



Forestry in Mississippi

The impact of the
forest products
industry on the
Mississippi
economy:
An input-output
analysis

by
Dr. Ian A. Munn
Bart K. Tilley

Based on 2001 data

Forest and Wildlife Research Center
Mississippi State University

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FOREST AND WILDLIFE RESEARCH CENTER

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Introduction

Forest resources are a major component of Mississippi's economic base covering over 18 million acres, or 62% of the state's total land area. Over \$1 billion worth of forest products are harvested from Mississippi's forest lands annually and delivered to mills and other manufacturing plants, making timber one of Mississippi's most valuable agricultural crops. Clearly, the forest products industry makes a major contribution to Mississippi's economy.

The forest products industry includes four main sectors: logging, solid wood products, pulp and paper, and wood furniture manufacturing. The impact of the forest products industry on Mississippi's economy is measured by four key statistics: employment—the number of full- and part-time jobs in the sector; employee compensation—the wages paid by the sector; output—the sector's total value of production; and 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.

Forest products industry sectors impact Mississippi's economy in three ways. First, these sectors impact the state economy directly through

their own employment, wages, production, and value-added. Second, there is an indirect effect resulting from the industry's purchase of goods and services from supporting industries located in the state, resulting in increased employment, wages, production, and value-added in these supporting industries to meet the demands of the forest products industry. Finally, there is an induced effect, resulting from purchases of consumer goods and services by employee households associated with both the forest products industry and its supporting industries.

The forest products industry and the timberland base it depends on for raw materials vary significantly across the state. Likewise, the composition and magnitude of the general economy also vary throughout the state. Both factors influence the relative contribution of the forest products industry to local economies. Consequently, the impact of the forest products industry can differ substantially between locales.

This study evaluates the importance of the forest products industry to the state's economy and the economy of four regions within the state: north Mississippi, south Mississippi, central Mississippi and the Delta.

Methods

Input-Output Modeling

Forest industry economic impacts were modeled using the Impact Analysis for Planning (IMPLAN) System, originally developed by the USDA Forest Service in cooperation with the Federal Emergency Management Agency and the University of Minnesota. The IMPLAN model was designed by the Forest Service to estimate the regional economic impacts of management plans for National Forests (Alward et al. 1985). IMPLAN is a computerized database and modeling system for constructing regional economic accounts and regional input-output tables. The IMPLAN model used a 528 sector input-output transactions table based upon the Bureau of Economic Analysis' National I-O table (USDC 1984). Beginning with the 2001 database, IMPLAN now has 509 sectors. The Minnesota IMPLAN Group, Inc. of Stillwater,

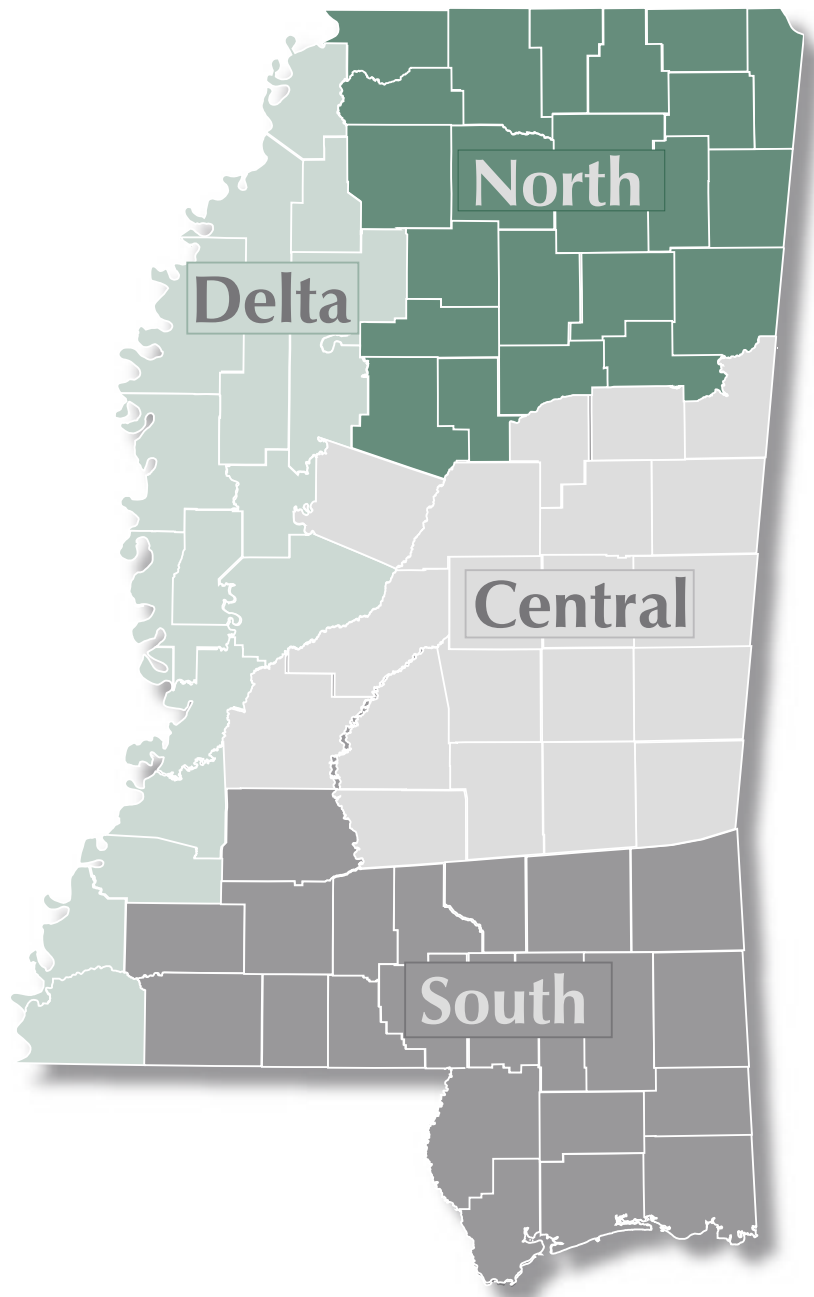
Minnesota, a commercial venture, provides current data and analytical support necessary to run the model (Alward et al. 1993).

