CI Consulting

Economic Impact Analysis of Hardwood Industry

Subtitle

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The Hardwood Federation

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Contents

List of Exhibits

1. Executive Summary

This study examines the economic contributions of the hardwood industry to the US economy. Specifically, it analyzes the contributions of all 50 states individually to quantify the extent to which each state's economy relies on and benefits from the output of hardwood products.

The analysis reveals that the hardwood industry generated $152.2 billion in direct output, which indirectly supported a total economic output of $448.1 billion in 2022. This indicates that the hardwood industry contributed nearly an additional $296 billion in business sales during the same year. Moreover, the output of hardwood products contributed $208.7 billion to US GDP, and the number of jobs linked directly or indirectly to hardwood industry output totaled more than 1.9 million, with $133.6 billion in labor income.

Further analysis shows that for every job directly involved in the output of hardwood products, an additional 1.5 jobs were indirectly supported elsewhere in the US economy. Additionally, for every $1 of hardwood product sales, indirect and induced business activities supported an additional $1.95 in business sales across the US.

The positive impacts of hardwood industry output extend well beyond the forestry sector. Industries receiving the greatest economic benefits from hardwood industry output include wholesale trade, real estate, truck transportation, and wireless telecommunications. Restaurants, hospitals, and employment services also receive significant economic contributions from hardwood output.

These results highlight the important role the hardwood industry plays in the US economy.

2. Introduction

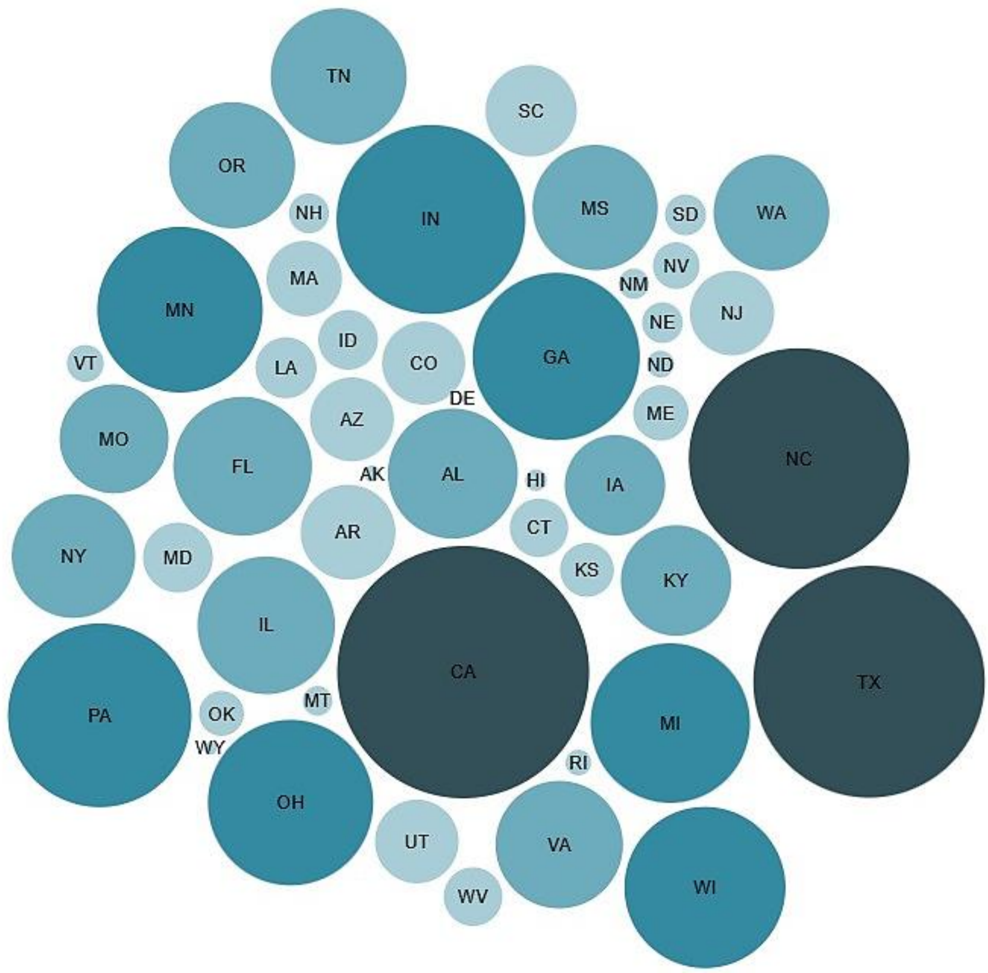
This study was commissioned by the Hardwood Federation to quantify the economic contributions of the hardwood industry to the US economy. It also quantifies the economic contributions that the output of hardwood products provides to each individual state. The objective of this work is to clearly demonstrate the extent to which individual states benefit from sales of hardwood products produced within their borders.

The economic benefits shown in this study include those gained by industries linked to hardwood product sales, such as commercial sectors connected to the sawmill industry. By determining the benefits that accrue along the entire value chain associated with hardwood industry output, a clearer picture of the hardwood industry's true economic importance emerges.

This report first identifies the value of hardwood industry output originating from each US state. It then describes the specific data and methodologies used in the analysis, followed by the results from the IMPLAN economic input-output models.

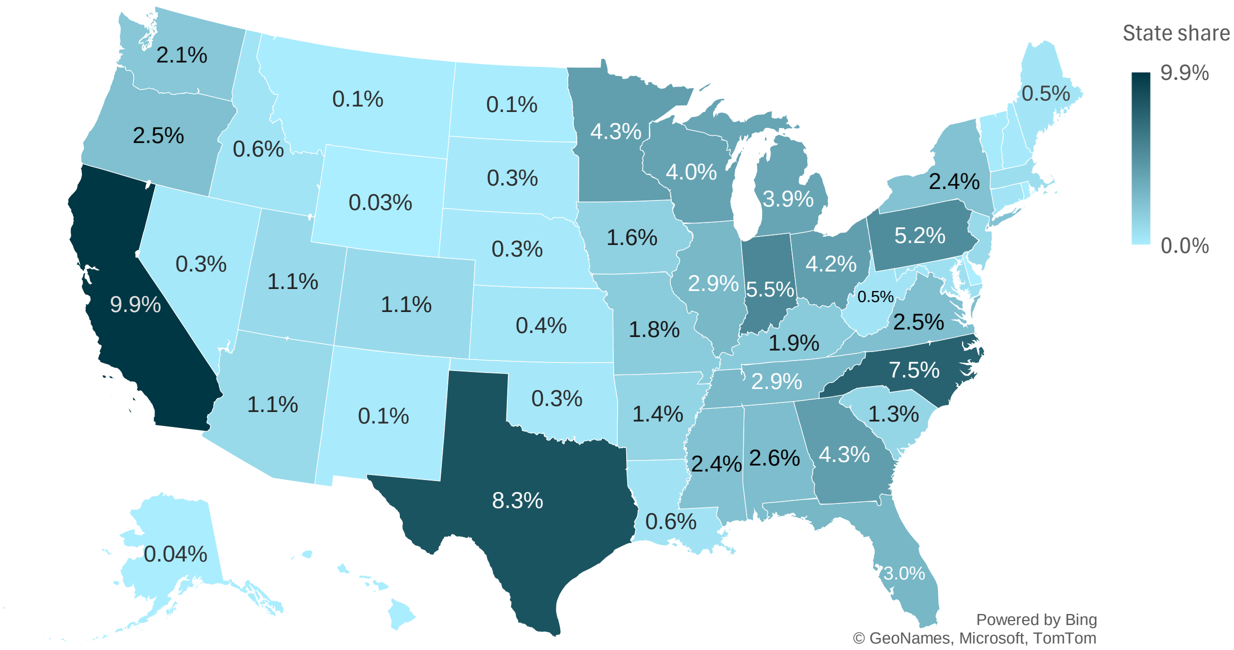
To illustrate the relative importance of each state's output compared to others, Exhibit 1 presents the value of hardwood industry output from each state, while Exhibit 2 shows each state's share. From this, it becomes clear that while every state contributes some level of hardwood industry output, a handful of states account for a significant portion of the overall value.

