

THE ECONOMIC CONTRIBUTION OF MISSISSIPPI'S FORESTRY AND FOREST PRODUCT INDUSTRY: AN INPUT-OUTPUT ANALYSIS



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This publication is a contribution of the Forest and Wildlife Research Center, Mississippi State University. The cover photo is AI generated to symbolize economic growth from Mississippi's forest lands.

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The Economic Contribution of Mississippi's Forestry and Forest Products Industry: An Input-Output Analysis

Sabhyata Lamichhane | James E. Henderson | Donald L. Grebner



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INTRODUCTION

Forest resources represent a substantial economic asset for Mississippi, encompassing approximately 19.3 million acres, or roughly 64% of the state's total land area. These forests provide a diverse array of ecosystem services, including raw materials, recreation, tourism, and environmental benefits such as carbon sequestration and water filtration, all of which contribute to the economic and social welfare of the state. Timber harvesting, in particular, plays a critical role, with over \$1.3 billion worth of timber extracted annually, positioning the forest products industry as a cornerstone of Mississippi's economy. Previous studies have investigated the economic impact of Mississippi's forestry and forest products industry. Most recently, using 2018 data, the forest industry's total economic impact on Mississippi's economy was estimated at \$13.12 billion. This analysis offers a more current understanding of the forest industry's total impact on the Mississippi economy using 2022 data, the most recent available.

The forest products industry comprises four primary sectors: logging, solid wood products, pulp and paper, and wood furniture manufacturing. The economic contributions of these sectors are typically quantified using four key metrics: (1) employment, representing the number of full- and part-time jobs within the industry; (2) employee compensation, indicating the total wages and benefits paid to workers; (3) output, which reflects the gross value of production; and (4)

value-added, defined as the sector's output minus the costs of purchased inputs, providing a measure of the net economic contribution through wages, profits, and taxes.

The economic contributions of the forest products industry can be classified into three types of impacts: direct, indirect, and induced. Direct impacts refer to the employment, wages, production, and value-added generated directly by the forest products sectors. Indirect impacts result from the forest industry's demand for goods and services from other sectors, leading to increased activity in supporting industries. Lastly, induced impacts stem from the spending of wages by employees of the forest products industry and its supporting sectors, further stimulating economic activity across the broader economy.

Forest resources exert economic influences at multiple scales, from local-level employment and consumer spending to state-level contributions in payroll and income tax revenues. This multi-tiered economic significance underscores the importance of understanding the full extent of the forest products industry's contributions to Mississippi's economy. Accordingly, this study comprehensively evaluates the industry's economic impact, offering insights for policymakers, industry stakeholders, and local communities regarding its role in the state's economic development.

METHODS

The economic impacts of Mississippi's forest products industry were assessed using the Impact Analysis for Planning (IMPLAN) system. IMPLAN is a widely used input-output modeling software initially developed by the USDA Forest Service in collaboration with the Federal Emergency Management Agency and the Bureau of Land Management to support land and resource management planning. The IMPLAN system enables the construction of regional economic accounts and input-output tables at flexible spatial scales without requiring primary survey data. For this study, we utilized the most recent available data, IMPLAN 2022, measured in 2022 dollars.

The model aggregates the 546 unaggregated sectors in the IMPLAN system into 16 broader sectors for analysis, including four major forest products sectors, one sector representing forestry and agricultural

support services, and 11 non-forestry-related sectors (Table A.1). The study estimates the economic impact of the five forest products sectors both separately and by the entire industry.

Direct impacts of the forest products sectors were derived from the IMPLAN dataset specific to Mississippi. However, for the logging sector, primary data on total output were sourced from the Mississippi Forestry Association, which provides annual estimates using timber severance tax data from the Mississippi Department of Revenue. The analysis focuses on measuring the direct, indirect, induced, and total economic contributions of these forest products sectors regarding employment, labor income, output, and value-added to provide a comprehensive view of the industry's role in Mississippi's economy.



RESULTS

Direct Contributions

Table 1 presents the direct economic impacts of the aggregated forest products industry sectors on Mississippi's economy, detailing employment, wages, output, and value-added for each sector. In 2022, the forest products industry (including all forest-related sectors) directly employed 48,866 individuals, accounting for 3.01% of the state's total employment of 1,623,077. The industry paid over \$2.78 billion in wages and contributed more than \$4.37 billion in value-added to the state's economy.

Total Contributions

Tables 3 and 4 show Mississippi's forest products industry's total economic impact, including indirect and induced effects. In 2022, forest-related economic activities supported 84,024 jobs and generated over \$4.42 billion in income, representing 5.18% of the state's total employment and 5.38% of total income. Employment here includes both full- and part-time jobs across all sectors, while income encompasses all forms of employee compensation (wages and benefits) and proprietor income. The forest products industry also contributed more than \$19.09 billion to Mississippi's total economic output, accounting for approximately 5.8% of the state's total output. The sector's value-added was over \$7.44 billion, representing around 5.3% of the total value-added in the state. Value-added reflects the net creation of wealth and is a portion of total output. The forest products industry also generated an estimated \$1.59 billion in tax revenue for federal, state, and local governments, including \$994.75 million in federal taxes and \$598.84 million for state and local governments.

