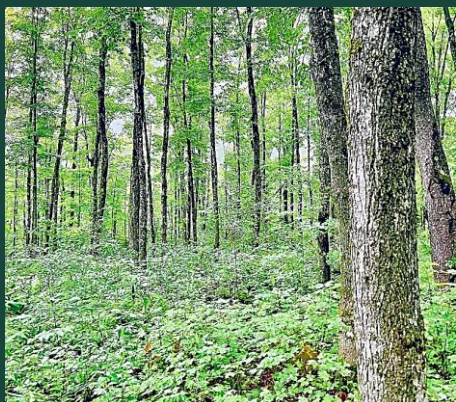




Forest Products Industries' Economic Contributions: Indiana, 2023

Prepared For:

Indiana Department of Natural Resources

Division of Forestry

On behalf of,

Northeast-Midwest State Foresters Alliance

Washington DC, USA

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Foreword

Indiana's forests are a cornerstone of our state's heritage, providing essential environmental services, recreational opportunities, and a robust economic engine that helps sustain rural and urban communities from the Ohio River to the Michigan border. As we look at the data from 2023, it is clear that our forest products industry remains a powerhouse within Indiana's agricultural and manufacturing sectors. With an annual economic impact of almost \$17 billion and supporting roughly 90,000 jobs, the industry is not just about timber; it is about the thousands of Hoosier families whose livelihoods are rooted in our primary and secondary manufacturing facilities and the habitat and forest landscapes that management creates.

Our state is globally recognized for producing world-class hardwoods, and we continue to lead the nation in the production of wood office furniture, kitchen cabinets, and hardwood veneer. This success is built upon a sustainable resource base. Currently, Indiana's forests are growing at a rate of 2.3 times faster than they are being harvested, ensuring that we can meet today's market demands while conserving the legacy of our woodlands for future generations and maintaining essential habitat. However, sustainability requires active management. We are focused on critical challenges, such as securing the regeneration of our keystone oak-hickory forests and addressing the threats posed by parcelization and invasive species. In all this, the hardwood industry is essential for forest stewardship.

The findings in this report, Forest Products Industries' Economic Contributions in Indiana, provide data-driven foundations necessary for informed stewardship. By understanding the direct and ripple effects of our forest economy—where every dollar paid to a landowner for timber can add over \$71 of value to a final product—we can better advocate for the policies that keep "forests in forests". This report is an invaluable tool for policymakers, industry leaders, and the 85% of Indiana forest landowners who are private citizens, helping us all work together to ensure Indiana remains a leader in the sustainable hardwood industry.

John R. Seifert

State Forester

Indiana Department of Natural Resources, Division of Forestry

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Executive Summary

Based on 2023 FIA estimates, Indiana contains approximately 4.91 million acres of forest land, representing about 21.5 percent of the state's total land area of 22.79 million acres. Of this forest base, 4.74 million acres (approximately 96.6 percent) are classified as timberland, defined as forest land capable of producing commercial volumes of wood. The remaining 166,730 acres (about 3.4 percent) consist of reserved forestland, where timber production is restricted. Non-forest land accounts for approximately 17.88 million acres, or 78.5 percent of Indiana's total land area. Building on this land-use context, this report summarizes the economic contribution of Indiana's forest products industries using IMPLAN 2023 data, with analysis covering the pre- and post-COVID period to document recent changes in industry performance over the past five years.

Forest Product Industries

This report analyzes the economic contribution of Indiana's forest products sector, comprised of 31 individual economic sectors aggregated into seven industry groups: Forestry, Logging, Primary solid wood products, Secondary solid wood products, Wood furniture, Pulp, paper, and paperboard mills, and Secondary paperboard and other paper products¹. In 2023, these industries directly supported 47,611 jobs and generated \$16.58 billion in output, \$5.30 billion in value-added, and \$3.65 billion in labor income. When indirect supply-chain linkages and induced household-spending effects are included, the sector's total economic footprint reached 90,287 jobs, \$25.17 billion in output, \$10.18 billion in value-added, and \$6.48 billion in labor income. The sector exerts a notable multiplier effect on the broader economy; for every 100 direct jobs in the forest industry, roughly 90 additional jobs are supported elsewhere in the state.

Leading Forest Products Industry Groups (direct contribution)

Among the seven aggregated groups, Wood Furniture was the largest direct employer in 2023, supporting 18,942 jobs, followed by Secondary Solid Wood Products (13,061 jobs) and Secondary Paperboard and Other Paper Products (8,934 jobs). In terms of output, the Secondary Paperboard and Other Paper Products group produced the highest direct output at \$5.05 billion, serving as the sector's volume leader in manufacturing. Wood Furniture

¹ The industries included in this analysis are based on the study by Poudel and Dahal (2025) and the previous Indiana report from 2017. While the complete standardized list comprises 32 forest products industries (presented in [Appendix A](#)), only 31 of these sectors are present in Indiana. This differs from the State of Indiana's 2019 assessment report (<https://www.in.gov/isda/files/IN-Hardwood-Assessment-Final.pdf> last accessed 03/22/2026), which utilized a broader NAICS-based definition of the hardwood industry that included tertiary wood products (e.g., manufactured homes, musical instruments, and burial caskets), supporting industry suppliers (e.g., adhesives and saw blades), and merchant wholesalers.

generated \$4.28 billion, highlighting the state's strength in finished consumer goods. Primary Solid Wood Products, while employing fewer workers (3,619 jobs), served as the critical processing hub, converting raw timber into over \$1.64 billion in intermediate materials.

Leading Individual Forest Products Sectors (direct contribution)

At the disaggregated level, Wood kitchen cabinet and countertop manufacturing remained the undisputed top individual employer with 10,208 jobs. Financial dominance was also concentrated in this sector, which ranked first in Value-Added (\$921.2 million) and Labor Income (\$678.8 million). However, the Paperboard container manufacturing sector emerged as the clear driver of industrial volume, ranking first in Output (\$3.61 billion) and second in Value-Added (\$883.4 million) despite a smaller workforce (6,064 jobs). Paper bag and coated and treated paper manufacturing also performed strongly, generating nearly \$980 million in output.

Indiana's Forest Products Industries Compared to Other Indiana Industries

The Forest Products sector remains a vital component of Indiana's natural resource economy. In 2023, it ranked first in direct output among natural resource sectors, generating \$16.58 billion, slightly edging out Agriculture (\$16.32 billion) and significantly outperforming Mining (\$11.59 billion). In terms of employment, the forest industry supported 47,611 jobs, accounting for approximately 37 percent of the state's total natural resources workforce. This placed the sector second only to Agriculture (66,005 jobs) and well ahead of Mining (13,704 jobs). Furthermore, within the statewide manufacturing landscape, Forest Products ranked as the fourth largest employer (45,911 jobs), surpassing the Chemical, Primary Metal, and Machinery manufacturing sectors.

Seven-years Trends in Indiana's Forest Products Industries Economic Contribution

From 2017 to 2023, the sector demonstrated characteristic stability amidst broader volatility. While overall direct employment decreased by 5.0 percent and Labor Income contracted by 4.4 percent, real Value-Added increased by 7.2 percent and Output grew by 2.7 percent.

Glossary

Forestry Terms

Forest land: Land that is at least 10 percent stocked by trees of any size, including land that formerly had such tree cover and that will be naturally or artificially regenerated. Forest land includes transition zones, such as areas between heavily forested and non-forested lands that are at least 10 percent stocked with trees and forest areas adjacent to urban and built-up lands, including pinyon-juniper and chaparral areas in the western U.S., and afforested areas. The minimum area for classification of forest land is one acre and 120 feet wide, measured stem-to-stem from the outermost edge. Unimproved roads and trails, streams, and clearings in forest areas are classified as forest land if less than 120 feet wide.

Timberland: A subset of forest land that produces or can produce crops of industrial wood and is not withdrawn from timber utilization by statute or administrative regulation.

Note: Areas qualifying as timberland can produce at least 20 cubic feet per acre per year of industrial wood in natural stands. Currently inaccessible and inoperable areas are included.

Economic Contribution Terms

Direct effects/contributions: The direct contribution represents the economic activities (output, employment, labor income, and value-added) that occur within an industry or sector as a result of its existing production to satisfy current (exogenous) final demand. In contribution analysis, the direct effect corresponds to the sector's own production activities that maintain the structure of the regional economy. For example, the direct contribution of the forest products industry reflects its ongoing production and employment required to meet current local and export demand for forest-based goods.

Employment: The number of full- and part-time jobs associated with an industry.

Indirect effects/contributions: The indirect contribution captures the inter-industry linkages created when the industry purchases goods and services from other local industries. These transactions stimulate additional production, employment, and income along the supply chain. For instance, demand for wood products generates additional output in sectors such as transportation, wholesale trade, and equipment manufacturing that supply inputs to the forest industry. The magnitude of indirect contribution reflects the degree of interdependence and strength of local supply-chain relationships.

Induce effects/contributions: The induced contribution measures the additional economic activity generated by household spending of labor income earned through direct and indirect effects. When workers employed in the forest products and related supply-chain sectors spend

their income on goods and services, such as housing, healthcare, or retail, it further stimulates regional economic activity. This household feedback effect represents the cyclical flow of income and expenditures within the economy.

Labor income: The dollar total of employee compensation and proprietor income; the latter is associated with self-employed individuals.

Output: The dollar measure of production within an area; it is also viewed as sales.

Social Accounting Matrix (SAM) multipliers: These multipliers are derived by dividing the sum of direct, indirect, and induced effects by the direct effects. The social accounts include payments made between households, households and government, and more. These are available for output, employment, labor income, and value-added and are used to assess the effects of changes in industry activity (i.e., “ripple effects”).

Total effects/contributions: The sum of direct, indirect, and induced effects.

Value-added (also known as gross state product, or GSP): The sum of labor income, other property income (e.g., rents and profits), and indirect business taxes (e.g., excise and sales taxes). It is the difference between an industry’s total output and the cost of its intermediate inputs. The sum of value-added for all economic sectors within the region equals the total GSP.

Introduction

Forest products industries are an integral component of Indiana’s economy. They provide jobs, raw materials, and finished goods that generate additional economic activity throughout the state, region, and nation. Forests in Indiana have always supported local and state economies and generated employment and income (Leefers 2014, 2015; Poudel, 2022). These forests form the foundation for a wide array of industries, supporting logging, sawmills, pulp and paper, wood products manufacturing, and furniture production. Collectively, the Forest Products Industry (FPI) contributes directly to the economic development of the region, while also supporting rural livelihoods, providing raw materials for construction and packaging, and generating substantial downstream linkages to other industries (Poudel and Dahal 2025; Lamsal et al. 2025a). The scale and diversity of activities across the FPI underscore its role as a major part of the broader manufacturing economy, contributing to value added and sustaining consumer demand (Lamsal et al. 2025b).

A state report on FPI contributions on Indiana was previously published by Leefers et al. (2020) using 2017 IMPLAN data. The present update extends that effort using 2023 data, allowing for a comparison across time. This analysis measures how the performance of forest sector industries in Indiana has shifted between 2017 and 2023 in terms of employment, output, labor income, and the Gross State Product (GSP), also known as value added². Tracking these changes is essential, as it provides a clear picture of both long-term trends and the more recent disruptions caused by the COVID-19 pandemic. The pandemic had economy-wide effects on supply chains, consumer demand, and labor markets (Poudel and Dahal 2025; Lamsal et al. 2025b), and this report therefore captures the pre- and post-COVID conditions of the FPI within the region.

This trend analysis can be used in multiple ways by related stakeholders. For policymakers, it offers a benchmark for monitoring the health of one of the region’s key resource-based industries and helps inform workforce development, investment, and rural economic policies. For industry stakeholders, it provides insight into productivity, competitiveness, and sectoral resilience, supporting strategic planning. For researchers and forest managers, it offers a consistent regional framework that connects forest resources with industrial performance and economic outcomes.

² The 2017 results in this report are based on data from the IMPLAN Pro desktop version, whereas the 2018–2023 results are based on the IMPLAN web platform. Because there are minor differences between the Pro and web versions, the 2017 estimates shown here may not exactly match 2017 results reproduced from the web version. To maintain consistency with the original 2017 report and ensure a valid basis for comparison and trend analysis, we use the original 2017 IMPLAN Pro data, and IMPLAN web data for all years from 2018 through 2023.

The inventory data used in this report were sourced from the U.S. Forest Service Forest Inventory and Analysis (FIA) database and the economic data were obtained from Impact Analysis for Planning (IMPLAN). These data and related information are presented in four major sections: (i) Forest Resources of Indiana, (ii) Economic Contributions of the Indiana FPIs, (iii) Comparing FPIs with other industries and neighbor states, and (iv) Summary. We acknowledge that, due to rounding, some values in the tables and figures may not sum to the exact total indicated.

Forest Resources of Indiana state

According to 2023 estimates from the USDA Forest Inventory and Analysis (FIA) program, Indiana's total land area is 22.79 million acres. Of this total, 4.91 million acres (21.5 percent) meet the FIA definition of forest land, while the remaining 17.88 million acres (78.5 percent) are classified as non-forest land. FIA defines forest land as land at least 10 percent stocked by trees of any size, including areas that formerly supported such tree cover and that will be naturally or artificially regenerated. Within Indiana's forest land base, timberland accounts for 4.74 million acres, or 96.6 percent (Figure 1), representing unreserved forest capable of producing at least 20 cubic feet of wood per acre per year. Reserved forestland comprises 166,730 acres (3.4 percent) and is withdrawn from timber utilization by legal or administrative designation. Other forestland is negligible based on the reported data. In practical terms, nearly all of Indiana's forest land base is both unreserved and biophysically suitable for commercial timber management, with a relatively small portion restricted from timber utilization.

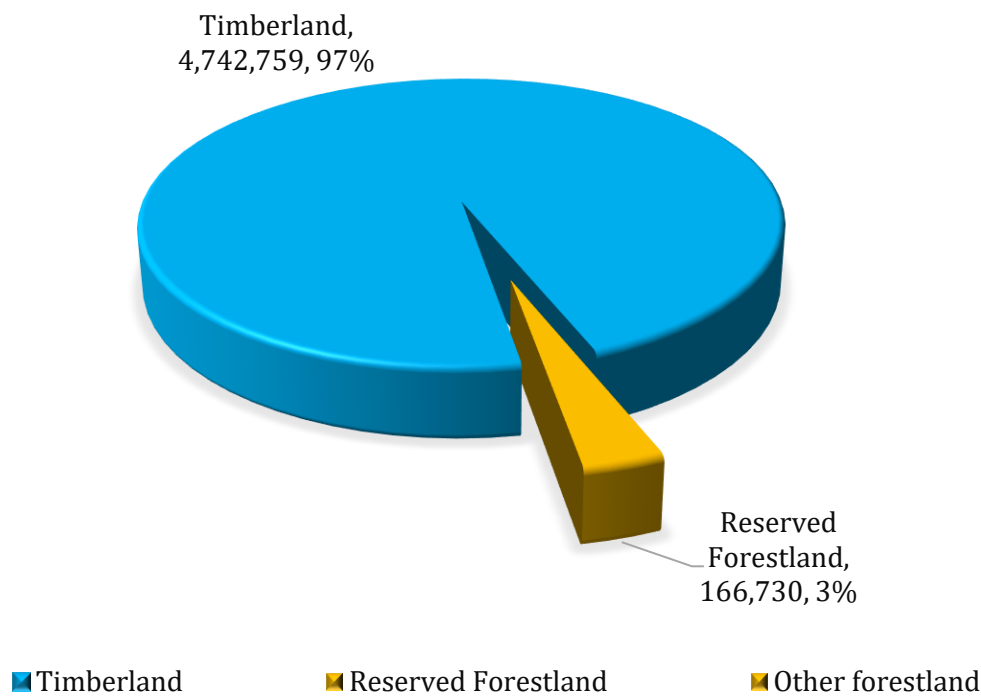


Figure 1: Indiana Forest Land area in acres by Land use type, 2023 (US Forest Service).