Exhibit 1. Relative Size of Total Hardwood Industry Economic Output by US State, 2022



Note: Bubble size represents relative output value in $M
Source: US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

Exhibit 2. Share of Total Hardwood Industry Economic Output by State



Source: US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

Having identified the value of output from each state, the remainder of this report explains the methods used to quantify the economic contributions of the hardwood industry and presents the results of the analysis.

3. Methodology

This study examined the impacts contributed from the hardwood industry, which is segmented into 17 principal North American Industry Classification System (NAICS) codes.

Exhibit 3. Primary Hardwood Industry NAICS Codes and Industries

NAICS Code	Hardwood Industry	Sub-sector
321113	Sawmills	
321114	Wood Preservation	Railway Ties
321211	Hardwood Veneer and Plywood Manufacturing	
321215	Engineered Wood Member Manufacturing	
321911	Wood Window and Door Manufacturing	
321912	Cut Stock, Resawing Lumber, and Planing	
321918	Other Millwork (including Flooring)	
321920	Wood Container and Pallet Manufacturing	Staves
321999	All Other Miscellaneous Wood Product Manufacturing	
337110	Wood Kitchen Cabinet and Countertop Manufacturing	
337121	Upholstered Household Furniture Manufacturing	
337122	Nonupholstered Wood Household Furniture Manufacturing	
337127	Institutional Furniture Manufacturing	
337211	Wood Office Furniture Manufacturing	
337212	Custom Architectural Woodwork and Millwork Manufacturing	
337215	Showcase, Partition, Shelving, and Locker Manufacturing	
337920	Blind and Shade Manufacturing	

Source: US Census Bureau, North American Industry Classification System (NAICS), 2022 Edition

To estimate the economic impact of the hardwood industry on individual states, data on ‘Sales, Value of Shipments, or Revenue’ for every NAICS code is available from the 2022 Economic Census. For the sake of conciseness in this report, these values will be referred to as output. Where gaps emerged in the dataset, IMPLAN[1] outputs were used as general estimates of output.

3.1. State Output

The Economic Census (conducted every 5 years) provides detailed information of output and other economic variables by state. The data labeled “Sales, Value of Shipments, or Revenue” was used to derive an estimate for 2022 state hardwood output numbers. These estimates were then used in tandem with IMPLAN estimates to derive the final evaluation of 2022 hardwood output numbers.

[1] IMPLAN is an input–output modeling system that uses regional economic data to estimate how shifts in spending, production, or policy ripple through industries, affecting employment, income, and output.

3.2. IMPLAN Economic Models

To estimate the “ripple effects” that US hardwood industry output has on the entire US economy, IMPLAN economic input-output software was used. Information gathered in previous chapters was used to quantify the economic contribution of the hardwood industry to the US economy. Results from the models provide insight into the number of jobs, Gross Domestic Product (GDP, which IMPLAN calls Value Added) and output (industry sales) created via three different impacts.

Employment is the total number of jobs supported by the economic activity. Labor Income is the total value of all employment income, including employee compensation and proprietor income. Gross Domestic Product (GDP) is the total value added by each step in the supply chain. The GDP can be thought of as the summation of labor income, profit, taxes, and indirect business taxes. Output can be defined as the summation of the business revenues that are associated with the output of hardwood products.

The different impacts estimated by IMPLAN are: direct, indirect, and induced. Each impact is defined as:

- Direct impacts reflect the economic activity that occurs in the industries in which investments are made or changes occur. In the current case, the direct impacts are those that occur at the farm or the ethanol facility. For example, if a state produces $1 million in kitchen cabinets, the direct impact to that district is $1 million and 10 hardwood cabinet manufacturing jobs.
- Indirect impacts are the additional economic impacts that occur to industries upstream (or through “backward linkages”) to the industry that was directly impacted as it purchases inputs and services in order to produce its own product. For example, increased hardwood product output supports indirect (and positive) impacts on the commercial logging and truck transportation industries.
- Induced impacts are those impacts created by changes in the spending of labor income and profits generated by the direct and indirect impacts. In the case of hardwood output, wages for the jobs directly supported by the industry are spent on housing, medical treatments, groceries, etc. The spending in these industries creates induced (and positive) impacts for the housing, medical, and grocery store industries, along with other such industries.

For each state, an IMPLAN model was created for each product in the study. Accordingly, it is possible to assess the relative importance of each sector to an individual state and to assess each state’s importance in the output of a single hardwood product. Individual sector and state results are shown in individual reports that are separate from this document, while the national results are presented here. Additional note, due to the methodology of the multi-industry contribution analyses run for each state, aggregation of results across states will result in variation of impacts due to adjusted commodity production, adjusted trade flows and the impacts from aggregation bias. Results should be viewed as stand-alone analyses.

4. Results

4.1. US Economic Contributions

Results from IMPLAN models examining the contributions of the hardwood industry demonstrate its importance to the US national economy. **In 2022, the US hardwood industry recorded $152.2 billion of economic output (direct sales). The direct economic contributions of this output were over 763,000 jobs, $41.9 billion in labor income, and $57 billion in GDP** (Exhibit 4). From this analysis of the direct impacts, it becomes clear that the hardwood industry is a large contributor to the US economy, even before the economic "ripple effects " are accounted for.

For every $1 in hardwood industry output, an additional $1.95 is supported elsewhere in the US economy.

