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The Economic Impact of Tennessee Forest Product Exports in 2024

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Introduction

The United States leads the world in wood production (FAO, 2024), with the U.S. South contributing more than half of the total output (Howard and Liang, 2019). This production volume mainly comes from states like Mississippi, Alabama and Georgia, known for their large pine forest plantations. In contrast, Tennessee's landscape is dominated by naturally occurring hardwood forests, offering different uses compared to pine and potentially higher value. The hardwood forestry industry in Tennessee tends to operate on a smaller scale and in rural areas, leading to an underappreciation of its economic and social importance. Research indicates that Tennessee's forestry and wood products sector supports an estimated 91,400 full- and part-time jobs and contributes $29.1 billion in economic activity annually to the state's economy (Menard, 2025). By these indicators, Tennessee is among the top ten states in terms of forestry's contribution to the economy, whether measured by direct or total economic impact or forestry's share of state GDP, placing it in the company of Maine, Wisconsin and Oregon (Pelkki and Sherman, 2020).

The hardwood industry is currently facing significant challenges, and these pressures are directly affecting Tennessee's forest sector. Production levels have fallen to historically low volumes, and major lumber species—particularly red oak—are experiencing record low prices (HMR, 2024). Weak U.S. and global demand for solid wood products such as flooring, furniture, and cabinets have further strained the sector, undermining the traditional emphasis on high-quality hardwood lumber. As a result, producers are shifting toward lower-value industrial products including railroad ties and pallet cants, which offer more stable but less profitable outlets.

The industry has become increasingly dependent on export markets, exposing Tennessee's hardwood economy to heightened vulnerability from global economic cycles and trade disruptions (Luppold et al., 2018). These conditions also place added pressure on forest management and mill investment decisions, as firms must balance short-run survival with long-run capacity and product-mix planning in an increasingly uncertain market environment.

This report examines the economic impact of Tennessee's forest product exports, and analyzes export changes in 2024, while considering destination countries (e.g., China, European Union) and product categories (e.g., oak lumber, hardwood logs, barrels).[1] Additionally, it evaluates the overall economic impact of export sales on income and employment at the state level. In brief, here are the main highlights from 2024.

- Tennessee's forest product exports experienced a moderate rebound, reaching $184 million, a 22.8 percent increase over 2023. This growth contrasts with flat U.S. exports overall. A major highlight was the rise of casks and barrels, which became the state's largest export at nearly $68 million, surpassing oak lumber for the first time. Oak lumber exports increased modestly to $55 million.
- Export markets continued to shift in 2024. China, once Tennessee's dominant buyer, dropped to a record low of $24 million, a 6 percent decline from the previous year and an 83 percent plunge compared with 2017 before the first trade war. Meanwhile, the UK surpassed China to become Tennessee's top export destination. Other countries showing notable growth included Ireland, Vietnam, Canada, Mexico, Panama, the Dominican Republic, the Philippines, the U.A.E. and South Africa. Panama, in particular, saw exports more than double due to increased demand for casks and barrels likely for aged rum production.

[1] In this report, forest products are defined according to the U.S. Department of Agriculture, Foreign Agricultural Service, where exports are limited to the Harmonized System (HS) Chapter 44 wood and articles of wood; wood charcoal and fuel. Products such as wood pulp and paper products are not included.

- New or previously small product categories, such as coffins, poplar and aspen lumber, pine lumber, and wood pellets, also expanded in 2024, demonstrating the sector's ability to adapt to changing global markets.
- Overall, Tennessee's export growth generated an estimated $334 million in total economic impact and supported more than 1,300 jobs, with sawmills and pallet manufacturing benefiting most.

Background

Forest product exports are not just important to Tennessee but to the entire country. U.S. sales of forest products to foreign countries were $9.6 billion in 2024. In the context of *agriculture and related products* (as defined by the U.S. Department of Agriculture), forest products are an important share of total U.S. exports, with global sales comparable to America's top agricultural exports: corn ($13.7 billion), beef ($10.5 billion), tree nuts ($9.9 billion), pork ($8.6 billion), and dairy products ($8.3 billion). In Tennessee, forest product exports ($184 million in 2024) ranked fourth behind distilled spirits ($936 million), cotton ($898 million) and processed baked goods (e.g., breads, cereals, pastas) ($263 million) (USDA, 2025).

