

FORESTRY IN LOUISIANA

The Industry's Contribution to the Louisiana Economy: An Input-Output Analysis 2011



by

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Definitions

Cord – A stack of wood that measures 4 by 4 by 8 feet (128 cubic feet), including wood, bark and empty space.

Forest products – Include NAICS sectors 321 (wood products), 322 (pulp, paper and paperboard and 337 (furniture and related products).

Furniture and related products – NAICS No. 337; wooden kitchen cabinets and countertops, furniture, window blinds, wood-framed mattress box springs, fixtures and showcases/shelving.

IMPLAN (Impact analysis for PLANning) – Software and data combines classic economic input-output analysis with regional specific social accounting matrices and multiplier models. IMPLAN uses the following definitions for the three measures and three effects of economic impact:

Measures

- Value added – A measure of the specific industry's contribution to the local community; it includes wages, rents, interest and profits.
- Output – Represents the value of local production required to sustain activities.
- Employment – Estimates are in terms of full-time and part-time jobs, not in terms of full-time equivalent employees.

Effects

- Direct – Initial spending in the study area resulting from the project.
- Indirect – The additional interindustry spending from the direct impact.
- Induced – The impact of additional household expenditure resulting from the direct and indirect impact.

Multipliers

- For each economic measure, the social accounts matrix (SAM) multipliers are derived through this formula: $(\text{Direct} + \text{Indirect} + \text{Induced}) / \text{Direct}$.

NAICS (North American Industrial Classification System) – North American standard used by all government statistical agencies in classifying business establishments for the purpose of collecting, analyzing and publishing statistical data related to business and the economy.

Primary forest industry sectors – Manufacturers and industrial fuel wood consumers that procure and/or use wood fiber directly from the forest in round wood, chip or equivalent form.

Pulp, paper and paperboard – NAICS No. 322; wood pulp, paper, paperboard and paper converting. Converted paper products are made from paper and other materials by various cutting and shaping techniques and coating and laminating activities.

Secondary forest industry sectors – Manufacturers that purchase and/or use one or more primary forest products in their manufacturing processes.

Stumpage revenue – The value paid to a landowner for the right to harvest and transfer ownership of standing timber.

Wood products – NAICS No. 321; lumber, wood windows and doors, millwork, plywood, oriented strand board (OSB), medium density fiberboard (MDF), hardboard, laminated products, veneers, wood containers and pallets, flooring, trusses, prefabricated wood buildings, wood preservation and specialty products.

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Introduction

Forest resources are a major economic asset in Louisiana and cover about 14 million acres, or about 50 percent, of the total land area in the state (LCES 2011). According to Oswalt (2014), Louisiana's forest land contains 648 million dry tons of live-tree biomass. That equates to 324 million tons of carbon. Only about 18 percent of that biomass is on public land, indicating the importance of private landowners in the management of Louisiana's forest resource. This resource provides a range of services including recreation, tourism, raw materials and environmental benefits, which all contribute to the state's welfare.

The forest products industry – firms that use forest products for raw materials – includes four main sectors: logging, solid wood products, pulp and paper and wood furniture manufacturing. The contribution of the forest products industry on Louisiana's economy is measured by four key statistics: 1) employment – the number of full- and part-time jobs in the sector; 2) employee compensation – the wages paid by the sector; 3) output – the sector's total value of production; and 4) value added – total sector output minus the costs of purchased inputs. Value added represents the amount of money available for disbursement, either in the form of wages, owner compensation or taxes.

The forest products industry affects Louisiana's economy in three ways: direct, indirect and induced effects. Direct effects are brought about by the sector's own employment, wages, production and value added. Indirect effects are the result of the industry's purchase of goods and services from supporting industries in the state that generate additional jobs, wages and salaries, output and value added. Finally, induced effects are the result of purchases of goods and services by employees of the forest products and other supporting industries that generate additional increases in all four key statistics at the economic level.