This study combines the 509 sectors into 31 aggregated sectors—4 major forest products sectors, 1 sector of miscellaneous forestry related activities, and 26 non-forestry related sectors (Table 1). This procedure follows Barnett and Reinschmiedt (1996) who modeled the Mississippi economy using 45 aggregated sectors—26 food and fiber sectors and 18 non-food and non-fiber sectors. The focus of this study is the forest products industry; therefore, the non-forestry related food and fiber sectors were further aggregated into three sectors: agricultural production, agricultural processing, and food processing. IMPLAN data for 2001, the most recent available, was used.

The impact of the four primary sectors of the forest products industry were examined individually, followed by the impact of the entire industry. Direct effects of the four sectors and the entire forest products industry were obtained from IMPLAN's report of Base Year Information. Total effects (i.e. direct, indirect, and induced) were estimated within the IMPLAN model by removing the total employment for the relevant sector and calculating the impact on the state economy resulting from the total loss of industry production for that sector. This is the procedure recommended by the Minnesota IMPLAN Group Inc. (2000) for estimating the economic impact of an industry. This will also provide information about which industries benefit the most from the forest products industry. The importance of Mississippi's forest products industry to the state, local, and federal governments were examined through the tax revenue generated.

Economic impacts were investigated at the state level and for four regions within the state: north Mississippi, central Mississippi, south Mississippi and the Delta. These four regions were chosen to correspond with the regional breakdown used in the annual Harvest of Forest Products report (Daniels 2002). North Mississippi consists of Alcorn, Benton, Calhoun, Carroll, Chickasaw, Clay, DeSoto, Grenada, Itawamba, Lafayette, Lee, Marshall, Monroe, Montgomery, Panola, Pontotoc, Prentiss, Tate, Tippah, Tishomingo, Union, Webster, and Yalobusha counties. Central Mississippi consists of Attala, Choctaw, Clarke, Hinds, Holmes, Jasper, Kemper, Lauderdale, Leake, Lowndes, Madison, Neshoba, Newton, Noxubee, Oktibbeha, Rankin, Scott, Simpson, Smith, and Winston counties. South Mississippi consists of Amite, Copiah, Covington, Forrest, Franklin, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Jones, Lamar,

Lawrence, Lincoln, Marion, Pearl River, Perry, Pike, Stone, Walthall, and Wayne counties. The Delta Region consists of Adams, Bolivar, Claiborne, Coahoma, Humphreys, Issaquena, Jefferson, Leflore, Quitman, Sharkey, Sunflower, Tallahatchie, Tunica, Warren, Washington, Wilkinson, and Yazoo counties. The relative magnitude and importance of the forest products industry varies significantly between regions within Mississippi and this study evaluated those differences.



Results

Table 2 provides data on the direct effects on Mississippi's economy of the industry aggregations used in this study. Employment, wages and salaries, output, and value-added are reported for each industry aggregation. The forest products industry (all forest-related sectors) employed 54,853 people in 2001, roughly 3.7% of the state's total employment of 1,481,891. The industry paid out over \$1.9 billion in wages. The industry's average annual wage was \$34,656; \$6,254 more than the state average. The average Mississippi wage was calculated by dividing the wages and salaries for all sectors by the employment for all sectors given in Table 2. Value-added generated by the industry totaled over \$2.76 billion.

Each sector of the forest products industry made substantial contributions to the state economy. Tables 3 to 6 provide data on the total effects (i.e. direct, indirect and induced) of the logging, solid wood products, pulp and paper, and wood furniture sectors, on the state economy respectively. Total effects are reported by aggregated industrial sectors. In general, the effects reported for each sector are direct effects, while the effects reported for all other sectors are indirect and induced effects. The total impact of the sector on the state economy is summarized in the table row titled ALL SECTORS.

Table 7 provides data on the total effects of the aggregated forest-related sectors. Summing the effects of the individual forest-related sectors overestimates the impacts of the forest products industry. Considered separately, each sector has indirect and induced effects on the other forest-related sectors. However, when all forest-related sectors are considered as a group, these effects are internal and thus do not result in additional indirect or induced effects. Aggregating the forest-related sectors allows IMPLAN to automatically internalize these effects and generate the true impact of the forest products industry on the state economy.

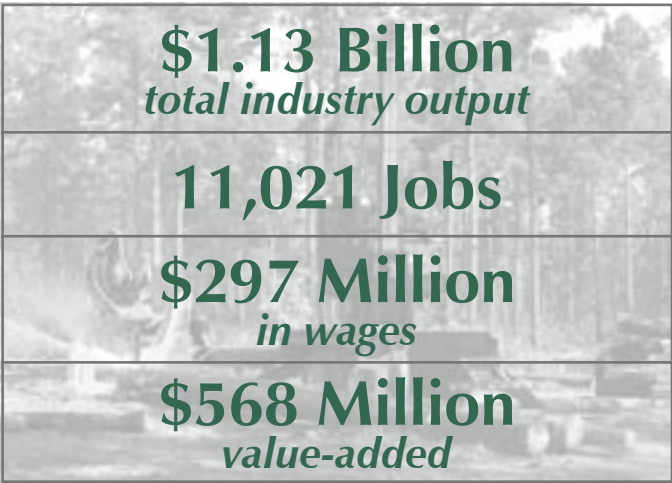
Logging

The logging sector includes all establishments engaged in cutting timber and producing rough, round, hewn, or riven primary forestry and wood

raw materials, including wood chips, in the field. Logging is extremely important to Mississippi's economy for two reasons. First, the sector is essential in providing wood-based raw materials for the rest of the forest products industry. Second, the sector is important because of the economic contributions it makes through its own employment and income creation.

Timber has become one of Mississippi's most valuable crops. In 2001, the value of Mississippi's timber harvest at the point of first processing was \$1.07 billion dollars. The direct effect of the industry was substantial. Landowners received \$801 million for their standing timber. Logging firms employed 6,621 people and paid \$187 million in wages. Value-added exceeded \$394 million (Table 2).