Ownership of Indiana's 4.91 million acres of forest land is distributed among federal, state and local, and private entities, with private landowners holding the largest share (Figure 2). Private ownership accounts for 4,13 million acres, representing 84.1 percent of the state's forest land base. State and local governments manage 391,335 acres (8.0 percent). Federal ownership totals 389,754 acres (7.9 percent). Within the federal category, National Forest System lands account for 206,446 acres (4.2 percent), while other federal agencies manage 183,308 acres (3.7 percent). Overall, Indiana's forest land base is characterized by a strong predominance of private ownership, complemented by relatively balanced federal and state and local public land holdings.

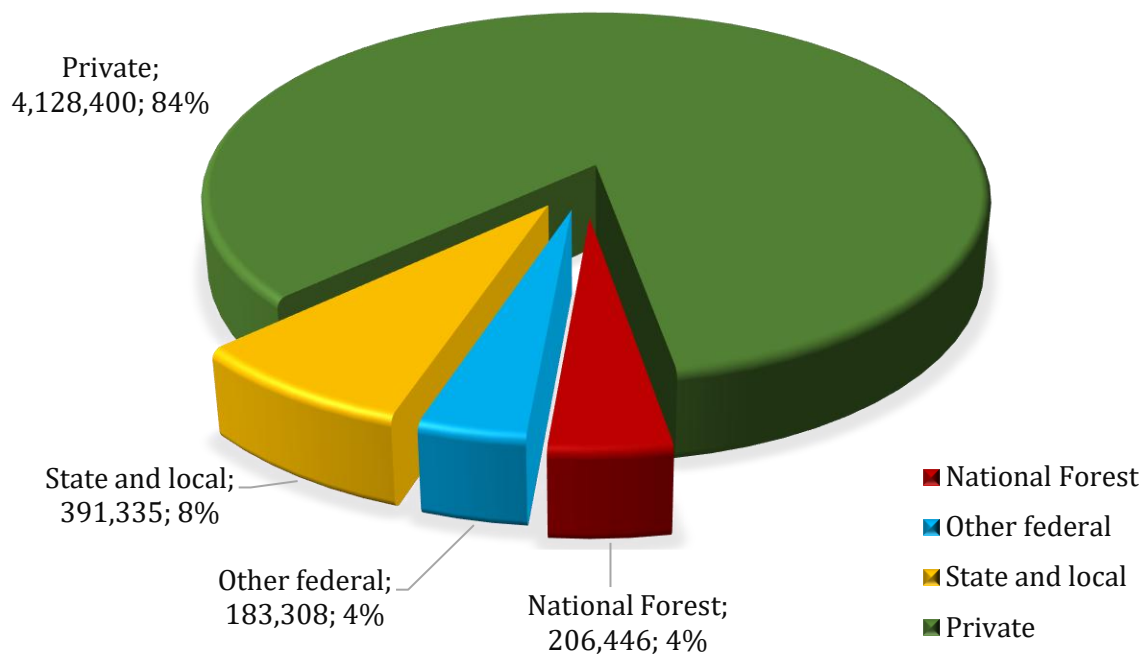


Figure 2: Indiana Forest Land area in acres by Ownership group, 2023 (US Forest Service).

Hardwood forest types dominate Indiana’s 4.91 million acres of forest land (Figure 3). The oak/hickory forest-type group is the most extensive, occupying 3.54 million acres, or 72.2 percent of the state’s forest land base. The elm/ash/cottonwood group represents the second-largest forest type, totaling 654,692 acres (13.3 percent), followed by maple/beech/birch at 374,446 acres (7.6 percent). Together, these hardwood-dominated groups account for the majority of Indiana’s forest land area. Other forest-type groups occupy comparatively smaller shares, including mixed oak/pine stands at 121,716 acres (2.5 percent) and oak/gum/cypress forests at 55,866 acres (1.1 percent). The remaining 160,545 acres (3.3 percent) are distributed across other forest-type groups. Overall, Indiana’s forest land base is characterized by a strong dominance of hardwood forest types, with oak-associated groups accounting for a substantial majority of the total area.

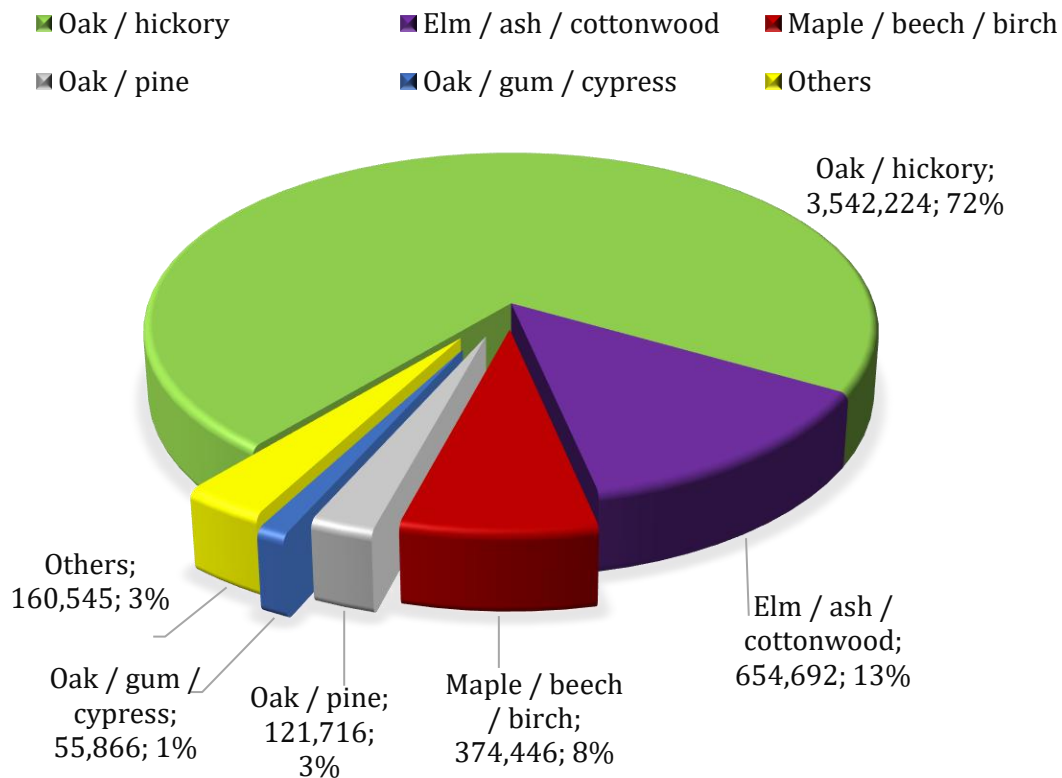


Figure 3: Indiana Forest Land area in acres by Forest type group, 2023 (US Forest Service).

Indiana's timber resource base supports a broad range of forest-based supply chains, including forest management, harvesting, and primary wood-using industries. The estimated net sawlog volume of sawtimber trees is approximately 30.43 billion board feet, Doyle rule (Table 1). Of this total, hardwoods account for 29.50 billion board feet, or 96.9 percent, while softwoods account for 929.9 million board feet, or 3.1 percent. By ownership class, about 82.0 percent of sawtimber volume is on private lands, 8.6 percent is on state and local lands, 5.0 percent is on National Forest lands, and 4.4 percent is on other federal holdings.

Average annual net growth of sawlog wood volume of sawtimber trees totals 796.0 million board feet per year, Doyle rule, while average annual harvest removals total 211.8 million board feet and average annual mortality totals 313.4 million board feet per year. Net growth exceeds harvest removals by a ratio of about 3.8 to 1, indicating that removals remain well below net biological growth statewide. Because net growth is already net of mortality, the implied annual net change in sawtimber sawlog volume is net growth minus harvest removals, or approximately 584.2 million board feet per year. This positive balance indicates continued expansion of sawtimber sawlog volume at the statewide level. Average annual harvest removals equal roughly 0.7 percent of standing sawtimber volume, while mortality represents about 1.0

percent. Hardwoods account for nearly all annual inventory flows, comprising 96.8 percent of net growth, 99.1 percent of harvest removals, and 97.1 percent of mortality. Harvest removals are concentrated on private lands, which account for about 88.6 percent of total removals, followed by state and local ownerships at about 7.1 percent. Overall, these statewide indicators suggest that Indiana's sawtimber inventory remains in a condition of positive net growth.

Table 1: Characteristics of Growing Stock in Indiana, 2023. [†]

Description	Species group	National Forest	Other federal	State and local	Private	Not available	Total
Net volume	Hardwood	1,345,699	1,330,498	2,441,887	24,382,868	0	29,500,951
	Softwood	177,169	16,189	176,559	559,995	0	929,913
	Total	1,522,868	1,346,687	2,618,446	24,942,863	0	30,430,864
Average annual net growth	Hardwood	28,299	32,480	47,542	656,713	5,162	770,196
	Softwood	5,707	595	2,886	16,603	0	25,791
	Total	34,006	33,075	50,429	673,316	5,162	795,987
Average annual harvest removals	Hardwood	488	6,544	15,034	187,688	0	209,755
	Softwood	2,011	0	0	0	0	2,011
	Total	2,499	6,544	15,034	187,688	0	211,765
Average annual mortality	Hardwood	9,563	10,451	26,136	258,327	0	304,476
	Softwood	929	0	1,623	6,400	0	8,952
	Total	10,492	10,451	27,758	264,727	0	313,428

[†] All values are in thousands of board feet (Doyle rule).

Note: **Net volume** is net board-foot volume in the sawlog portion. This is the net volume (Doyle rule) of wood in the central stem of a timber species tree of sawtimber size, from a 1-foot stump to a minimum top diameter (7.0 inches for softwoods, 9.0 inches for hardwoods), or to where the central stem breaks into limbs all of which are less than the minimum top diameter. **Average annual net growth:** Average annual net growth volume in the sawlog of sawtimber trees in board feet (International 1/4-inch rule), on forest land (for remeasured plots $(V2 - V1)/(t2 - t1)$) that occurred after deducting mortality volume. **Average annual mortality:** Average annual board-foot mortality from growing-stock trees that were or had achieved sawtimber-size by time of death and were on forest land at the time of the previous inventory and are dead in the current inventory. **Average annual harvest removals:** Average annual board-foot harvest removals on forest land. Sawtimber size trees that were either cut and removed by direct human activity related to harvesting or died as a result of silvicultural or land-clearing activity (death caused by harvesting or other silvicultural activity, including girdling, chaining, etc., or to land-clearing activity).

Economic contribution of the Forest Product Industries, 2023

The FPIs in this study are defined as 32 IMPLAN industries (only 31 industries present in Indiana) that were aggregated into seven analytic groups for consistent reporting across the state. This report follows the same industry grouping framework used in the 2017 report, which was originally developed through consultation with state forestry agencies and other stakeholders and represent a working consensus on what constitutes the regional FPI (Leefers et al. 2020; Poudel and Dahal 2025). The complete list of industries and groupings are presented in [Appendix A](#).

The FPI encompasses a wide range of activities that begin with forest management and timber harvesting and extend through the conversion of raw materials into high-value finished goods. These activities include timber tract operations, nurseries, logging, sawmills, wood preservation, pulp and paper manufacturing, furniture production, and related downstream sectors (Poudel and Dahal 2025). The FPI is a cornerstone of the Indiana economy, not only providing direct employment in logging, milling, and manufacturing but also supporting a much larger network of indirect and induced jobs in transportation, warehousing, wholesale trade, and retail (Leefers et al. 2020). Its health has far-reaching consequences for rural communities, where it is often one of the few sources of year-round employment, and for regional supply chains that depend on steady flows of wood, fiber, and paper products (Lamsal et al. 2025a).

Measuring these contributions requires more than simply counting jobs, mills, or other establishments. Contribution analysis is essentially a descriptive, ex-post accounting framework that traces how industries interact within a regional economy and support the economy (Lamsal et al. 2025b, Watson et al. 2015). It not only measures the direct transactions tied to a sector, but also the indirect effects in supplier industries and the induced effects from household spending that ripple outward. Economic contribution analysis depends on standardized frameworks that can translate government statistics into regional input–output models. The Bureau of Economic Analysis (BEA) provides the foundation through its Benchmark Input–Output Accounts, which map the flow of goods and services across industries and establish the structure of GDP by industry (BEA 2023). The Bureau of Labor Statistics (BLS) complements this with the Quarterly Census of Employment and Wages (QCEW) and occupational data, which provide details on employment and payroll. Further, the U.S. Census Bureau adds extra detail with the Economic Census and County Business Patterns, which track establishments, receipts, and industry-level production. IMPLAN is widely used in forest-sector economic research to estimate employment, output, labor income, and value-added effects associated with forest-products industries. Several forest-sector studies have also paired IMPLAN with FIA data to link

forest resource conditions with regional economic outcomes, including timber-product output in Ohio (Coronado et al. 2014), domestic hardwood substitution for imported trailer decking in New York (Pokharel et al. 2023), and potential mass timber processing facility development in Michigan (Khanal et al. 2024). IMPLAN also provides a bridge table that is important for defining the forest-products sectors included in this report. The bridge table is useful in both directions: it aggregates NAICS industries into IMPLAN sectors for modeling and identifies the NAICS components represented within each IMPLAN sector. Although this does not by itself constitute a formal sector disaggregation within IMPLAN, it provides the basis for constructing partial-sector estimates when external data are available.

This distinction is particularly important for forest sector analysis because several IMPLAN sectors contain both forestry and non-forestry components (Poudel and Dahal 2025). In this study, the IMPLAN bridge table was used to identify the relevant NAICS-defined activities embedded within broader IMPLAN sectors, and external data were then used to approximate the forest-related share of selected mixed sectors. For example, IMPLAN Sector 10 (All Other Crop Farming) includes a wide variety of agricultural activities such as alfalfa, peanut, and hemp farming, also in addition to maple syrup production. Using USDA maple syrup production data, only the maple syrup portion of Sector 10 was included in the FPI.. Similarly, IMPLAN Sector 19 (Support Activities for Agriculture and Forestry) encompasses a broad spectrum of NAICS industries, including soil preparation, crop harvesting, farm labor contracting, and specialized support services for forestry. To avoid overstating the sector, only Support Activities for Forestry were retained in the FPI totals, using BLS employment and establishment data. Thus, the partial-sector estimates reported here reflect analyst-defined allocations based on the IMPLAN bridge table and supplementary data, rather than an automatic sector split performed within IMPLAN. In the 2017 report, several additional sectors were treated as partial sectors, IMPLAN 40 (Electric Power Generation, Biomass), IMPLAN 352 (Institutional Furniture Manufacturing), and IMPLAN 356 (Showcase, Partition, Shelving, and Locker Manufacturing), but in 2023, following stakeholder consensus and due to limited data to isolate wood-based components, these are treated as full sectors; consequently, the 2023 economic contribution estimates for these specific sectors appear higher and are not directly comparable to the 2017 figures. Any comparison between years should therefore be interpreted with caution.

Further, the 2023 analysis implemented the mixed endogenous-exogenous closure using the Output- and Employment -based multipliers formulation approach (Miller and Blair 2022; Lamsal et al. 2025a), whereas the 2017 report used the equivalent matrix-inversion approach. Since these approaches are alternative computational expressions of the same input–output framework and, under the same closure assumptions, these formulations are theoretically equivalent and yield the same multipliers and results.