Exports of forest products from 2021 to 2024, nationally, regionally and for Tennessee are reported in Table 1. Since 2021, U.S. exports have been relatively flat at around $9.5 to $9.6 billion, with 2022 being the exception ($10.3 billion). In 2024, U.S. exports were $9.6 billion, which was an increase of only $47 million or 0.5 percent when compared to 2023. Tennessee's forestry exports increased despite this negligible increase nationally. Tennessee forestry exports were $184 million in 2024, up $34 million or 22.8 percent when compared to the previous year.

Table 1. U.S. Forest Product Exports: 2021-2024

Country/ Region/State	2021	2022	2023	2024	$ Change 2023 to 2024	% Change 2023 to 2024
$ million						
United States	9,573	10,305	9,527	9,574	47	0.5%
South	4,062	4,572	4,446	4,578	132	3.0%
West	2,582	2,752	2,334	1,981	-352	-15.1%
Midwest	1,577	1,664	1,550	1,701	151	9.8%
Northeast	1,387	1,426	1,284	1,325	41	3.2%
Tennessee	186	195	150	184	34	22.8%
Source: U.S. Department of Agriculture, Foreign Agricultural Service (2025)						

Overview of Tennessee Forest Product Exports

Figure 1 shows Tennessee forest product exports since 2010. As mentioned, export sales were $184 million in 2024, up $34 million when compared to the previous year. From 2017 to 2020, export sales fell from $290 million dollars to $139 million. In 2020, exports reached their lowest level in more than a decade. Exports to China were $143 million in 2017, the highest in a decade, accounting for almost half of all of Tennessee's forestry exports that year. In 2024, however, exports to China fell to a new record low of $24 million, a 6 percent decline from the previous year and an 83 percent plunge compared with 2017 before the first trade war.

As Figure 1 shows, exports of forest products were negatively impacted by the U.S. trade war with China in 2018 and 2019 and the COVID-19 pandemic in 2020. This was the case for both the U.S. and Tennessee. The pandemic had a significant impact on global sales due to supply and demand disruptions in the global market for finished wood products (e.g., furniture) and the interrelated market for raw materials and inputs (e.g., logs and lumber) (Muhammad and Taylor, 2020). These effects were in addition to the negative impacts of China's retaliatory tariffs on U.S. timber, which are still in place (Muhammad et al., 2022). Overall, total exports sales, as well as sales to China, have not recovered from the trade war and pandemic.

Figure 1: *Tennessee Forest Product Exports: 2010-2024 Source: USDA, Foreign Agricultural Service (2025).*

Figure 2 shows Tennessee's forest product exports to the top destination countries (2021-2024). The importance of China to Tennessee export sales cannot be overstated. In 2021, Tennessee was still feeling the effects of the retaliatory tariffs that China imposed on U.S. lumber, logs and other timber products. However, 2021 exports marked a rebound ($51 million) when compared to the previous year (Muhammad et al., 2024). Unfortunately, exports to China fell in 2022 to $43 million and have reached record lows in 2023 ($26 million) and 2024 ($24 million). Tennessee's forest product exports in 2024 were sustained by countries other than China, most notably, the UK ($36 million), Ireland ($22 million), Vietnam ($20 million), Canada ($18 million) and Mexico ($14 million). China was once the leading destination for Tennessee forestry exports but has been overtaken by the UK in 2024. As far as smaller, but emerging markets, Panama stands out at almost $6 million where export sales more than doubled compared to 2023, mostly due to an increase in casks and barrel exports for aged rum production. Other noted increases in 2024 include the Dominican Republic ($3 million), Philippines ($3 million), U.A.E. ($2.5 million) and South Africa ($2.5 million).

Figure 2: *Tennessee Forest Product Exports by Top Destination Countries: 2021-2024 Note: Countries are ordered based on 2024 export sales. Source: USDA, Foreign Agricultural Service (2024).*

Figure 3 shows Tennessee's forest product exports by top categories based on value (2021-2024). Oak lumber has been Tennessee's largest forest product export, significantly exceeding all other wood products in past years. In 2024, however, casks and barrels became the leading forestry export for Tennessee. In 2021, oak lumber exports were to $88 million but then slightly declined to $81 million in 2022. In 2023, oak lumber exports significantly declined to $46 million. In 2024, oak lumber exports increased modestly to $55 million, but exports of casks and barrels increased even more to almost $68 million. Popular and aspen lumber ($8 million), oak logs ($7 million), coffins ($4 million) and pine lumber ($2 million) were all up in 2024. Coffins are a new emerging category, negligible in the recent past. For instance, we exported no coffins in 2023, and export sales in 2022 were only $37,000.