The total effect (i.e. direct, indirect, and induced) of logging on Mississippi's economy was even greater (Table 3). In 2001, 11,021 jobs were related to timber harvesting activities with wages totaling \$297 million. Logging generated an estimated \$1.13 billion addition to Mississippi's total industry output and \$568 million in value-added to Mississippi's economy. Miscellaneous services, wholesale and retail trade, resource services, and financial and real estate are among those sectors that benefit substantially from the indirect and induced effects created by the logging industry based on employment. However, the sector's overall importance was much greater than stated here. Timber harvesting and transportation are essential for solid wood products, pulp and paper, and wood furniture manufacturing—three sectors that make up the remainder of the industry in the state.



Solid Wood Products

The solid wood products sector is a major component of Mississippi’s forest products industry and a key component of the state economy. Included in this sector are sawmills, plywood mills, veneer mills, reconstituted wood product mills, and firms manufacturing articles made primarily of wood (Table 1). In 2001, these firms directly employed 15,182 workers and paid \$499 million in wages. The average annual wage was \$32,881; \$4,479 higher than the state average. Industry output for the sector was \$2.49 billion and the value-added by manufacturing exceeded \$681 million (Table 2).

The solid wood products sector utilized roughly 1.6 billion board feet of pine stumpage and 0.6 billion board feet of hardwood stumpage in 2001, resulting in payments to Mississippi landowners of almost \$801 million (Daniels 2002). Miscellaneous products such as stumpwood and Christmas trees generated an additional \$4.6 million for landowners (Daniels 2002).

The total impact of the solid wood products sector on Mississippi’s economy was substantial. This sector generated 36,026 jobs, either directly or in supporting industries. Employee compensation for these jobs was \$1.05 billion annually. Total value-added was over \$1.6 billion and industry output generated by the solid wood products sector and its supporting industries amounted to \$4.3 billion (Table 4).

\$4.3 Billion <i>total industry output</i>
36,026 Jobs
\$1.05 Billion <i>in wages</i>
\$1.6 Billion <i>value-added</i>

\$4.15 Billion <i>total industry output</i>
26,681 Jobs
\$969 Million <i>in wages</i>
\$1.62 Billion <i>value-added</i>

Pulp and Paper

Pulp mills, paper mills, paperboard mills, and manufacturers of paperboard containers and boxes, converted paper and paperboard products and other related paper products are included in this sector (Table 1). In 2001, these firms employed 7,762 workers and paid \$453 million in wages. The average annual wage was \$58,432, more than double the state average of \$28,402. Total industry output for the sector was \$2.4 billion and value-added by manufacturing exceeded \$764 million (Table 2).

The indirect and induced effects of the pulp and paper sector had a major impact on the petroleum and chemicals, wholesale and retail trade, transportation and communications, and miscellaneous services, increasing the total industrial output of these sectors by more than \$120 million each. The number of full- and part-time jobs generated by the pulp and paper sector, either directly, indirectly or through induced effects, totaled 26,681. Total wages exceeded \$969 million. Industry output related to pulp and paper sector activities amounted to \$4.15 billion with an associated \$1.62 billion value-added (Table 5).

Wood Furniture

This sector includes firms that manufacture wood household furniture, upholstered furniture on wood frames, wood office furniture, and wood partitions and fixtures (Table 1). In 2001, these firms employed 24,829 workers and paid \$732 million in wages. The average annual wage was \$29,513, which is \$1,111 more than the state’s average wage. Total industry output for the sector was \$2.25 billion and the value-added by manufacturing totaled \$775 million (Table 2).

Other industrial sectors that benefited from the indirect and induced effects of the wood furniture sector included the wholesale and retail trade, petroleum and chemicals, financial and real estate, transportation and communication services, and health services sectors. Direct, indirect, and induced employment totaled 48,552. Total wages totaled \$1.38 billion. Industry output related to the activities of the wood furniture and related products sector amounted to \$4.44 billion with an associated \$1.8 billion in value-added (Table 6).

\$4.44 Billion <i>total industry output</i>
48,552 Jobs
\$1.38 Billion <i>in wages</i>
\$1.8 Billion <i>value-added</i>

Total Industry Impact

The forest products industry is responsible for approximately 50% of the total effects due to food and fiber-related production and processing. In 2001, the combined impact of all sectors of the forest products industry on Mississippi’s economy was dramatic. Forestry related employment (i.e. direct, indirect, and induced) accounted for 8.5% of all jobs in Mississippi. The average annual wage in forestry related occupations was \$34,656; \$6,254 greater than the average annual wage in Mississippi (Table 2).

In Mississippi, total industry output related to the forest products industry exceeded \$13.38 billion and related value-added exceeded \$5.33 billion. Related employment totaled 119,575 full- or part-time jobs with an associated annual payroll of \$3.6 billion (Table 7). The industrial sectors that benefit most from the forest products industry are wholesale and retail trade, miscellaneous services, and petroleum and chemicals. Wholesale and Retail Trade output generated by the forest products industry was \$1.03 billion, accounting for 18,221 additional jobs. Miscellaneous Services, which includes legal services, child day care services, food services and drinking establishments, and automotive repair and maintenance (see Table 1 for full listing), output was more than \$703 million with 14,160 people employed.

Mississippi’s forest products industry generated over \$1.3 billion in tax revenue in 2001. Federal government, non-defense taxes exceeded \$845 million (Table 8a). State and local government, non-education taxes totaled over \$457 million (Table 8b).

Change Over Time

These results were compared to those from the report using the 1993 IMPLAN database. From 1993 to 2001, the forest products industry as a whole saw a decrease in direct employment from 63,873 to 54,853 and total employment from 129,443 to 119,575. Wages and salaries, total output, and value-added increased in nominal dollars, but decreased as a percentage of the economy. In 1993, direct wages and salaries accounted for 6.3% of the total wages and salaries for the state, compared to 4.5% in 2001. Total output accounted for 8.4% for the total state

output in 1993, but decreased to 6.6% in 2001. Value-added decreased as a percentage of total state value-added from 6.0% in 1993 to 4.4% in 2001.