Sector-specific Contributions

Table 4 provides a breakdown of each major forestry sector's total impact on the state economy, including forest support services, logging, solid wood products, pulp and paper, and wood furniture manufacturing.

1. Forest Support Service

The forest support services sector, which includes forestry, forest products, timber tract production, and support activities for agriculture and forestry, employed approximately 8,817 people in 2022. This

sector paid \$362.15 million in wages and salaries, contributed \$587.45 million in total output, and added \$422.28 million in value to the state's economy.

2. Logging

According to the North American Industrial Classification System (NAICS), the logging sector includes firms cutting timber, transporting timber, and producing wood chips in the field. In 2022, the logging sector directly employed approximately 13,187 people and paid \$723.09 million in wages, generating \$819.43 million in value-added. The sector's total economic impact was 17,219 jobs, \$911.40 million in wages, \$2.07 billion in total output, and \$1.17 billion in value-added. Based on employment impact results, sectors that benefited substantially from the indirect and induced impacts of the logging sector included miscellaneous services, resource services, wholesale and retail trade, and miscellaneous manufacturing. However, the sector's overall importance was much more significant than stated here. Logging provides the necessary raw material for the other primary sectors (solid wood products, pulp and paper, and wood furniture manufacturing) of the forest products industry in the state.

3. Solid Wood Products

The solid wood products sector, which includes sawmills, wood preservation, veneer, plywood manufacturing, and other wood-related production (Table A.1), directly employed 9,453 workers in 2022, paying \$635.02 million in wages. The sector's total direct output was \$5.01 billion, with \$1.64 billion in value-added. The total economic contribution of the solid wood products sector, including indirect and induced impacts, was 20,484 jobs, \$1.15 billion in wages, \$7.01 billion in total output, and \$2.61 billion in value-added.

4. Pulp and Paper

The pulp and paper sector, which encompasses pulp mills, paper mills, and paperboard manufacturing (Table A.1), employed 4,205 workers in 2022 and paid \$399.59 million in wages. The sector's direct output was \$2.97 billion, with \$788.94 million in value-added. The total economic impact, including indirect and

RESULTS

induced effects, was 11,902 jobs, \$760.80 million in wages, \$4.41 billion in output, and \$1.45 billion in value-added.

5. Wood Furniture

The wood furniture manufacturing sector, the largest of the forest products sectors, includes wood window and door manufacturing, kitchen cabinet production, and various types of wood furniture manufacturing (Table A.1). In 2022, this sector directly employed 14,516 workers and paid \$724.59 million in wages.

Direct output from the sector was \$2.92 billion, with \$805.62 million in value-added. The total economic impact of the wood furniture sector, including indirect and induced effects, was 25,607 jobs, \$1.23 billion in wages, \$4.99 billion in total output, and \$1.77 billion in value-added.

Overall, these sectors collectively contribute significantly to Mississippi's economy, with impacts extending beyond their direct activities through indirect and induced economic interactions.



DISCUSSION AND CONCLUSION

Mississippi's forest products industry is vital to the state's economy. The industry's performance is closely tied to broader economic conditions. Softwood lumber, being a key raw material for housing, makes the forestry sector highly sensitive to fluctuations in the housing market. For example, during the 2007-2009 U.S. recession and housing market collapse, the economic contribution of Mississippi's forest products industry fell sharply, declining from \$17.38 billion in 2006 to \$10.38 billion in 2010.

In contrast, the COVID-19 pandemic drove a surge in demand for lumber products, causing prices to reach record highs. Additionally, the demand for new

products such as biofuels, packaging, and container boards has been rising, diversifying the industry's product base. This diversification and economic recovery have contributed to the industry's growth. From 2018 to 2022, employment, labor income, output, and value-added in Mississippi's forest sector increased by 36.36%, 49.03%, 45.46%, and 48.89%, respectively. As inflation moderates and the housing market stabilizes, the forest products industry is well-positioned to continue expanding its economic contributions to Mississippi. The industry's growing role in both traditional markets and emerging sectors highlights its increasing importance to the state's overall economic landscape.



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Table 1. Direct Contributions on Mississippi employment, income, output, and value-added of the aggregated industrial sectors (2022).