Note on Data Consistency (2017 vs. 2018–2023): Readers should interpret the sharp variance between 2017 and 2018 data with caution. The 2017 figures presented in this report are retained from previous studies that used the desktop-based IMPLAN Pro software. Data for 2018 through 2023 were generated using the modernized IMPLAN Cloud (Web) platform, which utilizes updated accounting frameworks and regional purchase coefficients. Although both sets of estimates are based on the same underlying input–output/SAM framework, they are not fully comparable in construction. IMPLAN revised its industry classification structure over time, moving from the 536-industry scheme used for 2013–2017 data years to the 546-industry scheme used for 2018–2022, and later to the 528-industry scheme beginning in 2023. IMPLAN also documents differences in trade-flow and regional purchase coefficient estimation between legacy Pro-era workflows and the current cloud environment. In addition, this report applies updated aggregation and sector-inclusion rules for selected forest-related industries. Accordingly, differences between 2017 and later years may reflect methodological discontinuity in addition to underlying economic change. Comparisons spanning 2017 to 2018 should therefore be interpreted with caution.

Economic Performance Trends of Forest Product Industry (2017-2023)

Figures 4 and 5 illustrate the economic trajectory and structural changes within Indiana’s Forest Products Industries over the seven-year study period (2017-2023). As shown in Figure 4, the sector demonstrates a trend of increasing labor productivity rather than a simple return to baseline employment. While Direct Employment experienced a pandemic-era low in 2020 and has not fully returned to 2017 levels (contracting from 50,093 to 47,611 jobs), Industry Output tells a different story³. Gross output has shown resilience, recovering from the 2020 dip to reach \$16.58 billion in 2023, surpassing the 2017 starting point of \$16.15 billion. This divergence between declining employment and rising output suggests that Indiana’s forest sector is achieving higher operational efficiency, maintaining and even expanding production capacity with a slightly leaner workforce.

³ To provide further context on these shifts and help measure recent trends in business consolidation, the number of private establishments for each individual industry in 2023 is presented alongside Output, Employment, Value-Added, and Labor Income in [Appendix B1](#). Additionally, [Appendix C](#) details the recent trend in the number of private establishments from 2021 to 2023. It should be noted that this represents the latest available data, as the Bureau of Labor Statistics (BLS) interactive data tables currently only provide establishment data from 2021 onward.

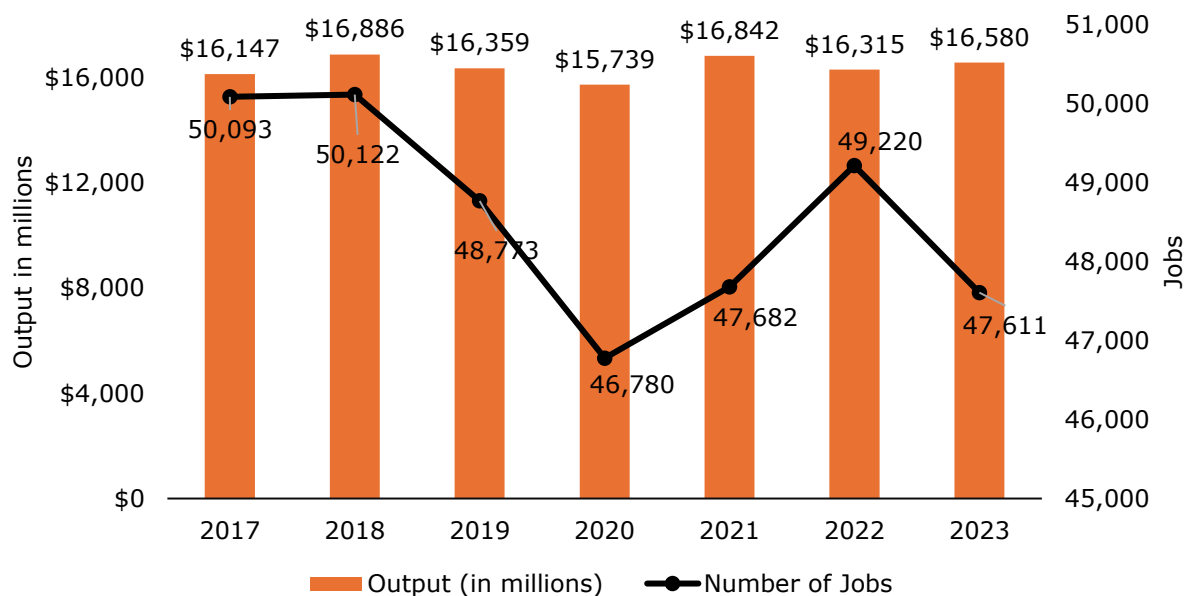


Figure 4: Direct output and employment, 2017–2023, Indiana state forest products industries.

Figure 5 highlights the sector's efficiency in generating wealth for the state economy and reinforces this narrative of structural maturation. A significant technical divergence is evident here: while Labor Income decreased by approximately 4.4% over the seven-year period (falling to \$3.65 billion), Value Added, the sector's net contribution to GSP, grew by 7.2%, rising from \$4.95 billion in 2017 to \$5.30 billion in 2023. This inverse relationship indicates a marked improvement in "value-added intensity." The industry is effectively generating more economic value per unit of labor.

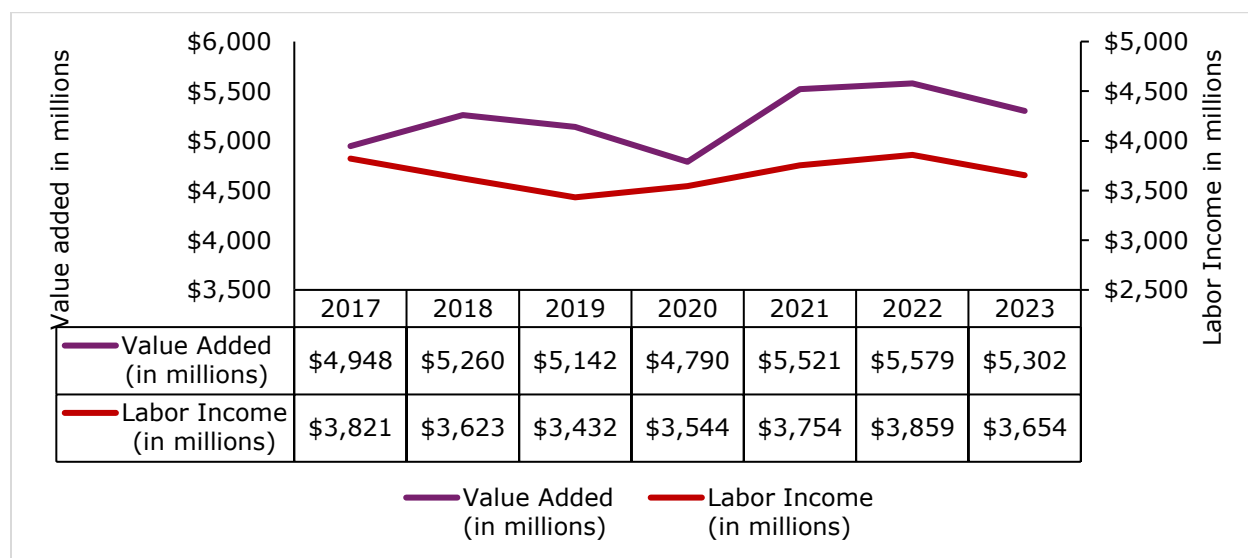


Figure 5: Direct value-added and labor income, 2017–2023, Indiana state, forest products industries.

Direct and Total Contributions by Forest Product Industry Groups

In 2023, Indiana's forest products industries directly provided 47,611 jobs, generated \$16.58 billion in output, and contributed approximately \$5.30 billion in value-added to the state economy (Table 2). The sector's aggregate influence on the broader regional economy remains significant. When accounting for indirect supply-chain transactions and induced household spending, the total economic contribution of the forest sector reached 90,287 jobs and \$25.17 billion in total output.

Table 2: Statewide Economic Contribution of Forest Products Industries, 2023. [†]

	Employment	Labor Income	Value-added	Output
Direct in 2023	47,611	\$3,653,752	\$5,302,375	\$16,579,552
Compared to 2017	-5.0%	-4.4%	7.2%	2.7%
Total in 2023	90,287	\$6,478,169	\$10,175,642	\$25,167,468
Compared to 2017	-6.4%	-4.1%	4.3%	0.7%
Multipliers in 2023	1.90	1.77	1.92	1.52

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

Comparing the 2023 results with 2017 reveals a trend of consolidation and efficiency gains across both the Forest industries and their supply chain. Both direct employment (-5.0 percentage) and total employment impact (-6.4 percentage) experienced a contraction over the six-year period. This aligns with broader manufacturing trends toward automation and higher capital intensity. Despite the reduction in workforce, the sector demonstrated resilience in value creation; Direct Value-Added increased by 7.2 percentage and Direct Output grew by 2.7 percentage in real terms. This divergence, falling employment against rising value, suggests that Indiana's forest industries have become leaner and more productive, generating higher economic value per worker than in previous years.

Table 3 reports the direct economic contributions of the seven industry groups, while Table 4 expands this view to include total contributions with multiplier effects. In 2023, Indiana's forest sector structure is heavily weighted toward downstream manufacturing rather than raw extraction. The Wood Furniture sector is the clear labor leader, directly employing 18,942 individuals, more than eleven times the combined workforce of the Forestry and Logging sectors (1,678 jobs). This suggests a mature industrial ecosystem where raw timber is not just harvested but extensively processed within the state into higher-value finished goods.

A stark divergence in capital intensity is evident when comparing the manufacturing sub-sectors. While the Wood Furniture sector relies on a substantial labor force to generate \$4.28 billion in direct output, the Pulp, Paper, and Paperboard Mills sector exhibits significantly higher production efficiency. With only 1,376 workers, the mills generate nearly \$1.24 billion in output, equating to approximately \$901,000 in output per worker compared to roughly \$226,000 per worker in furniture manufacturing. This indicates that the paper manufacturing sub-sector is highly automated and capital-intensive, leveraging technology to drive significantly higher output per employee than other processing sectors.

Table 3: Direct Economic Contributions in Indiana state, Industry Groups, 2023. [†]

Industries	Employment	Labor Income	Value-Added	Output
1.Forestry	450	\$24,014	\$26,105	\$27,858
2.Logging	1,228	\$117,578	\$121,348	\$126,379
3.Primary Solid Wood Products	3,619	\$258,316	\$414,399	\$1,637,223
4.Secondary Solid Wood Products	13,061	\$1,035,728	\$1,339,239	\$4,217,912
5.Wood Furniture	18,942	\$1,235,175	\$1,704,498	\$4,276,256
6.Pulp, Paper, and Paperboard mills	1,376	\$162,743	\$353,521	\$1,239,830
7.Secondary Paperboard and other Paper Products	8,934	\$820,196	\$1,343,264	\$5,054,094

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

When supply-chain and induced effects are integrated (Table 4), the Secondary Paperboard and Other Paper Products sector emerges as the primary driver of industrial volume, generating the highest total economic output at \$7.72 billion. However, in terms of employment impact, the Wood Furniture sector remains dominant, supporting a total of 32,043 jobs across the state.

The Pulp, Paper, and Paperboard Mills sector demonstrates notable leverage through its supply chain. Despite its small direct workforce, this sector possesses a high employment multiplier of 3.48 (4,785 total jobs supported by 1,376 direct jobs). This reflects deep backward linkages; because paper mills require consistent volumes of recycled wood fiber, energy, chemicals, and transportation services, their continued operation sustains a disproportionately large network of vendors and utility providers throughout the regional economy.

Table 4: Total Economic Contributions in Indiana state, Industry Groups, 2023. [†]

Industries	Employment	Labor Income	Value- Added	Output
1.Forestry	552	\$30,011	\$37,060	\$45,745
2.Logging	1,751	\$147,709	\$175,643	\$214,215
3.Primary Solid Wood Products	8,494	\$604,701	\$971,029	\$2,586,476
4.Secondary Solid Wood Products	25,778	\$1,876,024	\$2,756,754	\$6,842,513
5.Wood Furniture	32,043	\$2,099,694	\$3,192,550	\$7,018,682
6.Pulp, Paper, and Paperboard mills	4,785	\$401,860	\$770,476	\$2,019,394
7.Secondary Paperboard and other Paper Products	21,814	\$1,693,852	\$2,912,542	\$7,723,429

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Note: *In Table 4, readers may observe that the sum of the economic contributions for the individual industries exceeds the reported total contribution for the Forest Sector as a whole as presented in Table 2. This difference is intentional and results from the "mixed-model" approach used to ensure accuracy.*

In Input-Output (I-O) analysis, simply adding the total contributions of individual sectors results in double-counting. This occurs because the output of one forest industry often serves as an input for another. For example, logs harvested by the Logging sector are inputs for the Furniture sector. If modeled individually and summed, the model counts both the direct value of the logs and the associated supply-chain ripples (indirect effects) twice: once as a production requirement for the Furniture, and again as a direct output of the Logging sector. To provide the most accurate estimate, the aggregated total is calculated by treating the forest industries as a single economic unit. This method mathematically nets out all inter-industry transactions within the sector, ensuring that the final results reflect only the new economic value generated for the state economy.

Forestry

Economic Contribution of Forestry

Table 5 presents the economic contribution of the Forestry sector. For Indiana, this group aggregates two primary industries: Forestry, forest products, and timber tract production (IMPLAN 15) and Support activities for forestry (IMPLAN 19). It is important to note that out of the 32 industries identified in the forest products sector, Indiana includes 31. The Maple Syrup Production industry (All other crop farming, IMPLAN 10) is not present or its data is not disclosed in the Indiana dataset.

Table 5: Direct, Indirect, and Induced Economic Contributions of the Forestry Industry in Indiana, 2023. [†]

	Employment	Labor Income	Value-Added	Output
Direct	450	\$24,014	\$26,105	\$27,858
Indirect	2	\$168	\$320	\$615
Induced	100	\$5,829	\$10,635	\$17,272
Total	552	\$30,011	\$37,060	\$45,745

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

In 2023, the Forestry sector directly supported 450 jobs and generated approximately \$27.9 million in direct output. The financial structure of this sector reveals a high degree of labor intensity, with nearly 86 percentage of the total direct output (\$24.0 million out of \$27.9 million) being allocated to Labor Income. This reflects an industry where human capital and specialized expertise are the primary drivers of value, as opposed to heavy machinery or extensive intermediate raw material purchases.

This reliance on labor rather than physical inputs dictates a specific multiplier profile for the sector. The total employment multiplier of 1.23 indicates that for every 100 jobs in Forestry, an additional 23 jobs are supported in the broader Indiana economy. Further decomposition of these impacts reveals that the sector's economic "ripple effect" is driven almost exclusively by household spending:

- **Indirect Effect:** The sector generated negligible indirect impacts, supporting only 2 additional jobs and \$615 thousand in output. This is typical for forestry management; unlike downstream manufacturing, the biological growth and management of timber tracts require minimal business-to-business purchasing of intermediate goods.
- **Induced Effect:** In contrast, the induced effect supported 100 jobs and \$17.3 million in output. Because such a high proportion of the sector's output is retained as labor

income, the primary secondary economic impact occurs when forestry professionals spend their earnings on local goods and services.

When these effects are combined, the Forestry industry contributed a total of 552 jobs, \$45.7 million in output, and \$37.1 million in value-added to the Indiana economy in 2023. The total output multiplier of 1.64 suggests that every \$100 of direct output in forest management activities catalyzes an additional \$64 of economic activity throughout the state.

Trend Analysis: Forestry (2017–2023)

Figure 6 illustrates a significant structural divergence within the Indiana Forestry industry between workforce expansion and economic output. Unlike sectors that experienced a "U-shaped" pandemic recovery, the Forestry sector peaked in 2020, reaching seven-year highs in both employment (520 jobs) and output (\$39.2 million), before entering a period of contraction.