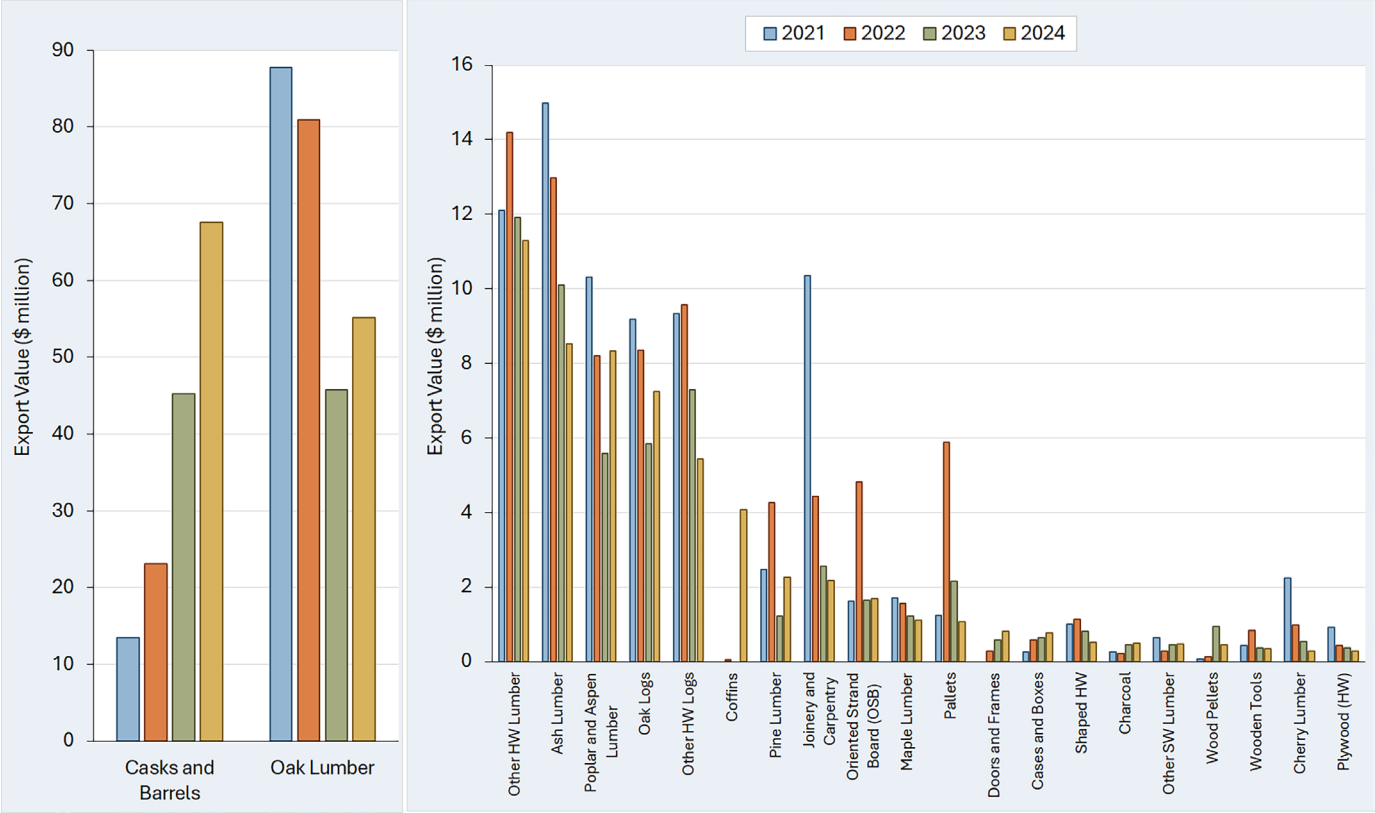

Figure 3: *Tennessee Forest Product Exports by Top Products: 2021-2024 Note: Product categories are ordered based on 2024 export sales. Source: USDA, Foreign Agricultural Service (2025).*

Next, we consider Tennessee's forest product exports by major product category and top destination (see Table 2). Casks and barrels were the leading export category in 2024 with the UK ($29 million) and EU ($21 million) being top destinations where exports were up by 65 and 63 percent, respectively. Oak lumber is now the second largest category, with sales mostly to Vietnam ($11.5 million) and China ($10.5 million). Although an increase for both countries, oak lumber exports to Vietnam were up by more than 80 percent, whereas, exports to China were up by only 24 percent. Interestingly, Vietnam is now the leading destination for both oak lumber ($11.5 million) and oak logs ($4 million). As shown in Figure 2, coffins are a relatively new category for Tennessee, with exports mostly going to Canada ($4 million).