Forest resources affect the economy at all levels, from wages and purchases in local economies to state-level payroll and income taxes. Therefore, there is widespread interest in effects of the forest products industry from local producers, landowners and multinational corporate entities and therefore political officials, as well. This study evaluates the importance of the forest products industry to the state's economy.



Methods

The economic contribution of the forest products industry in Louisiana were modeled using the Impact Analysis for Planning (IMPLAN) system. Primary data was collected from Minnesota IMPLAN Group Inc., of Stillwater, Minn. IMPLAN originally was developed by the U.S. Department of Agriculture's Forest Service in cooperation with the Federal Emergency Management Agency and the U.S. Department of the Interior's Bureau of Land Management to assist the Forest Service in land and resource management planning (MIG 2004). IMPLAN is a nonsurvey-based computer software and modeling system for constructing regional economic accounts and regional input/output tables at flexible spatial scales (Shaffer et al. 2004, Tilley and Munn 2007). 2011 IMPLAN data, the most recent available, was used to construct a model of the Louisiana economy. Monetary contributions are reported in 2011 dollars.

The industry classification scheme used for all federal government industry-based data sets is the six-digit North American Industrial Classification Scheme (NAICS), as described in the 2007 NAICS manual, published by the U.S. Office of Management and Budget. This aggregates and defines economic activity in 440 sectors, which are used to represent all economic activity from agricultural production to manufacturing to service industries to wholesale and retail sales.

For reporting purposes, this study combines the 440 sectors of the economy into 31 aggregated sectors – four major forest products sectors, one sector of miscellaneous forestry related activities and 26 sectors not related to forestry (Table 1). The nonforestry-related sectors, the remainder of the economy, were aggregated by two digit NAICS. This procedure follows Barnett and Reinschmiedt (1996) who modeled the Louisiana economy using 44 aggregated sectors – 26 food and fiber sectors and 18 nonfood and nonfiber sectors.

This study estimates the economic contribution of each of the four primary sectors of the forest products industry and of the industry as a whole. Direct effects were determined using IMPLAN data, except for total

output of the logging sector, which was estimated by LSU AgCenter economists¹. Timber harvest data is estimated annually by the Louisiana Department of Forestry. That harvest data is used to estimate the production value of the logging sector. Total effects (direct, indirect and induced) are computed in the IMPLAN model by removing total employment for each relevant sector and calculating the contribution on the state economy resulting from the total loss of industry production from that sector. This is the procedure recommended by the Minnesota IMPLAN Group (2000) to estimate the economic contribution of an industry (Munn and Henderson 2002).

Results

Study area data values (i.e., direct contributions) of all industry sectors representing the entire Louisiana's economy are provided in Table 2. Employment, wages and salaries, output and value added are reported for each industry sector aggregation. The forest products industry (all forest-related sectors) employed 19,290 people in 2011². The industry paid more than \$1.34 billion in wages. Total output was estimated at \$6.87 billion and value added generated by the industry totaled approximately \$1.98 billion. These values indicate the size of the forest products industry. Because of this level of activity, however, additional economic activity is generated in other sectors of the economy and results in indirect and induced contributions of considerable size.

Estimates of the direct, indirect and induced contribution (i.e., total contribution) of the logging, pulp and paper, solid wood products and wood furniture sectors on the state economy are provided in Tables 3, 4, 5 and 6, respectively. Total contributions are reported by employment, wages and salaries, output and value added for each of the aggregated sectors. In Table 2, the contributions reported for forest-related sectors are direct contribution, while the contribution reported in subsequent tables include both indirect and induced contribution on other economic sectors. The total contribution of the forest products sector on the state economy is summarized in the table row titled total sectors (Table 7).

¹ Based on mill delivered quantities and prices of saw-timber, pulpwood (both softwood and hardwood) and chip-n-saw (softwood).

² Includes full-time and part-time jobs.