Description	Number of Jobs	Labor Income (\$)	Total Output (\$)	Total Value Added (\$)
Forest Support Ser-vice	7,505	300,426,455	352,249,773	305,876,341
Logging	13,187	723,094,102	1,355,651,720	819,438,163
Solid Wood Prod-ucts	9,453	635,027,739	5,016,910,958	1,657,258,144
Pulp and Paper	4,205	399,597,676	2,972,576,540	788,941,507
Wood Furniture	14,516	724,591,835	2,925,002,146	805,625,463
Forest Products Industry	48,866	2,782,737,806	12,622,391,136	4,377,139,618
Agriculture Produc-tion and Services	41,915	1,696,771,149	9,988,322,710	2,700,147,806
Construction and Manufacturing	206,772	13,656,504,499	104,214,345,734	25,024,925,829
Food and Fiber	154,044	4,676,160,894	23,841,068,958	7,477,192,617
Retail and Whole-sale Trade	196,860	8,570,779,073	33,048,751,890	17,909,358,911
Transportation and Warehousing	85,203	4,501,461,701	13,621,466,641	6,449,855,245
Services	350,261	15,324,557,444	42,973,513,459	20,557,509,050
Real Estate, Fi-nance, and Insur-ance	122,289	4,469,612,436	41,499,522,430	24,144,490,479
Education	18,676	689,582,352	1,168,206,144	698,035,320
Health Care	116,593	8,549,552,590	15,343,410,457	9,431,066,181
Hotels and Enter-tainment	44,218	1,277,974,227	4,507,874,077	2,821,045,918
Government	245,289	16,425,947,996	22,868,663,399	20,936,209,715
Total Economy	1,623,077	82,187,704,204	324,883,993,200	142,035,221,427

Table 2. Contributions from forest-related sectors on employment and income in Mississippi, 2022.

Sectors	Number of Jobs	Percent of State Total Jobs	Income (\$)	Percent of State Total Income
Direct Contributions from Forest Related Sectors				
Forest Support Service	7,505	0.46	300,426,455	0.37
Logging	13,187	0.81	723,094,102	0.88
Pulp and Paper	4,205	0.26	399,597,676	0.49
Solid Wood Products	9,453	0.58	635,027,739	0.77
Wood Furniture	14,516	0.89	724,591,835	0.88
Subtotal	48,866	3.01	2,782,737,806	3.39
Indirect and Induced Contributions on Sectors				
Agriculture Production and Services	543	0.03	22,004,476	0.03
Construction and Manufacturing	1,976	0.12	130,525,003	0.16
Education	415	0.03	15,354,949	0.02
Food and Fiber	2,680	0.17	81,375,310	0.10
Government	781	0.05	52,360,321	0.06
Health Care	2,580	0.16	189,243,787	0.23
Hotels and Entertainment	482	0.03	13,940,012	0.02
Real Estate, Finance, and Insurance	3,237	0.20	118,312,396	0.14
Retail and Wholesale Trade	9,769	0.60	425,358,981	0.52
Services	8,756	0.54	383,112,399	0.47
Transportation and Warehousing	3,939	0.24	208,134,105	0.25
Subtotal	35,158	2.17	1,639,721,737	2.00
Total impact from forest related sector	84,024	5.18	4,422,459,543	5.38
Rest of the State	1,539,053	94.82	77,765,244,661	94.62
Total in State	1,623,077	100.00	82,187,704,204	100.00

Table 3. Contributions from forest related sectors on total output and value-added in Mississippi, 2022.

Sectors	Output (\$)	Percent of State Total Output	Value-Added (\$)	Percent of State Total Value-Added
Direct Contributions from Forest Related Sectors				
Forest Support Service	352,249,773	0.11	305,876,341	0.22
Logging	1,355,651,720	0.42	819,438,163	0.58
Pulp and Paper	2,972,576,540	0.91	788,941,507	0.56
Solid Wood Products	5,016,910,958	1.54	1,657,258,144	1.17
Wood Furniture	2,925,002,146	0.90	805,625,463	0.57
Subtotal	12,622,391,136	3.89	4,377,139,618	3.08
Indirect and Induced Contributions on Sectors				
Agriculture Production and Services	129,532,970	0.04	35,016,706	0.02
Construction and Manufacturing	996,051,206	0.31	239,181,155	0.17
Education	26,012,477	0.01	15,543,171	0.01
Food and Fiber	414,886,147	0.13	130,119,318	0.09
Government	72,897,501	0.02	66,737,497	0.05
Health Care	339,625,386	0.10	208,756,032	0.15
Hotels and Entertainment	49,171,427	0.02	30,771,679	0.02
Real Estate, Finance, and Insurance	1,098,508,647	0.34	639,114,140	0.45
Retail and Wholesale Trade	1,640,175,684	0.50	888,823,127	0.63
Services	1,074,333,525	0.33	513,935,664	0.36
Transportation and Warehousing	629,815,815	0.19	298,221,986	0.21
Subtotal	6,471,010,785	1.99	3,066,220,476	2.16
Total impact from forest related sector	19,093,401,921	5.88	7,443,360,094	5.24
Rest of the State	305,790,591,279	94.12	134,591,861,333	94.76
Total in State	324,883,993,200	100.00	142,035,221,427	100.00

Table 4. Total contributions of each forestry sector on state's employment, wages, output and value-added.