Exhibit 4. Direct Economic Contributions of US Hardwood Industry Output, 2022

Sector	Jobs No.	Labor Income $M	GDP $M	Output $M
Sawmills	32,192	$1,932.9	$2,886.0	$9,036.8
Wood Preservation	16,856	$1,058.5	$3,347.5	$10,051.2
Railway Ties	5,508	$330.7	$493.7	$1,546.1
Hardwood Veneer and Plywood Mfg.	11,785	$769.4	$1,191.4	$3,396.7
Engineered Wood Member Mfg.	1,700	$97.0	$133.7	$384.6
Wood Window and Door Mfg.	79,485	$5,044.3	$7,122.2	$18,894.3
Cut Stock, Resawing Lumber, and Planing	14,944	$769.4	$1,383.2	$3,603.5
Other Millwork	38,866	$2,087.7	$3,045.7	$8,054.1
Flooring	10,168	$546.2	$796.8	$2,107.1
Wood Container and Pallet Mfg.	117,445	$5,741.7	$6,909.4	$18,258.9
Staves	3,643	$178.1	$214.3	$566.4
All Other Miscellaneous Wood Product Mfg.	49,206	$2,600.1	$3,362.2	$8,821.4
Wood Kitchen Cabinet and Countertop Mfg.	139,266	$6,974.0	$9,756.8	$21,029.3
Upholstered Household Furniture Mfg.	69,096	$3,430.0	$4,450.3	$14,228.7
Nonupholstered Wood Household Furniture Mfg.	29,013	$1,333.1	$1,538.3	$3,996.4
Institutional Furniture Mfg.	27,163	$1,708.2	$1,857.6	$5,563.4
Wood Office Furniture Mfg.	13,111	$844.5	$1,184.5	$3,188.6
Custom Architectural Woodwork and Millwork Mfg.	57,824	$3,771.7	$3,665.0	$9,999.2
Showcase, Partition, Shelving, and Locker Mfg.	41,584	$2,521.5	$3,608.0	$9,084.2
Blind and Shade Mfg.	13,493	$734.4	$777.1	$2,536.3
Total	**763,196**	**$41,964.5**	**$57,015.5**	**$152,234.7**

Note: Mfg. = Manufacturing
Source: US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

The total economic contributions (direct, indirect, and induced contributions) created by hardwood industry output shows the true importance of the industry to the US economy. By including the impacts to industries that are linked (either by indirect or induced spending) to hardwood industry output **the 2022 US output value of $152.2 billion is magnified to a figure of nearly $448.2 billion in economic output** (Exhibit 5). That is, the economic “ripple effects” of US hardwood output is 2.9 times as large as the value of hardwood output. Another way to think of these effects is that for every $1 of hardwood industry output, another $1.95 in economic output (industry sales) is indirectly supported across the US.

Of course, the economic contributions of the hardwood industry are not limited solely to economic output. As shown in Exhibit 4, **the total impact of hardwood industry indirectly supported over 1.9 million jobs across the United States, $133.7 billion in labor income, and $208.8 billion in GDP in 2022.** For every job directly created by the hardwood industry, an additional 1.5 jobs were indirectly supported in the US.

Exhibit 5. Total Economic Contribution of US Hardwood Industry Output, 2022

Sector	Jobs No.	Labor Income $M	GDP $M	Output $M
Sawmills	126,250	$8,887.3	$13,623.1	$28,797.7
Wood Preservation	91,193	$6,940.1	$12,965.4	$29,052.2
Railway Ties	21,600	$1,520.5	$2,330.7	$4,926.9
Hardwood Veneer and Plywood Mfg.	39,634	$2,873.6	$4,578.1	$9,967.8
Engineered Wood Member Mfg.	4,706	$334.6	$530.4	$1,161.5
Wood Window and Door Mfg.	220,666	$16,244.7	$25,792.5	$55,483.4
Cut Stock, Resawing Lumber, and Planing	43,306	$2,939.7	$4,851.1	$10,387.5
Other Millwork	102,882	$7,003.7	$11,016.4	$23,432.1
Flooring	26,916	$1,832.3	$2,882.1	$6,130.3
Wood Container and Pallet Mfg.	256,058	$16,739.6	$25,415.7	$54,536.7
Staves	8,996	$519.3	$788.4	$1,691.8
All Other Miscellaneous Wood Product Mfg.	120,667	$8,223.9	$12,607.8	$26,606.4
Wood Kitchen Cabinet and Countertop Mfg.	285,090	$18,433.1	$29,058.5	$58,541.6
Upholstered Household Furniture Mfg.	172,850	$11,906.9	$18,426.9	$41,944.6
Nonupholstered Wood Household Furniture Mfg.	58,880	$3,707.4	$5,529.6	$11,841.3
Institutional Furniture Mfg.	69,124	$5,111.1	$7,604.1	$16,846.3
Wood Office Furniture Mfg.	36,617	$2,714.3	$4,295.6	$9,233.0
Custom Architectural Woodwork and Millwork Mfg.	139,772	$10,143.4	$14,355.9	$30,798.1
Showcase, Partition, Shelving, and Locker Mfg.	99,708	$7,232.3	$11,653.1	$25,425.7
Blind and Shade Mfg.	33,588	$2,397.1	$3,581.8	$8,007.7
Total	**1,927,907**	**$133,665.0**	**$208,768.0**	**$448,193.9**

Note: Mfg. = Manufacturing
Source: US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

The largest contributions by a hardwood sector, as measured by output, are those made by the output from wood kitchen cabinet and countertop manufacturing. Wood kitchen cabinet and countertop manufacturing direct output, which totaled $21.0 billion in 2022, directly supported over 139,000 jobs across the US and generated nearly $7 billion in labor income. Wood kitchen cabinet and countertop manufacturing also generated approximately $9.8 billion in direct GDP for the US economy. By the time the indirect and induced effects of wood kitchen cabinet and countertop manufacturing output are included, the sector supported over 285,000 jobs in the US, $18.4 billion in labor income, and added $29.1 billion in GDP through increased economic output of $58.5 billion (Exhibit 5).

As measured by GDP, the wood window and door manufacturing sector is the second most significant contributor to the US economy. The output of wood window and door manufacturing indirectly supported over 220,000 jobs in the US, $16.2 billion in labor income, $25.8 billion in GDP, and economic output of $55.5 billion in 2022 (Exhibit 5).

The impact of hardwood industry output does not benefit all industries to the same degree. Exhibit 6 showcases the top 15 (ranked by employment gains) IMPLAN industries that benefit from the hardwood industry.

Exhibit 6. Top 15 Industries by Employment Gains from Hardwood Industry Output, 2022

Sector	Jobs No.	Labor Income $M	GDP $M	Output $M
Wood Kitchen Cabinet and Countertop Mfg.	139,266	$6,974.0	$9,756.8	$21,029.3
Wood Container and Pallet Mfg.	117,445	$5,741.7	$6,909.4	$18,258.9
Wood Window and Door Mfg.	79,485	$5,044.3	$7,122.2	$18,894.3
Upholstered Household Furniture Mfg.	69,096	$3,430.0	$4,450.3	$14,228.7
Custom Architectural Woodwork and Millwork Mfg.	57,824	$3,771.7	$3,665.0	$9,999.2
Commercial Logging	55,883	$3,666.9	$3,779.1	$6,041.9
All Other Miscellaneous Wood Product Mfg.	49,206	$2,600.1	$3,362.2	$8,821.4
Other Millwork (including Flooring)	49,034	$2,633.8	$3,842.5	$10,161.2
Wholesale Trade	42,835	$4,358.3	$7,348.5	$13,505.6
Showcase, Partition, Shelving, and Locker Mfg.	41,584	$2,521.5	$3,608.0	$9,084.2
Real Estate	40,957	$1,677.4	$4,476.3	$10,420.5
Sawmills	32,192	$1,932.9	$2,886.0	$9,036.8
Full-Service Restaurants	32,101	$1,103.5	$1,655.0	$2,810.6
Truck Transportation	29,386	$2,509.3	$2,921.1	$6,236.1
Nonupholstered Wood Household Furniture Mfg.	29,013	$1,333.1	$1,538.3	$3,996.4

Note: Mfg. = Manufacturing
Source: US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

As shown in Exhibit 6 and Exhibit 7, many industries outside of agriculture benefit from hardwood industry output. The total GDP generated by industries linked (indirectly or through induced spending) benefits the wholesale trade and real estate industries. Across the US, the wholesale trade industry saw nearly $7.3 billion in GDP supported because of hardwood industry output in 2022. Similarly, $4.5 billion in GDP was supported in the real estate sector due to activities related to hardwood industry output. Such findings highlight the importance of hardwood output markets for industries beyond lumber.