Estimates of the total contributions of the combined forest products industry are provided in Table 7. Summing the contribution of the individual forest-related sectors analyzed separately overestimates the contribution of the forest products industry. Considered separately, each sector has indirect and induced contributions on the other forest-related sectors. When all forest-related sectors are considered as a group, however, these contributions are internal and thus do not result in additional indirect or induced contributions. A combined analysis of the forest-related sectors allows IMPLAN to automatically internalize these contributions and generate a more precise contribution of the industry on the state economy.

Logging

According to the North American Industrial Classification System (NAICS), the logging sector includes establishments primarily engaged in one or more of the following: (1) cutting timber; (2) cutting and transporting timber and (3) producing wood chips in the field. Logging is the chief source of raw materials to all other forest products enterprises and it also makes a significant contribution to Louisiana's economy through its own employment and income generation.

The direct contribution of the industry was significant. Logging firms employed 3,963 people and paid \$328.56 million in wages and salaries. Value added was \$308.33 million (Table 2). In 2011, the total economic contribution generated by the logging sector amounted to 8,196³ jobs with wages totaling \$495.24 million (Table 3). In addition, logging generated approximately \$1.25 billion of Louisiana's total industry output and \$592 million value added to Louisiana's economy. Based on employment, the sectors that benefited the most from the indirect and induced contribution created by the logging sector were agriculture, health and social services and wholesale and retail trade.

The logging sector's overall importance was much greater than stated here, however, since the sector provides the necessary raw materials for the other pri-

mary sectors (solid wood products, pulp and paper and wood furniture manufacturing) of the forest products industry in the state.

Pulp and Paper

The pulp and paper sector includes pulp mills, paper mills, paperboard mills, paperboard container manufacturing, coated and laminated paper, packaging paper and plastic film manufacturing, all other paper bag and coated and treated manufacturing, sanitary paper product manufacturing and all other converted paper product manufacturing (Table 1).

In 2011, these firms employed 7,371 workers and paid \$629.3 million in wages and salaries. Total industry output for this sector was \$4.45 billion and the value added was \$1.14 billion (Table 2). The number of jobs generated by this sector was 22,952⁴, with total wages of about \$1.37 million⁵. Total industry output was \$6.88 billion plus almost \$2.37 billion value-added to Louisiana's economy (Table 4).

Solid Wood Products

Another major sector of Louisiana's forest products industry is the solid wood products sector, which includes sawmills and wood preservation, veneer and plywood manufacturing, engineered wood member and truss manufacturing, reconstituted wood product manufacturing, wood container and pallet manufacturing, prefabricated wood building manufacturing, all other miscellaneous wood products manufacturing and custom architectural wood work and millwork manufacturing (Table 1).

In 2011, the solid wood products sector employed 6,373 workers and paid \$321.59 million in wages and salaries. Total industry output for the solid wood products sector was \$1.41 billion, and the value added was \$424.09 million (Table 2). The total industry contribution included 12,222 in employment and \$593 million in wages and salaries. Industry output was \$2.21 billion, and the value added for the sector was approximately \$850 million (Table 5).

³ Direct and indirect jobs generated by the logging industry.

⁴ 7,370 jobs directly.

⁵ \$629 million in wages directly.

Wood Furniture

The wood furniture sector is the smallest sector of the forest products industry by all economic indicators and it has the smallest contribution on Louisiana's economy among the four primary forest products sectors. This sector includes wood windows and doors and millwork manufacturing, wood kitchen cabinet and countertop manufacturing, upholstered and nonupholstered wood furniture manufacturing and office furniture (Table 1).

During 2011, this sector employed 1,123 workers and paid \$35.6 million in wages and salaries. Total industry output for this sector was \$136.91 million, and the value added was \$44.71 million (Table 2). Total employment (direct, indirect and induced) generated by the wood furniture sector was 1,902, with total wages of \$68.74 million. Total industry output and value added were \$238.87 million and \$100 million, respectively (Table 6).