Regional Differences

The forest products industry varies substantially between regions in Mississippi (Figures 1a and 1b). In absolute terms, the forest products industry has the greatest regional impact in north Mississippi where it directly employs over 26,000 and generates over \$965 million in value-added (Table 9a). A substantial portion of this total is attributable to wood furniture manufacturing, which employs almost 21,000 and generates over \$645 million in value-added. Including indirect and induced effects, the forest product industry accounts for over 51,000 jobs in the region and \$1.98 billion in value-added (Table 9b). The state and local governments collected over \$152 million in taxes from the forest products industry in north Mississippi (Table 8b).

The forest products industry in central Mississippi employs over 11,000 and generates more than \$676 million in value-added (Table 10a). Solid wood products accounts for over one-third of the employment with over 4,000 employed. Pulp and paper accounts for more than one-third of the value-added at \$235.56 million. Including indirect and induced effects, the forest product industry accounts for over 29,000 jobs in the region and \$1.23 billion in value-added (Table 10b). Central Mississippi generated in excess of \$105 million in state and local taxes (Table 8b).

In south Mississippi, the industry directly employs over 12,000 and generates more than \$860 billion in value-added (Table 11a). Solid wood products manufacturing accounts for almost half the employment with over 5,000 employed. Solid wood products manufacturing employs roughly 46% more people in the south than in the north. In contrast, wood furniture manufacturing employment in south Mississippi is only 4.5% of that in the north. Including indirect and induced effects, the forest product industry accounts for over 29,000 jobs in the region and \$1.47 billion in value-added (Table 11b). The forest products industry produced \$118 million in taxes (Table

8b). Note that while total employment is 22,000 less than in north Mississippi, total value-added is only \$500 million less than that in north Mississippi. This result stems from the fact that the economy in south Mississippi is much larger than that in the north, thereby enabling it to capture more of the indirect and induced effects, resulting in less “leakage” from the economy.

In the Delta, the forest products industry plays only a minor role in the regional economy. Employment in the industry accounts for fewer than 5,000 jobs and generates just over \$260 million in value-added (Table 12a). Even including induced and indirect effects, the contribution of the forest products industry to the local economy is minor, accounting for slightly over 10,000 jobs and \$538 million in value-added (Table 12b). Almost \$46 million in state and local taxes were collected in the Delta due to the forest products industry (Table 8b).

Although employment, wages and salaries, industry output, and value-added can reveal a great deal about an industry’s contribution to a regional economy, the size of the regional economy must also be considered. The relative importance of an industry is demonstrated by expressing these economic contributions as a percentage of the regional totals. The relative importance of the forest products industry differs more between regions than does the absolute importance. Direct employment ranges from slightly over 8% of the regional total in north Mississippi, to 2.2% in central Mississippi, 2.8% in south Mississippi, and 2.4% in the Delta (Figure 2a). Regional differences in wages and salaries, total industry output, and value-added follow a similar pattern. The forest products industry is a key player in north Mississippi. Direct, indirect and induced effects of the industry account for over 17% of the regional economy (Figure 2b) compared to less than 7% for the other regions in the state. The economic contributions of the forest products industry in south Mississippi, while substantial in absolute terms, are much less important to the regional economy due to the presence of most of the state’s large urban centers and the Gulf Coast tourism and gaming industry. In the Delta, the contributions of the forest products industry are minor in both absolute and relative terms.

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Table 1. Aggregation scheme of commercial sectors used for Implan input-output analysis of the forest products industry impacts on the Mississippi economy, 2001.

MODEL SECTORS	ORIGINAL IMPLAN SECTORS
MISCELLANEOUS FOREST PRODUCTS	Forest nurseries, forest products, and timber tracts
LOGGING	Logging
SOLID WOOD PRODUCTS	Sawmills; Wood preservation; Reconstituted wood product manufacturing; Veneer and plywood manufacturing; Engineered wood member and truss manufacturing; Cut stock, resawing lumber, and planning; Other millwork, including flooring; Wood container and pallet manufacturing; Prefabricated wood building manufacturing; Miscellaneous wood product manufacturing; Custom architectural woodwork and millwork
WOOD FURNITURE	Wood windows and door manufacturing; Wood kitchen cabinet and countertop manufacturing; Upholstered household furniture manufacturing; Nonupholstered wood household furniture manufacturing; Wood office furniture manufacturing
PULP AND PAPER	Pulp mills; Paper and paperboard mills; Paperboard container manufacturing; Surface-coated paperboard manufacturing; Coated and laminated paper and packaging materials; Coated and uncoated paper bag manufacturing; Die-cut paper office supplies manufacturing; Envelope manufacturing; Sanitary paper product manufacturing; All other converted paper product manufacturing
RESOURCE SERVICES	Fishing; Hunting and trapping; Agriculture and forestry support activities
MINING	Oil and gas extraction; Coal mining; Iron ore mining; Copper, nickel, lead, and zinc mining; Gold, silver, and other metal ore mining; Stone mining and quarrying; Sand, gravel, clay, and refractory mining; Other nonmetallic mineral mining; Drilling oil and gas wells; Support activities for oil and gas operations; Support activities for other mining
CONSTRUCTION	New residential 1-unit structures, nonfarm; New multifamily housing structures, nonfarm; New residential additions and alterations, nonfarm; New farm housing units and additions and alterations; Manufacturing and industrial buildings; Commercial and institutional buildings; Highway, street, bridge, and tunnel construction; Water, sewer, and pipeline construction; Other new construction; Maintenance and repair of farm and nonfarm residential structures; Maintenance and repair of nonresidential buildings; Maintenance and repair of highways, streets, bridges, and tunnels; Other maintenance and repair construction
AGRICULTURAL PRODUCTS	Oilseed farming; Grain farming; Vegetable and melon farming; Tree nut farming; Fruit farming; Greenhouse and nursery production; Tobacco farming; Cotton farming; Sugarcane and sugar beet farming; All other crop farming; Cattle ranching and farming; Poultry and egg production; Animal production, except cattle and poultry and eggs
AGRICULTURE PROCESSING	Dog and cat food manufacturing; Flour milling; Rice milling; Wet corn milling; Soybean processing; Other oilseed processing; Fats and oils refining and blending; Breakfast cereal manufacturing; Fluid milk manufacturing; Creamery butter manufacturing; Cheese manufacturing; Dry, condensed, and evaporated dairy products; Ice cream and frozen dessert manufacturing; Animal, except poultry, slaughtering; Meat processed from carcasses; Rendering and meat byproduct processing; Poultry processing
FOOD PROCESSING	Malt manufacturing; Sugar manufacturing; Confectionery manufacturing from cacao beans; Confectionery manufacturing from purchased chocolate; Nonchocolate confectionery manufacturing; Frozen food manufacturing; Fruit and vegetable canning and drying; Seafood product preparation and packaging; Frozen cakes and other pastries manufacturing; Bread and bakery product, except frozen, manufacturing; Cookie and cracker manufacturing; Mixes and dough made from purchased flour; Dry pasta manufacturing; Tortilla manufacturing; Roasted nuts and peanut butter manufacturing; Other snack food manufacturing; Coffee and tea manufacturing; Flavoring syrup and concentrate manufacturing; Mayonnaise, dressing, and sauce manufacturing; Spice and extract manufacturing; All other food manufacturing; Soft drink and ice manufacturing; Breweries; Wineries; Distilleries; Tobacco stemming and redrying; Cigarette manufacturing; Other tobacco product manufacturing

