1.18	16	1.49	21	1.60	10	2.76	17
Men's & boy's cut & sew apparel	1.25	32	1.66	43	1.22	229	1.66	311	1.22	14	1.53	18	1.32	16	1.83	22
Women's & girl's cut & sew apparel	1.42	21	1.66	25	1.44	144	1.72	172	2.14	5	2.70	6	2.49	6	3.33	8
Other cut & sew apparel	1.30	4	1.72	5	1.22	29	1.62	39	1.26	2	1.59	2	1.38	2	1.92	3
Apparel accessories & other apparel	1.17	1	1.73	2	1.20	7	2.06	12	1.09	1	1.38	1	1.15	1	1.63	1
Total --		83		111		877		1,098		38		47		34		51
<u>Leather & Allied Products</u>																
Leather & hide tanning & finishing	1.50	28	1.65	31	2.29	81	2.89	102	4.01	4	5.05	5	5.25	6	6.76	7
Footwear	1.35	29	1.58	34	1.30	187	1.56	225	1.71	7	2.16	8	2.12	8	2.84	11
Other leather & allied products	1.48	2	1.66	2	1.29	17	1.43	18	3.66	0 ^b	4.62	0 ^b	8.53	0 ^b	11.45	1
Total --		60		68		284		346		10		13		14		19
Secondary Agriculture Total --		15,970		17,565		31,595		43,986		2,114		2,664		4,466		5,383
Agriculture Total --		19,114		21,205		52,068		68,322		2,766		3,487		5,707		6,910
<u>Forestry Inputs</u>																
Sawmill, woodworking, & paper machinery	1.20	9	1.53	11	1.35	35	2.05	53	1.22	3	1.54	4	1.27	4	1.73	5

Table E.4. Total Impacts from Agriculture and Forestry^a, Memphis, 2015 (Cont.)

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>Timber</u>																
Forestry, forest products, & timber tract production	1.18	6	1.78	9	1.23	46	1.88	70	1.11	4	1.41	5	1.18	4	1.66	6
Commercial logging	1.18	110	1.74	162	1.20	1,136	1.63	1,538	1.11	67	1.40	85	1.16	72	1.64	102
Total --		116		171		1,182		1,608		71		90		76		108
Forestry Inputs Total --		125		182		1,216		1,661		74		94		80		113
Primary Forestry																
Sawmills	1.52	397	1.77	462	1.76	1,713	2.27	2,217	2.13	86	2.68	108	2.48	119	3.26	156
Wood preservation	1.56	22	1.74	24	2.34	70	2.99	90	3.87	3	4.87	4	3.34	6	4.21	7
Pulp mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Paper mills	1.30	4,033	1.54	4,750	2.50	7,793	4.29	13,364	1.47	944	1.86	1,192	1.43	1,620	1.79	2,032
Paperboard Mills	1.43	958	1.65	1,100	2.98	2,238	4.45	3,341	2.03	183	2.57	232	1.95	306	2.47	388
Primary Forestry Total --		5,409		6,336		11,814		19,012		1,217		1,536		2,050		2,583
Secondary Forestry																
<u>Veneer, Plywood, & Engineered Wood Products</u>																
Veneer & plywood	1.42	13	1.62	15	1.56	57	1.97	72	2.06	3	2.60	3	2.30	4	3.00	5
Engineered wood member & truss	1.37	31	1.65	37	1.46	153	1.93	201	1.56	8	1.97	10	1.76	11	2.35	14
Reconstituted wood products	1.30	32	1.47	37	1.65	92	2.22	124	1.70	5	2.15	7	1.72	9	2.17	11
Total --		77		89		302		397		16		20		23		30
<u>Wood Windows & Doors & Millwork</u>																
Wood windows & door	1.35	140	1.63	170	1.45	678	1.94	909	1.48	39	1.87	50	1.55	54	2.03	71
Cut stock, resawing lumber, & planing	1.26	21	1.45	24	1.41	89	1.80	114	1.60	4	2.02	5	1.50	7	1.89	9
Other millworks, including floors	1.34	161	1.58	190	1.40	837	1.78	1,064	1.62	39	2.05	49	1.64	58	2.12	75
Total --		322		384		1,605		2,087		82		104		120		155
<u>Wood Containers & Pallets</u>	1.30	166	1.61	206	1.24	1,090	1.59	1,399	1.33	53	1.67	66	1.44	67	1.93	90
<u>Manufactured Homes (Mobile Homes)</u>																

Table E.4. Total Impacts from Agriculture and Forestry^a, Memphis, 2015 (Cont.)

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
Manufactured homes (mobile homes)	1.26	119	1.50	143	1.31	627	1.70	811	1.35	31	1.69	39	1.38	45	1.80	58
Prefabricated wood buildings	1.32	4	1.60	5	1.39	23	1.82	30	1.44	1	1.82	2	1.48	2	1.95	2
Total --		124		148		650		841		33		41		46		60
<u>All Other Miscellaneous Wood Products</u>	1.39	16	1.65	19	1.38	100	1.70	124	1.67	4	2.10	5	1.70	6	2.20	8
<u>Paperboard Containers</u>	1.28	674	1.49	785	1.78	1,997	2.56	2,864	1.55	147	1.95	186	1.67	200	2.20	265
<u>Paper Bags & Coated & Treated Paper</u>	1.22	464	1.44	550	1.61	1,167	2.53	1,838	1.33	114	1.68	143	1.38	159	1.81	209
<u>Stationery Products</u>	1.21	90	1.55	115	1.58	230	2.94	428	1.19	33	1.51	42	1.26	40	1.71	55
<u>Other Converted Paper Products</u>																
Sanitary paper products	1.23	550	1.37	611	1.99	1,099	2.86	1,578	1.75	82	2.21	103	1.44	181	1.72	216
All other converted paper products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		550		611		1,099		1,578		82		103		181		216
<u>Wood Kitchen Cabinets & Countertops</u>	1.27	54	1.65	70	1.25	372	1.67	498	1.24	21	1.57	27	1.34	24	1.87	33
<u>Household & Institutional Furniture</u>																
Upholstered household furniture	1.29	18	1.59	22	1.31	84	1.82	116	1.31	5	1.65	7	1.47	7	1.99	9
Nonupholstered wood household furniture	1.29	18	1.61	23	1.20	146	1.48	181	1.33	6	1.68	7	1.46	7	1.97	10
Other household nonupholstered furniture	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Institutional furniture	1.30	69	1.59	85	1.31	409	1.71	532	1.38	21	1.74	26	1.52	25	2.07	34
Total --		106		130		639		829		32		41		39		53
<u>Office Furniture</u>																
Wood office furniture	1.37	4	1.62	5	1.40	25	1.75	31	1.68	1	2.12	1	1.91	1	2.53	2
Custom architectural woodwork & millwork	1.21	7	1.61	10	1.22	44	1.75	63	1.17	3	1.47	4	1.24	4	1.74	5