Exhibit 7. Top 15 Industries by GDP Gains from Hardwood Industry Output, 2022

Sector	Jobs No.	Labor Income $M	GDP $M	Output $M
Wood Kitchen Cabinet and Countertop Mfg.	139,266	$6,974.0	$9,756.8	$21,029.3
Wholesale Trade	42,835	$4,358.3	$7,348.5	$13,505.6
Wood Window and Door Mfg.	79,485	$5,044.3	$7,122.2	$18,894.3
Wood Container and Pallet Mfg.	117,445	$5,741.7	$6,909.4	$18,258.9
Real Estate	40,957	$1,677.4	$4,476.3	$10,420.5
Upholstered Household Furniture Mfg.	69,096	$3,430.0	$4,450.3	$14,228.7
Management Of Companies and Enterprises	22,307	$3,609.7	$4,158.2	$5,888.4
Other Millwork (including Flooring)	49,034	$2,633.8	$3,842.5	$10,161.2
Commercial Logging	55,883	$3,666.9	$3,779.1	$6,041.9
Custom Architectural Woodwork and Millwork Mfg.	57,824	$3,771.7	$3,665.0	$9,999.2
Showcase, Partition, Shelving, and Locker Mfg.	41,584	$2,521.5	$3,608.0	$9,084.2
Monetary Authorities and Depository Credit Intermediation	10,133	$1,246.8	$3,410.1	$5,187.2
All Other Miscellaneous Wood Product Mfg.	49,206	$2,600.1	$3,362.2	$8,821.4
Wood Preservation	16,856	$1,058.5	$3,347.5	$10,051.2
Hospitals	25,087	$2,730.1	$3,200.8	$5,789.7

Note: Mfg. = Manufacturing
Source: US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

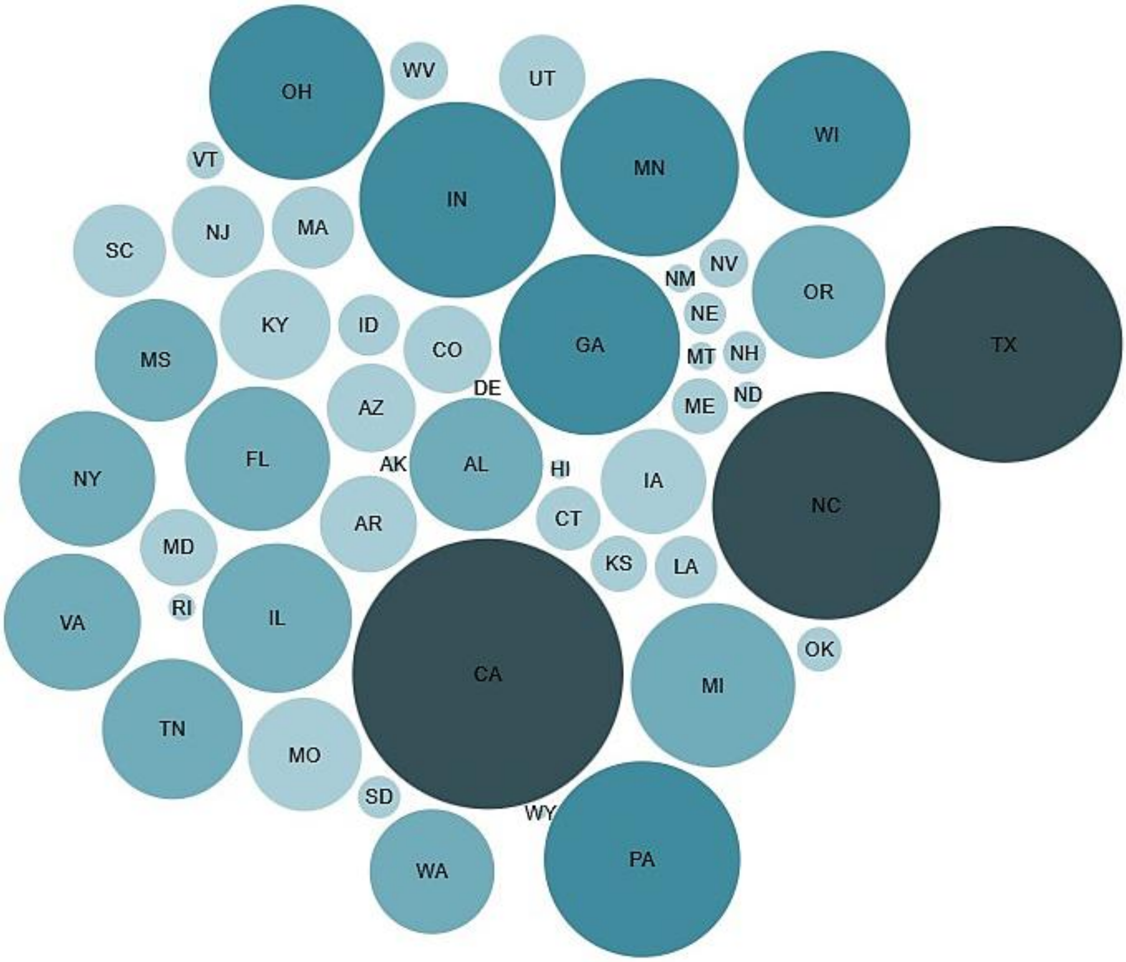
4.2. State Economic Contributions

Exhibit 8 compares the total gross state product (GSP) - including direct, indirect, and induced effects - supported by hardwood product output in each state in 2022, while Exhibit 9 displays this amount as a percentage of each state's total GSP for the same year.

Exhibit 10 shows the total number of jobs - including direct, indirect, and induced effects - supported by hardwood product output in each state as a percentage of that state's total employment in 2022.