Table 1. Aggregation scheme of commercial sectors used for Implan input-output analysis of the forest products industry impacts on the Mississippi economy, 2001 (continued).

MODEL SECTORS	ORIGINAL IMPLAN SECTORS
FARM INPUTS AND MACHINERY	Other animal food manufacturing; Nitrogenous fertilizer manufacturing; Phosphatic fertilizer manufacturing; Fertilizer, mixing only, manufacturing; Pesticide and other agricultural chemical manufacturing; Farm machinery and equipment manufacturing; Lawn and garden equipment manufacturing
FABRIC MILLS AND LEATHER	Fiber, yarn, and thread mills; Broadwoven fabric mills; Narrow fabric mills and schiffli embroidery; Textile and fabric finishing mills; Leather and hide tanning and finishing; Other leather product manufacturing
PETROLEUM AND CHEMICALS	Petroleum refineries; Asphalt paving mixture and block manufacturing; Asphalt shingle and coating materials manufacturing; Petroleum lubricating oil and grease manufacturing; All other petroleum and coal products manufacturing; Petrochemical manufacturing; Industrial gas manufacturing; Synthetic dye and pigment manufacturing; Other basic inorganic chemical manufacturing; Other basic organic chemical manufacturing; Plastics material and resin manufacturing; Synthetic rubber manufacturing; Cellulosic organic fiber manufacturing; Noncellulosic organic fiber manufacturing; Pharmaceutical and medicine manufacturing; Paint and coating manufacturing; Adhesive manufacturing; Soap and other detergent manufacturing; Polish and other sanitation good manufacturing; Surface active agent manufacturing; Toilet preparation manufacturing; Printing ink manufacturing; Explosives manufacturing; Custom compounding of purchased resins; Photographic film and chemical manufacturing; Other miscellaneous chemical product manufacturing; Plastics packaging materials, film and sheet; Plastics pipe, fittings, and profile shapes; Laminated plastics plate, sheet, and shapes; Plastics bottle manufacturing; Resilient floor covering manufacturing; Plastics plumbing fixtures and all other plastics products; Foam product manufacturing; Tire manufacturing; Rubber and plastics hose and belting manufacturing; Other rubber product manufacturing
GLASS, STONE, AND CLAY	Vitreous china plumbing fixture manufacturing; Vitreous china and earthenware articles manufacturing; Porcelain electrical supply manufacturing; Brick and structural clay tile manufacturing; Ceramic wall and floor tile manufacturing; Nonclay refractory manufacturing; Clay refractory and other structural clay products; Glass container manufacturing; Glass and glass products, except glass containers; Cement manufacturing; Ready-mix concrete manufacturing; Concrete block and brick manufacturing; Concrete pipe manufacturing; Other concrete product manufacturing; Lime manufacturing; Gypsum product manufacturing; Abrasive product manufacturing; Cut stone and stone product manufacturing; Ground or treated minerals and earths manufacturing; Mineral wool manufacturing; Miscellaneous nonmetallic mineral products

Table 1. Aggregation scheme of commercial sectors used for Implan input-output analysis of the forest products industry impacts on the Mississippi economy, 2001 (continued).