Over the full seven-year horizon, the sector has expanded its workforce by 26.4%, growing from 356 jobs in 2017 to 450 in 2023. However, this job growth has not translated into corresponding financial gains. Real output has trended downward since the 2020 peak, settling at \$27.9 million in 2023, a 9.1% decline compared to the 2017 baseline (\$30.7 million). This inverse relationship points to a sharp decline in labor productivity. In 2017, the sector generated approximately \$86,200 in output per employee; by 2023, this figure dropped to roughly \$62,000. This 28 percent contraction in real output per worker reflects financial rather than physical labor productivity. In input-output modeling, this monetary ratio is sensitive to broader market dynamics, including fluctuations in timber and stumpage valuations relative to general inflation adjustments, as well as potential shifts in the composition of industry activities toward service-oriented forestry support.

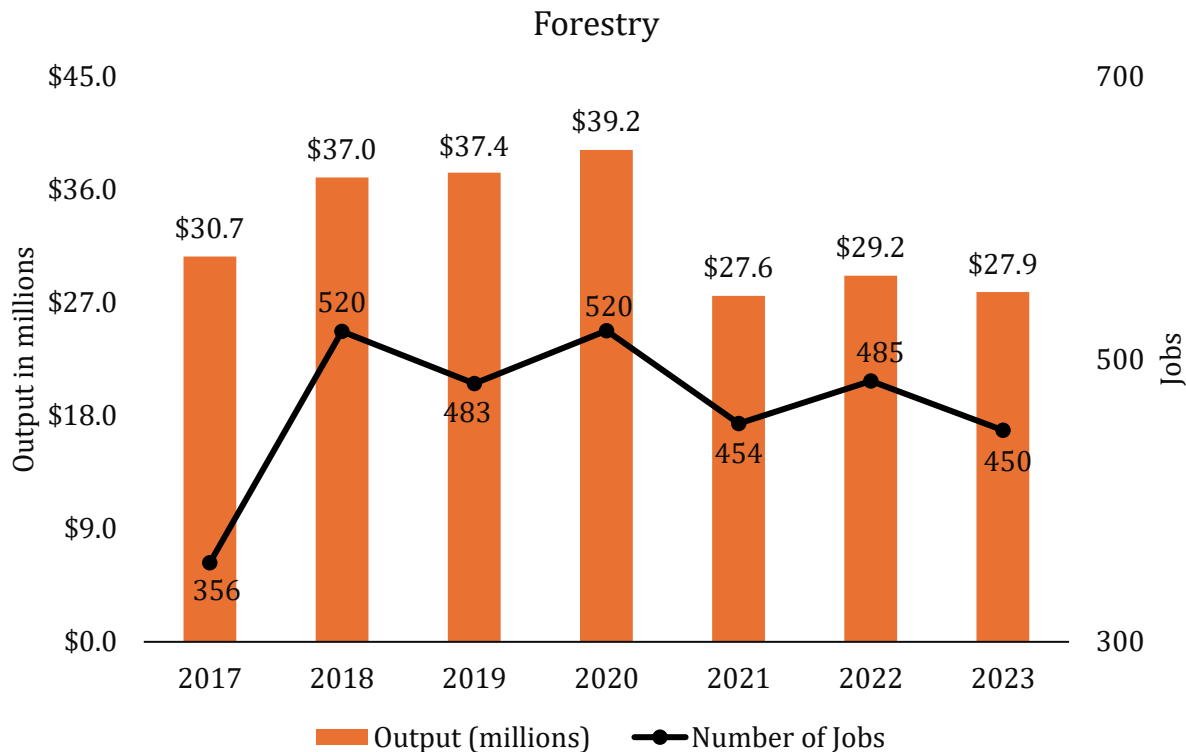


Figure 6: Trend in direct employment and output for the Forestry industry in Indiana, 2017–2023.

Logging

Economic Contribution of Logging

Table 6 outlines the economic contributions of the Logging sector, which comprises establishments primarily engaged in cutting timber, transporting logs, and producing rough wood products in the field. In 2023, this sector served as a vital component of Indiana's forest economy, directly supporting 1,228 jobs and generating \$126.4 million in direct output.

The multiplier analysis characterizes Logging as a sector with a unique financial profile, where the majority of value creation is captured as personal income. A distinctive economic feature here is the dominant role of household spending over business-to-business transactions:

- **Labor Intensity:** A remarkable 93 percentage of the sector's direct output is allocated to Labor Income (\$117.6 million out of \$126.4 million). This represents an exceptionally high concentration of economic value captured by workers and proprietors within the sector.
- **Indirect Effect:** The sector generated relatively modest indirect impacts, supporting 25 jobs and \$2.1 million in output. This reflects a supply chain limited primarily to fuel,

heavy equipment maintenance, and transportation services rather than complex manufactured inputs.

- **Induced Effect:** Conversely, the induced effects are substantial, supporting 497 jobs and nearly \$85.7 million in output. Because such a vast proportion of industry revenue is distributed as compensation to local residents, the subsequent re-spending of those wages acts as a powerful economic accelerator for Indiana's local service and retail sectors.

When these direct, indirect, and induced impacts are aggregated, the Logging industry contributed a total of 1,751 jobs, \$214.2 million in output, and \$175.6 million in value-added to the Indiana economy. The resulting Employment Multiplier is 1.43, indicating that for every 100 direct jobs in logging, an additional 43 jobs are supported elsewhere in the state. Furthermore, the Output Multiplier of 1.70 shows that every dollar of timber harvested stimulates an additional \$0.70 of economic activity across the state. This demonstrates that while the logging sector's direct footprint is relatively specialized, its high "value-added intensity" (nearly 96 percentage of output) makes it a significant driver of regional wealth.

Table 6: Direct, Indirect, and Induced Economic Contributions of the Logging Industry in Indiana, 2023.[†]

	Employment	Labor Income	Value-Added	Output
Direct	1,228	\$117,578	\$121,348	\$126,379
Indirect	25	\$1,206	\$1,526	\$2,140
Induced	497	\$28,926	\$52,770	\$85,696
Total	1,751	\$147,709	\$175,643	\$214,215

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Trend Analysis: Logging (2017–2023)

Figure 7 reveals a challenging seven-year period for the Indiana Logging industry, characterized by a steady contraction in workforce and significant volatility in financial performance. Direct employment has followed a consistent downward slope, decreasing by nearly 14 percentage from 1,422 jobs in 2017 to 1,228 jobs in 2023. The trend in economic output is even more pronounced. After peaking at \$241.9 million in 2017, the sector experienced a sharp correction in 2018. Although there was a partial recovery between 2021 and 2022, output fell again in 2023 to \$126.4 million. This represents a 48 percent decline in real output over the study period. Because output is a revenue-based metric, it is influenced by both physical harvest volumes and market prices. While regional stumpage prices generally increased between 2021 and 2024, data from the Indiana Consulting Foresters Stumpage Timber Price Report indicates that the physical volume of timber sold has broadly declined from its 2021 peak, falling to

roughly half that level by 2025 (Indiana Woodland Steward 2026). This suggests that the contraction in real output over the study period is more closely tied to a broader reduction in physical harvesting activity rather than a drop in hardwood market valuations. Consequently, labor productivity has suffered; the average output per worker declined from approximately \$170,000 in 2017 to around \$103,000 in 2023, indicating a sector facing substantial external market pressures or valuation challenges compared to its 2017 baseline.

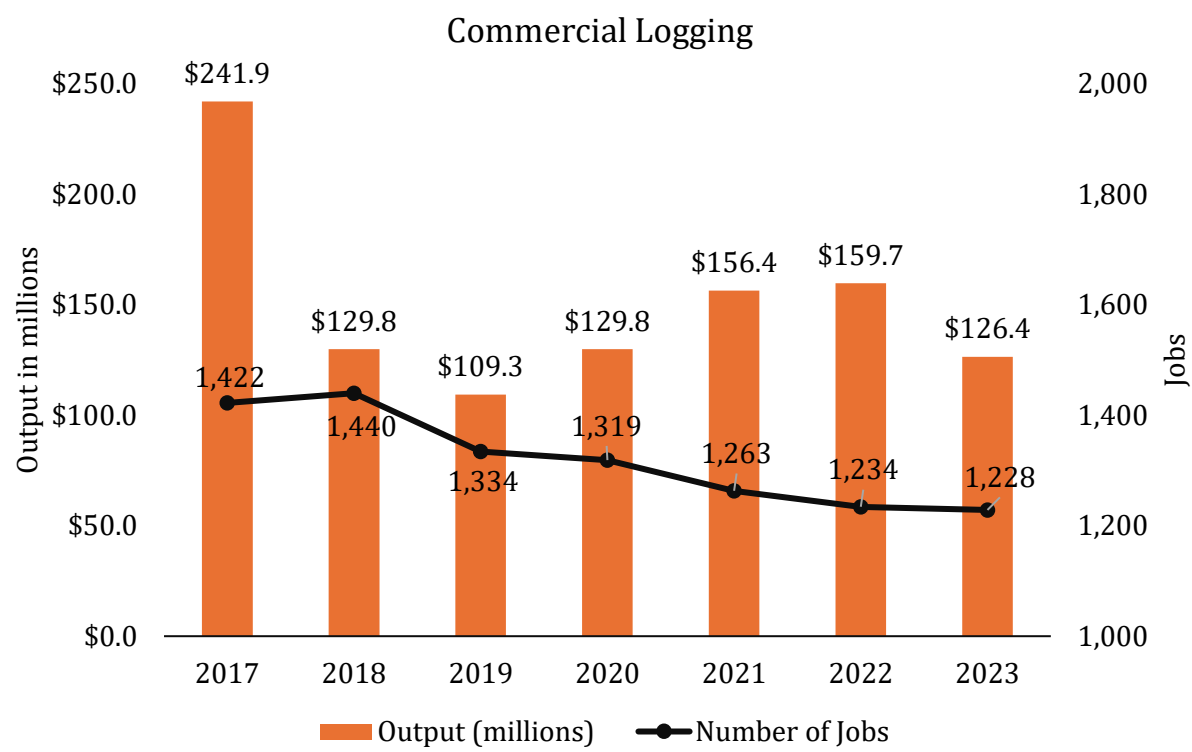


Figure 7: Trend in direct employment and output for the Logging industry in Indiana, 2017–2023.

Primary Solid Wood Products

Economic Contribution of Primary Solid Wood Products

Table 7 presents the economic contributions of the Primary Solid Wood Products industry in Indiana. This sector encompasses a diverse range of manufacturing activities, including wood-based electric power generation (biomass), sawmills, wood preservation, veneer and plywood manufacturing, and reconstituted wood product industries. In 2023, this manufacturing hub directly employed 3,619 workers and generated nearly \$1.64 billion in direct output. Notably, the sector demonstrates robust economic efficiency, contributing \$414.4 million in direct Value-Added, which reflects substantial economic wealth creation as raw timber is processed into construction-grade lumber, structural panels, and treated wood products.

The Primary Solid Wood Products industry exhibits significant backward linkages within the Indiana forest economy, acting as a critical demand driver for upstream operations. Unlike the extraction sectors where economic ripples are often driven by household spending, this sector’s impact is heavily influenced by supply chain expenditures. A pivotal structural dynamic is evident in the employment data: the Indirect Employment effect supports 2,879 jobs, a figure that is nearly 80 percentage the size of the sector’s own direct workforce. This results in a robust Employment Multiplier of 2.35. Essentially, for every 100 direct jobs in primary wood manufacturing, an additional 135 jobs are supported elsewhere in the state economy. This underscores the sector's function as a "keystone" industry; its operational demands sustain a network of loggers, truckers, and maintenance contractors who rely on this processing capacity for a consistent market.

When aggregating direct, indirect, and induced effects, the Primary Solid Wood Products industry contributed a total of 8,494 jobs, \$2.59 billion in output, and \$971.0 million in value-added to the state economy in 2023. By supporting nearly 8,500 jobs statewide, this industry anchors the regional forest value chain, effectively transforming natural resources into widespread economic activity across Indiana’s rural and industrial communities.

Table 7: Direct, Indirect, and Induced Economic Contributions of the Primary Solid Wood Products Industry in Indiana, 2023.[†]

	Employment	Labor Income	Value-Added	Output
Direct	3,619	\$258,316	\$414,399	\$1,637,223
Indirect	2,879	\$230,107	\$344,499	\$604,779
Induced	1,997	\$116,278	\$212,131	\$344,474
Total	8,494	\$604,701	\$971,029	\$2,586,476

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Trend Analysis: Primary Solid Wood Products (2017–2023)

Figure 8 presents a robust growth trajectory for the Primary Solid Wood Products industry, distinguishing it as a standout performer in Indiana’s forest economy. Unlike the extractive sectors (Forestry and Logging), this manufacturing group has achieved growth in both workforce and financial output. Direct employment has fully recovered from pandemic-era lows, rising by 3.8 percentage over the full period to reach a new high of 3,619 jobs in 2023.

The most interesting trend, however, is the explosive growth in economic output. Real output surged by roughly 64 percentage, climbing from \$997.9 million in 2017 to over \$1.63 billion in 2023. This creates a striking divergence: while the workforce grew modestly, output skyrocketed. Consequently, labor productivity has surged. In 2017, the average output per worker was approximately \$286,000; by 2023, this figure rose to roughly \$452,000. This 58

percentage increase in per-worker productivity suggests a sector that has successfully capitalized on modernization, automation, or high-value market opportunities, allowing it to generate significantly more revenue without a proportional increase in jobs.

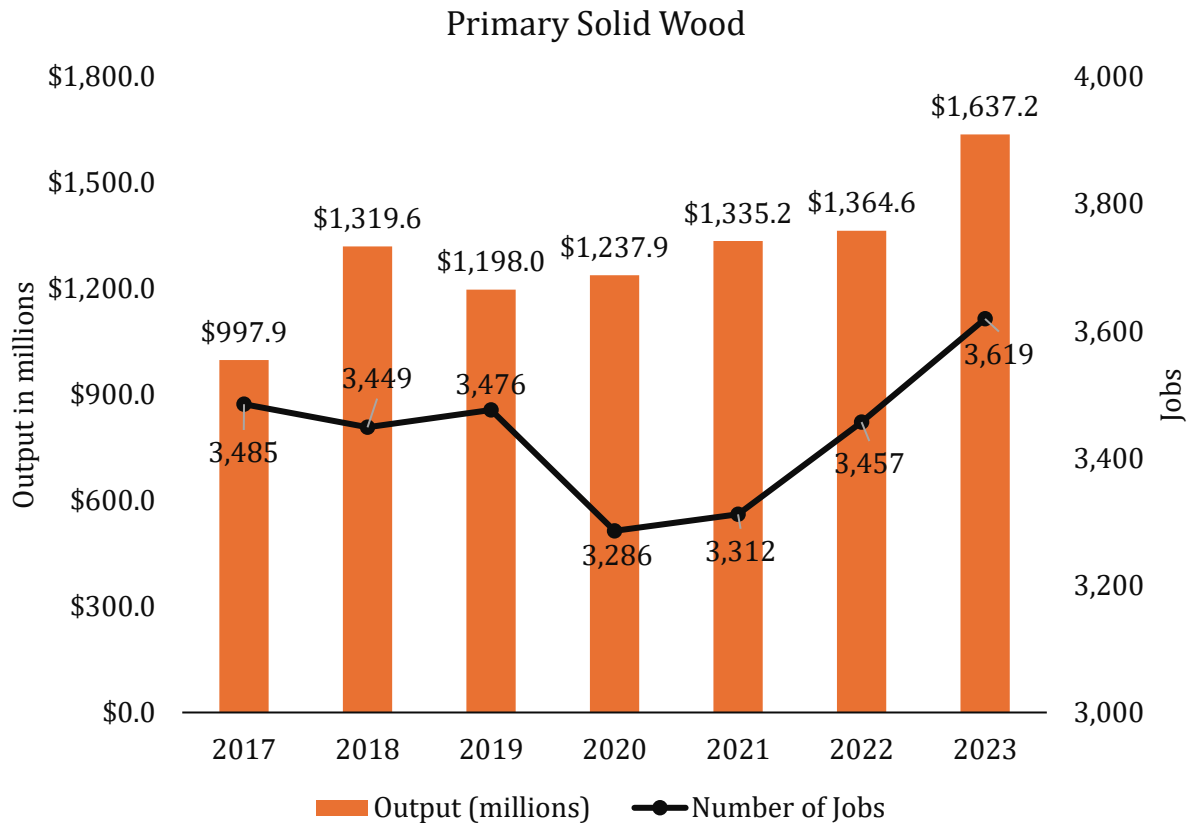


Figure 8: Trend in direct employment and output for the Primary Solid Wood Products industry in *Indiana*, 2017–2023.