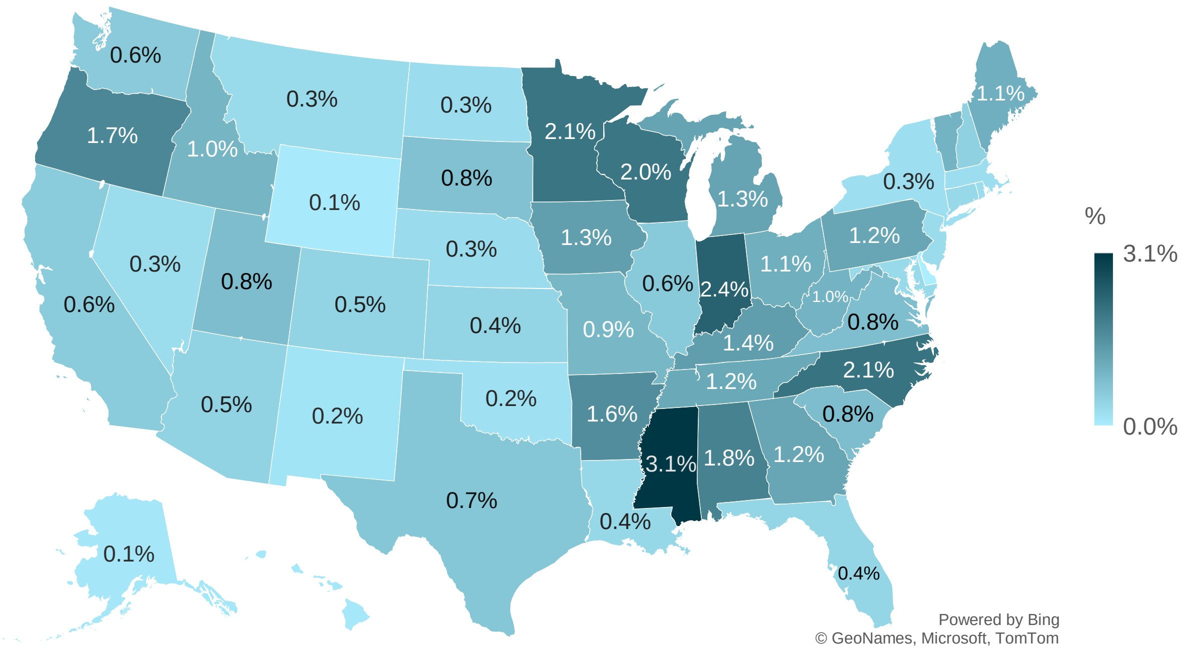
Specific and more detailed information on the economic contributions from hardwood industry output can be found in the individual state handouts associated with this report and in the state economic contribution ranking tables in this report.

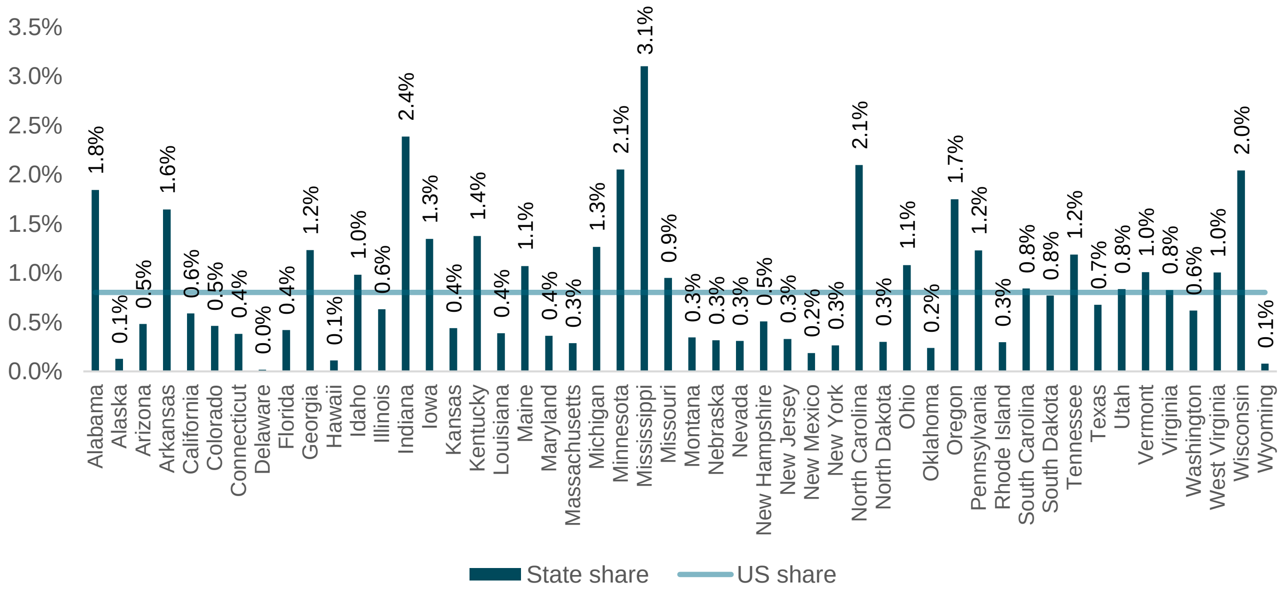
Exhibit 8. Relative Size of Total GSP from Hardwood Industry Output by State, 2022



Note: Bubble size represents relative GDP value in $M
Source: US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

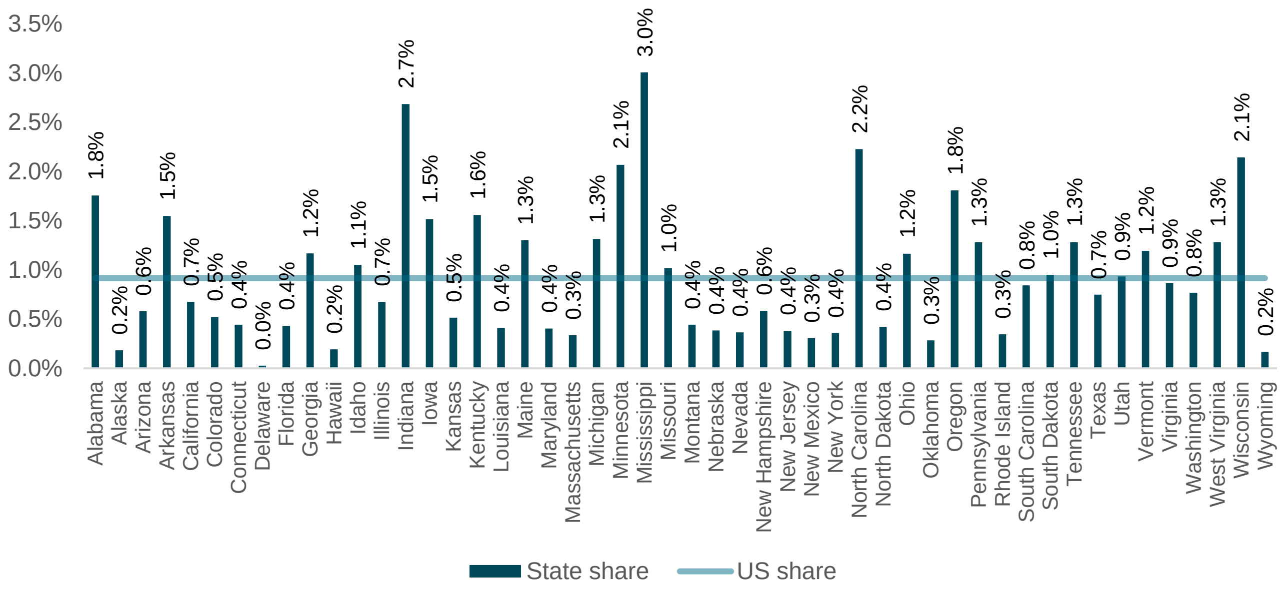
Exhibit 9. GSP from Hardwood Industry Output as a Share of Each State's Total GSP





Source: US Bureau of Economic Analysis, US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

Exhibit 10. Jobs from Hardwood Industry Output as a Share of Each State's Total Employment



Source: US Bureau of Economic Analysis, US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights © 2025 S&P Global

4.3. State Rankings

The tables shown in Exhibit 11 through Exhibit 15 rank the states by direct output, the total economic output, GSP, labor income, and the total number of jobs supported from hardwood industry output.