MODEL SECTORS	ORIGINAL IMPLAN SECTORS
METAL INDUSTRIES	Iron and steel mills; Ferroalloy and related product manufacturing; Iron, steel pipe and tube from purchased steel; Rolled steel shape manufacturing; Steel wire drawing; Alumina refining; Primary aluminum production; Secondary smelting and alloying of aluminum; Aluminum sheet, plate, and foil manufacturing; Aluminum extruded product manufacturing; Other aluminum rolling and drawing; Primary smelting and refining of copper; Primary nonferrous metal, except copper and aluminum; Copper rolling, drawing, and extruding; Copper wire, except mechanical, drawing; Secondary processing of copper; Nonferrous metal, except copper and aluminum, shaping; Secondary processing of other nonferrous; Ferrous metal foundries; Aluminum foundries; Nonferrous foundries, except aluminum; Iron and steel forging; Nonferrous forging; Custom roll forming; All other forging and stamping; Cutlery and flatware, except precious, manufacturing; Hand and edge tool manufacturing; Saw blade and handsaw manufacturing; Kitchen utensil, pot, and pan manufacturing; Prefabricated metal buildings and components; Fabricated structural metal manufacturing; Plate work manufacturing; Metal window and door manufacturing; Sheet metal work manufacturing; Ornamental and architectural metal work manufacturing; Power boiler and heat exchanger manufacturing; Metal tank, heavy gauge, manufacturing; Metal can, box, and other container manufacturing; Hardware manufacturing; Spring and wire product manufacturing; Machine shops; Turned product and screw, nut, and bolt manufacturing; Metal heat treating; Metal coating and nonprecious engraving; Electroplating, anodizing, and coloring metal; Metal valve manufacturing; Ball and roller bearing manufacturing; Small arms manufacturing; Other ordnance and accessories manufacturing; Fabricated pipe and pipe fitting manufacturing; Industrial pattern manufacturing; Enameled iron and metal sanitary ware manufacturing; Miscellaneous fabricated metal product manufacturing; Ammunition manufacturing
TRANSPORTATION EQUIPMENT	Industrial truck, trailer, and stacker manufacturing; Automobile and light truck manufacturing; Heavy duty truck manufacturing; Motor vehicle body manufacturing; Truck trailer manufacturing; Motor home manufacturing; Travel trailer and camper manufacturing; Motor vehicle parts manufacturing; Aircraft manufacturing; Aircraft engine and engine parts manufacturing; Other aircraft parts and equipment; Propulsion units and parts for space vehicles and guided missiles; Railroad rolling stock manufacturing; Ship building and repairing; Boat building; Motorcycle, bicycle, and parts manufacturing; All other transportation equipment manufacturing
TECHNOLOGY INDUSTRIES	Photographic and photocopying equipment manufacturing; Electronic computer manufacturing; Computer storage device manufacturing; Computer terminal manufacturing; Other computer peripheral equipment manufacturing; Telephone apparatus manufacturing; Broadcast and wireless communications equipment; Other communications equipment manufacturing; Audio and video equipment manufacturing; Electron tube manufacturing; Semiconductors and related device manufacturing; All other electronic component manufacturing; Electromedical apparatus manufacturing; Search, detection, and navigation instruments; Automatic environmental control manufacturing; Industrial process variable instruments; Totalizing fluid meters and counting devices; Electricity and signal testing instruments; Analytical laboratory instrument manufacturing; Irradiation apparatus manufacturing; Software reproducing; Audio and video media reproduction; Magnetic and optical recording media manufacturing; Guided missile and space vehicle manufacturing; Military armored vehicles and tank parts manufacturing; Laboratory apparatus and furniture manufacturing; Surgical and medical instrument manufacturing; Surgical appliance and supplies manufacturing; Dental equipment and supplies manufacturing; Ophthalmic goods manufacturing; Dental laboratories
TRANSPORTATION AND COMMUNICATION SERVICES	Air transportation; Rail transportation; Water transportation; Truck transportation; Transit and ground passenger transportation; Pipeline transportation; Scenic and sightseeing transportation and support activities for transportation

Table 1. Aggregation scheme of commercial sectors used for Implan input-output analysis of the forest products industry impacts on the Mississippi economy, 2001 (continued).

MODEL SECTORS	ORIGINAL IMPLAN SECTORS
MACHINERY AND EQUIPMENT	<p>Construction machinery manufacturing; Mining machinery and equipment manufacturing; Oil and gas field machinery and equipment; Sawmill and woodworking machinery; Plastics and rubber industry machinery; Paper industry machinery manufacturing; Textile machinery manufacturing; Printing machinery and equipment manufacturing; Food product machinery manufacturing; Semiconductor machinery manufacturing; All other industrial machinery manufacturing; Office machinery manufacturing; Optical instrument and lens manufacturing; Other commercial and service industry machinery manufacturing; Automatic vending, commercial laundry and dry cleaning machinery; Air purification equipment manufacturing; Industrial and commercial fan and blower manufacturing; Heating equipment, except warm air furnaces; AC, refrigeration, and forced air heating; Industrial mold manufacturing; Metal cutting machine tool manufacturing; Metal forming machine tool manufacturing; Special tool, die, jig, and fixture manufacturing; Cutting tool and machine tool accessory manufacturing; Rolling mill and other metalworking machinery; Turbine and turbine generator set units manufacturing; Other engine equipment manufacturing; Speed changers and mechanical power transmission equipment; Pump and pumping equipment manufacturing; Air and gas compressor manufacturing; Measuring and dispensing pump manufacturing; Elevator and moving stairway manufacturing; Conveyor and conveying equipment manufacturing; Overhead cranes, hoists, and monorail systems; Power-driven hand tool manufacturing; Welding and soldering equipment manufacturing; Packaging machinery manufacturing; Industrial process furnace and oven manufacturing; Fluid power cylinder and actuator manufacturing; Fluid power pump and motor manufacturing; Scales, balances, and miscellaneous general purpose machinery; Electric lamp bulb and part manufacturing; Lighting fixture manufacturing; Electric housewares and household fan manufacturing; Household vacuum cleaner manufacturing; Household cooking appliance manufacturing; Household refrigerator and home freezer manufacturing; Household laundry equipment manufacturing; Other major household appliance manufacturing; Electric power and specialty transformer manufacturing; Motor and generator manufacturing; Switch gear and switchboard apparatus manufacturing; Relay and industrial control manufacturing; Storage battery manufacturing; Primary battery manufacturing; Fiber optic cable manufacturing; Other communication and energy wire manufacturing; Wiring device manufacturing; Carbon and graphite product manufacturing; Miscellaneous electrical equipment manufacturing</p>

Table 1. Aggregation scheme of commercial sectors used for Implan input-output analysis of the forest products industry impacts on the Mississippi economy, 2001 (continued).