Total Industry Contribution

The combined contribution of all sectors of the forest products industry on Louisiana's economy during 2011 was muted in the wake of the housing collapse. Forestry-related employment (direct, indirect and induced) accounted for 1.7 percent of all jobs in Louisiana. In Louisiana, total industry output related to the forest products industry was \$10.23 billion⁶, and related value added exceeded \$3.75 billion. Related total employment was 43,308⁷ full- or part-time jobs, with an associated annual payroll of \$2.39 billion in wages and salaries (Table 7).

The industrial sectors that benefit most from the forest products industry in terms of jobs created are wholesale and retail trade, administrative and waste services and health and social services⁸. The induced and indirect contributions to general manufacturing output generated by the forest products industry was \$509 million, while real estate and rental benefited by an additional \$325 million. Miscellaneous (other) services output, which includes legal services, child/day care services, food services and drinking places

and automotive repair and maintenance (see Table 1 for full listing), was more than \$122.66 million, with 1,705 people employed. To understand why these sectors were the most heavily influenced by forest products activity, a further examination of the tables is required.

Upon closer inspection, the industry that has the largest indirect contribution on employment in other industries is pulp and paper. While nontrivial, this result is not unexpected. The indirect effects appear to be most profound in those industries that use high volumes of paper in their own operations. This is especially true for public service industries and retail trade, which once wood products (Table 4) are included, account for the vast majority of indirect employment in seemingly unrelated industries.

Taxes

Louisiana's forest products industry generated more than \$732 million in tax revenue in 2011. Federal government, nondefense taxes exceeded \$435 million (Table 8). State and local government, non-education taxes totaled close to \$295 million (Table 9). Of note, IMPLAN tax contribution estimates are much higher than direct tax contribution because they include sales taxes generated from spending labor income as well as direct and indirect effects generated from business and occupation tax revenue.

⁶ For the same year, Mississippi posted \$10.35 billion, although the composition and contribution of each sector varied greatly.

⁷ 19,290 are directly involved in forestry sectors; the remainder are indirect and induced jobs.

⁸ An additional 9,219 jobs.

Literature Cited

Barnett, B. and L. Reinschmiedt. 1996. Agriculture and forestry in Mississippi – An analysis of the impacts of food and fiber related sectors on the Mississippi economy. Agricultural Economics Technical Bulletin NO. 95. Mississippi State University, Mississippi State, Mississippi.

LCES (Louisiana Cooperative Extension Service). 2011. Louisiana Summary of Agriculture and Natural Resources. Louisiana State University Agricultural Center.

Minnesota IMPLAN Group Inc. 2000. Introduction to IMPLAN. Minnesota IMPLAN Group Inc., Stillwater, Minnesota.

Minnesota IMPLAN Group. 2004. IMPLAN Professional™: User's Guide, Analysis Guide, Data Guide, Minnesota IMPLAN Group Inc. Stillwater, Minnesota. 414pp.

Munn, I.A., J.E. Henderson. 2002. Forestry and forest products – The impact of the industry on the Mississippi economy: An input/output analysis. Forest and Wildlife Research Center, Bulletin FO 206, Mississippi State University. 14 pp.

Oswalt, S.N. 2014. Forests of Louisiana, 2012. Resource Update FS-5. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 4 p.

Shaffer, R., S. Deller, D. Marcouiller. 2004. Community economics: Linking theory and practices. Blackwell Publishing.

Tilley, B., I.A. Munn. 2007. 2001 economic contribution of the forest products industry in the South. Southern Journal of Applied Forestry 31(4):181-186.



Table 1. Description of Sectors That Directly Affect the Forest Products Industry in Louisiana.