Table 2. Tennessee Forest Product Exports by Major Destination Country and Product Category in 2024 and Percent Change from 2023

Product Category	Total	UK	EU	China	Vietnam	Canada	Mexico
Export Value in 2024 ($ million)							
Casks and Barrels	67.6	28.6	20.7	0.0		0.1	0.5
Oak Lumber	55.2	4.8	5.5	10.5	11.5	3.8	5.3
Other HW Lumber	11.3	0.7	1.2	3.8	1.3	0.7	2.4
Ash Lumber	8.5	1.2	1.3	2.7	0.7	0.4	0.1
Poplar and Aspen Lumber	8.3	0.3	0.7	0.1	2.5	0.6	3.6
Oak Logs	7.3	0.1	1.1	0.7	3.7		0.1
Other HW Logs	5.4	0.0	0.1	5.1	0.0	0.0	0.7
Coffins	4.1					4.1	
Pine Lumber	2.3	0.3	0.9			0.7	0.3
Joinery and Carpentry	2.2					2.0	0.1
Oriented Strand Board	1.7		0.0			1.6	0.0
Maple Lumber	1.1			0.2	0.0	0.1	
Wood Pallets	1.1		0.1	0.4		0.1	0.0
Doors and Frames	0.8					0.8	
Cases and Boxes	0.8	0.0	0.1	0.0		0.0	0.0
Shaped hardwood	0.5					0.5	
Charcoal	0.5		0.1			0.4	
Other SW Lumber	0.5			0.3	0.0	0.2	0.0
Wood Pellets	0.4	0.0	0.0			0.4	
Cherry Lumber	0.3			0.2	0.1	0.0	
% Change in 2024 (from previous year)							
Casks and Barrels	49.4%	64.5%	63.2%	-93.5%	84.2%	-74.4%	∞%
Oak Lumber	20.5%	-18.9%	-16.2%	24.4%	5.6%	-8.5%	64.1%
Other HW Lumber	-5.2%	127.2%	139.2%	6.8%	40.1%	83.4%	-53.1%
Ash Lumber	-15.7%	-21.9%	-28.8%	-33.2%	56.1%	-1.9%	-40.1%
Poplar and Aspen Lumber	49.1%	14.4%	-18.4%	-84.3%	98.3%	-41.6%	294.9%
Oak Logs	24.0%	∞%	8,733.3%	-71.5%	-82.9%		-34.1%
Other HW Logs	-25.3%	-100.0%	-97.3%	24.0%		-100.0%	-27.1%
Coffins	∞%					∞%	
Pine Lumber	85.8%	∞%	∞%			37.9%	-18.9%
Joinery and Carpentry	-15.3%					-20.0%	460.0%
Oriented Strand Board	2.3%		-100.0%		∞%	4.6%	51.6%
Maple Lumber	-9.2%			4.6%		264.0%	
Wood Pallets	-50.3%		-94.8%	-42.1%		46.8%	-55.0%
Doors and Frames	38.9%					37.0%	
Cases and Boxes	17.5%	∞%	-73.4%	∞%		366.7%	∞%
Shaped hardwood	-36.8%					-34.6%	
Charcoal	12.3%		107.4%		-100.0%	21.3%	
Other SW Lumber	4.9%			-2.6%		71.4%	∞%
Wood Pellets	-53.4%	-53.7%	-95.1%		∞%	2,676.9%	
Cherry Lumber	-49.1%			-68.7%		-100.0%	

Note: HW is hardwood and SW is softwood. ∞% represented growth from zero (or near zero) to a new positive value. Blank spaces denote zero trade in that category in 2023 and 2024 and "0.0" denotes positive trade values less than $50,000.
Source: USDA, Foreign Agricultural Service (2025)

Economics Impacts of Forest Product Exports on Tennessee

Model Overview and Data

In this section, we estimate the economic impact of Tennessee's forestry exports for 2024. IMPLAN's® (2024) (Cloud platform, basic data for 2023) was used in estimating the economic impact at the state level.[2] Using state-level export data from the Foreign Agricultural Service's Global Agricultural Trade System (GATS), the level and changes in export sales in 2024, by product category based on the Harmonized System (HS) of classifying traded products, were linked to corresponding North American Industry Classification System (NAICS) sectors using the Commodity Translation Wizard (DataWeb, 2024). In a few instances, where more than one NAICS code matched the same HS code, we used the NAICS sector that most closely aligned with the HS classification. The NAICS codes were then matched to corresponding IMPLAN codes. Export sales by IMPLAN codes based on state exports are reported in Table 3.