Table E.4. Total Impacts from Agriculture and Forestry^a, Memphis, 2015 (Cont.)

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
Showcase, partition, shelving, & locker	1.26	18	1.54	22	1.31	92	1.74	123	1.34	5	1.69	7	1.46	6	1.98	9
Total --		30		37		161		217		9		12		11		15
<u>Other Furniture Related Products</u>																
Mattresses	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Blind & shades	1.19	1	1.58	1	1.20	4	1.78	5	1.15	0 ^b	1.45	0 ^b	1.23	0 ^b	1.73	0 ^b
Total --		1		1		4		5		0 ^b		0 ^b		0 ^b		0 ^b
Secondary Forestry Total --		2,673		3,147		9,418		13,105		627		790		918		1,190
Forestry Total --		8,207		9,665		22,449		33,778		1,918		2,420		3,048		3,886
Agriculture & Forestry Total --		27,321		30,870		74,517		102,100		4,684		5,907		8,755		10,796
Construction --		9,950		12,691		63,282		84,619		3,603		4,547		4,459		6,036
Finance --		8,391		10,863		49,439		68,645		3,270		4,122		3,992		5,413
Government --		12,302		18,147		121,194		166,581		7,749		9,763		9,767		13,081
Insurance --		3,998		4,944		20,934		28,291		1,249		1,575		1,893		2,437
Manufacturing --		31,662		36,307		83,814		119,902		6,130		7,731		11,521		14,192
Mining --		238		289		1,410		1,802		67		84		121		150
Miscellaneous --		2,292		2,802		16,161		20,118		673		849		1,122		1,415
Real Estate --		15,946		17,657		40,593		49,710		1,536		1,940		11,038		12,022
Retail Trade --		9,806		12,844		105,811		129,426		4,013		5,060		6,358		8,105
Services --		58,678		78,605		559,259		714,162		26,318		33,185		34,249		45,708
Transportation --		8,740		11,069		48,962		67,057		3,076		3,878		4,214		5,553
Utilities --		668		738		848		1,392		92		116		283		323
Wholesale Trade --		13,480		16,995		62,366		89,683		4,648		5,860		8,544		10,566

^aTotals may not add due to rounding.

^bZero values are nonzero values less than one.

Table E.5. Total Impacts from Agriculture and Forestry^a, Nashville, 2015

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	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Phosphatic fertilizer	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Fertilizer mixing	1.28	39	1.43	44	1.92	96	2.57	128	2.48	5	3.33	7	2.15	9	2.80	12
Pesticide & other agricultural chemicals	1.34	148	1.53	169	4.02	254	6.38	403	2.58	23	3.48	30	1.53	59	1.85	72
Lime	1.60	45	1.89	53	2.52	132	3.59	189	2.34	9	3.14	12	2.32	14	3.09	19
Total --		232		266		482		720		36		49		83		103
<i>Agricultural Machinery</i>																
Farm machinery & equipment	1.30	56	1.50	64	1.95	143	2.75	202	1.97	9	2.64	12	1.70	16	2.21	21
Lawn & garden equipment	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		56		64		143		202		9		12		16		21
<i>Agricultural Inputs Total --</i>		288		330		625		922		45		61		99		124
<i>Primary Agriculture</i>																
Oilseed farming	1.42	294	1.65	342	1.73	1,987	2.02	2,323	2.12	52	2.82	70	1.79	112	2.24	140
Grain farming	1.44	200	1.61	223	1.39	2,077	1.50	2,239	4.20	25	5.62	33	2.01	71	2.40	85
Vegetable & melon farming	1.18	26	1.53	34	1.18	267	1.42	322	1.19	8	1.60	11	1.15	18	1.46	22
Fruit farming	1.21	16	1.59	21	1.09	366	1.20	401	1.21	5	1.62	7	1.18	10	1.52	13
Tree nut farming	1.18	0 ^b	1.54	0 ^b	1.11	2	1.25	3	1.19	0 ^b	1.59	0 ^b	1.15	0 ^b	1.46	0 ^b
Greenhouse, nursery, & floriculture production	1.25	315	1.64	412	1.19	3,773	1.41	4,451	1.26	104	1.69	140	1.26	171	1.68	228
Tobacco farming	1.27	118	1.67	155	1.15	1,904	1.31	2,161	1.28	40	1.71	53	1.30	63	1.75	85
Cotton farming	1.30	7	1.71	9	1.41	53	1.82	69	1.29	2	1.73	3	1.33	4	1.81	5
Sugarcane & sugar beet farming	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other crop farming	1.35	325	1.70	408	1.06	14,414	1.10	15,001	1.42	90	1.91	121	1.44	157	1.89	207
Beef cattle farming	1.63	642	1.87	737	1.43	13,004	1.51	13,675	2.22	104	2.96	139	1.97	215	2.48	271
Dairy cattle & milk production	1.37	109	1.57	125	1.86	696	2.16	808	1.96	17	2.62	23	1.51	45	1.82	55
Poultry & egg production	1.29	383	1.46	433	1.43	1,460	1.77	1,810	1.74	54	2.33	72	1.65	98	2.14	127

Table E.5. Total Impacts from Agriculture and Forestry^a, Nashville, 2015 (Cont.)