Secondary Solid Wood Products

Economic Contribution of Secondary Solid Wood Products

Table 8 presents the economic contribution of the Secondary Solid Wood Products industry. This diverse value-added sector encompasses industries such as engineered wood member and truss manufacturing, wood windows and doors manufacturing, millwork and flooring, wood container and pallet manufacturing, prefabricated wood building manufacturing, and miscellaneous wood product manufacturing. In 2023, this sector stood as one of the largest direct employers within the Indiana forest economy, directly employing 13,061 workers and generating nearly \$4.22 billion in direct output.

The sector exhibits a healthy employment multiplier of 1.97, indicating that for every 100 jobs created in secondary manufacturing, roughly 97 additional jobs are supported elsewhere in the

Indiana economy. While robust, this multiplier is notably lower than that of the Primary Solid Wood sector (2.35). This distinction reflects upstream supply chain dynamics: whereas Primary manufacturers rely on labor-intensive logging operations for raw inputs, Secondary manufacturers primarily purchase processed lumber from capital-intensive sawmills or import intermediate wood components. Consequently, the Indirect Employment effect (6,541 jobs) is roughly half the size of the direct workforce, contrasting with the Primary sector where the indirect workforce was nearly 80 percentage the size of the direct workforce.

When fully aggregated, the sector supports a total of 25,778 jobs and contributes nearly \$6.84 billion in total economic output. Financially, the sector acts as an effective value multiplier, contributing a total of \$2.76 billion in Value-Added to the GSP. This group exhibits a high degree of value retention, consistent with its focus on converting rough lumber into finished construction components and specialized wood products. Correspondingly, the ratio of direct value-added to output in this sector is 31.8 percentage, exceeding the 25.3 percentage observed in the Primary sector.

Table 8: Direct, Indirect, and Induced Economic Contributions of the Secondary Solid Wood Products Industry in Indiana, 2023. [†]

	Employment	Labor Income	Value-Added	Output
Direct	13,061	\$1,035,728	\$1,339,239	\$4,217,912
Indirect	6,541	\$480,554	\$761,139	\$1,558,936
Induced	6,176	\$359,742	\$656,376	\$1,065,665
Total	25,778	\$1,876,024	\$2,756,754	\$6,842,513

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Trend Analysis: Secondary Solid Wood Products (2017–2023)

Figure 9 illustrates a narrative of consistent expansion and increasing capital intensity for the Secondary Solid Wood Products industry. Direct employment has shown resilience, recovering from a pandemic low of 12,075 jobs in 2020 to reach 13,061 in 2023, an overall increase of roughly 3.9 percentage compared to the 2017 baseline. However, the workforce trend remains slightly volatile, with a notable contraction in 2023 following a peak of 13,481 jobs in 2022.

In contrast, real economic output has followed a remarkably linear and steep upward trajectory. Output grew by approximately 62.4 percentage over the seven-year period, rising from roughly \$2.60 billion in 2017 to a record \$4.22 billion in 2023. This gap between moderate job growth and surging output highlights an improvement in labor productivity. In 2017, the average worker generated around \$206,500 in output; by 2023, this figure had climbed to approximately \$323,000. This suggests that Indiana’s secondary manufacturers, producers of trusses, millwork,

and prefabricated buildings, are increasingly leveraging advanced manufacturing technologies to drive higher revenue per employee.

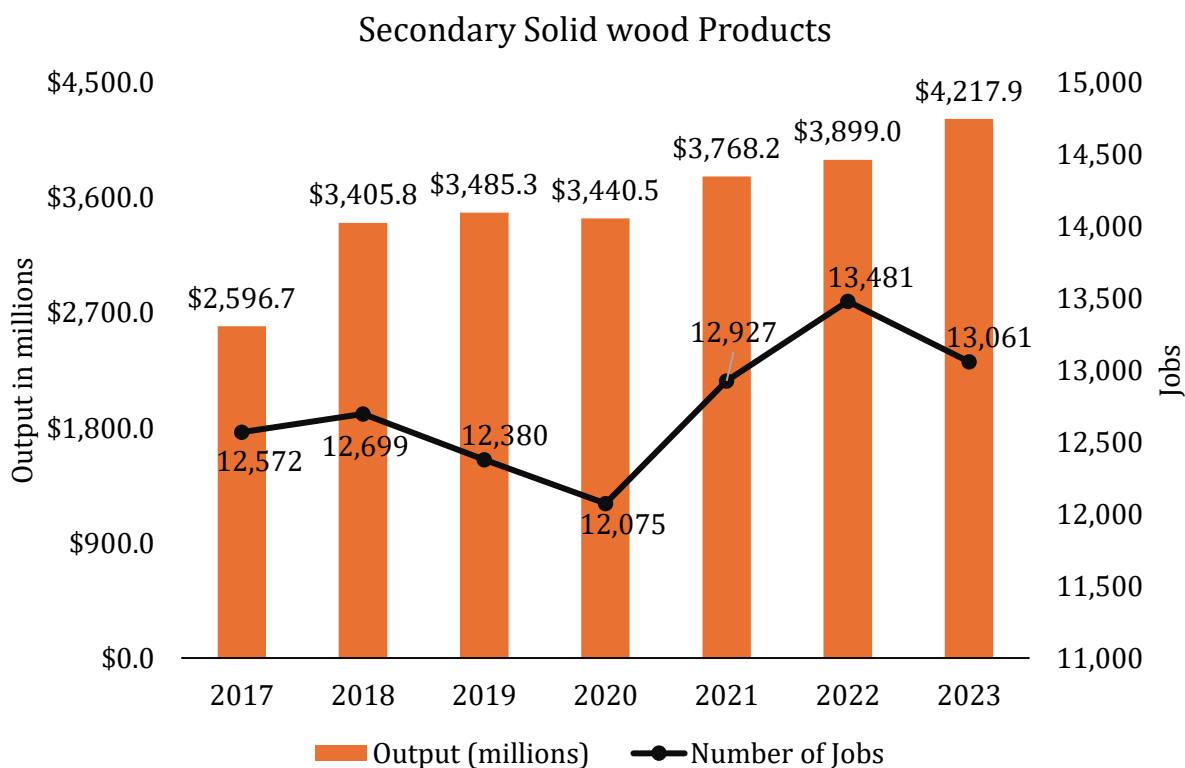


Figure 9: Trend in direct employment and output for the Secondary Solid Wood Products industry in Indiana, 2017–2023.

Wood Furniture

Economic Contribution of Wood Furniture

Table 9 details the economic contributions of the Wood Furniture industry. This group encompasses a wide range of value-added manufacturers, including those producing wood kitchen cabinets and countertops, upholstered and non-upholstered household furniture, institutional wood furniture, wood office furniture, custom architectural woodwork, and showcase partitions. In 2023, this sector stood as the premier employment engine within the Indiana forest economy, directly employing 18,942 workers and generating nearly \$4.28 billion in direct output.

The data highlights that Wood Furniture manufacturing operates with a distinct economic structure compared to the upstream processing sectors. While it is a manufacturing industry, it retains a significant labor component relative to its output. Approximately 29 percentage of its direct gross output flows to workers as Labor Income (\$1.24 billion out of \$4.28 billion). This

ratio underscores the "craft" aspect of the industry, particularly in cabinetry and custom millwork, where the production of high-value goods relies heavily on skilled joinery and assembly rather than purely automated throughput.

This workforce dynamic heavily influences the sector's multiplier effects. The Employment Multiplier is 1.69, meaning that every 100 direct jobs support an additional 69 jobs elsewhere in the state. A distinctive feature in the 2023 data is the composition of these ripples: the Induced Employment effect (6,890 jobs) slightly exceeds the Indirect Employment effect (6,211 jobs). This signals that the sector's leverage on the state economy is driven as much by the household spending of its workforce as it is by supply chain purchases. This balance suggests that while the industry requires materials, the income paid to its extensive workforce including proprietor income serves as a primary mechanism for stimulating local service and retail economies.

When fully aggregated, the Wood Furniture industry contributed a total of 32,043 jobs, \$7.02 billion in output, and \$3.19 billion in value-added to the Indiana economy in 2023. As the largest contributor to total forest sector employment, this industry serves as a vital pillar of the state's value-added manufacturing base, effectively converting processed lumber into high-value consumer and industrial goods.

Table 9: Direct, Indirect, and Induced Economic Contributions of the Wood Furniture Industry in Indiana, 2023. [†]

	Employment	Labor Income	Value-Added	Output
Direct	18,942	\$1,235,175	\$1,704,498	\$4,276,256
Indirect	6,211	\$463,029	\$755,558	\$1,552,929
Induced	6,890	\$401,489	\$732,493	\$1,189,497
Total	32,043	\$2,099,694	\$3,192,550	\$7,018,682

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Trend Analysis: Wood Furniture Industry (2017–2023)

Figure 10 presents a complex picture of workforce consolidation and efficiency gains for the Wood Furniture industry. Direct employment has followed a clear downward trend, contracting by about 14.1 percentage from 22,062 jobs in 2017 to a period low of 18,942 jobs in 2023. On the other hand, despite the reduction in jobs, the sector's financial performance remains above baseline levels. Real economic output in 2023 (\$4.28 billion) is approximately 7.3 percentage higher than in 2017 (\$3.98 billion), though it has cooled significantly from the 2018 peak of \$5.54 billion. This divergence between shrinking employment and sustained output has driven a clear rise in labor productivity. The average output per worker increased from roughly \$180,600 in 2017 to approximately \$225,800 in 2023, implying that the industry is becoming leaner and generating significantly more value per employee.

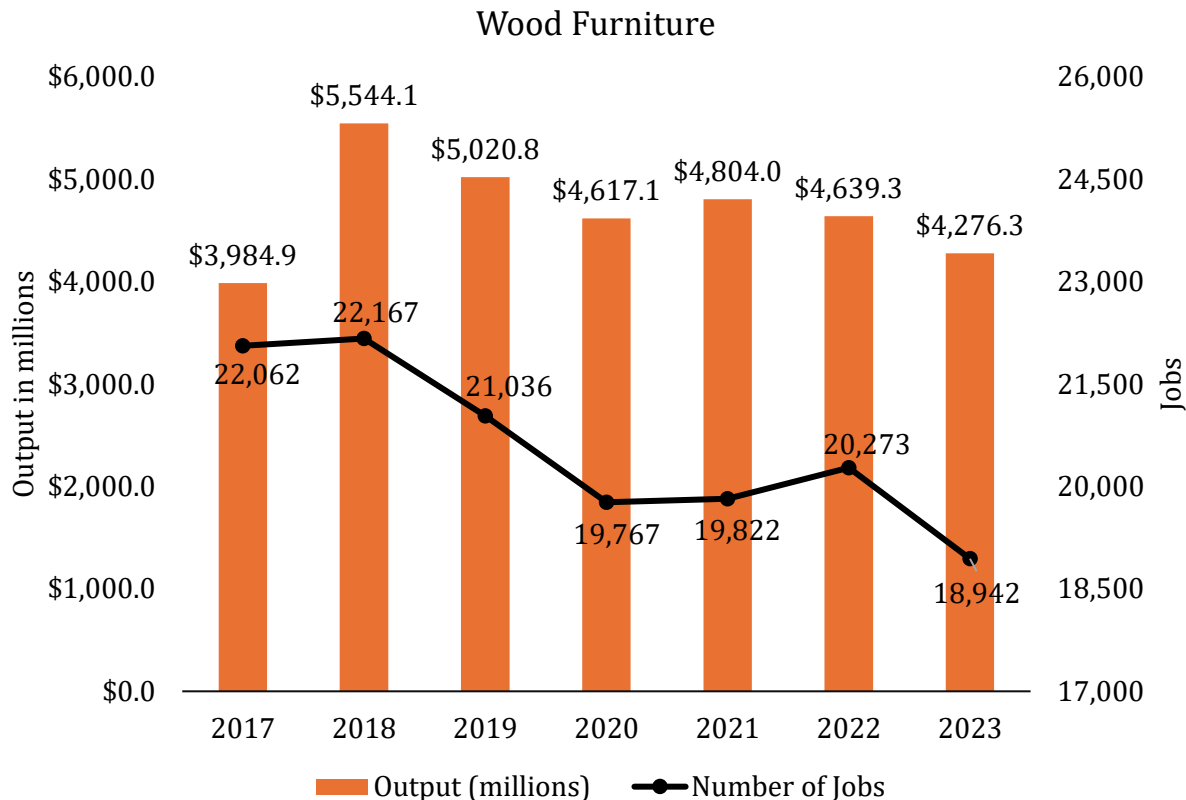


Figure 10: Trend in direct employment and output for the Wood Furniture industry in Indiana, 2017–2023.

Pulp, Paper, and Paperboard Mills

Economic Contribution of Pulp, Paper, and Paperboard Mills

Table 10 presents the economic contribution of the Pulp, Paper, and Paperboard Mills industry. In the context of Indiana, this sector is highly integrated, encompassing pulp mills, paper mills, and paperboard mills. This sector remains the most capital-intensive component of the state’s forest economy. In 2023, these mills generated substantial financial flows despite a relatively small direct workforce. While directly employing 1,376 workers, the sector generated nearly \$1.24 billion in Direct Output. This divergence between low jobs and high output is the hallmark of advanced automation and high-value, continuous process manufacturing.

A defining characteristic of this industry is its function as an economic anchor, where the supply chain workforce significantly exceeds the workforce inside the facility itself. Specifically, the Indirect Employment (2,083 jobs) surpasses the Direct Employment (1,376 jobs) by a wide margin. This shows that the mills’ intense operational requirements, massive inputs of wood fiber, energy, process chemicals, logistics, and highly technical maintenance services, sustain a much larger external workforce. Consequently, the sector exhibits a powerful Employment

Multiplier of 3.48. This indicates that every 100 direct mill jobs support an additional 248 jobs elsewhere in the state. When fully aggregated, the Pulp, Paper, and Paperboard Mills sector supports a total of 4,785 jobs and generates nearly \$2.02 billion in total economic output.

Table 10: Direct, Indirect, and Induced Economic Contributions of the Pulp, Paper, and Paperboard Mills Industry in Indiana, 2023.[†]

	Employment	Labor Income	Value-Added	Output
Direct	1,376	\$162,743	\$353,521	\$1,239,830
Indirect	2,083	\$161,849	\$275,992	\$550,664
Induced	1,326	\$77,269	\$140,963	\$228,899
Total	4,785	\$401,860	\$770,476	\$2,019,394

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Trend Analysis: Pulp, Paper, and Paperboard Mills (2017–2023)

Figure 11 highlights a narrative of steady, consistent growth and stability for the Pulp, Paper, and Paperboard Mills industry in Indiana. Contrary to broader manufacturing trends that often show contraction, this capital-intensive sector has expanded its workforce every single year of the study period. Direct employment grew by 14.5 percentage, rising steadily from 1,202 jobs in 2017 to 1,376 jobs in 2023.