Total Impact				
	Number of Jobs	Income (\$)	Output (\$)	Value-Added (\$)
Forest Support Service	8,817	362,152,986	587,451,299	422,286,394
Logging	17,219	911,400,416	2,076,883,484	1,177,160,240
Solid Wood Products	20,484	1,151,930,356	7,011,030,072	2,616,345,597
Pulp and Paper	11,902	760,803,243	4,418,469,687	1,451,969,046
Wood Furniture	25,607	1,236,172,539	1,775,598,815	4,999,567,375
Total	84,024	4,422,459,543	19,093,401,921	7,443,360,094

Estimates developed using 2022 IMPLAN® software and data (reported in 2022 dollars). Timber harvest value according to the Mississippi Harvest of Forest Products Report.

APPENDIX

Table A.1. Aggregation scheme of commercial sectors used for IMPLAN input-output analysis of the forest products industry contributions on the Mississippi economy, 2022.

MODEL SECTORS	ORIGINAL IMPLAN SECTORS
FOREST SUPPORT SERVICE	Forestry, forest products, and timber tract production (15); Support activities for agriculture and forestry (19)
LOGGING	Commercial logging (16)
SOLID WOOD PRODUCTS	Sawmills (132); Wood preservation (133); Veneer and plywood manufacturing (134); Engineered wood member and truss manufacturing (135); Reconstituted wood product manufacturing (136); Wood windows and door manufacturing (137); Cut stock, resawing lumber, and planing (138); Other millwork, including flooring (139); Wood container and pallet manufacturing (140); Prefabricated wood building manufacturing (142); All other miscellaneous wood product manufacturing (143)
WOOD FURNITURE	Wood kitchen cabinet and countertop manufacturing (365); Upholstered household furniture manufacturing (366); Nonupholstered wood household furniture manufacturing (367); Wood office furniture manufacturing (370); Custom architectural woodwork and millwork (371)
PULP AND PAPER	Pulp mills (144); Paper mills (145); Paperboard mills (146); Paperboard container manufacturing (147); Paper bag and coated and treated paper manufacturing (148); Stationery product manufacturing (149); Sanitary paper product manufacturing (150); All other converted paper product manufacturing (151)
AGRICULTURE PRODUCTION AND SERVICES	Oilseed farming (1); Grain farming (2); Vegetable and melon farming (3); Fruit farming (4); Tree nut farming (5); Greenhouse, nursery, and floriculture production (6); Tobacco farming (7); Cotton farming (8); Sugarcane and sugar beet farming (9); All other crop farming (10); Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming (11); Dairy cattle and milk production (12); Poultry and egg production (13); Animal production, except cattle and poultry and eggs (14); Commercial fishing (17); Commercial hunting and trapping (18); Nitrogenous fertilizer manufacturing (167); Phosphatic fertilizer manufacturing (168); Pesticide and other agricultural chemical manufacturing (170); Farm machinery and equipment manufacturing (260)
CONSTRUCTION AND MANUFACTURING	Oil and gas extraction (20); Coal mining (21); Copper, nickel, lead, and zinc mining (22); Iron ore mining (23); Gold ore mining (24); Silver ore mining (25); Uranium-radium-vanadium ore mining (26); Other metal ore mining (27); Stone mining and quarrying (28); Sand and gravel mining (29); Other clay, ceramic, refractory minerals mining (30); Potash, soda, and borate mineral mining (31); Phosphate rock mining (32); Other chemical and fertilizer mineral mining (33); Other nonmetallic minerals (34); Drilling oil and gas wells (35); Support activities for oil and gas operations (36); Metal mining services (37); Other nonmetallic minerals services (38); Electric power generation - Hydroelectric (39); Electric power generation - Fossil fuel (40); Electric power generation - Nuclear (41); Electric power generation - Solar (42); Electric power generation - Wind (43); Electric power generation - Geothermal (44); Electric power generation - Biomass (45); Electric power generation - All other (46); Electric power transmission and distribution (47); Natural gas distribution (48); Water, sewage and other systems (49); Construction of new health care structures (50); Construction of new manufacturing structures (51); Construction of new power and communication structures (52); Construction of new educational and vocational structures (53); Construction of new highways and streets (54); Construction of new commercial structures, including farm structures (55); Construction of other new nonresidential structures (56); Construction of new single- family residential structures (57); Construction of new multifamily residential structures (58); Construction of other new residential structures (59); Maintenance and repair construction of nonresidential structures (60); Maintenance and repair construction of residential structures (61); Maintenance and repair construction of highways, streets, bridges, and tunnels (62); Manufactured home (mobile home) manufacturing (141); Printing (152); Support activities for printing (153); Petroleum refineries (154); Asphalt paving mixture and block manufacturing (155);