Exhibit 11. Hardwood Industry Direct Output by State, 2022
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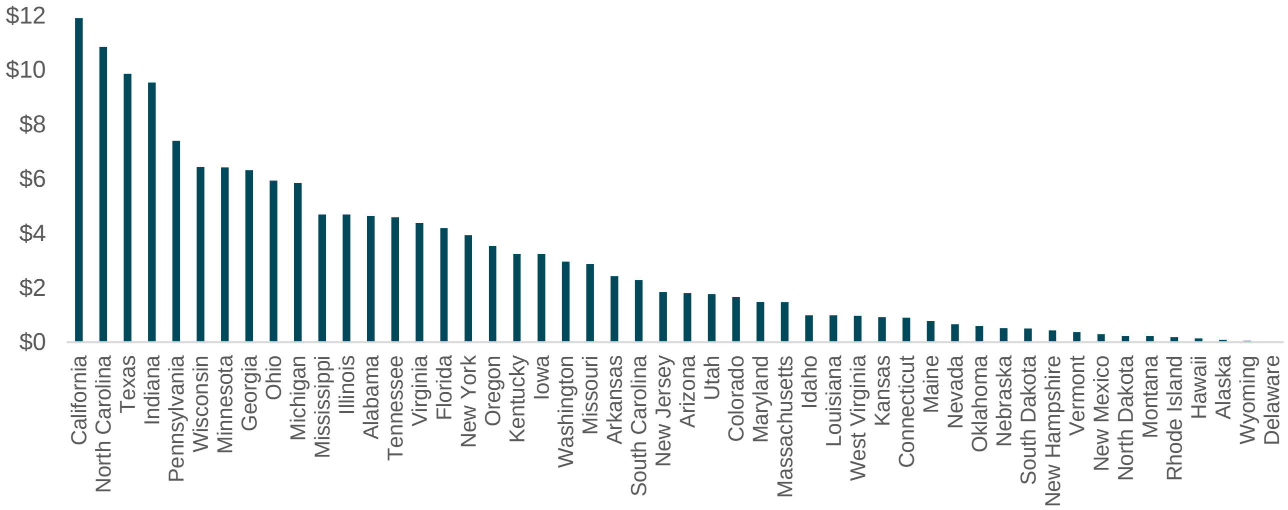

Rank	State	Direct Output $M
1	California	$11,910.8
2	North Carolina	$10,855.6
3	Texas	$9,864.8
4	Indiana	$9,540.5
5	Pennsylvania	$7,406.7
6	Wisconsin	$6,442.9
7	Minnesota	$6,426.4
8	Georgia	$6,324.2
9	Ohio	$5,942.9
10	Michigan	$5,854.3
11	Mississippi	$4,700.8
12	Illinois	$4,698.6
13	Alabama	$4,633.9
14	Tennessee	$4,588.5
15	Virginia	$4,376.4
16	Florida	$4,191.2
17	New York	$3,930.1
18	Oregon	$3,529.4
19	Kentucky	$3,242.6
20	Iowa	$3,234.5
21	Washington	$2,970.4
22	Missouri	$2,876.8
23	Arkansas	$2,426.4
24	South Carolina	$2,277.7
25	New Jersey	$1,851.3

Rank	State	Direct Output $M
26	Arizona	$1,801.2
27	Utah	$1,764.3
28	Colorado	$1,670.5
29	Maryland	$1,482.7
30	Massachusetts	$1,473.9
31	Idaho	$991.6
32	Louisiana	$985.0
33	West Virginia	$973.7
34	Kansas	$919.8
35	Connecticut	$908.7
36	Maine	$785.2
37	Nevada	$663.6
38	Oklahoma	$601.1
39	Nebraska	$521.1
40	South Dakota	$511.5
41	New Hampshire	$441.2
42	Vermont	$378.4
43	New Mexico	$291.1
44	North Dakota	$237.4
45	Montana	$236.6
46	Rhode Island	$192.9
47	Hawaii	$137.6
48	Alaska	$94.8
49	Wyoming	$60.2
50	Delaware	$12.8

Source: US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

Exhibit 12. Total Economic Output Created by Hardwood Industry Output by State, 2022
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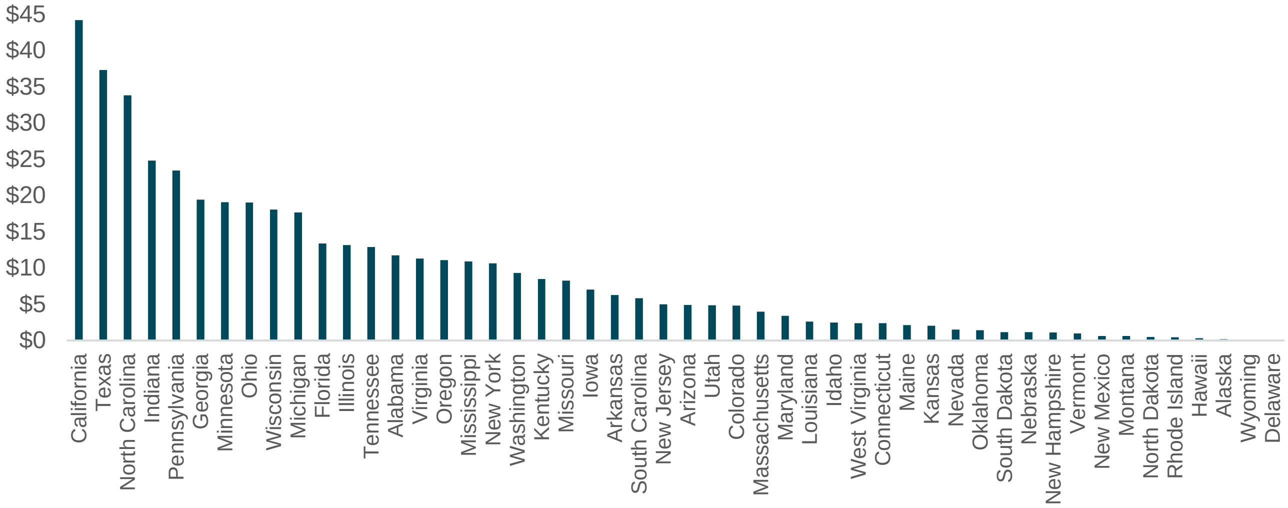