Financially, the sector has demonstrated robust performance, with output remaining significantly above baseline levels. Real economic output experienced a significant initial jump from \$969.4 million in 2017 to a peak of \$1.32 billion in 2018. However, while direct employment has grown steadily over the seven-year period, output has not surpassed its 2018 high, experiencing cyclical fluctuations before settling at \$1.24 billion in 2023. Productivity analysis shows this sector's status as the most efficient in the forest economy: output per worker rose from approximately \$806,500 in 2017 to about \$901,000 in 2023.

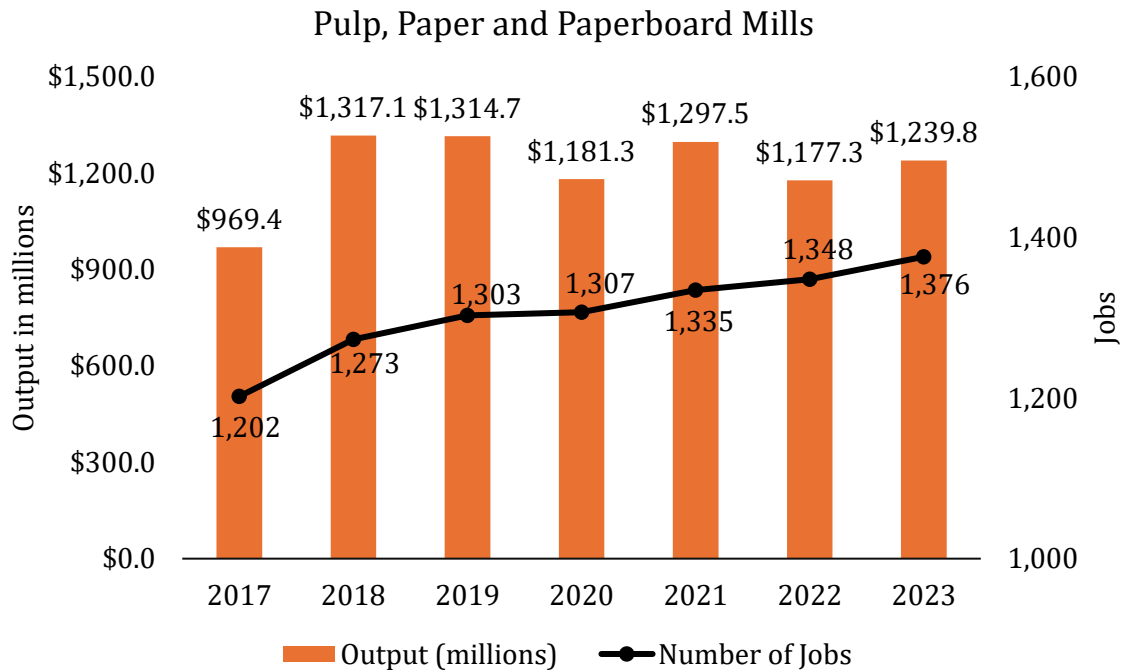


Figure 11: Trend in direct employment and output for the Pulp, Paper, and Paperboard Mills industry in Indiana, 2017–2023.

Secondary Paperboard and Other Paper Products

Economic Contribution of Secondary Paperboard and Other Paper Products

Table 11 outlines the economic contribution of the Secondary Paperboard and Other Paper Products industry. This group is composed of "converters" that manufacture finished goods from purchased paper, paperboard, or recycled materials, including products like paperboard containers, paper bags, coated paper, stationery, and other specialized paper products. In Indiana, this sector is a significant component of the forest economy, directly providing 8,934 jobs and generating over \$5.05 billion in direct output in 2023.

The sector exhibits a robust Employment Multiplier of 2.44, meaning that for every 100 direct jobs in paper converting, an additional 144 jobs are supported throughout the state economy. A closer examination of the multiplier components reveals that the Indirect Employment effect (7,312 jobs) is substantial, representing nearly 82% of the size of the direct workforce. This strong indirect impact suggests that the Indiana converting facilities maintain solid supply chain linkages, demanding volumes of intermediate goods, namely paper and paperboard from the state's integrated mills, along with specialized logistics and packaging services.

Furthermore, the Induced Employment effect (5,568 jobs) highlights the sector's leverage on local household spending. This is consistent with the sector's structure as a large-scale

manufacturing operation that requires both consistent capital inputs and a steady workforce whose income supports local service economies.

In terms of total contribution, the Secondary Paperboard and Other Paper Products industry supports a total of 21,814 jobs and contributes \$7.72 billion in total economic output. By generating \$2.91 billion in total Value-Added, this converting sector serves a vital role by transforming the output of the capital-intensive Pulp and Paperboard Mills into specialized packaging and consumer goods that are essential to the state's broader retail, food processing, and logistics sectors.

Table 11: Direct, Indirect, and Induced Economic Contributions of the Secondary Paperboard and Other Paper Products Industry in Indiana, 2023. [†]

	Employment	Labor Income	Value-Added	Output
Direct	8,934	\$820,196	\$1,343,264	\$5,054,094
Indirect	7,312	\$549,285	\$895,410	\$1,708,578
Induced	5,568	\$324,371	\$673,868	\$960,757
Total	21,814	\$1,693,852	\$2,912,542	\$7,723,429

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Trend Analysis: Secondary Paperboard and Other Paper Products (2017–2023)

Figure 12 presents a sector characterized by remarkable workforce stability and a distinct "step-change" in production capacity. Direct employment in the Secondary Paperboard and Other Paper Products industry has remained essentially flat over the seven-year period, starting at 8,995 jobs in 2017 and ending at 8,934 jobs in 2023, a negligible difference of less than 1 percentage. This suggests a mature labor market where turnover is matched by replacement, maintaining a consistent operational baseline. The financial trajectory of the sector is characterized by a pronounced structural step-change between 2017 and 2018, when real output expanded by more than \$1 billion in a single year (from \$4.06 billion to \$5.13 billion). Following this initial expansion, the sector transitioned into a stable plateau rather than sustained growth; output hovered between \$5.05 billion and \$5.45 billion through 2023. While overall employment remained largely flat over the seven-year period (contracting slightly from 8,995 jobs in 2017 to 8,934 in 2023), the enduring step-up in production maintained higher productivity levels, with output per worker rising from approximately \$451,600 in 2017 to roughly \$565,700 in 2023.

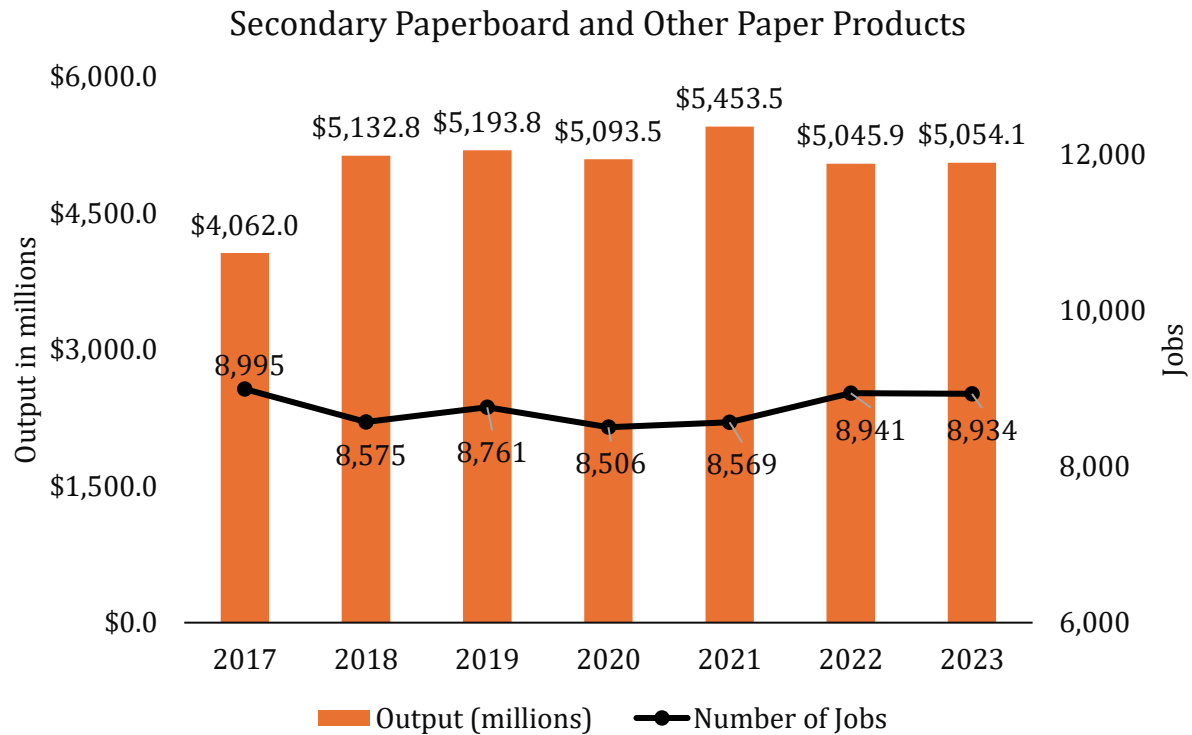


Figure 12: Trend in direct employment and output for the Secondary Paperboard and Other Paper Products industry in Indiana, 2017–2023.

Top Forest Product Sectors

Indiana's forest products sector is represented by 31 IMPLAN industries . The analysis excludes All other crop farming (Maple syrup production), which is not present or is undisclosed in the state's 2023 industry mix. The economic profile of Indiana's forest sector is distinctively defined by advanced, value-added manufacturing rather than raw extraction. Wood kitchen cabinet and countertop manufacturing stands as the primary economic anchor of the state's forest economy. It ranks first in Employment (10,208 jobs), Labor Income (\$678.8 million), and Value-Added (\$921.2 million). This single industry accounts for a massive portion of the sector's total workforce, highlighting Indiana's specialized global strength in the production of residential cabinetry and millwork.

However, a structural divergence between labor-intensive and capital-intensive sectors is evident when analyzing Output. While Paperboard container manufacturing ranks second in employment (6,064 jobs), it surges to the first position in direct Output, generating over \$3.60 billion, exceeding the \$2.11 billion generated by the larger workforce of the cabinet industry. This trend of capital intensity is further reinforced by the Paper bag and coated and treated paper manufacturing industry. Despite not appearing in the top five for Employment, this sector ranks third in Output (\$980.0 million) and fourth in Value-Added (\$303.0 million). Conversely, Wood container and pallet manufacturing ranks third in Employment (3,183 jobs) but fails to appear in the top five for Value-Added or Output. This contrast underscores that while wood manufacturing provides the bulk of the jobs, the paper converting sectors serve as critical drivers of high-value economic output.

Table 12: Top five industries in terms of direct Economic Contributions in Indiana state, 2023. [†]

Rank	Employment	Labor Income	Value added	Output
1	Wood kitchen cabinet and countertop manufacturing (10,208)	Wood kitchen cabinet and countertop manufacturing (\$678,798)	Wood kitchen cabinet and countertop manufacturing (\$921,194)	Paperboard container manufacturing (\$3,607,853)
2	Paperboard container manufacturing (6,064)	Paperboard container manufacturing (\$555,076)	Paperboard container manufacturing (\$883,376)	Wood kitchen cabinet and countertop manufacturing (\$2,110,923)
3	Wood container and pallet manufacturing (3,183)	Manufactured home (mobile home) manufacturing (\$265,910)	Wood office furniture manufacturing (\$321,006)	Paper bag and coated and treated paper manufacturing (\$980,026)
4	Wood office furniture manufacturing (3,149)	Wood container and pallet manufacturing (\$217,467)	Paper bag and coated and treated paper manufacturing (\$303,029)	Manufactured home (mobile home) manufacturing (\$936,951)
5	Manufactured home (mobile home) manufacturing (2,869)	Wood office furniture manufacturing (\$203,098)	Manufactured home (mobile home) manufacturing (\$297,925)	Wood office furniture manufacturing (\$876,462)

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

Top Non-Forest Industries supported by the Forest Sector in 2023

Excluding the forest-products industries themselves, Indiana included 467 other IMPLAN sectors in 2023. The forest sector supported at least one job in 257 of these industries and at least ten jobs in 158 of them. In addition to the direct workforce, the sector generates significant indirect and induced employment across the state's economy. These additional jobs, created through supply chain purchases and household spending, are heavily concentrated in logistics, real estate, and service sectors. Table 13 highlights the top ten non-forest industries most heavily impacted by this economic activity in 2023. Together, these ten sectors account for 15,555 jobs.

Table 13: Top Ten Industries Impacted by Indiana state's Forest Products Industries in terms of number of jobs in 2023.

Industries	Number of Jobs
Warehousing and storage	2,833
Truck transportation	1,930
Wholesale - Other durable goods merchant wholesalers	1,555
Hospitals	1,532
Other real estate	1,469
Full-service restaurants	1,453
Employment services	1,374
Limited-service restaurants	1,327
Couriers and messengers	1,229
Offices of physicians	854
Total	15,555

The composition of these top sectors reveals the specific mechanisms through which the forest sector stimulates the wider Indiana economy:

- Logistics and Supply Chain Dominance:** The strongest linkages are found in the movement and storage of physical goods. Warehousing and storage ranks as the single largest impacted sector, supporting 2,833 jobs. When combined with Truck transportation (1,930 jobs), Wholesale - Other durable goods merchant wholesalers (1,555 jobs), and Couriers and messengers (1,229 jobs), it is evident that the forest sector is a primary driver of the state's logistics infrastructure. This reflects the industry's need for a massive, reliable network to store raw materials, transport timber, and distribute finished cabinets, furniture, and paper products to global markets.

- **Induced Household Spending:** The prominence of Other real estate (1,469 jobs) and healthcare providers like Hospitals (1,532 jobs) illustrates the "induced" power of the forest workforce. Dining establishments also feature heavily, with Full-service restaurants (1,453 jobs) and Limited-service restaurants (1,327 jobs) sustained by the wages and salaries spent by forest-sector employees in their local communities. The high ranking of real estate suggests that the income earned by loggers, mill workers, and manufacturers is a critical source of revenue for maintaining local housing markets.
- **Business Support Services:** Notably, Employment services (1,374 jobs) also appears in the top ten. This indicates that Indiana's forest product firms are significant consumers of corporate support services, relying on external firms for staffing solutions and administrative support to maintain their operations.

In terms of economic output, the forest sector's influence shifts heavily toward commercial trade, high-volume logistics, and the real estate market. As detailed in Table 14, the top ten non-forest industries supported by forest-sector activity generated a combined \$3.20 billion in output in 2023.

Table 14: Top Ten Industries impacted by Indiana State's Forest Products Industries in terms of output production in 2023. [†]

Industries	Output
Wholesale - Other durable goods merchant wholesalers	\$517,437
Truck transportation	\$440,934
Owner-occupied housing	\$435,403
Other real estate	\$367,087
Hospitals	\$307,159
Warehousing and storage	\$274,263
Electric power transmission and distribution	\$273,952
Wholesale - Other nondurable goods merchant wholesalers	\$271,003
Monetary authorities and depository credit intermediation	\$158,611
Offices of physicians	\$156,988
Total	\$3,202,837

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

Commercial trade emerges as a central driver, with Wholesale - Other durable goods merchant wholesalers ranking as the single largest supported sector, generating \$517.4 million in output. When combined with Wholesale - Other nondurable goods merchant wholesalers (\$271.0

million), the data shows the sector's function as a primary source of revenue for commercial entities that broker and distribute processed wood products and paper goods across the state.