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MODEL SECTORS	ORIGINAL IMPLAN SECTORS
CONSTRUCTION AND MANUFACTURING, CONT.	<p>Asphalt shingle and coating materials manufacturing (156); Petroleum lubricating oil and grease manufacturing (157); All other petroleum and coal products manufacturing (158); Petrochemical manufacturing (159); Industrial gas manufacturing (160); Synthetic dye and pigment manufacturing (161); Other basic inorganic chemical manufacturing (162); Other basic organic chemical manufacturing (163); Plastics material and resin manufacturing (164); Synthetic rubber manufacturing (165); Artificial and synthetic fibers and filaments manufacturing (166); Fertilizer mixing (169); Medicinal and botanical manufacturing (171); Pharmaceutical preparation manufacturing (172); In-vitro diagnostic substance manufacturing (173); Biological product (except diagnostic) manufacturing (174); Paint and coating manufacturing (175); Adhesive manufacturing (176); Soap and other detergent manufacturing (177); Polish and other sanitation good manufacturing (178); Surface active agent manufacturing (179); Toilet preparation manufacturing (180); Printing ink manufacturing (181); Explosives manufacturing (182); Custom compounding of purchased resins (183); Photographic film and chemical manufacturing (184); Other miscellaneous chemical product manufacturing (185); Plastics packaging materials and unlaminated film and sheet manufacturing (186); Unlaminated plastics profile shape manufacturing (187); Plastics pipe and pipe fitting manufacturing (188); Laminated plastics plate, sheet (except packaging), and shape manufacturing (189); Polystyrene foam product manufacturing (190); Urethane and other foam product (except polystyrene) manufacturing (191); Plastics bottle manufacturing (192); Other plastics product manufacturing (193); Tire manufacturing (194); Rubber and plastics hoses and belting manufacturing (195); Other rubber product manufacturing (196); Pottery, ceramics, and plumbing fixture manufacturing (197); Brick, tile, and other structural clay product manufacturing (198); Flat glass manufacturing (199); ; Other pressed and blown glass and glassware manufacturing (200); Glass container manufacturing (201); Glass product manufacturing made of purchased glass (202); Cement manufacturing (203); Ready-mix concrete manufacturing (204); Concrete block and brick manufacturing (205); Concrete pipe manufacturing (206); Other concrete product manufacturing (207); Lime manufacturing (208); Gypsum product manufacturing (209); Abrasive product manufacturing (210); Cut stone and stone product manufacturing (211); Ground or treated mineral and earth manufacturing (212); Mineral wool manufacturing (213); Miscellaneous nonmetallic mineral products manufacturing (214); Iron and steel mills and ferroalloy manufacturing (215); Iron, steel pipe and tube manufacturing from purchased steel (216); Rolled steel shape manufacturing (217); Steel wire drawing (218); Alumina refining and primary aluminum production (219); Secondary smelting and alloying of aluminum (220); Aluminum sheet, plate, and foil manufacturing (221); Other aluminum rolling, drawing and extruding(222); Nonferrous metal (exc aluminum) smelting and refining (223); Copper rolling, drawing, extruding and alloying (224); Nonferrous metal, except copper and aluminum, shaping (225); Secondary processing of other nonferrous metals (226); Ferrous metal foundries (227); Nonferrous metal foundries (228); Custom roll forming (229); Crown and closure manufacturing and metal stamping (230); Iron and steel forging (231); Nonferrous forging (232); Cutlery, utensil, pot, and pan manufacturing (233); Handtool manufacturing (234); Prefabricated metal buildings and components manufacturing (235); Fabricated structural metal manufacturing (236); Plate work manufacturing (237); Metal window and door manufacturing (238); Sheet metal work manufacturing (239); Ornamental and architectural metal work manufacturing (240); Power boiler and heat exchanger manufacturing (241); Metal tank (heavy gauge) manufacturing (242); Metal cans manufacturing (243); Metal barrels, drums and pails manufacturing (244); Hardware manufacturing (245); Spring and wire product manufacturing (246); Machine shops (247); Turned product and screw, nut, and bolt manufacturing (248); Metal heat treating (249); Metal coating and nonprecious engraving (250); Electroplating, anodizing, and coloring metal (251); Valve and fittings, other than plumbing, manufacturing (252); Plumbing fixture fitting and trim manufacturing (253); Ball and roller bearing manufacturing (254); Small arms ammunition manufacturing (255); Ammunition, except for small arms, manufacturing (256); Small arms, ordnance, and accessories manufacturing (257); Fabricated pipe and pipe fitting manufacturing (258); Other fabricated metal manufacturing (259); Lawn and garden equipment manufacturing (261); Construction machinery manufacturing (262);</p>

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Table A.1. Aggregation scheme of commercial sectors used for IMPLAN input-output analysis of the forest products industry contributions on the Mississippi economy, 2022.