The state IMPLAN model provides estimates of multiplier-based impacts. The multipliers, in this instance, measure the response of the entire state economy to changes in forestry sector sales.[3] There are three different components of the multiplier effects in the model for every industry. First is the initial impact or direct impact due to direct sales. Second is the indirect multiplier effects, which indicate to what extent output in the primary industry will impact other industries in the region due to the input needs (goods as well as services). The last impact (induced multiplier effects) indicates to what extent the output of the regional economy increases (decreases) because of changing consumer income due to industry payments to workers and owner operators and the rippling effect of local purchases.

Table 3. Direct Output and Changes in Direct Output for 2023 and 2024 by IMPLAN Sector Based on Export Sales

NAICS Code	IMPLAN Code and Sector		2023 ($)	2024 ($)	Direct Output Change ($)	Direct Output Change (%)
113310	16	Commercial logging	$13,923,134	$13,106,888	-$816,246	-5.9%
321113	124	Sawmills	$76,863,371	$87,515,813	$10,652,442	13.9%
321114	125	Wood preservation	$15,933	$7,191	-$8,742	-54.9%
321211/ 321212	126	Veneer and plywood manufacturing	$823,786	$554,731	-$269,055	-32.7%
321213	127	Engineered wood member and truss mfg.	$2,659,898	$2,227,829	-$432,069	-16.2%
321219	128	Reconstituted wood product mfg.	$2,503,705	$1,858,503	-$645,202	-25.8
321911	129	Wood windows and door mfg.	$671,441	$919,740	$248,299	37.0%
321918	131	Other millwork, including flooring	$280,624	$494,076	$213,452	76.1%
321920	132	Wood container and pallet mfg.	$48,049,498	$69,443,807	$21,394,309	44.5%
321999	135	All other miscellaneous wood product mfg.	$3,305,178	$2,919,516	-$385,662	-11.7%
325194	155	Other basic organic chemical mfg.	$439,885	$493,739	$53,854	12.2%
339995	373	Burial casket manufacturing	$0	$4,071,208	$4,071,208	n/a
339999	374	All other miscellaneous mfg.	$2,679	$0	-$2,679	-100.0%
Total Direct Output from Exports			**$149,539,132**	**$183,613,041**	**$34,073,909**	**22.8%**

Note: The direct output changes are used to shock the Tennessee IMPLAN model to derive total output and employment changes. "mfg." is manufacturing. Values are not adjusted for inflation.
Source: Calculations using trade data from the USDA, Foreign Agricultural Service trade data and the Commodity Translation Wizard (DataWeb, 2024) to map the trade data to NAICS sectors and IMPLAN codes.

[2] This version of IMPLAN has the capability to model 528 industries based on their assigned NAICS sectors. IMPLAN measures the economic transactions (buying/selling relationships) among industries and households in the economy. Output from the model provides quantitative measures of the economy including total industry output (the value of all sales), employment, labor income, value-added, plus taxes at the federal and state-county level.

[3] The foreign trade data used in this report could influence the multipliers in the model as follows: multipliers are based on the amount of local purchasing as indicated by the regional purchase coefficient (the RPC) for each commodity. The RPC must be less than or equal to the supply demand pool coefficient (SDP), which is local supply, net of foreign exports, divided by gross demand. Because we include new estimates for foreign exports, it is possible that the resulting change in the SDP coefficient for the affected forestry sectors could influence the RPC coefficients in our analysis. However, in evaluating changes in the SDP coefficients for the 12 IMPLAN forestry sectors where we estimated trade impacts, the RPC coefficients were not affected (i.e., RPC remained less than or equal to the SDP coefficient for each of the 12 sectors).