Aggregated Sector	IMPLAN Code	Description
Miscellaneous Forest Products	15	Forestry, forest products and timber tract production
Logging	16	Commercial logging
Solid Wood Products	95	Sawmills and wood preservation
	96	Veneer and plywood manufacturing
	97	Engineered wood member and truss manufacturing
	98	Reconstituted wood product manufacturing
	99	Wood windows and doors and millwork manufacturing
	100	Wood container and pallet manufacturing
	102	Prefabricated wood building manufacturing
Wood Furniture	103	All other miscellaneous wood product manufacturing
	295	Wood kitchen cabinet and countertop manufacturing
	296	Upholstered household furniture manufacturing
	297	Non-upholstered wood household furniture manufacturing
	300	Wood television, radio and sewing machine cabinet manufacturing
Pulp and Paper	301	Office furniture and custom architectural woodwork and millwork manufacturing
	104	Pulp mills
	105	Paper mills
	106	Paperboard Mills
	107	Paperboard container manufacturing
	108	Coated and laminated paper, packaging paper and plastics film manufacturing
	109	All other paper bag and coated and treated paper manufacturing
	110	Stationery product manufacturing
	111	Sanitary paper product manufacturing
112	All other converted paper product manufacturing	



Table 2. Direct Contribution on Louisiana Employment, Wages, Output and Value Added of the Aggregated Economic Sectors (2011).

Model Sectors	Employment	Wages and Salaries (\$MM)	Output (\$MM)	Value Added (\$MM)
Miscellaneous Forest Products	460	20.42	146.44	61.14
Logging	3,963	328.56	725.20	308.33
Solid Wood Products	6,373	321.95	1,407.36	424.09
Wood Furniture	1,123	35.60	136.91	44.71
Pulp and Paper	7,371	629.30	4,451.14	1,141.62
Forest Products Industry	19,290	1,335.83	6,867.04	1,979.88
11 Agriculture	50,624	366.49	4,014.56	1,464.43
21 Mining	71,843	4,748.04	25,424.58	11,417.81
22 Utilities	9,650	972.15	7,261.38	3,744.19
23 Construction	199,620	8,987.76	21,726.59	11,876.07
31-33 Manufacturing	132,139	10,623.49	199,723.06	32,790.41
42 Wholesale Trade	76,515	4,624.83	12,743.45	9,067.36
44-45 Retail Trade	264,477	6,833.89	17,360.92	12,102.00
48-49 Transportation and Warehousing	82,114	4,298.66	16,098.65	7,396.70
51 Information	28,357	1,448.44	8,585.32	3,743.70
52 Finance and Insurance	100,181	4,215.58	19,788.79	10,674.50
53 Real Estate and Rental	100,031	1,770.66	30,603.43	20,406.08
54 Professional – Scientific and Technical Services	135,196	6,120.46	16,271.73	11,536.38
55 Management of Companies	27,616	1,988.66	4,457.84	2,300.92
56 Administrative and Waste Services	145,213	3,677.07	8,965.79	5,429.69
61 Educational Services	45,510	1,437.14	2,668.75	1,660.41
62 Health and Social Services	277,335	10,998.95	23,932.34	14,830.42
71 Arts – Entertainment and Recreation	48,576	1,203.82	3,447.48	2,097.93
72 Accommodation and Food Services	188,823	3,768.31	11,644.51	6,321.41
81 Other Services	127,469	3,223.29	8,414.04	5,377.84
92 Government and non-NAICs	422,666	27,774.69	34,284.44	32,377.59
Total State Economy	2,553,246	110,418.19	484,284.67	208,595.72

Table 3. Total Contribution of the Logging Sector on Louisiana Employment, Wages, Output and Value Added of the Aggregated Economic Sectors (2011).