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
Animal production, except cattle/poultry/eggs	1.26	37	1.46	43	1.08	1,082	1.12	1,123	1.59	6	2.12	8	1.25	20	1.47	23
Commercial fishing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Commercial hunting & trapping	1.33	23	1.58	27	1.08	484	1.15	514	1.88	5	2.51	6	1.40	11	1.72	13
Support activities for agriculture & forestry	1.12	82	1.55	113	1.04	1,750	1.16	1,967	1.11	34	1.48	45	1.10	55	1.47	73
Primary Agriculture Total --		2,577		3,082		43,321		46,868		548		733		1,050		1,347
Secondary Agriculture																
<u>Foods</u>																
Dog & cat food	1.32	754	1.47	837	3.41	1,148	5.13	1,730	2.32	89	3.12	120	1.44	253	1.72	302
Other animal food	1.38	76	1.52	84	3.34	141	4.65	197	4.18	9	5.61	11	3.63	15	4.78	19
Total --		830		922		1,289		1,926		97		131		267		321
<u>Grain & Oilseed Milling</u>																
Flour milling	1.51	220	1.73	252	4.82	450	7.24	676	3.12	35	4.19	46	2.51	62	3.28	81
Rice milling	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Malt	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Wet corn milling	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Soybean & other oilseed processing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Fats & oils refining & blending	1.21	57	1.31	62	3.06	75	4.41	108	2.92	5	3.92	7	2.78	9	3.66	12
Breakfast cereal	1.31	3	1.48	4	2.34	6	3.39	9	2.33	0 ^b	3.13	1	1.52	1	1.84	1
Total --		280		318		532		794		40		54		72		94
<u>Sugar & Confectionary Products</u>																
Beet sugar	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Sugar cane mills & refining	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Nonchocolate confectionery	1.36	8	1.63	9	1.72	24	2.47	35	1.78	2	2.38	2	1.80	2	2.44	3
Chocolate & confectionery from cacao beans	1.40	45	1.56	50	2.25	112	2.99	149	3.95	6	5.31	8	2.83	10	3.67	13
Confectionery from purchased chocolate	1.36	357	1.62	423	1.57	1,181	2.18	1,642	1.74	71	2.34	95	1.66	123	2.18	162
Total --	1.32	754	1.47	837	3.41	1,148	5.13	1,730	2.32	89	3.12	120	1.44	253	1.72	302

Table E.5. Total Impacts from Agriculture and Forestry^a, Nashville, 2015 (Cont.)

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>Fruit & Vegetable Preserving & Specialty Foods</u>																
Frozen fruits, juices & vegetables	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Frozen specialties	1.33	216	1.58	257	1.57	669	2.24	956	1.60	44	2.15	59	1.76	62	2.45	86
Canned fruits & vegetables	1.39	130	1.65	154	2.05	371	2.96	537	1.96	25	2.64	34	2.15	37	2.97	51
Canned specialties	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Dehydrated food products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		346		410		1,040		1,493		69		93		98		137
<u>Dairy Products</u>																
Fluid milk	1.32	267	1.50	302	2.34	552	3.39	799	2.15	38	2.88	51	2.01	63	2.68	83
Creamery butter	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Cheese	1.30	22	1.42	24	2.56	43	3.40	57	4.52	2	6.06	3	5.06	3	6.86	5
Dry, condensed, & evaporated dairy products	1.32	52	1.44	57	3.56	85	4.92	118	5.21	5	7.00	7	4.06	8	5.38	11
Ice cream & frozen desserts	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		342		384		680		974		45		60		74		99
<u>Animal Slaughtering & Processing</u>																
Animal (except poultry) slaughtering	1.19	472	1.31	522	1.82	978	2.47	1,326	1.97	53	2.65	72	1.62	94	2.13	124
Meat processed from carcasses	1.26	757	1.41	848	1.60	1,796	2.17	2,429	1.81	97	2.43	130	1.82	144	2.49	197
Rendering & meat byproduct processing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Poultry processing	1.26	1,207	1.48	1,415	1.40	4,444	1.85	5,894	1.53	222	2.06	298	1.61	287	2.30	409
Total --		2,436		2,784		7,219		9,650		372		499		525		730
<u>Seafood Product Preparation & Packaging</u>																
Seafood Product Preparation & Packaging	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<u>Bakeries & Tortillas</u>																
Bread & bakery product, except frozen	1.37	442	1.77	574	1.24	3,220	1.59	4,136	1.45	141	1.94	189	1.48	193	2.07	270
Frozen cakes & other pastries	1.32	56	1.71	72	1.30	279	1.84	393	1.36	18	1.83	24	1.36	27	1.85	36
Cookie & cracker	1.34	582	1.62	703	1.70	1,791	2.50	2,635	1.63	129	2.20	173	1.50	224	1.98	296

Table E.5. Total Impacts from Agriculture and Forestry^a, Nashville, 2015 (Cont.)