Economic Impact of Export Sales in 2024

The total impact of forestry export sales in 2024 is reported in Table 4. Tennessee's exports in 2024 were $183.6 million, a 22.8 percent increase from the previous year, which is associated with an estimated total impact of $333.5 million. Estimates indicate that forestry exports support a total of 1,349 full- and part-time jobs statewide. Given the composition of Tennessee's export sales, milling (sawmills) ($168.8 million and 586 jobs), wood container and pallet manufacturing ($123.8 million and 500 jobs), and the commercial logging ($20.0 million and 188 jobs) are the most affected sectors.

Table 5 shows the impact of the increase in exports in 2024 (relative to 2023). The $34 million increase in forestry exports in 2024 resulted in an estimated total impact increase of $61 million. Estimates indicate that this increase led to an increase of 233 full- and part-time jobs statewide. The largest increases were in wood containers and pallet manufacturing ($38 million and 154 jobs), sawmills ($20 million and 71 jobs), and burial casket manufacturing (coffins) ($6.0 million and 26 jobs). The largest decrease, however, was for reconstituted wood products (-$1.5 million and 3 lost jobs) and logging (-$1.2 million and 11 lost jobs).

Table 4. Total Impacts of Exports in 2024 with Inclusion of Indirect and Induced Multiplier Effects and State-Wide Total Impacts (in 2024 dollars)

			Total Impact	
Rank	Industry		Output[a] (million $)	Employment[b] (jobs)
1	124	Sawmills	$168.8	586.2
2	132	Wood container and pallet mfg.	$123.8	500.0
3	16	Commercial logging	$20.0	187.9
4	373	Burial casket mfg.	$6.0	25.9
5	135	All other miscellaneous wood product mfg.	$5.0	19.3
6	127	Engineered wood member and truss mfg.	$3.8	12.0
7	128	Reconstituted wood product mfg.	$1.9	3.6
8	129	Wood windows and door mfg.	$1.6	5.9
9	131	Other millwork, including flooring	$0.9	3.2
10	126	Veneer and plywood mfg.	$0.9	3.0
11	155	Other basic organic chemical mfg. (wood charcoal)	$0.7	1.5
12	125	Wood preservation	$0.01	0.03
		State Total Impact	**$333.5**	**1,348.6**

[a] Annual value of production by industry. "mfg." is manufacturing.
[b] Industry-specific mix of full-time, part-time, and seasonal employment.
Source: IMPLAN Group, LLC, 2023 Model Data

Table 5. Total Impacts of the Change in Exports in 2024 with Inclusion of Indirect and Induced Multiplier Effects and State-Wide Total Impacts (in 2024 dollars)

			Total Impact	
Rank	Industry	Wood container and pallet mfg.	Output[a] (million $)	Employment[b] (jobs)
1	132	Wood container and pallet mfg.	$38.1	154.1
2	124	Sawmills	$20.3	70.6
3	373	Burial casket mfg.	$6.0	25.9
4	129	Wood windows and door mfg.	$0.4	1.5
5	131	Other millwork, including flooring	$0.4	1.4
6	155	Other basic organic chemical mfg. (wood charcoal)	$0.1	0.2
7	374	All other miscellaneous mfg.	-$0.004	-0.01
8	125	Wood preservation	-$0.02	-0.04
9	126	Veneer and plywood mg.	-$0.4	-1.5
10	127	Engineered wood member and truss mfg.	-$0.7	-2.3
11	135	All other miscellaneous wood product mfg.	-$0.8	-3.0
12	16	Commercial logging	-$1.2	-11.3
13	128	Reconstituted wood product mfg.	-$1.5	-2.9
		Total Impact	**$60.7**	**232.6**

[a] Annual value of production by industry
[b] Industry-specific mix of full-time, part-time, and seasonal employment
Source: IMPLAN Group, LLC, 2023 Model Data

Conclusion

The forestry sector is important to the Tennessee economy, and while exports are a small share of the total economic activity when considering all related activities such as furniture, flooring and paper production, global sales have a significant economic impact, primarily on the sawmill and logging sectors. Consequently, public efforts should continue to support increasing export sales and developing new markets. The results of this report also suggest the need to decrease reliance on the Chinese market. Overall, the results of this report show that the increase in export sales in 2024 compared to the previous year ($34 million) resulted in a positive economic impact of $61 million and 233 additional jobs. Note that the results of this study do not include activities that facilitate export sales, such as transportation from sawmills to the port. Overall, 2024 was a better year compared to 2023 for Tennessee forest product exports. However, the development of new international markets and the emergence of new products (e.g., wood pellets), shows that the Tennessee forestry industry is resilient and adapting to new global demand.

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