MODEL SECTORS	ORIGINAL IMPLAN SECTORS
MISCELLANEOUS MANUFACTURING	Nonwoven fabric mills; Knit fabric mills; Fabric coating mills; Carpet and rug mills; Curtain and linen mills; Textile bag and canvas mills; Tire cord and tire fabric mills; Other miscellaneous textile product mills; Sheer hosiery mills; Other hosiery and sock mills; Other apparel knitting mills; Cut and sew apparel manufacturing; Accessories and other apparel manufacturing; Footwear manufacturing; Manufactured home, mobile home, manufacturing; Flexible packaging foil manufacturing; Stationery and related product manufacturing; Manifold business forms printing; Books printing; Blankbook and looseleaf binder manufacturing; Commercial printing; Tradebinding and related work; Prepress services; Watch, clock, and other measuring and controlling device manufacturing; Metal household furniture manufacturing; Institutional furniture manufacturing; Other household and institutional furniture; Office furniture, except wood, manufacturing; Showcases, partitions, shelving, and lockers; Mattress manufacturing; Blind and shade manufacturing; Jewelry and silverware manufacturing; Sporting and athletic goods manufacturing; Doll, toy, and game manufacturing; Office supplies, except paper, manufacturing; Sign manufacturing; Gasket, packing, and sealing device manufacturing; Musical instrument manufacturing; Broom, brush, and mop manufacturing; Burial casket manufacturing; Buttons, pins, and all other miscellaneous manufacturing; Couriers and messengers; Accounting and bookkeeping services; Architectural and engineering services; Specialized design services; Custom computer programming services; Computer systems design services; Other computer related services, including facilities management; Management consulting services; Environmental and other technical consulting services; Scientific research and development services; Advertising and related services; Photographic services; Veterinary services; All other miscellaneous professional and technical services; Management of companies and enterprises; Office administrative services; Facilities support services; Employment services; Business support services; Travel arrangement and reservation services; Investigation and security services; Services to buildings and dwellings; Private households
UTILITY SERVICES	Power generation and supply; Natural gas distribution; Water, sewage and other systems; Waste management and remediation services
WHOLESALE AND RETAIL TRADE	Wholesale trade; Warehousing and storage; Motor vehicle and parts dealers; Furniture and home furnishings stores; Electronics and appliance stores; Building material and garden supply stores; Food and beverage stores; Health and personal care stores; Gasoline stations; Clothing and clothing accessories stores; Sporting goods, hobby, book and music stores; General merchandise stores; Miscellaneous store retailers; Nonstore retailers; Newspaper publishers; Periodical publishers; Book publishers; Database, directory, and other publishers; Software publishers; Sound recording industries
FINANCIAL AND REAL ESTATE	Nondepository credit intermediation and related activities; Securities, commodity contracts, investments; Insurance carriers; Insurance agencies, brokerages, and related; Funds, trusts, and other financial vehicles; Monetary authorities and depository credit intermediation; Real estate
MISCELLANEOUS SERVICES	Information services; Data processing services; Legal services; Other support services; Nursing and residential care facilities; Child day care services; Social assistance, except child day care services; Hotels and motels, including casino hotels; Other accommodations; Food services and drinking places; Car washes; Automotive repair and maintenance, except car washes; Electronic equipment repair and maintenance; Commercial machinery repair and maintenance; Household goods repair and maintenance; Personal care services; Death care services; Drycleaning and laundry services; Other personal services; Religious organizations; Grantmaking and giving and social advocacy organizations; Civic, social, professional and similar organizations
RECREATION AND AMUSEMENT	Motion picture and video industries; Performing arts companies; Spectator sports; Independent artists, writers, and performers; Promoters of performing arts and sports and agents for public figures; Museums, historical sites, zoos, and parks; Fitness and recreational sports centers; Bowling centers; Other amusement, gambling, and recreation industries
HEALTH SERVICES	Home health care services; Offices of physicians, dentists, and other health practioners; Other ambulatory health care services; Hospitals

Table 1. Aggregation scheme of commercial sectors used for Implan input-output analysis of the forest products industry impacts on the Mississippi economy, 2001 (continued).

MODEL SECTORS	ORIGINAL IMPLAN SECTORS
EDUCATION	Elementary and secondary schools; Colleges, universities, and junior colleges; Other educational services State & Local Education
GOVERNMENT	Postal service; Federal electric utilities; Other Federal Government enterprises; State and local government passenger transit; State and local government electric utilities; Other State and local government enterprises; State & Local Non-Education; Federal Military; Federal Non-Military
DOMESTIC SERVICES	Radio and television broadcasting; Cable networks and program distribution; Telecommunications; Automotive equipment rental and leasing; Video tape and disc rental; Machinery and equipment rental and leasing; General and consumer goods rental except video tapes and discs; Lessors of nonfinancial intangible assets
BALANCE	Noncomparable imports; Scrap; Used and secondhand goods; Rest of the world adjustment to final uses; Inventory valuation adjustment; Owner-occupied dwellings

Table 2. Direct effects on Mississippi employment, wages, output, and value-added of the aggregated industrial sectors, 2001.

Model Sectors	Employment (Full- and part-time jobs)	Wages and Salaries (\$MM)	Total Industry Output (\$MM)	Value-Added (\$MM)
MISCELLANEOUS FOREST PRODUCTS	459	28.21	290.87	148.53
LOGGING	6,621	187.21	799.59	394.09
SOLID WOOD PRODUCTS	15,182	499.22	2,494.49	681.78
WOOD FURNITURE	24,829	732.81	2,251.84	775.04
PULP AND PAPER	7,762	453.56	2,401.51	764.48
FOREST PRODUCTS INDUSTRY (sum of above sectors)	54,853	1,901.01	8,238.31	2,763.91
RESOURCE SERVICES	9,652	191.47	301.72	186.35
MINING	8,527	381.10	1,907.67	656.12
CONSTRUCTION	95,162	2,788.54	7,092.18	2,550.43
AGRICULTURAL PRODUCTS	50,808	694.59	3,388.86	1,536.31
AGRICULTURAL PROCESSING	23,243	542.22	4,295.25	613.05
FOOD PROCESSING	7,129	181.23	1,410.60	274.07
FARM INPUTS & MACHINERY	3,010	114.65	954.04	215.54
FABRIC MILLS & LEATHER	1,417	43.73	181.58	50.69
MISCELLANEOUS MANUFACTURING	146,250	3,566.26	7,972.19	4,493.28
PETROLEUM & CHEMICALS	18,657	921.33	8,135.94	1,504.53
GLASS, STONE, AND CLAY	5,466	200.90	805.30	342.21
METAL INDUSTRIES	17,498	652.69	2,898.60	978.87
MACHINERY & EQUIPMENT	23,588	844.42	4,028.54	1,209.11
TRANSPORTATION EQUIPMENT	23,643	1,032.23	3,819.92	1,170.58
TECHNOLOGY INDUSTRIES	4,827	165.08	880.09	217.20
TRANS. & COMM. SERVICES	33,352	1,211.15	4,122.36	1,732.49
UTILITY SERVICES	9,576	502.00	2,240.77	1,222.14
WHOLESALE AND RETAIL TRADE	221,757	5,319.40	12,562.08	7,757.96
FINANCIAL AND REAL ESTATE	73,930	1,789.74	7,842.48	4,782.58
MISCELLANEOUS SERVICES	233,568	4,342.33	11,596.15	6,190.39
RECREATION & AMUSEMENT	30,501	758.79	1,975.71	1,204.61
HEALTH SERVICES	69,922	3,035.76	6,588.67	3,457.36
EDUCATION	114,150	3,539.55	4,276.53	4,042.89
GOVERNMENT	179,987	6,528.07	8,320.60	7,682.68
DOMESTIC SERVICES	21,417	841.66	3,063.10	1,864.43
ALL SECTORS	1,481,891	42,089.90	124,669.94	63,204.20

Table 3. Total effects of the logging sector on Mississippi employment, wages, output, and value-added for the aggregated industrial sector, 2001.