Rank	State	Total Output $M	Rank	State	Total Output $M
1	California	$44,189.2	26	Arizona	$4,899.3
2	Texas	$37,309.6	27	Utah	$4,862.7
3	North Carolina	$33,820.2	28	Colorado	$4,813.9
4	Indiana	$24,813.7	29	Massachusetts	$3,965.6
5	Pennsylvania	$23,442.8	30	Maryland	$3,398.4
6	Georgia	$19,427.4	31	Louisiana	$2,593.1
7	Minnesota	$19,061.2	32	Idaho	$2,484.4
8	Ohio	$19,025.8	33	West Virginia	$2,396.7
9	Wisconsin	$18,061.7	34	Connecticut	$2,380.4
10	Michigan	$17,670.3	35	Maine	$2,138.2
11	Florida	$13,380.1	36	Kansas	$2,016.3
12	Illinois	$13,160.3	37	Nevada	$1,518.7
13	Tennessee	$12,872.0	38	Oklahoma	$1,402.1
14	Alabama	$11,752.4	39	South Dakota	$1,170.9
15	Virginia	$11,297.8	40	Nebraska	$1,153.6
16	Oregon	$11,065.8	41	New Hampshire	$1,120.2
17	Mississippi	$10,905.9	42	Vermont	$953.0
18	New York	$10,633.6	43	New Mexico	$641.0
19	Washington	$9,324.7	44	Montana	$614.7
20	Kentucky	$8,492.0	45	North Dakota	$503.5
21	Missouri	$8,262.6	46	Rhode Island	$456.8
22	Iowa	$7,028.5	47	Hawaii	$326.9
23	Arkansas	$6,263.9	48	Alaska	$189.2
24	South Carolina	$5,817.1	49	Wyoming	$115.4
25	New Jersey	$4,970.4	50	Delaware	$29.9

Source: US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

Exhibit 13. Total GSP Created by Hardwood Industry Output by State, 2022
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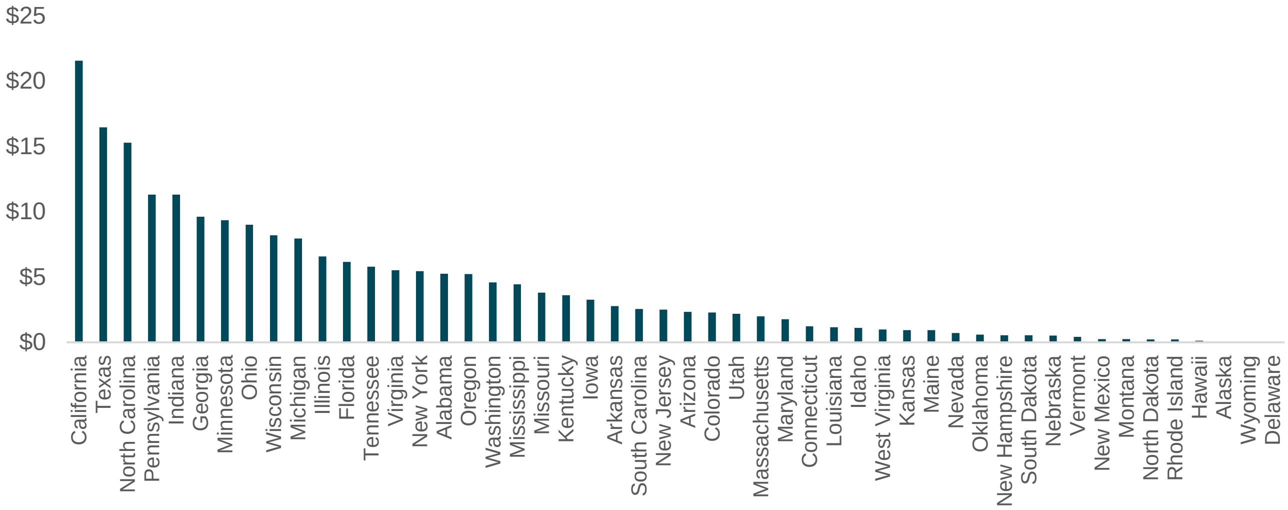
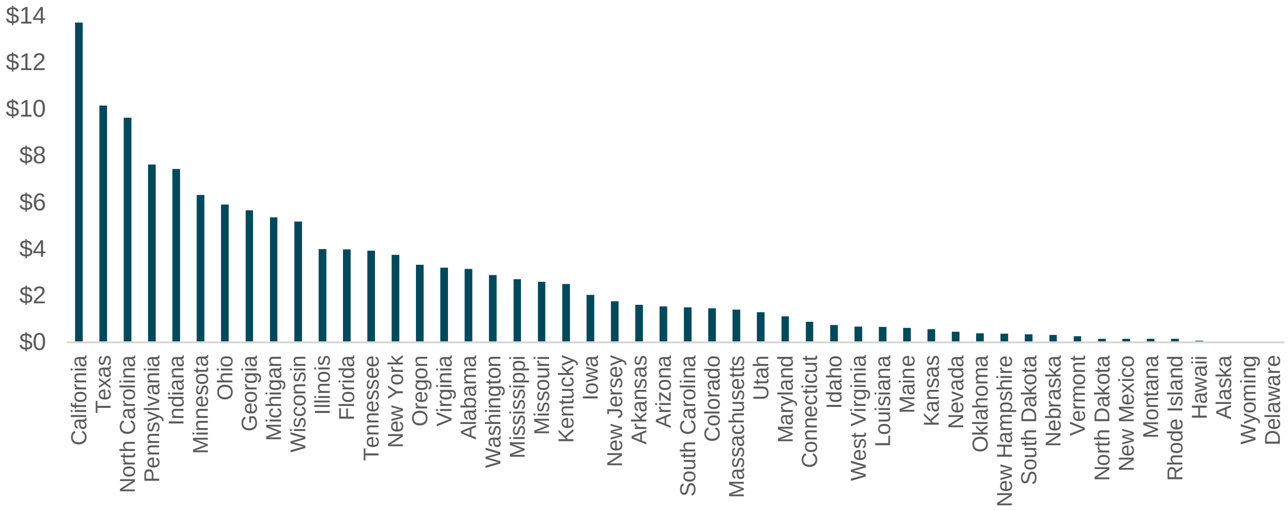


Rank	State	GSP $M	Rank	State	GSP $M
1	California	$21,541.2	26	Arizona	$2,326.5
2	Texas	$16,463.5	27	Colorado	$2,281.8
3	North Carolina	$15,276.9	28	Utah	$2,181.8
4	Pennsylvania	$11,311.0	29	Massachusetts	$1,995.7
5	Indiana	$11,308.2	30	Maryland	$1,760.4
6	Georgia	$9,609.3	31	Connecticut	$1,226.6
7	Minnesota	$9,339.1	32	Louisiana	$1,155.7
8	Ohio	$9,001.5	33	Idaho	$1,103.3
9	Wisconsin	$8,185.6	34	West Virginia	$986.8
10	Michigan	$7,939.3	35	Kansas	$932.6
11	Illinois	$6,565.6	36	Maine	$927.2
12	Florida	$6,158.1	37	Nevada	$700.6
13	Tennessee	$5,799.1	38	Oklahoma	$586.0
14	Virginia	$5,515.9	39	New Hampshire	$540.6
15	New York	$5,432.4	40	South Dakota	$532.7
16	Alabama	$5,256.6	41	Nebraska	$528.0
17	Oregon	$5,227.3	42	Vermont	$413.5
18	Washington	$4,583.6	43	New Mexico	$240.3
19	Mississippi	$4,426.9	44	Montana	$236.8
20	Missouri	$3,797.1	45	North Dakota	$222.2
21	Kentucky	$3,598.3	46	Rhode Island	$215.4
22	Iowa	$3,268.5	47	Hawaii	$113.7
23	Arkansas	$2,773.0	48	Alaska	$83.8
24	South Carolina	$2,542.3	49	Wyoming	$38.8
25	New Jersey	$2,502.6	50	Delaware	$14.6