Model Sectors	Employment	Wages and Salaries (\$MM)	Output (\$MM)	Value-added (\$MM)
Miscellaneous Forest Products	217	11.10	73.40	29.81
Logging (Direct Impact)	3,963	328.56	725.20	308.33
Solid Wood Products	7	0.37	1.83	0.43
Wood Furniture	0	0.01	0.03	0.01
Pulp and Paper	1	0.10	0.62	0.15
11 Agriculture	882	21.57	34.85	19.64
21 Mining	7	0.38	3.01	1.39
22 Utilities	11	1.21	8.26	4.55
23 Construction	40	2.24	4.52	2.75
31-33 Manufacturing	28	2.09	41.61	6.96
42 Wholesale Trade	175	12.37	29.67	21.50
44-45 Retail Trade	526	15.95	34.78	24.12
48-49 Transportation and Warehousing	150	8.34	21.89	10.72
51 Information	43	2.41	13.56	5.97
52 Finance and Insurance	171	8.71	38.64	20.64
53 Real Estate and Rental	183	3.65	66.28	43.17
54 Professional – Scientific and Technical Services	193	13.05	24.59	17.47
55 Management of Companies	15	1.15	2.65	1.33
56 Administrative and Waste Services	178	5.19	10.71	6.40
61 Educational Services	90	2.93	5.25	3.26
62 Health and Social Services	580	29.69	54.42	32.77
71 Arts – Entertainment and Recreation	77	1.97	5.40	3.15
72 Accommodation and Food Services	316	6.87	18.63	9.95
81 Other Services	307	12.97	22.50	14.58
92 Government and non-NA-ICs	35	2.36	5.71	2.97
Total Impact	8,196	495.24	1,247.99	592.02

Table 4. Total Contribution for the Pulp and Paper Sector on Louisiana Employment, Wages, Output and Value Added of the Aggregated Economic Sectors (2011).

Model Sectors	Employment	Wages and Salaries (\$MM)	Output (\$MM)	Value-added (\$MM)
Miscellaneous Forest Products	31.80	1.57	10.13	4.23
Logging	367.78	34.83	67.29	28.61
Solid Wood Products	396.89	18.78	87.88	21.80
Wood Furniture	0.84	0.03	0.10	0.03
Pulp and Paper (Direct Impact)	7,370.72	629.30	4,451.14	1,141.62
11 Agriculture	146.81	3.51	7.63	3.70
21 Mining	121.49	6.75	38.16	18.47
22 Utilities	249.41	28.50	206.92	105.62
23 Construction	865.45	47.70	87.55	51.33
31-33 Manufacturing	265.94	23.83	396.03	66.77
42 Wholesale Trade	1,166.63	79.52	194.30	138.25
44-45 Retail Trade	1,459.56	42.78	93.43	64.67
48-49 Transportation and Warehousing	1,188.21	69.04	190.83	91.49
51 Information	246.91	13.47	72.43	30.68
52 Finance and Insurance	598.30	28.72	124.93	66.37
53 Real Estate and Rental	637.08	12.34	191.80	128.10
54 Professional – Scientific and Technical Services	1,060.83	69.60	130.33	94.48
55 Management of Companies	530.59	38.34	85.65	44.21
56 Administrative and Waste Services	1,664.23	44.12	96.24	55.21
61 Educational Services	238.63	7.53	13.36	8.40
62 Health and Social Services	1,534.56	75.97	135.73	83.85
71 Arts – Entertainment and Recreation	264.08	6.60	16.67	9.83
72 Accommodation and Food Services	1,195.03	25.09	67.18	36.35
81 Other Services	1,104.78	46.30	78.85	52.24
92 Government and non-NAICs	218.78	13.87	37.03	18.99
Total Impact	22,925.32	1,368.10	6,881.62	2,365.31



Table 5. Total Contribution for the Solid Wood Products Sector on Louisiana Employment, Wages, Output and Value Added of the Aggregated Economic Sectors (2011).