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
Dry pasta, mixes, & dough	1.45	130	1.66	149	2.08	347	2.89	481	2.43	21	3.26	28	1.98	40	2.55	51
Tortilla	1.39	30	1.72	37	1.37	135	1.87	185	1.49	8	2.00	10	1.52	12	2.07	16
Total --		1,240		1,535		5,772		7,831		316		424		495		669
<u>Other Foods</u>																
Roasted nuts & peanut butter	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Other snack food	1.27	729	1.44	824	1.92	1,563	2.73	2,225	2.06	101	2.77	136	1.51	255	1.84	310
Coffee & tea	1.34	69	1.59	82	2.19	184	3.24	272	1.91	14	2.56	18	1.78	22	2.37	30
Flavoring syrup & concentrate	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Mayonnaise, dressing, & sauce	1.25	315	1.41	355	1.71	710	2.38	987	1.86	42	2.50	57	1.65	78	2.14	101
Spice & extract	1.37	25	1.56	29	1.98	74	2.64	98	2.81	4	3.77	5	2.78	6	3.79	8
All other food	1.35	430	1.61	513	1.66	1,473	2.32	2,056	1.76	89	2.36	120	1.86	127	2.59	176
Total --		1,569		1,803		4,003		5,637		250		336		487		625
<u>Beverages</u>																
Bottled & canned soft drinks & water	1.36	642	1.56	739	2.50	1,499	3.62	2,174	2.29	103	3.08	139	2.02	182	2.65	239
Breweries	1.45	197	1.64	223	2.57	449	3.60	628	3.47	28	4.66	37	2.06	59	2.59	74
Wineries	1.45	106	1.72	126	1.64	441	2.14	577	2.31	21	3.10	28	2.37	32	3.23	43
Distilleries	1.25	1,094	1.40	1,226	2.53	1,853	3.79	2,773	2.22	141	2.98	189	1.29	541	1.47	619
Total --		2,040		2,313		4,242		6,153		292		393		814		975
<u>Tobacco Products</u>																
	1.45	2,716	1.59	2,969	5.88	3,447	8.88	5,209	4.80	269	6.45	362	1.50	1,299	1.67	1,448
<u>Textile Mills</u>																
Fiber, yarn, & thread mills	1.20	61	1.39	71	1.34	191	1.83	261	1.43	11	1.92	14	1.52	14	2.14	20
Broadwoven fabric mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Narrow fabric mills & schiffli machine embroidery	1.26	12	1.63	15	1.24	66	1.69	90	1.31	4	1.76	5	1.39	4	2.03	7
Nonwoven fabric mills	1.25	259	1.49	310	1.62	690	2.44	1,042	1.50	54	2.01	72	1.43	88	1.91	118
Knit fabric mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Textile & fabric finishing mills	1.36	36	1.64	43	1.51	150	2.02	202	1.73	8	2.33	11	1.75	12	2.39	16
Fabric coating mills	1.28	10	1.50	12	1.54	34	2.10	47	1.73	2	2.33	3	1.65	3	2.23	4

Table E.5. Total Impacts from Agriculture and Forestry^a, Nashville, 2015 (Cont.)

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
Total --		379		452		1,132		1,642		78		105		122		165
<u>Textile Product Mills</u>																
Carpet & rug mills	1.16	33	1.38	39	1.28	99	1.84	143	1.25	7	1.68	9	1.30	9	1.82	13
Curtain & linen mills	1.27	16	1.51	20	1.25	95	1.55	117	1.55	3	2.07	5	1.57	5	2.14	7
Textile bag & canvas mills	1.20	24	1.53	31	1.21	147	1.59	194	1.30	7	1.75	10	1.33	9	1.89	13
Rope, cordage, twine, tire cord & tire fabric mills	1.25	158	1.49	189	1.38	578	1.89	790	1.43	32	1.92	44	1.40	57	1.84	75
Other textile product mills	1.27	64	1.64	83	1.23	400	1.64	532	1.29	20	1.73	27	1.37	27	1.94	38
Hosiery & sock mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Other apparel knitting mills	1.44	35	1.78	43	1.37	180	1.80	236	1.66	9	2.23	12	1.98	11	2.81	16
Total --		331		404		1,499		2,013		79		106		118		162
<u>Apparel</u>																
Cut & sew apparel contractors	1.45	28	2.24	44	1.11	507	1.35	615	1.25	17	1.68	22	1.67	12	2.94	21
Men's & boy's cut & sew apparel	1.31	137	1.79	187	1.25	1,038	1.67	1,386	1.30	53	1.74	72	1.43	61	2.12	91
Women's & girl's cut & sew apparel	1.50	15	1.79	17	1.49	102	1.78	122	2.62	3	3.52	4	3.06	4	4.30	6
Other cut & sew apparel	1.38	15	1.87	20	1.26	125	1.62	162	1.38	6	1.85	8	1.55	7	2.28	10
Apparel accessories & other apparel	1.43	11	1.87	15	1.24	99	1.54	123	1.48	4	1.98	5	1.72	5	2.50	7
Total --		206		283		1,871		2,408		82		111		88		134
<u>Leather & Allied Products</u>																
Leather & hide tanning & finishing	1.55	45	1.76	51	2.43	129	3.24	173	3.37	7	4.53	9	4.37	10	6.02	13
Footwear	1.39	15	1.76	19	1.35	89	1.78	118	1.52	4	2.04	6	1.81	5	2.64	8
Other leather & allied products	1.54	20	2.00	26	1.35	151	1.72	193	1.66	6	2.23	9	3.12	6	5.06	9
Total --		80		97		369		483		17		23		21		30
Secondary Agriculture Total --		13,204		15,156		34,411		48,037		2,085		2,801		4,619		5,768
Agriculture Total --		16,069		18,568		78,357		95,827		2,678		3,595		5,768		7,239
<u>Forestry Inputs</u>																
Sawmill, woodworking, & paper machinery	1.27	11	1.61	13	1.39	47	1.98	67	1.39	3	1.86	4	1.46	4	2.09	6
<u>Timber</u>																

Table E.5. Total Impacts from Agriculture and Forestry^a, Nashville, 2015 (Cont.)