MODEL SECTORS	ORIGINAL IMPLAN SECTORS
CONSTRUCTION AND MANUFACTURING, CONT.	<p>Mining machinery and equipment manufacturing (263); Oil and gas field machinery and equipment manufacturing (264); Semiconductor machinery manufacturing (265); Food product machinery manufacturing (266); Sawmill, woodworking, and paper machinery (267); Printing machinery and equipment manufacturing (268); All other industrial machinery manufacturing (269); Optical instrument and lens manufacturing (270); Photographic and photocopying equipment manufacturing (271); Other commercial service industry machinery manufacturing (272); Air purification and ventilation equipment manufacturing (273); Heating equipment (except warm air furnaces) manufacturing (274); Air conditioning, refrigeration, and warm air heating equipment manufacturing (275); Industrial mold manufacturing (276); Special tool, die, jig, and fixture manufacturing (277); Cutting tool and machine tool accessory manufacturing (278); Machine tool manufacturing (279); Rolling mill and other metalworking machinery manufacturing (280); Turbine and turbine generator set units manufacturing (281); Speed changer, industrial high-speed drive, and gear manufacturing (282); Mechanical power transmission equipment manufacturing (283); Other engine equipment manufacturing (284); Pump and pumping equipment manufacturing (285); Air and gas compressor manufacturing (286); Elevator and moving stairway manufacturing (287); Conveyor and conveying equipment manufacturing (288); Overhead cranes, hoists, and monorail systems manufacturing (289); Industrial truck, trailer, and stacker manufacturing (290); Power-driven handtool manufacturing (291); Welding and soldering equipment manufacturing (292); Packaging machinery manufacturing (293); Industrial process furnace and oven manufacturing (294); Fluid power cylinder and actuator manufacturing (295); Fluid power pump and motor manufacturing (296); Scales, balances, and miscellaneous general purpose machinery manufacturing (297); Electronic computer manufacturing (298); Computer storage device manufacturing (299); Computer terminals and other computer peripheral equipment manufacturing (300); Telephone apparatus manufacturing (301); Broadcast and wireless communications equipment manufacturing (302); Other communications equipment manufacturing (303); Audio and video equipment manufacturing (304); Printed circuit assembly (electronic assembly) manufacturing (305); Bare printed circuit board manufacturing (306); Semiconductor and related device manufacturing (307); Capacitor, resistor, coil, transformer, and other inductor manufacturing (308); Electronic connector manufacturing (309); Other electronic component manufacturing (310); Electromedical and electrotherapeutic apparatus manufacturing (311); Search, detection, and navigation instruments manufacturing (312); Automatic environmental control manufacturing (313); Industrial process variable instruments manufacturing (314); Totalizing fluid meter and counting device manufacturing (315); Electricity and signal testing instruments manufacturing (316); Analytical laboratory instrument manufacturing (317); Irradiation apparatus manufacturing (318); Watch, clock, and other measuring and controlling device manufacturing (319); Blank magnetic and optical recording media manufacturing (320); Software and other prerecorded and record reproducing (321); Electric lamp bulb and part manufacturing (322); Lighting fixture manufacturing (323); Small electrical appliance manufacturing (324); Household cooking appliance manufacturing (325); Household refrigerator and home freezer manufacturing (326); Household laundry equipment manufacturing (327); Other major household appliance manufacturing (328); Power, distribution, and specialty transformer manufacturing (329); Motor and generator manufacturing (330); Switchgear and switchboard apparatus manufacturing (331); Relay and industrial control manufacturing (332); Storage battery manufacturing (333); Primary battery manufacturing (334); Fiber optic cable manufacturing (335); Other communication and energy wire manufacturing (336); Wiring device manufacturing (337); Carbon and graphite product manufacturing (338); All other miscellaneous electrical equipment and component manufacturing (339); Automobile manufacturing (340); Light truck and utility vehicle manufacturing (341); Heavy duty truck manufacturing (342); Motor vehicle body manufacturing (343); Truck trailer manufacturing (344); Motor home manufacturing (345); Travel trailer and camper manufacturing (346); Motor vehicle gasoline engine and engine parts manufacturing (347); Motor vehicle electrical and electronic equipment manufacturing (348); Motor vehicle transmission and power train parts manufacturing (349);</p>