The physical movement and storage of goods remains a dominant category, reflecting the forest industry's reliance on a massive supply chain infrastructure. Truck transportation ranks second, generating \$440.9 million in output. Warehousing and storage follows in sixth place (\$274.3 million). Together, these sectors underscore the critical role of the forest economy in sustaining Indiana's freight network, driven by the constant need to transport heavy raw materials and distribute furniture, cabinetry, and packaging to national markets.

The presence of Owner-occupied housing (\$435.4 million) and Other real estate (\$367.1 million) as the third and fourth largest supported sectors, respectively, is a significant indicator of the "induced" wealth effect. In economic modeling, "owner-occupied housing" represents the imputed value of homeownership. The high ranking of these property-related sectors indicates that the income earned in forest sector jobs, particularly in high-skill manufacturing roles, are robust enough to sustain high levels of homeownership and property investment within Indiana.

Furthermore, Hospitals rank fifth (\$307.2 million) and Offices of physicians rank tenth (\$157.0 million), illustrating how workforce income supports essential community healthcare services. Electric power transmission and distribution rank seventh (\$274.0 million), a substantial figure driven by the immense energy consumption of the state's capital-intensive facilities, particularly pulp and paper mills and other manufacturing units, which serve as base-load customers for regional utilities. Finally, the inclusion of Monetary authorities (\$158.6 million) highlights the corporate complexity of the sector, which requires significant financial intermediation to function.

Importance of the Forest Products Industries in Context

Natural Resources and Agricultural Industries

To contextualize the economic importance of the forest economy, Table 15 compares the direct contributions of Indiana's four primary natural resource sectors: Forest Products, Agriculture, Mining, and oil & gas production, and Commercial fishing, hunting & trapping. The data indicates that while Agriculture is the dominant employer, the Forest Products industry stands as the state's leading generator of industrial output among these natural resource sectors.

In terms of employment, the landscape is defined by the sheer scale of the Agriculture sector. It supports 66,005 jobs, accounting for more than half of the total natural resources workforce. The Forest Products sector ranks second as a key industrial employer, supporting 47,611 jobs. This workforce is more than three times the size of the Mining, Oil, and Gas sector (13,704 jobs) and substantially exceeds employment in the Commercial Fishing & Hunting industry, which remains a niche contributor.

However, a comparison of Output and Value-Added reveals a shifting competitive dynamic. Remarkably, the Forest Products sector slightly edged out Agriculture to become the top output generator in 2023, producing \$16.58 billion compared to Agriculture's \$16.32 billion. Despite this output leadership, Agriculture retains the lead in Value-Added (\$8.01 billion). Meanwhile, the Mining sector demonstrates extreme capital intensity. Despite employing only 13,704 workers, less than one-third of the forest workforce, Mining generated \$4.91 billion in Value-Added, nearly matching the Forest sector's \$5.30 billion contribution. This highlights that while Forestry is a broad-based employer, Mining relies on immense physical capital investments to drive high value-added per worker.

The comparative trend analysis underscores the Forest Products sector's role as a source of economic stability amidst a volatile resource landscape. Over the study period, the Mining sector experienced explosive, boom-cycle growth, with Output surging by nearly 189 percentage and Labor Income rising by 115 percentage. Similarly, Agriculture saw robust double-digit growth in all financial metrics (Output, value-added, and labor income). In contrast, the Forest Products sector demonstrated characteristic maturity and consistency. Its employment contracted slightly (-5.0 percent) and output grew modestly (2.7 percent). This steady-state performance is consistent with the forest economy serving as a stable foundation for the state's rural labor market, with less susceptibility to the cyclical volatility observed in energy extraction and commodity farming.

Table 15: Natural Resources and Agricultural Production Industries in Indiana state, 2023. [†]

Industry	Employment	Δ2017	Labor Income	Δ2017 ^{††}	Value-Added	Δ 2017 ^{††}	Output	Δ 2017 ^{††}
1. Forest Products	47,611	-5.0%	\$3,653,752	-4.4%	\$5,302,375	7.2%	\$16,579,552	2.7%
2. Commercial fishing, hunting & trapping	263	-31.9%	\$48,217	480.9%	\$57,391	-198.3%	\$59,979	949.3%
3. Mining, and oil & gas production	13,704	12.4%	\$1,256,695	114.6%	\$4,905,338	140.8%	\$11,589,007	189.2%
4. Agriculture production (plant crops and animals)	66,005	-4.7%	\$4,571,800	21.2%	\$8,013,394	52.7%	\$16,316,930	14.1%
Total	127,584	-3.3%	\$9,530,463	16.4%	\$18,278,498	50.1%	\$44,545,468	29.3%

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

^{††} All percentage differences are calculated in real terms using 2023 constant dollars.

Manufacturing Industries

To assess the relative standing of the forest sector within Indiana's industrial base, Table 16 compares "Forest Products Manufacturing" against the state's other major manufacturing groups. Note that in this context, "Forest Products" refers specifically to the manufacturing sub-sectors (Groups 3 through 7), excluding the extraction activities of forestry and logging and other non-manufacturing sectors (IMPLAN codes 10, 15, 16, 19, and 40 see [Appendix A](#)). The data reveals that the forest sector serves as a premier source of employment within Indiana's diverse advanced manufacturing economy, functioning as a critical labor anchor even as other sectors generate higher raw output.

In terms of scale, the manufacturing landscape is dominated by the Transportation Equipment sector, which leads in all categories with 127,456 jobs and over \$91 billion in output. However, Forest Products manufacturing distinguishes itself as the state's fourth-largest manufacturing employer, supporting 45,911 jobs. It accounts for approximately 8.7 percent of the total manufacturing workforce, surpassing major industrial peers such as Machinery manufacturing (44,898 jobs), Primary Metal manufacturing (41,985 jobs), and Chemical manufacturing (33,230 jobs).

A distinct divergence between labor intensity and capital intensity becomes evident when analyzing financial contributions. While the Forest Products sector ranks fourth in employment, it ranks eighth in Output (\$16.40 billion) and ninth in Value-Added (\$5.14 billion). This contrasts sharply with sectors like Petroleum and Coal manufacturing, which employs only 3,737 workers yet generates around \$23 billion in output.

This disparity highlights the competitive productivity profiles across the state's industrial base. The Forest Products sector generates approximately \$357,000 in output per worker. This metric places it in a specific efficiency tier alongside Fabricated Metal manufacturing (\$356,000 per worker). Conversely, highly capital-intensive sectors utilize complex chemical or thermal processing to drive massive per-worker yields, such as Chemical manufacturing (\$1.49 million per worker) and Petroleum manufacturing (\$6.15 million per worker). Thus, while the forest sector may not match the per-worker financial velocity of the energy or chemical sectors, its value lies in its capacity to sustain a vast workforce, serving as a stabilizing "jobs-rich" pillar of Indiana's manufacturing ecosystem.

Table 16: Manufacturing Industries in Indiana state, 2023. [†]

Manufacturing Industries	Employment	Labor Income	Value Added	Output
Transportation Equipment	127,456	\$11,494,312	\$23,341,873	\$91,050,811
Fabricated Metal	57,573	\$4,661,973	\$8,252,369	\$20,513,230
Food	48,985	\$3,698,031	\$6,936,094	\$33,881,640
Forest Products	45,911	\$3,508,709	\$5,144,938	\$16,401,474
Machinery	44,898	\$4,559,734	\$7,940,691	\$27,361,271
Primary Metal	41,985	\$5,445,812	\$12,199,490	\$56,538,425
Plastics and Rubber Products	33,534	\$2,446,737	\$3,398,855	\$13,437,190
Chemical	33,230	\$6,355,454	\$25,531,352	\$49,523,434
Miscellaneous	32,673	\$2,899,545	\$5,511,308	\$11,785,230
Printing	13,741	\$821,044	\$1,211,888	\$2,634,470
Nonmetallic Mineral Product	13,324	\$1,155,856	\$2,359,209	\$5,960,890
Computer and Electronic Product	11,844	\$1,181,940	\$1,853,207	\$5,468,795
Electrical Equipment	8,033	\$715,812	\$1,366,293	\$3,785,229
Beverage and Tobacco Product	7,804	\$537,772	\$1,510,426	\$4,702,305
Textiles and Apparel	5,670	\$302,841	\$357,665	\$1,293,335
Petroleum and Coal	3,737	\$876,754	\$7,684,149	\$22,998,212
Total	530,398	\$50,662,325	\$114,599,807	\$367,335,940
Compared to 2017	-2%	-3%	-2%	-1%

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

Summary

The 2023 economic contribution report shows that the Forest Products sector remains a cornerstone of Indiana's industrial base and a high-value engine for its economy. In 2023, the Forest Products sector directly provided 47,611 jobs and generated \$16.58 billion in direct economic output. The sector's influence extends deeply into the broader regional economy; when accounting for indirect supply chain purchases and induced household spending, the total contribution reached 90,287 jobs and \$25.17 billion in total output. This indicates a solid employment multiplier of 1.90. Essentially, for every 100 direct jobs in the forest sector, an additional 90 jobs are supported elsewhere in the Indiana economy, which reflects the deep integration of forest industries with local logistics, warehousing, and service sectors.

The industry exhibits a distinct structural emphasis on value-added manufacturing rather than raw extraction. Indiana's sector is defined primarily by downstream processing and finished goods. The Wood Furniture group stands as the primary employment driver, supporting 18,942 jobs. Further, despite employing fewer workers than the furniture and converting sectors, the Pulp, Paper, and Paperboard Mills sector remains a capital-intensive powerhouse. It generated nearly \$1.24 billion in direct output with only 1,376 workers, highlighting the high value-generation capacity of the state's mills. When examining unaggregated industries, Wood kitchen cabinet and countertop manufacturing emerges as the most prominent subsector, ranking first in direct employment with 10,208 jobs and leading in value-added at \$921.2 million. In contrast, Paperboard container manufacturing dominates in terms of total output, generating \$3.61 billion. Together, these patterns highlight the heterogeneous structure of the state's forest economy, with different subsectors leading across distinct economic dimensions.

Within Indiana's natural resource-based economy, the forest products sector represents a source of industrial strength. In 2023, it ranked first in direct output among natural resource sectors, generating \$16.58 billion and slightly edging out Agriculture (\$16.32 billion). While Agriculture remains the dominant volume leader in terms of employment, the Forest Products sector's financial contribution positions it as the premier financial contributor among natural resource industries. Within the broader manufacturing sector, forest products occupies a critical position, ranking as the fourth-largest manufacturing employer with 45,911 jobs, surpassing the Chemical, Primary Metal, and Machinery manufacturing sectors.

The study period (2017–2023) reveals a transition toward "capital deepening" where the sector has increased output despite a contraction in the workforce. While overall direct employment declined by 5.0 percent, the sector achieved 2.7 percent growth in real output and a 7.2 percent increase in value-added. Ultimately, by converting raw materials into essential packaging, high-value cabinetry, and consumer goods, the sector not only sustains the state's industrial

landscape but also supports a critical logistics and supply chain network. This solidifies its role as an enduring and cornerstone of Indiana's economy.

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Appendix A: Forest Products Industries Groupings and IMPLAN Sectors

A1: Forestry Industry Grouping and IMPLAN Sectors

Industry Code	Industry name
10	All other crop farming***
15	Forestry, forest products, and timber tract production
19	Support activities for agriculture and forestry-*

Note: Sectors with an “*” indicate that only a portion of the sector is included in the forest products industries.

Sectors denoted by “***” indicate that the corresponding FPI is not present in Indiana.

A2: Logging Industry Grouping and IMPLAN Sector

Industry Code	Industry name
16	Commercial logging

A3: Primary Solid Wood Products Industry Grouping and IMPLAN Sectors

Industry Code	Industry name
40	Electric power generation – Biomass**
124	Sawmills
125	Wood preservation
126	Veneer and plywood manufacturing
128	Reconstituted wood product manufacturing

Note: Sectors with “**” indicate that it is treated as **full sector** in 2023; however in 2017 it was treated as a **partial (wood component only)** so the numbers are not strictly comparable.

A4: Secondary Solid Wood Products Industry Grouping and IMPLAN Sectors.

Industry Code	Industry name
127	Engineered wood member and truss manufacturing
129	Wood windows and door manufacturing
130	Cut stock, resawing lumber, and planning
131	Other millwork, including flooring
132	Wood container and pallet manufacturing
133	Manufactured home (mobile home) manufacturing
134	Prefabricated wood building manufacturing
135	All other miscellaneous wood product manufacturing

A5: Wood Furniture Industry Grouping and IMPLAN Sectors.

Industry Code	Industry name
348	Wood kitchen cabinet and countertop manufacturing
349	Upholstered household furniture manufacturing
350	Non-upholstered wood household furniture manufacturing
352	Institutional furniture manufacturing**
353	Wood office furniture manufacturing
354	Custom architectural woodwork and millwork
356	Showcase, partition, shelving, and locker manufacturing**

Note: Sectors with “**” indicate that it is treated as **full sector** in 2023; however in 2017 it was treated as a **partial (wood component only)** so the numbers are not strictly comparable.

A6: Pulp, Paper, and Paperboard Mills Industry Grouping and IMPLAN Sectors.

Industry Code	Industry name
136	Pulp mills
137	Paper mills
138	Paperboard mills

A7: Secondary Paperboard and Other Paper Products Industry Grouping and IMPLAN Sectors.

Industry Code	Industry name
139	Paperboard container manufacturing
140	Paper bag and coated and treated paper manufacturing
141	Stationery product manufacturing
142	Sanitary paper product manufacturing
143	All other converted paper product manufacturing

Appendix B. Detailed Economic Contribution Results of 2023

B1: Direct Economic Contribution by IMPLAN Sector, 2023

B1.1: Direct Economic Contributions, Forestry Sector Details, 2023. [†]

Industries	Establishment*	Employment	Labor Income	Value-Added	Output
All other crop farming	-	0	\$0	\$0	\$0
Forestry, forest products, and timber tract production	7	102	\$10,166	\$11,288	\$12,287
Support activities for agriculture and forestry	20	348	\$13,848	\$14,817	\$15,570
Total	27	450	\$24,014	\$26,105	\$27,858

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

* Establishment figures reflect 2023 private establishments and are derived from private ownership, industry-level data (accessible via the Bureau of Labor Statistics: https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables last accessed 03/22/2026). Total, all ownerships data is only available at the total, all industries level.

B1.2: Direct Economic Contributions, Logging Sector Details (2023, in 2023 USD). [†]

Industries	Establishment*	Employment	Labor Income	Value-Added	Output
Commercial logging	87	1,228	\$117,578	\$121,348	\$126,379
Total	87	1,228	\$117,578	\$121,348	\$126,379

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

* Establishment figures reflect 2023 private establishments and are derived from private ownership, industry-level data (accessible via the Bureau of Labor Statistics: https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables last accessed 03/22/2026). Total, all ownerships data is only available at the total, all industries level.

B1.3: Direct Economic Contributions, Primary Solid Wood Products Sector Details (2023, in 2023 USD).[†]

Industries	Establishment*	Employment	Labor Income	Value-Added	Output
Electric power generation - Biomass	3	22	\$3,451	\$9,984	\$23,842
Sawmills	81	1,525	\$105,830	\$153,842	\$734,061
Wood preservation	10	201	\$17,379	\$38,634	\$170,466
Veneer and plywood manufacturing	34	1,819	\$128,060	\$203,356	\$665,892
Reconstituted wood product manufacturing	3	52	\$3,596	\$8,584	\$42,963
Total	131	3,619	\$258,316	\$414,399	\$1,637,223

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

* Establishment figures reflect 2023 private establishments and are derived from private ownership, industry-level data (accessible via the Bureau of Labor Statistics:

https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables last accessed 03/22/2026). Total, all ownerships data is only available at the total, all industries level.