Source: US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

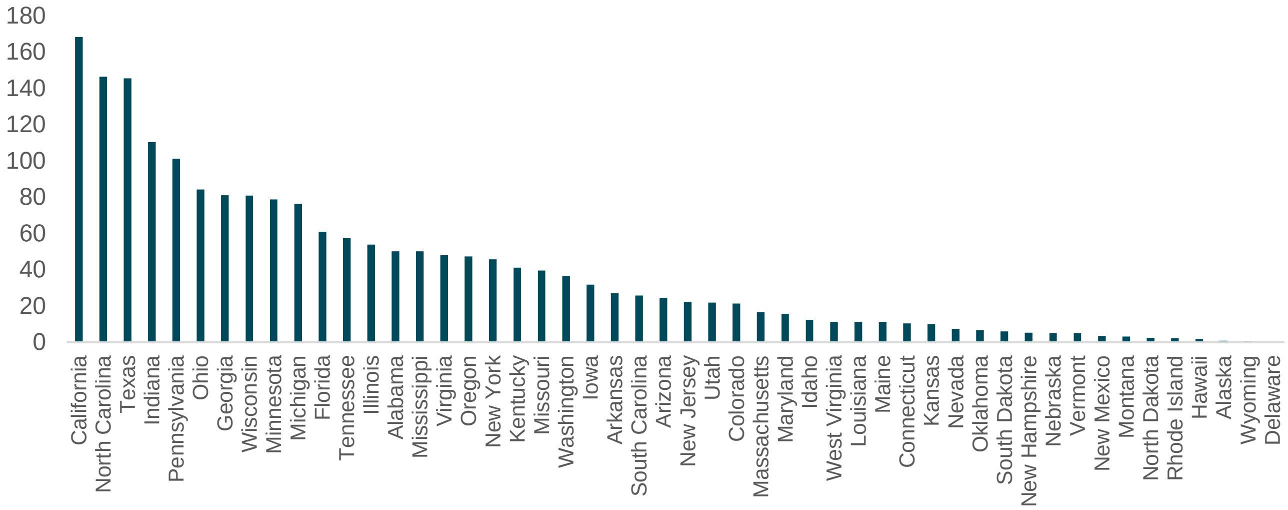
Exhibit 14. Total Labor Income Created by Hardwood Industry Output by State, 2022
$B



Rank	State	Labor Income $M	Rank	State	Labor Income $M
1	California	$13,705.7	26	South Carolina	$1,490.6
2	Texas	$10,147.9	27	Colorado	$1,449.3
3	North Carolina	$9,623.3	28	Massachusetts	$1,407.0
4	Pennsylvania	$7,614.1	29	Utah	$1,291.9
5	Indiana	$7,427.1	30	Maryland	$1,116.6
6	Minnesota	$6,322.5	31	Connecticut	$874.9
7	Ohio	$5,900.1	32	Idaho	$736.7
8	Georgia	$5,658.0	33	West Virginia	$674.8
9	Michigan	$5,353.0	34	Louisiana	$660.8
10	Wisconsin	$5,173.8	35	Maine	$616.2
11	Illinois	$3,992.3	36	Kansas	$568.6
12	Florida	$3,983.4	37	Nevada	$460.1
13	Tennessee	$3,924.8	38	Oklahoma	$384.1
14	New York	$3,743.8	39	New Hampshire	$366.2
15	Oregon	$3,329.9	40	South Dakota	$341.3
16	Virginia	$3,196.9	41	Nebraska	$312.6
17	Alabama	$3,149.5	42	Vermont	$266.7
18	Washington	$2,886.0	43	North Dakota	$154.4
19	Mississippi	$2,710.7	44	New Mexico	$154.3
20	Missouri	$2,597.9	45	Montana	$149.9
21	Kentucky	$2,498.1	46	Rhode Island	$146.7
22	Iowa	$2,036.3	47	Hawaii	$76.2
23	New Jersey	$1,759.7	48	Alaska	$43.9
24	Arkansas	$1,613.1	49	Wyoming	$26.5
25	Arizona	$1,535.5	50	Delaware	$11.5

Source: US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

Exhibit 15. Total Number of Jobs Created by Hardwood Industry Output by State, 2022
Thousand



Rank	State	Jobs No.	Rank	State	Jobs No.
1	California	168,268	26	New Jersey	22,223
2	North Carolina	146,398	27	Utah	21,851
3	Texas	145,404	28	Colorado	21,422
4	Indiana	110,362	29	Massachusetts	16,646
5	Pennsylvania	101,190	30	Maryland	15,645
6	Ohio	84,129	31	Idaho	12,390
7	Georgia	81,016	32	West Virginia	11,339
8	Wisconsin	80,936	33	Louisiana	11,328
9	Minnesota	78,737	34	Maine	11,268
10	Michigan	76,270	35	Connecticut	10,448
11	Florida	60,928	36	Kansas	10,033
12	Tennessee	57,445	37	Nevada	7,440
13	Illinois	53,808	38	Oklahoma	6,741
14	Alabama	50,122	39	South Dakota	6,095
15	Mississippi	50,085	40	New Hampshire	5,359
16	Virginia	48,016	41	Nebraska	5,209
17	Oregon	47,335	42	Vermont	5,144
18	New York	45,682	43	New Mexico	3,456
19	Kentucky	41,103	44	Montana	3,270
20	Missouri	39,507	45	North Dakota	2,438
21	Washington	36,522	46	Rhode Island	2,300
22	Iowa	31,779	47	Hawaii	1,738
23	Arkansas	27,001	48	Alaska	837
24	South Carolina	25,737	49	Wyoming	718
25	Arizona	24,621	50	Delaware	168

Source: US Census Bureau's 2022 Economic Census, IMPLAN Group LLC, and S&P Global Commodity Insights

5. Conclusions

This work examines and quantifies the economic contributions and benefits that are provided to select US states from the hardwood industry. By analyzing the impacts to individual states, it is possible for policy makers, businesses, and residents of a specific state to know how much their economy benefits from and depends upon hardwood output.

By using sales, state and country output data, and IMPLAN economic input-output models, the number of jobs, labor income, GDP, and economic output (business sales) that are supported by the hardwood industry was estimated. Economic input-output models were created for each sector and each state for the study. Additionally, a national model was created for the US economy to determine the holistic impact the hardwood industry has on the US economy.

The results from this study indicate a total of $448.2 billion in economic output was indirectly supported by the $152.2 billion in hardwood output that occurred during 2022. The GDP supported by this output reached $208.8 billion and over 1.9 million jobs are supported by hardwood output.

For every 1 job directly supported by hardwood industry output, an additional 1.5 jobs are indirectly supported elsewhere the US economy. For every $1 of hardwood industry output, the economic “ripple effects” support $1.95 to the economy.

The positive impacts of the hardwood industry extend well beyond the forestry industry. Some of the industries receiving the greatest economic benefit and contribution from hardwood industry output are the wholesale trade, real estate, truck transportation, and management of companies’ industries. Also, receiving significant economic contributions from hardwood industry output are restaurants, hospitals, and employment services industries.

Hardwood plays a vital role in the US economy in every state. The output of hardwood products provides economic benefits to these regions as well. The results of this report help quantify the true economic contributions of the hardwood industry to US state economies.

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