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MODEL SECTORS	ORIGINAL IMPLAN SECTORS
CONSTRUCTION AND MANUFACTURING, CONT.	<p>Motor vehicle seating and interior trim manufacturing (350); Motor vehicle metal stamping (351); Other motor vehicle parts manufacturing (352); Motor vehicle steering, suspension component (except spring), and brake systems manufacturing (353); Aircraft manufacturing (354); Aircraft engine and engine parts manufacturing (355); Other aircraft parts and auxiliary equipment manufacturing (356); Guided missile and space vehicle manufacturing (357); Propulsion units and parts for space vehicles and guided missiles manufacturing (358); Railroad rolling stock manufacturing (359); Ship building and repairing (360); Boat building (361); Motorcycle, bicycle, and parts manufacturing (362); Military armored vehicle, tank, and tank component manufacturing (363); All other transportation equipment manufacturing (364); Other household nonupholstered furniture manufacturing (368); Institutional furniture manufacturing (369); Office furniture, except wood, manufacturing (372); Showcase, partition, shelving, and locker manufacturing (373); Mattress manufacturing (374); Blind and shade manufacturing (375); Surgical and medical instrument manufacturing (376); Surgical appliance and supplies manufacturing (377); Dental equipment and supplies manufacturing (378); Ophthalmic goods manufacturing (379); Dental laboratories (380); Jewelry and silverware manufacturing (381); Sporting and athletic goods manufacturing (382); Doll, toy, and game manufacturing (383); Office supplies (except paper) manufacturing (384); Sign manufacturing (385); Gasket, packing, and sealing device manufacturing (386); Musical instrument manufacturing (387); Fasteners, buttons, needles, and pins manufacturing (388); Broom, brush, and mop manufacturing (389); Burial casket manufacturing (390); All other miscellaneous manufacturing (391)</p>
SERVICES	<p>Newspaper publishers (423); Periodical publishers (424); Book publishers (425); Directory, mailing list, and other publishers (426); Greeting card publishing (427); Software publishers (428); Motion picture and video industries (429); Sound recording industries (430); Radio and television broadcasting (431); Cable and other subscription programming (432); Wired telecommunications carriers (433); Wireless telecommunications carriers (except satellite) (434); Satellite, telecommunications resellers, and all other telecommunications (435); Data processing, hosting, and related services (436); News syndicates, libraries, archives and all other information services (437); Internet publishing and broadcasting and web search portals (438); Legal services (455); Accounting, tax preparation, bookkeeping, and payroll services (456); Architectural, engineering, and related services (457); Specialized design services (458); Custom computer programming services (459); Computer systems design services (460); Other computer related services, including facilities management (461); Management consulting services (462); Environmental and other technical consulting services (463); Scientific research and development services (464); Advertising, public relations, and related services (465); Photographic services (466); Veterinary services (467); Marketing research and all other miscellaneous professional, scientific, and technical services (468); Management of companies and enterprises (469); Office administrative services (470); Facilities support services (471); Employment services (472); Business support services (473); Travel arrangement and reservation services (474); Investigation and security services (475); Services to buildings (476); Landscape and horticultural services (477); Other support services (478); Waste management and remediation services (479); Residential intellectual disability, mental health, substance abuse and other facilities (492); Individual and family services (493); Child day care services (494); Community food, housing, and other relief services, including rehabilitation services (495); Automotive repair and maintenance, except car washes (512); Car washes (513); Electronic and precision equipment repair and maintenance (514); Commercial and industrial machinery and equipment repair and maintenance (515); Personal and household goods repair and maintenance (516); Personal care services (517); Death care services (518); Dry-cleaning and laundry services (519); Other personal services (520); Religious organizations (521); Grantmaking, giving, and social advocacy organizations (522); Business and professional associations (523); Labor and civic organizations (524); Private households (525)</p>