B1.4: Direct Economic Contributions, Secondary Solid Wood Products Sector Details (2023, in 2023 USD).[†]

Industries	Establishment*	Employment	Labor Income	Value-Added	Output
Engineered wood member and truss manufacturing	49	2,125	\$182,268	\$243,905	\$873,260
Wood windows and door manufacturing	28	886	\$63,146	\$81,297	\$261,510
Cut stock, resawing lumber, and planing	25	719	\$48,584	\$78,089	\$273,801
Other millwork, including flooring	57	1,735	\$140,866	\$208,850	\$582,203
Wood container and pallet manufacturing	132	3,183	\$217,467	\$267,698	\$818,165
Manufactured home (mobile home) manufacturing	17	2,869	\$265,910	\$297,925	\$936,951
Prefabricated wood building manufacturing	21	341	\$31,975	\$48,198	\$134,151
All other miscellaneous wood product manufacturing	87	1,202	\$85,513	\$113,276	\$337,872
Total	416	13,061	\$1,035,728	\$1,339,239	\$4,217,912

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

* Establishment figures reflect 2023 private establishments and are derived from private ownership, industry-level data (accessible via the Bureau of Labor Statistics: https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables last accessed 03/22/2026). Total, all ownerships data is only available at the total, all industries level.

B1.5: Direct Economic Contributions, Wood Furniture Sector Details (2023, 2023 USD).[†]

Industries	Establishment*	Employment	Labor Income	Value-Added	Output
Wood kitchen cabinet and countertop manufacturing	281	10,208	\$678,798	\$921,194	\$2,110,923
Upholstered household furniture manufacturing	16	1,736	\$99,752	\$131,750	\$388,176
Non-upholstered wood household furniture manufacturing	88	1,400	\$92,301	\$118,699	\$285,468
Institutional furniture manufacturing	18	921	\$60,004	\$79,365	\$220,095
Wood office furniture manufacturing	29	3,149	\$203,098	\$321,006	\$876,462
Custom architectural woodwork and millwork	36	532	\$36,587	\$31,481	\$114,994
Showcase, partition, shelving, and locker manufacturing	26	995	\$64,636	\$101,002	\$280,138
Total	494	18,942	\$1,235,175	\$1,704,498	\$4,276,256

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

* Establishment figures reflect 2023 private establishments and are derived from private ownership, industry-level data (accessible via the Bureau of Labor Statistics: https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables last accessed 03/22/2026). Total, all ownerships data is only available at the total, all industries level.

B1.6: Direct Economic Contributions, Pulp, Paper, and Paperboard Mills Sector Details (2023, in 2023 USD).[†]

Industries	Establishment*	Employment	Labor Income	Value-Added	Output
Pulp mills	1	51	\$7,331	\$11,279	\$37,928
Paper mills	7	536	\$69,098	\$156,686	\$480,705
Paperboard mills	9	789	\$86,314	\$185,555	\$721,197
Total	17	1,376	\$162,743	\$353,521	\$1,239,830

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

* Establishment figures reflect 2023 private establishments and are derived from private ownership, industry-level data (accessible via the Bureau of Labor Statistics:

https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables last accessed 03/22/2026). Total, all ownerships data is only available at the total, all industries level.

B1.7: Direct Economic Contributions, Secondary Paperboard and Other Paper Products Sector
Details (2023, in 2023 USD).[†]

Industries	Establishment*	Employment	Labor Income	Value- Added	Output
Paperboard container manufacturing	86	6,064	\$555,076	\$883,376	\$3,607,853
Paper bag and coated and treated paper manufacturing	32	1,970	\$178,671	\$303,029	\$980,026
Stationery product manufacturing	4	268	\$23,876	\$29,818	\$119,217
Sanitary paper product manufacturing	1	104	\$12,952	\$33,132	\$99,337
All other converted paper product manufacturing	9	529	\$49,622	\$93,910	\$247,660
Total	132	8,934	\$820,196	\$1,343,264	\$5,054,094

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

* Establishment figures reflect 2023 private establishments and are derived from private ownership, industry-level data (accessible via the Bureau of Labor Statistics: https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables last accessed 03/22/2026). Total, all ownerships data is only available at the total, all industries level.

B2: Direct Economic Contribution by IMPLAN Sector, 2017 (2017 USD))

B2.1: Direct Economic Contributions, Forestry Sector Details (2017, in Nominal 2017 USD). [†]

Industries	Employment	Labor Income	Value-Added	Output
All other crop farming	89	\$7,235	\$7,003	\$9,332
Forestry, forest products, and timber tract production	248	\$21,234	\$19,803	\$20,755
Support activities for agriculture and forestry	19	\$240	\$339	\$602
Total	356	\$28,709	\$27,144	\$30,689

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B2.2: Direct Economic Contributions, Logging Sector Details (2017, in Nominal 2017 USD). [†]

Industries	Employment	Labor Income	Value-Added	Output
Commercial logging	1,422	\$104,973	\$210,647	\$241,876
Total	1,422	\$104,973	\$210,647	\$241,876

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2017 dollars value.

B2.3: Direct Economic Contributions, Primary Solid Wood Products Sector Details (2017, in Nominal 2017 USD). [†]

Industries	Employment	Labor Income	Value- Added	Output
Electric power generation - Biomass	0	\$0	\$0	\$0
Sawmills	1,712	\$80,872	\$88,358	\$465,613
Wood preservation	145	\$9,241	\$14,798	\$83,889
Veneer and plywood manufacturing	1,590	\$86,397	\$97,608	\$429,278
Reconstituted wood product manufacturing	38	\$2,283	\$3,276	\$19,080
Total	3,485	\$178,792	\$204,039	\$997,860

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2017 dollars value.

B2.4: Direct Economic Contributions, Secondary Solid Wood Products Sector Details (2017, in Nominal 2017 USD).[†]

Industries	Employment	Labor Income	Value-Added	Output
Engineered wood member and truss manufacturing	1,836	\$102,206	\$109,237	\$404,311
Wood windows and door manufacturing	1,145	\$64,057	\$74,959	\$255,108
Cut stock, resawing lumber, and planing	619	\$34,906	\$46,224	\$146,129
Other millwork, including flooring	1,533	\$85,441	\$104,689	\$319,050
Wood container and pallet manufacturing	3,115	\$145,621	\$162,064	\$479,508
Manufactured home (mobile home) manufacturing	2,609	\$179,521	\$246,844	\$679,695
Prefabricated wood building manufacturing	309	\$19,559	\$21,040	\$56,178
All other miscellaneous wood product manufacturing	1,406	\$74,009	\$86,205	\$256,731
Total	12,572	\$705,322	\$851,261	\$2,596,710

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2017 dollars value.

B2.5: Direct Economic Contributions, Wood Furniture Sector Details (2017, in Nominal 2017 USD).[†]

Industries	Employment	Labor Income	Value-Added	Output
Wood kitchen cabinet and countertop manufacturing	11,115	\$637,532	\$739,297	\$1,743,742
Upholstered household furniture manufacturing	2,496	\$145,499	\$180,814	\$529,611
Non-upholstered wood household furniture manufacturing	1,673	\$87,293	\$115,791	\$242,814
Institutional furniture manufacturing	594	\$33,600	\$41,934	\$117,175
Wood office furniture manufacturing	3,534	\$189,509	\$333,304	\$824,772
Custom architectural woodwork and millwork	447	\$25,483	\$30,863	\$73,392
Showcase, partition, shelving, and locker manufacturing	2,203	\$115,268	\$153,823	\$453,429
Total	22,062	\$1,234,184	\$1,595,826	\$3,984,937

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2017 dollars value.

B2.6: Direct Economic Contributions, Pulp, Paper, and Paperboard Mills Sector Details (2017, in Nominal 2017 USD).[†]

Industries	Employment	Labor Income	Value-Added	Output
Pulp mills	0	\$0	\$0	\$0
Paper mills	12	\$3,073	\$3,942	\$11,191
Paperboard mills	1,189	\$123,204	\$202,005	\$958,209
Total	1,202	\$126,277	\$205,947	\$969,400

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2017 dollars value.

B2.7: Direct Economic Contributions, Secondary Paperboard and Other Paper Products Sector Details (2017, in Nominal 2017 USD).[†]

Industries	Employment	Labor Income	Value-Added	Output
Paperboard container manufacturing	5,974	\$510,582	\$621,534	\$2,784,634
Paper bag and coated and treated paper manufacturing	1,975	\$151,377	\$208,987	\$862,324
Stationery product manufacturing	372	\$25,572	\$34,771	\$135,891
Sanitary paper product manufacturing	143	\$14,277	\$33,057	\$107,490
All other converted paper product manufacturing	531	\$44,835	\$53,111	\$171,687
Total	8,995	\$746,643	\$951,460	\$4,062,026

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2017 dollars value.

B3: Direct Economic Contribution by IMPLAN Sector, 2017 (2023 USD)

B3.1: Direct Economic Contributions, Forestry Sector Details (2017, in 2023 USD). [†]

Industries	Employment	Labor Income	Value- Added	Output
All other crop farming	89	\$8,847	\$8,562	\$11,696
Forestry, forest products, and timber tract production	248	\$25,964	\$24,214	\$26,012
Support activities for agriculture and forestry	19	\$294	\$414	\$754
Total	356	\$35,104	\$33,190	\$38,463

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B3.2: Direct Economic Contributions, Logging Sector Details (2017, in 2023 USD).[†]

Industries	Employment	Labor Income	Value-Added	Output
Commercial logging	1,422	\$128,353	\$257,564	\$303,147
Total	1,422	\$128,353	\$257,564	\$303,147

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B3.3: Direct Economic Contributions, Primary Solid Wood Products Sector Details (2017, in 2023 USD).[†]

Industries	Employment	Labor Income	Value-Added	Output
Electric power generation - Biomass	0	\$0	\$0	\$0
Sawmills	1,712	\$98,884	\$108,038	\$583,562
Wood preservation	145	\$11,300	\$18,093	\$105,140
Veneer and plywood manufacturing	1,590	\$105,640	\$119,349	\$538,022
Reconstituted wood product manufacturing	38	\$2,791	\$4,006	\$23,914
Total	3,485	\$218,615	\$249,485	\$1,250,638

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B3.4: Direct Economic Contributions, Secondary Solid Wood Products Sector Details (2017, in 2023 USD).[†]

Industries	Employment	Labor Income	Value-Added	Output
Engineered wood member and truss manufacturing	1,836	\$124,971	\$133,568	\$506,731
Wood windows and door manufacturing	1,145	\$78,325	\$91,654	\$319,732
Cut stock, resawing lumber, and planing	619	\$42,681	\$56,519	\$183,146
Other millwork, including flooring	1,533	\$104,472	\$128,006	\$399,871
Wood container and pallet manufacturing	3,115	\$178,055	\$198,160	\$600,977
Manufactured home (mobile home) manufacturing	2,609	\$219,506	\$301,824	\$851,875
Prefabricated wood building manufacturing	309	\$23,915	\$25,727	\$70,409
All other miscellaneous wood product manufacturing	1,406	\$90,493	\$105,405	\$321,767
Total	12,572	\$862,418	\$1,040,863	\$3,254,509

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B3.5: Direct Economic Contributions, Wood Furniture Sector Details (2017, in 2023 USD). [†]

Industries	Employment	Labor Income	Value-Added	Output
Wood kitchen cabinet and countertop manufacturing	11,115	\$779,530	\$903,961	\$2,185,467
Upholstered household furniture manufacturing	2,496	\$177,907	\$221,086	\$663,772
Non-upholstered wood household furniture manufacturing	1,673	\$106,735	\$141,581	\$304,324
Institutional furniture manufacturing	594	\$41,084	\$51,274	\$146,858
Wood office furniture manufacturing	3,534	\$231,718	\$407,541	\$1,033,704
Custom architectural woodwork and millwork	447	\$31,158	\$37,737	\$91,984
Showcase, partition, shelving, and locker manufacturing	2,203	\$140,941	\$188,084	\$568,292
Total	22,062	\$1,509,074	\$1,951,265	\$4,994,401

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B3.6: Direct Economic Contributions, Pulp, Paper, and Paperboard Mills Sector Details (2017, in 2023 USD).[†]

Industries	Employment	Labor Income	Value- Added	Output
Pulp mills	0	\$0	\$0	\$0
Paper mills	12	\$3,757	\$4,820	\$14,026
Paperboard mills	1,189	\$150,646	\$246,997	\$1,200,942
Total	1,202	\$154,403	\$251,818	\$1,214,968

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B3.7: Direct Economic Contributions, Secondary Paperboard and Other Paper Products Sector Details (2017, in real 2023 Dollars).[†]

Industries	Employment	Labor Income	Value- Added	Output
Paperboard container manufacturing	5,974	\$624,304	\$759,968	\$3,490,037
Paper bag and coated and treated paper manufacturing	1,975	\$185,093	\$255,535	\$1,080,768
Stationery product manufacturing	372	\$31,268	\$42,515	\$170,316
Sanitary paper product manufacturing	143	\$17,457	\$40,420	\$134,720
All other converted paper product manufacturing	531	\$54,821	\$64,941	\$215,179
Total	8,995	\$912,943	\$1,163,379	\$5,091,019

[†] All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

Appendix C: Trend of Private Establishments in Indiana's Forest Products Industries (2021–2023)⁴

IMPLAN code	Industries	2021	2022	2023
10	All other crop farming	0	0	0
15	Forestry, forest products, and timber tract production	8	7	7
19	Support activities for agriculture and forestry	20	21	20
	Total	28	28	27
16	Commercial logging	84	85	87
	Total	84	85	87
40	Electric power generation - Biomass	2	2	3
124	Sawmills	84	85	81
125	Wood preservation	9	9	10
126	Veneer and plywood manufacturing	34	35	34
128	Reconstituted wood product manufacturing	3	4	3
	Total	132	135	131
127	Engineered wood member and truss manufacturing	0	47	49
129	Wood windows and door manufacturing	29	28	28
130	Cut stock, resawing lumber, and planing	26	27	25
131	Other millwork, including flooring	57	56	57
132	Wood container and pallet manufacturing	127	134	132
133	Manufactured home (mobile home) manufacturing	19	18	17

⁴ Establishment trends reflect private establishments from 2021 to 2023. This time frame represents the latest available data, as the BLS interactive tables currently only provide establishment data from 2021 onward. (accessible via the Bureau of Labor Statistics: https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables last accessed 03/22/2026). Total, all ownerships data is only available at the total, all industries level.

134	Prefabricated wood building manufacturing	16	20	21
135	All other miscellaneous wood product manufacturing	78	85	87
	Total	352	415	416
348	Wood kitchen cabinet and countertop manufacturing	271	279	281
349	Upholstered household furniture manufacturing	19	17	16
350	Nonupholstered wood household furniture manufacturing	88	93	88
352	Institutional furniture manufacturing	18	17	18
353	Wood office furniture manufacturing	30	29	29
354	Custom architectural woodwork and millwork	32	34	36
356	Showcase, partition, shelving, and locker manufacturing	29	29	26
	Total	487	498	494
136	Pulp mills	1	1	1
137	Paper mills	0	6	7
138	Paperboard mills	9	9	9
	Total	10	16	17
139	Paperboard container manufacturing	30	30	32
140	Paper bag and coated and treated paper manufacturing	3	4	4
141	Stationery product manufacturing	4	3	1
142	Sanitary paper product manufacturing	9	9	9
143	All other converted paper product manufacturing	0	0	0
	Total	46	46	46
Total industries		1230	1311	1304