Model Sectors	Employment	Wages and Salaries (\$MM)	Output (\$MM)	Value-added (\$MM)
Miscellaneous Forest Products	142	7.01	45.08	18.82
Logging	416	39.37	76.08	32.35
Solid Wood Products (Direct Impact)	6,373	321.95	1,407.36	424.09
Wood Furniture	1	0.02	0.07	0.02
Pulp and Paper	6	0.45	2.57	0.63
11 Agriculture	390	9.49	16.82	8.84
21 Mining	12	0.68	4.97	2.38
22 Utilities	42	4.86	33.72	18.75
23 Construction	172	9.43	17.59	10.37
31-33 Manufacturing	58	4.34	76.21	12.61
42 Wholesale Trade	333	22.70	55.46	39.46
44-45 Retail Trade	598	17.52	38.27	26.49
48-49 Transportation and Warehousing	450	24.90	64.96	31.93
51 Information	89	4.88	26.99	11.58
52 Finance and Insurance	234	11.29	49.20	26.23
53 Real Estate and Rental	251	4.51	75.61	50.14
54 Professional – Scientific and Technical Services	368	23.97	44.90	32.81
55 Management of Companies	120	8.70	19.43	10.03
56 Administrative and Waste Services	423	11.40	23.94	14.02
61 Educational Services	101	3.19	5.65	3.55
62 Health and Social Services	646	31.99	57.16	35.31
71 Arts – Entertainment and Recreation	106	2.65	6.78	4.02
72 Accommodation and Food Services	474	9.95	26.64	14.41
81 Other Services	362	14.20	23.95	15.56
92 Government and non-NAICs	58	3.83	9.15	4.89
Total Impact	12,222	593.27	2,208.55	849.29

Table 6. Total Contribution of the Wood Furniture Sector on Louisiana Employment, Wages, Output and Value Added of the Aggregated Economic Sectors (2011).

Model Sectors	Employment	Wages and Salaries (\$MM)	Output (\$MM)	Value-added (\$MM)
Miscellaneous. Forest Products	1	0.06	0.39	0.16
Logging	4	0.34	0.66	0.28
Solid Wood Products	39	2.08	9.27	2.61
Wood Furniture (Direct Impact)	1,123	35.60	136.91	44.71
Pulp and Paper	3	0.22	1.20	0.29
11 Agriculture	5	0.13	0.31	0.14
21 Mining	1	0.05	0.37	0.18
22 Utilities	3	0.38	2.55	1.42
23 Construction	28	1.56	2.90	1.70
31-33 Manufacturing	8	0.50	6.19	1.17
42 Wholesale Trade	36	2.42	5.92	4.21
44-45 Retail Trade	107	3.12	6.80	4.71
48-49 Transportation and Warehousing	41	2.16	5.54	2.81
51 Information	22	1.23	6.62	2.78
52 Finance and Insurance	43	1.88	8.57	4.19
53 Real Estate and Rental	40	0.64	10.71	7.13
54 Professional – Scientific and Technical Services	64	4.22	9.08	6.86
55 Management of Companies	11	0.82	1.83	0.94
56 Administrative and Waste Services	79	2.26	5.07	2.95
61 Educational Services	13	0.41	0.72	0.45
62 Health and Social Services	84	4.15	7.41	4.58
71 Arts – Entertainment and Recreation	16	0.42	1.00	0.60
72 Accommodation and Food Services	69	1.46	3.90	2.11
81 Other Services	52	2.05	3.47	2.26
92 Government and non-NAICs	9	0.58	1.48	0.76
Total Impact	1,902	68.74	238.87	100.00

Table 7. Total Contribution for the Allied Forest Products Sector on Louisiana Employment, Wages, Output and Value Added of the Aggregated Economic Sectors (2011).