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>Timber</u>																
Forestry, forest products, & timber tract production	1.30	3	1.84	4	1.39	37	1.69	45	1.23	1	1.64	2	1.36	1	1.99	2
Total --	1.24	184	1.81	268	1.30	2,561	1.60	3,151	1.15	92	1.53	123	1.23	102	1.83	152
Forestry Inputs Total --		187		272		2,597		3,196		93		124		104		154
Primary Forestry		197		285		2,645		3,263		96		129		108		159
Sawmills																
Wood preservation	1.60	680	1.93	819	1.86	2,955	2.47	3,931	2.32	148	3.11	199	2.65	207	3.70	289
Pulp mills	1.63	2	1.92	2	2.57	6	3.55	9	2.72	0 ^b	3.65	0 ^b	2.90	1	3.96	1
Paper mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Paperboard Mills	1.41	471	1.67	558	2.71	1,072	4.25	1,684	1.91	92	2.58	124	1.79	155	2.39	206
Primary Forestry Total --	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Secondary Forestry		1,152		1,379		4,034		5,624		241		324		362		496
<u>Veneer, Plywood, & Engineered Wood Products</u>																
Veneer & plywood																
Engineered wood member & truss	1.47	11	1.73	13	1.62	51	2.06	64	2.53	2	3.40	3	2.78	3	3.85	4
Reconstituted wood products	1.41	102	1.76	127	1.50	506	2.02	681	1.70	27	2.28	36	1.90	35	2.70	49
Total --	1.32	17	1.52	20	1.71	52	2.34	71	1.88	3	2.52	4	1.84	5	2.48	6
<u>Wood Windows & Doors & Millwork</u>		130		160		608		817		32		43		42		60
Wood windows & door																
Cut stock, resawing lumber, & planing	1.44	68	1.80	86	1.54	342	2.09	464	1.65	19	2.22	25	1.74	26	2.43	36
Other millworks, including floors	1.30	57	1.56	69	1.47	234	1.98	316	1.62	12	2.18	17	1.51	21	1.99	28
Total --	1.39	134	1.72	166	1.46	687	1.94	911	1.65	34	2.22	46	1.67	51	2.29	70
<u>Wood Containers & Pallets</u>	1.35	169	1.72	214	1.26	1,169	1.61	1,490	1.48	49	1.98	66	1.62	63	2.31	90
<u>Manufactured Homes (Mobile Homes)</u>																

Table E.5. Total Impacts from Agriculture and Forestry^a, Nashville, 2015 (Cont.)

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
Manufactured homes (mobile homes)	1.29	96	1.64	122	1.35	466	1.89	649	1.33	28	1.79	37	1.37	39	1.90	55
Prefabricated wood buildings	1.36	59	1.72	75	1.44	316	1.94	426	1.52	17	2.05	23	1.55	24	2.16	33
Total --		155		197		783		1,076		45		60		63		88
<u>All Other Miscellaneous Wood Products</u>	1.46	138	1.81	172	1.43	852	1.82	1,084	1.81	35	2.43	48	1.84	51	2.54	71
<u>Paperboard Containers</u>	1.31	1,205	1.60	1,470	1.87	3,580	2.84	5,438	1.57	284	2.11	381	1.69	380	2.38	536
<u>Paper Bags & Coated & Treated Paper</u>	1.25	160	1.53	197	1.69	410	2.74	664	1.39	39	1.86	52	1.43	56	1.97	77
<u>Stationery Products</u>	1.33	171	1.58	205	1.65	568	2.34	801	1.74	35	2.35	47	1.75	52	2.40	72
<u>Other Converted Paper Products</u>																
Sanitary paper products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other converted paper products	1.39	129	1.67	154	1.68	488	2.28	665	1.96	26	2.64	36	2.09	37	2.93	52
Total --		129		154		488		665		26		36		37		52
<u>Wood Kitchen Cabinets & Countertops</u>	1.39	206	1.80	267	1.29	1,583	1.64	2,013	1.47	66	1.97	88	1.65	77	2.42	113
<u>Household & Institutional Furniture</u>																
Upholstered household furniture	1.37	6	1.71	8	1.37	31	1.85	41	1.49	2	2.00	2	1.71	2	2.46	3
Nonupholstered wood household furniture	1.36	57	1.76	74	1.23	452	1.56	571	1.42	18	1.91	24	1.56	22	2.26	32
Other household nonupholstered furniture	1.37	22	1.68	27	1.50	103	2.02	139	1.64	6	2.20	7	1.83	7	2.61	10
Institutional furniture	1.36	10	1.75	12	1.36	56	1.82	76	1.47	3	1.98	4	1.65	3	2.40	5
Total --		95		121		642		827		28		38		35		51
<u>Office Furniture</u>																
Wood office furniture	1.44	6	1.78	8	1.46	36	1.88	47	1.79	2	2.41	2	2.02	2	2.86	3
Custom architectural woodwork & millwork	1.29	37	1.74	50	1.26	238	1.74	329	1.28	14	1.72	19	1.39	16	2.04	24

Table E.5. Total Impacts from Agriculture and Forestry^a, Nashville, 2015 (Cont.)

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
Showcase, partition, shelving, & locker	1.32	255	1.68	325	1.35	1,328	1.85	1,816	1.41	74	1.90	99	1.55	90	2.25	131
Total --		299		383		1,603		2,191		89		120		109		158
<u>Other Furniture Related Products</u>																
Mattresses	1.43	333	1.66	386	2.00	1,095	2.67	1,467	2.51	57	3.37	76	2.48	88	3.36	119
Blind & shades	1.34	2	1.63	2	1.24	14	1.51	17	1.60	0 ^b	2.15	1	1.88	1	2.70	1
Total --		335		388		1,109		1,484		57		77		89		120
Secondary Forestry Total --		3,452		4,249		14,656		20,242		850		1,142		1,152		1,621
Forestry Total --		4,801		5,913		21,334		29,128		1,187		1,595		1,622		2,276
Agriculture & Forestry Total --		20,870		24,481		99,691		124,956		3,865		5,190		7,389		9,515
Construction --		21,429		28,580		137,622		187,791		7,726		10,344		9,534		13,742
Finance --		14,186		19,112		83,294		117,819		5,262		7,067		6,716		9,614
Government --		19,868		30,699		190,978		266,839		11,490		15,460		14,697		21,057
Insurance --		14,226		18,381		63,730		92,839		4,421		5,944		7,299		9,743
Manufacturing --		74,392		86,462		188,296		272,853		12,795		17,219		24,038		31,137
Mining --		1,275		1,535		6,411		8,234		279		374		571		724
Miscellaneous --		5,248		6,607		37,123		46,649		1,452		1,950		2,284		3,084
Real Estate --		29,095		33,160		84,324		103,236		2,924		3,911		19,255		21,647
Retail Trade --		17,309		23,950		187,324		233,872		7,100		9,533		10,996		14,903
Services --		117,074		169,305		936,755		1,302,994		56,081		75,214		71,724		102,459
Transportation --		11,655		15,301		63,977		89,528		3,896		5,232		5,438		7,582
Utilities --		3,143		3,458		4,099		6,305		335		450		1,222		1,407
Wholesale Trade --		19,483		25,592		93,549		136,352		6,505		8,744		12,021		15,614

^aTotals may not add due to rounding.