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MODEL SECTORS	ORIGINAL IMPLAN SECTORS
TRANSPORTATION AND WAREHOUSING	Air transportation (414); Rail transportation (415); Water transportation (416); Truck transportation (417); Transit and ground passenger transportation (418); Pipeline transportation (419); Scenic and sightseeing transportation and support activities for transportation (420); Couriers and messengers (421); Warehousing and storage (422)
EDUCATION	Elementary and secondary schools (480); Junior colleges, colleges, universities, and professional schools (481); Other educational services (482)
FOOD AND FIBER	Dog and cat food manufacturing (63); Other animal food manufacturing (64); Flour milling (65); Rice milling (66); Malt manufacturing (67); Wet corn milling (68); Soybean and other oilseed processing (69); Fats and oils refining and blending (70); Breakfast cereal manufacturing (71); Beet sugar manufacturing (72); Sugar cane mills and refining (73); Nonchocolate confectionery manufacturing (74); Chocolate and confectionery manufacturing from cacao beans (75); Confectionery manufacturing from purchased chocolate (76); Frozen fruits, juices and vegetables manufacturing (77); Frozen specialties manufacturing (78); Canned fruits and vegetables manufacturing (79); Canned specialties (80); Dehydrated food products manufacturing (81); Cheese manufacturing (82); Dry, condensed, and evaporated dairy product manufacturing (83); Fluid milk manufacturing (84); Creamery butter manufacturing (85); Ice cream and frozen dessert manufacturing (86); Frozen cakes and other pastries manufacturing (87); Poultry processing (88); Animal, except poultry, slaughtering (89); Meat processed from carcasses (90); Rendering and meat byproduct processing (91); Seafood product preparation and packaging (92); Bread and bakery product, except frozen, manufacturing (93); Cookie and cracker manufacturing (94); Dry pasta, mixes, and dough manufacturing (95); Tortilla manufacturing (96); Roasted nuts and peanut butter manufacturing (97); Other snack food manufacturing (98); Coffee and tea manufacturing (99); Flavoring syrup and concentrate manufacturing (100); Mayonnaise, dressing, and sauce manufacturing (101); Spice and extract manufacturing (102); All other food manufacturing (103); Bottled and canned soft drinks & water (104); Manufactured ice (105); Breweries (106); Wineries (107); Distilleries (108); Tobacco product manufacturing (109); Fiber, yarn, and thread mills (110); Broadwoven fabric mills (111); Narrow fabric mills and schiffli machine embroidery (112); Nonwoven fabric mills (113); Knit fabric mills (114); Textile and fabric finishing mills (115); Fabric coating mills (116); Carpet and rug mills (117); Curtain and linen mills (118); Textile bag and canvas mills (119); Rope, cordage, twine, tire cord and tire fabric mills (120); Other textile product mills (121); Hosiery and sock mills (122); Other apparel knitting mills (123); Cut and sew apparel contractors (124); Men's and boys' cut and sew apparel manufacturing (125); Women's and girls' cut and sew apparel manufacturing (126); Other cut and sew apparel manufacturing (127); Apparel accessories and other apparel manufacturing (128); Leather and hide tanning and finishing (129); Footwear manufacturing (130); Other leather and allied product manufacturing (131); Full-service restaurants (509); Limited-service restaurants (510); All other food and drinking places (511)
GOVERNMENT	Postal service (526); Federal electric utilities (527); Other federal government enterprises (528); State government passenger transit (529); State government electric utilities (530); Other state government enterprises (531); Local government passenger transit (532); Local government electric utilities (533); Other local government enterprises (534); * Employment and payroll of state govt, education (539); * Employment and payroll of state govt, hospitals and health services (540); * Employment and payroll of state govt, other services (541); * Employment and payroll of local govt, education (542); * Employment and payroll of local govt, hospitals and health services (543); * Employment and payroll of local govt, other services (544); * Employment and payroll of federal govt, military (545); * Employment and payroll of federal govt, non-military (546)
HEALTH CARE	Offices of physicians (483); Offices of dentists (484); Offices of other health practitioners (485); Outpatient care centers (486); Medical and diagnostic laboratories (487); Home health care services (488); Other ambulatory health care services (489); Hospitals (490); Nursing and community care facilities (491)

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MODEL SECTORS	ORIGINAL IMPLAN SECTORS
HOTELS AND ENTERTAINMENT	Performing arts companies (496); Commercial Sports Except Racing (497); Racing and Track Operation (498); Independent artists, writers, and performers (499); Promoters of performing arts and sports and agents for public figures (500); Museums, historical sites, zoos, and parks (501); Amusement parks and arcades (502); Gambling industries (except casino hotels) (503); Other amusement and recreation industries (504); Fitness and recreational sports centers (505); Bowling centers (506); Hotels and motels, including casino hotels (507); Other accommodations (508)
REAL ESTATE, FINANCE, AND INSURANCE	Nondepository credit intermediation and related activities (439); Securities and commodity contracts intermediation and brokerage (440); Monetary authorities and depository credit intermediation (441); Other financial investment activities (442); Direct life insurance carriers (443); Insurance carriers, except direct life (444); Insurance agencies, brokerages, and related activities (445); Funds, trusts, and other financial vehicles (446); Other real estate (447); Tenant-occupied housing (448); Owner-occupied dwellings (449); Automotive equipment rental and leasing (450); General and consumer goods rental except video tapes and discs (451); Video tape and disc rental (452); Commercial and industrial machinery and equipment rental and leasing (453); Lessors of nonfinancial intangible assets (454)
RETAIL AND WHOLESALE TRADE	Wholesale - Motor vehicle and motor vehicle parts and supplies (392); Wholesale - Professional and commercial equipment and supplies (393); Wholesale - Household appliances and electrical and electronic goods (394); Wholesale - Machinery, equipment, and supplies (395); Wholesale - Other durable goods merchant wholesalers (396); Wholesale - Drugs and druggists' sundries (397); Wholesale - Grocery and related product wholesalers (398); Wholesale - Petroleum and petroleum products (399); Wholesale - Other nondurable goods merchant wholesalers (400); Wholesale - Wholesale electronic markets and agents and brokers (401); Retail - Motor vehicle and parts dealers (402); Retail - Furniture and home furnishings stores (403); Retail - Electronics and appliance stores (404); Retail - Building material and garden equipment and supplies stores (405); Retail - Food and beverage stores (406); Retail - Health and personal care stores (407); Retail - Gasoline stores (408); Retail - Clothing and clothing accessories stores (409); Retail - Sporting goods, hobby, musical instrument and book stores (410); Retail - General merchandise stores (411); Retail - Miscellaneous store retailers (412); Retail - Nonstore retailers (413)

Note: Numbers in parentheses are IMPLAN sector numbers.



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