Model Sectors	Employment	Wages and Salaries (\$MM)	Output (\$MM)	Value-added (\$MM)
Miscellaneous Forest Products (Direct Impact)	460	20.42	146.44	61.14
Logging (Direct Impact)	3,963	328.56	725.20	308.33
Solid Wood Products (Direct Impact)	6,373	321.95	1,407.36	424.09
Wood Furniture (Direct Impact)	1,123	35.60	136.91	44.71
Pulp and Paper (Direct Impact)	7,371	629.30	4,451.14	1,141.62
Forest Products Industry (Direct Impact)	19,290	1,335.83	6,867.04	1,979.88
11 Agriculture	1,488	35.15	59.38	32.67
21 Mining	140	7.75	45.56	22.00
22 Utilities	301	34.39	247.53	128.18
23 Construction	1,088	59.89	110.58	64.95
31-33 Manufacturing	354	30.27	509.34	85.81
42 Wholesale Trade	1,659	113.06	276.25	196.56
44-45 Retail Trade	2,565	75.18	164.18	113.64
48-49 Transportation and Warehousing	1,770	100.94	274.02	132.45
51 Information	388	21.20	115.19	49.10
52 Finance and Insurance	1,006	48.33	211.30	112.20
53 Real Estate and Rental	1,064	20.08	325.70	216.92
54 Professional – Scientific and Technical Services	1,635	107.15	201.45	146.58
55 Management of Companies	667	48.19	107.65	55.57
56 Administrative and Waste Services	2,289	61.28	132.35	76.51
61 Educational Services	421	13.31	23.59	14.83
62 Health and Social Services	2,707	134.02	239.45	147.92
71 Arts – Entertainment and Recreation	443	11.13	28.34	16.80
72 Accommodation and Food Services	1,971	41.39	110.81	59.95
81 Other Services	1,750	72.10	122.66	80.82
92 Government and non-NAICs	311	19.96	51.62	26.73
Total Impact	43,308	2,390.57	10,223.99	3,760.08

Table 8. Federal Tax Contribution by Total (\$MM) Generated by the Forest Products Industry in Louisiana (2011).

Description	Employee Compensation	Proprietor Income	Taxes on Production and Imports	Households	Corporations	TOTAL
Social Insurance Taxes - Employee Contribution	\$85.80	\$10.46				\$96.26
Social Insurance Taxes - Employer Contribution	\$111.48					\$111.48
Taxes on Production and Imports: Excise Taxes			\$15.20			\$15.20
Taxes on Production and Imports: Custom Duty			\$6.41			\$6.41
Corporate Profits Taxes					\$64.42	\$64.42
Personal Taxes: Income Taxes				\$143.56		\$143.56
Total Federal Taxes	\$197.28	\$10.46	\$21.61	\$143.56	\$64.42	\$437.32

Table 9. State and Local Tax Contribution by Total Generated by the Forest Products Industry in Louisiana (2011).

Description	Employee Compensation	Proprietor Income	Taxes on Production and Imports	Households	Corporations	TOTAL
Dividends					\$0.36	\$0.36
Social Insurance Taxes - Employee Contribution	\$1.70					\$1.70
Social Insurance Taxes - Employer Contribution	\$3.02					\$3.02
Taxes on Production and Imports: Sales Taxes			\$146.54			\$146.54
Taxes on Production and Imports: Property Taxes			\$48.20			\$48.20
Taxes on Production and Imports: Motor Vehicle Licenses			\$0.62			\$0.62
Taxes on Production and Imports: Severance Taxes			\$13.21			\$13.21
Taxes on Production and Imports: Other Taxes			\$9.00			\$9.00
Taxes on Production and Imports: S/L Nontaxes			\$25.18			\$25.18
Corporate Profits Taxes					\$8.10	\$8.10
Personal Taxes: Income Taxes				\$27.91		\$27.91
Personal Taxes: Nontaxes (Fines/Fees)				\$7.85		\$7.85
Personal Taxes: Motor Vehicle Licenses				\$0.77		\$0.77
Personal Taxes: Property Taxes				\$0.64		\$0.64
Personal Taxes: Other Taxes (Fishing/Hunting)				\$1.61		\$1.61
Total State and Local Taxes	\$4.72		\$242.75	\$38.79	\$8.46	\$294.72

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