^bValues of zero are nonzero values less than 1.

Table E.6. Total Impacts from Agriculture and Forestry^a, TriCities, 2015

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	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Phosphatic fertilizer	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Fertilizer mixing	1.14	13	1.26	15	1.62	29	2.26	40	1.34	2	1.63	2	1.33	3	1.61	4
Pesticide & other agricultural chemicals	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Lime	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		13		15		29		40		2		2		3		4
<i>Agricultural Machinery</i>																
Farm machinery & equipment	1.18	43	1.29	47	1.68	103	2.21	136	1.52	6	1.84	7	1.36	11	1.61	14
Lawn & garden equipment	1.13	334	1.22	362	1.44	775	1.87	1,010	1.39	41	1.68	49	1.31	78	1.55	93
Total --		377		408		878		1,146		46		56		90		106
<i>Agricultural Inputs Total --</i>		390		423		907		1,186		48		58		93		110
<i>Primary Agriculture</i>																
Oilseed farming	1.28	4	1.47	5	1.69	35	1.95	40	1.37	1	1.67	1	1.44	1	1.77	2
Grain farming	1.28	7	1.36	7	1.35	92	1.40	96	2.62	1	3.18	1	1.53	2	1.70	2
Vegetable & melon farming	1.14	11	1.45	15	1.22	129	1.47	156	1.09	5	1.33	6	1.10	8	1.34	9
Fruit farming	1.16	3	1.45	4	1.11	87	1.21	95	1.11	1	1.34	2	1.11	2	1.35	3
Tree nut farming	1.15	0 ^b	1.45	0 ^b	1.12	0 ^b	1.23	0 ^b	1.10	0 ^b	1.33	0 ^b	1.10	0 ^b	1.33	0 ^b
Greenhouse, nursery, & floriculture production	1.14	35	1.35	41	1.15	457	1.28	510	1.15	9	1.40	11	1.13	19	1.33	22
Tobacco farming	1.21	13	1.39	15	1.14	284	1.21	301	1.26	3	1.53	4	1.19	7	1.37	8
Cotton farming	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Sugarcane & sugar beet farming	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other crop farming	1.23	68	1.45	81	1.07	3,694	1.10	3,799	1.23	18	1.49	22	1.24	31	1.50	38
Beef cattle farming	1.49	114	1.64	125	1.39	2,745	1.44	2,841	1.79	16	2.18	20	1.66	35	1.94	41
Dairy cattle & milk production	1.25	25	1.42	28	1.84	180	2.13	208	1.33	5	1.62	6	1.30	10	1.53	11
Poultry & egg production	1.18	62	1.27	66	1.28	282	1.46	321	1.50	7	1.82	8	1.36	14	1.59	17
Animal production, except cattle/poultry/eggs	1.21	7	1.20	7	1.09	279	1.09	279	0.00	0 ^b	0.00	0 ^b	1.18	4	1.17	4
Commercial fishing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0

Table E.6. Total Impacts from Agriculture and Forestry^a, TriCities, 2015 (Cont.)

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
Commercial hunting & trapping	1.31	3	1.44	4	1.07	97	1.11	100	2.14	0 ^b	2.60	1	1.54	1	1.80	1
Support activities for agriculture & forestry	1.11	11	1.31	13	1.03	382	1.08	399	1.12	3	1.36	4	1.11	6	1.31	7
Primary Agriculture Total --		363		410		8,744		9,144		68		83		139		164
Secondary Agriculture																
<u>Foods</u>																
Dog & cat food	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Other animal food	1.21	9	1.28	10	2.59	15	3.42	20	2.21	1	2.69	1	1.86	2	2.19	2
Total --		9		10		15		20		1		1		2		2
<u>Grain & Oilseed Milling</u>																
Flour milling	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Rice milling	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Malt	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Wet corn milling	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Soybean & other oilseed processing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Fats & oils refining & blending	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Breakfast cereal	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		0		0		0		0		0		0		0		0
<u>Sugar & Confectionary Products</u>																
Beet sugar	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Sugar cane mills & refining	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Nonchocolate confectionery	1.18	18	1.34	20	1.48	50	2.06	70	1.30	3	1.58	4	1.27	6	1.52	7
Chocolate & confectionery from cacao beans	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Confectionery from purchased chocolate	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		18		20		50		70		3		4		6		7
<u>Fruit & Vegetable Preserving & Specialty Foods</u>																
Frozen fruits, juices & vegetables	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Frozen specialties	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Canned fruits & vegetables	1.22	9	1.34	10	1.70	24	2.21	31	1.58	1	1.92	2	1.68	2	2.09	2

Table E.6. Total Impacts from Agriculture and Forestry^a, TriCities, 2015 (Cont.)

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
Canned specialties	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Dehydrated food products	1.26	145	1.46	167	1.64	353	2.53	546	1.32	33	1.60	40	1.33	47	1.67	59
Total --		153		177		378		578		35		42		49		61
<u>Dairy Products</u>																
Fluid milk	1.23	48	1.32	51	2.01	93	2.66	123	1.73	5	2.10	6	1.63	9	1.97	11
Creamery butter	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Cheese	1.22	163	1.27	170	2.18	286	2.61	343	4.15	10	5.04	12	3.76	16	4.57	20
Dry, condensed, & evaporated dairy products	1.25	405	1.32	430	3.00	547	4.13	753	2.03	36	2.46	43	1.77	68	2.11	80
Ice cream & frozen desserts	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		617		651		926		1,219		51		62		93		111
<u>Animal Slaughtering & Processing</u>																
Animal (except poultry) slaughtering	1.13	22	1.21	23	1.71	44	2.19	57	1.61	2	1.95	3	1.38	4	1.64	5
Meat processed from carcasses	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Rendering & meat byproduct processing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Poultry processing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		22		23		44		57		2		3		4		5
<u>Seafood Product Preparation & Packaging</u>																
	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<u>Bakeries & Tortillas</u>																
Bread & bakery product, except frozen	1.20	58	1.41	69	1.15	487	1.36	575	1.24	15	1.50	19	1.25	22	1.57	27
Frozen cakes & other pastries	1.22	3	1.38	4	1.19	21	1.39	25	1.38	1	1.67	1	1.35	1	1.64	1
Cookie & cracker	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Dry pasta, mixes, & dough	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Tortilla	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		61		72		508		600		16		19		23		28
<u>Other Foods</u>																
Roasted nuts & peanut butter	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0

Table E.6. Total Impacts from Agriculture and Forestry^a, TriCities, 2015 (Cont.)

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
Other snack food	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Coffee & tea	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Flavoring syrup & concentrate	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Mayonnaise, dressing, & sauce	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Spice & extract	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other food	1.19	0 ^b	1.35	0 ^b	1.45	1	1.98	2	1.30	0 ^b	1.58	0 ^b	1.35	0 ^b	1.69	0 ^b
Total --		0 ^b		0 ^b		1		2		0 ^b		0 ^b		0 ^b		0 ^b
<u>Beverages</u>																
Bottled & canned soft drinks & water	1.19	230	1.29	249	2.00	498	2.65	661	1.63	28	1.98	34	1.50	51	1.79	61
Breweries	1.23	11	1.29	12	2.01	25	2.38	30	4.11	1	4.99	1	1.76	2	1.99	2
Wineries	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Distilleries	1.18	5	1.23	5	2.07	9	2.52	11	2.87	0 ^b	3.48	0 ^b	1.25	2	1.34	2
Total --		245		265		532		701		29		35		55		66
<u>Tobacco Products</u>																
	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<u>Textile Mills</u>																
Fiber, yarn, & thread mills	1.15	142	1.29	160	1.26	420	1.72	573	1.21	27	1.47	32	1.26	35	1.60	44
Broadwoven fabric mills	1.17	4	1.35	4	1.29	14	1.76	19	1.20	1	1.46	1	1.21	1	1.50	2
Narrow fabric mills & schiffli machine embroidery	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Nonwoven fabric mills	1.17	35	1.31	40	1.44	93	2.00	129	1.29	6	1.57	7	1.26	10	1.53	13
Knit fabric mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Textile & fabric finishing mills	1.21	40	1.36	45	1.36	177	1.67	218	1.41	7	1.72	9	1.43	11	1.76	13
Fabric coating mills	1.17	150	1.31	168	1.38	463	1.84	617	1.29	27	1.57	32	1.28	43	1.56	53
Total --		372		418		1,167		1,556		67		82		100		125
<u>Textile Product Mills</u>																
Carpet & rug mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Curtain & linen mills	1.16	1	1.32	1	1.18	4	1.42	4	1.24	0 ^b	1.51	0 ^b	1.24	0 ^b	1.53	0 ^b

Table E.6. Total Impacts from Agriculture and Forestry^a, TriCities, 2015 (Cont.)

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
Textile bag & canvas mills	1.11	3	1.37	4	1.15	16	1.56	22	1.10	1	1.34	1	1.12	1	1.44	2
Rope, cordage, twine, tire cord & tire fabric mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Other textile product mills	1.19	10	1.42	12	1.17	67	1.48	84	1.18	3	1.43	4	1.23	4	1.56	5
Hosiery & sock mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Other apparel knitting mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		14		17		87		110		4		5		5		7
<u>Apparel</u>																
Cut & sew apparel contractors	1.28	4	1.81	5	1.08	85	1.25	98	1.13	2	1.37	3	1.45	1	2.42	2
Men's & boy's cut & sew apparel	1.17	12	1.48	15	1.17	95	1.51	123	1.14	5	1.39	6	1.21	5	1.60	7
Women's & girl's cut & sew apparel	1.27	1	1.43	1	1.34	4	1.53	5	1.75	0 ^b	2.12	0 ^b	1.93	0 ^b	2.48	0 ^b
Other cut & sew apparel	1.22	2	1.50	2	1.17	17	1.42	20	1.22	1	1.48	1	1.31	1	1.73	1
Apparel accessories & other apparel	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		18		24		202		247		8		9		7		10
<u>Leather & Allied Products</u>																
Leather & hide tanning & finishing	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Footwear	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Other leather & allied products	1.25	0 ^b	1.53	0 ^b	1.21	2	1.49	2	1.24	0 ^b	1.50	0 ^b	1.79	0 ^b	2.75	0 ^b
Total --		0 ^b		0 ^b		2		2		0 ^b		0 ^b		0 ^b		0 ^b
Secondary Agriculture Total --		1,531		1,678		3,912		5,161		216		262		344		422
Agriculture Total --		2,284		2,511		13,563		15,492		333		404		577		696
<u>Forestry Inputs</u>																
<u>Sawmill, woodworking, & paper machinery</u>	1.15	12	1.39	14	1.28	51	1.81	73	1.16	4	1.41	4	1.19	5	1.54	6
<u>Timber</u>																
Forestry, forest products, & timber tract production	1.32	2	1.65	2	1.58	35	1.76	39	1.21	1	1.47	1	1.37	1	1.78	1
Commercial logging	1.19	8	1.59	11	1.33	126	1.58	150	1.10	4	1.34	5	1.16	4	1.55	6
Total --		10		13		161		189		5		6		5		7
Forestry Inputs Total --		22		28		212		261		8		10		10		13

Table E.6. Total Impacts from Agriculture and Forestry^a, TriCities, 2015 (Cont.)

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>Primary Forestry</i>																
Sawmills	1.34	37	1.50	41	1.57	165	1.93	202	1.69	6	2.06	8	1.91	9	2.40	11
Wood preservation	1.33	36	1.45	39	1.96	106	2.48	133	1.96	5	2.38	6	1.80	9	2.15	10
Pulp mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Paper mills	1.25	265	1.40	296	2.20	546	3.27	810	1.45	45	1.77	55	1.41	80	1.70	96
Paperboard Mills	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<i>Primary Forestry Total --</i>		338		377		816		1,146		56		68		97		118
<i>Secondary Forestry</i>																
<u>Veneer, Plywood, & Engineered Wood Products</u>																
Veneer & plywood	1.30	2	1.41	2	1.45	9	1.65	10	2.33	0 ^b	2.83	0 ^b	2.44	0 ^b	3.00	0 ^b
Engineered wood member & truss	1.28	14	1.48	16	1.38	68	1.74	87	1.35	3	1.64	4	1.47	4	1.89	5
Reconstituted wood products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		15		18		77		96		3		4		4		6
<u>Wood Windows & Doors & Millwork</u>																
Wood windows & door	1.26	11	1.47	13	1.37	56	1.75	71	1.32	3	1.61	3	1.38	4	1.73	5
Cut stock, resawing lumber, & planing	1.16	16	1.31	18	1.31	65	1.66	82	1.29	3	1.56	4	1.24	5	1.48	6
Other millworks, including floors	1.21	51	1.42	60	1.32	253	1.71	328	1.26	13	1.53	16	1.27	19	1.57	24
Total --		78		90		374		481		18		22		28		35
<u>Wood Containers & Pallets</u>	1.22	36	1.45	43	1.19	258	1.47	316	1.22	10	1.49	12	1.30	13	1.67	16
<u>Manufactured Homes (Mobile Homes)</u>																
Manufactured homes (mobile homes)	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Prefabricated wood buildings	1.21	2	1.43	3	1.31	13	1.69	17	1.25	1	1.51	1	1.26	1	1.57	1
Total --		2		3		13		17		1		1		1		1
<u>All Other Miscellaneous Wood Products</u>	1.30	1	1.47	1	1.31	4	1.52	5	1.53	0 ^b	1.86	0 ^b	1.56	0 ^b	1.94	0 ^b
<u>Paperboard Containers</u>	1.20	123	1.33	137	1.64	385	2.11	496	1.49	19	1.81	23	1.56	27	1.96	34

Table E.6. Total Impacts from Agriculture and Forestry^a, TriCities, 2015 (Cont.)

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>Paper Bags & Coated & Treated Paper</u>	1.16	344	1.28	380	1.49	951	1.97	1,257	1.36	53	1.65	64	1.36	83	1.67	102
<u>Stationery Products</u>	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
<u>Other Converted Paper Products</u>																
Sanitary paper products	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
All other converted paper products	1.23	21	1.39	23	1.48	77	1.92	99	1.40	4	1.71	5	1.48	5	1.87	7
Total --		21		23		77		99		4		5		5		7
<u>Wood Kitchen Cabinets & Countertops</u>	1.23	19	1.47	22	1.20	154	1.44	186	1.24	5	1.51	7	1.35	6	1.77	8
<u>Household & Institutional Furniture</u>																
Upholstered household furniture	1.22	92	1.45	109	1.25	449	1.66	597	1.19	25	1.45	31	1.31	31	1.70	40
Nonupholstered wood household furniture	1.20	0 ^b	1.46	0 ^b	1.16	2	1.43	2	1.18	0 ^b	1.44	0 ^b	1.25	0 ^b	1.62	0 ^b
Other household nonupholstered furniture	1.17	4	1.41	5	1.33	16	1.90	23	1.17	1	1.43	1	1.23	1	1.59	2
Institutional furniture	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Total --		96		114		467		622		27		32		32		42
<u>Office Furniture</u>																
Wood office furniture	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Custom architectural woodwork & millwork	1.17	2	1.43	2	1.18	11	1.48	14	1.16	1	1.41	1	1.23	1	1.61	1
Showcase, partition, shelving, & locker	1.17	7	1.41	9	1.25	37	1.69	51	1.16	2	1.41	3	1.22	3	1.59	3
Total --		9		11		49		65		3		3		3		4
<u>Other Furniture Related Products</u>																
Mattresses	1.23	24	1.34	27	1.64	76	2.04	95	1.68	3	2.04	4	1.68	5	2.06	6
Blind & shades	1.18	2	1.39	2	1.15	11	1.42	13	1.19	0 ^b	1.44	1	1.29	0 ^b	1.69	1
Total --		26		28		87		108		4		4		6		7
Secondary Forestry Total --		771		871		2,895		3,748		147		178		209		262
Forestry Total --		1,131		1,275		3,924		5,156		211		257		316		392

Table E.6. Total Impacts from Agriculture and Forestry^a, TriCities, 2015 (Cont.)

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
Agriculture & Forestry Total --		3,415		3,787		17,487		20,648		544		661		893		1,088
Construction --		2,884		3,467		21,447		26,411		851		1,034		1,052		1,359
Finance --		1,774		2,111		12,409		15,278		494		600		674		851
Government --		3,138		4,523		38,429		50,208		2,028		2,464		2,539		3,266
Insurance --		538		632		3,525		4,328		138		167		201		250
Manufacturing --		15,445		17,117		38,377		52,602		2,441		2,967		4,393		5,271
Mining --		118		134		987		1,125		24		29		46		55
Miscellaneous --		697		813		5,339		6,333		171		208		228		290
Real Estate --		3,210		3,412		8,505		9,419		156		190		1,927		2,033
Retail Trade --		2,470		3,110		31,346		36,790		935		1,136		1,473		1,809
Services --		13,752		17,239		126,851		156,515		5,097		6,193		6,709		8,541
Transportation --		1,299		1,562		8,660		10,895		384		466		523		661
Utilities --		391		420		590		841		43		52		154		169
Wholesale Trade --		1,785		2,138		9,602		12,609		517		628		1,012		1,198

^aTotals may not add due to rounding.

^bValues of zero are nonzero values less than 1.