Model Sectors	Employment (Full- and part-time jobs)	Wages and Salaries (\$MM)	Total Industry Output (\$MM)	Value-Added (\$MM)
MISCELLANEOUS FOREST PRODUCTS	2	0.15	1.53	0.78
LOGGING	6,621	187.21	799.63	394.11
SOLID WOOD PRODUCTS	8	0.26	1.32	0.36
WOOD FURNITURE	10	0.29	0.89	0.31
PULP AND PAPER	1	0.03	0.18	0.06
RESOURCE SERVICES	740	14.68	23.14	14.29
MINING	30	1.34	6.69	2.30
CONSTRUCTION	26	0.75	1.91	0.69
AGRICULTURAL PRODUCTS	144	1.97	9.59	4.35
AGRICULTURAL PROCESSING	38	0.90	7.09	1.01
FOOD PROCESSING	25	0.65	5.03	0.98
FARM INPUTS & MACHINERY	7	0.26	2.16	0.49
FABRIC MILLS & LEATHER	1	0.04	0.17	0.05
MISCELLANEOUS MANUFACTURING	223	5.44	12.16	6.85
PETROLEUM & CHEMICALS	81	4.02	35.50	6.57
GLASS, STONE, AND CLAY	0	0.01	0.05	0.02
METAL INDUSTRIES	2	0.06	0.27	0.09
MACHINERY & EQUIPMENT	17	0.62	2.95	0.89
TRANSPORTATION EQUIPMENT	14	0.59	2.19	0.67
TECHNOLOGY INDUSTRIES	5	0.17	0.92	0.23
TRANS. & COMM. SERVICES	86	3.11	10.59	4.45
UTILITY SERVICES	41	2.13	9.50	5.18
WHOLESALE AND RETAIL TRADE	923	22.15	52.30	32.30
FINANCIAL AND REAL ESTATE	303	7.33	32.12	19.59
MISCELLANEOUS SERVICES	1,010	18.77	50.13	26.76
RECREATION & AMUSEMENT	75	1.86	4.85	2.96
HEALTH SERVICES	234	10.18	22.09	11.59
EDUCATION	101	3.14	3.80	3.59
GOVERNMENT	161	5.84	7.45	6.88
DOMESTIC SERVICES	92	3.62	13.17	8.02
ALL SECTORS	11,021	297.57	1,134.75	568.40

Table 4. Total effects of the solid wood products sector on Mississippi employment, wages, output, and value-added by aggregated industrial sectors, 2001.

Model Sectors	Employment (Full- and part-time jobs)	Wages and Salaries (\$MM)	Total Industry Output (\$MM)	Value-Added (\$MM)
MISCELLANEOUS FOREST PRODUCTS	3	0.17	1.74	0.89
LOGGING	2,848	80.54	343.99	169.54
SOLID WOOD PRODUCTS	15,182	499.21	2,494.46	681.77
WOOD FURNITURE	155	4.59	14.09	4.85
PULP AND PAPER	5	0.30	1.61	0.51
RESOURCE SERVICES	357	7.08	11.15	6.89
MINING	127	5.67	28.37	9.76
CONSTRUCTION	147	4.32	10.98	3.95
AGRICULTURAL PRODUCTS	301	4.11	20.05	9.09
AGRICULTURAL PROCESSING	140	3.27	25.92	3.70
FOOD PROCESSING	91	2.31	17.94	3.49
FARM INPUTS & MACHINERY	10	0.37	3.09	0.70
FABRIC MILLS & LEATHER	6	0.19	0.81	0.23
MISCELLANEOUS MANUFACTURING	1,271	31.00	69.29	39.05
PETROLEUM & CHEMICALS	319	15.73	138.94	25.69
GLASS, STONE, AND CLAY	2	0.08	0.33	0.14
METAL INDUSTRIES	17	0.65	2.88	0.97
MACHINERY & EQUIPMENT	80	2.85	13.62	4.09
TRANSPORTATION EQUIPMENT	44	1.92	7.12	2.18
TECHNOLOGY INDUSTRIES	49	1.67	8.90	2.20
TRANS. & COMM. SERVICES	1,035	37.59	127.94	53.77
UTILITY SERVICES	222	11.65	52.02	28.37
WHOLESALE AND RETAIL TRADE	5,510	132.18	312.15	192.77
FINANCIAL AND REAL ESTATE	1,178	28.51	124.91	76.17
MISCELLANEOUS SERVICES	4,144	77.05	205.76	109.84
RECREATION & AMUSEMENT	295	7.34	19.10	11.65
HEALTH SERVICES	814	35.33	76.69	40.24
EDUCATION	388	12.04	14.55	13.75
GOVERNMENT	918	33.29	42.44	39.18
DOMESTIC SERVICES	367	14.42	52.47	31.94
ALL SECTORS	36,026	1,055.44	4,299.23	1,611.02

Table 5. Total effects of the pulp and paper sector on Mississippi employment, wages, output, and value-added by aggregated industrial sectors, 2001.

Model Sectors	Employment (Full- and part-time jobs)	Wages and Salaries (\$MM)	Total Industry Output (\$MM)	Value-Added (\$MM)
MISCELLANEOUS FOREST PRODUCTS	0	0.02	0.17	0.09
LOGGING	599	16.94	72.35	35.66
SOLID WOOD PRODUCTS	259	8.51	42.53	11.62
WOOD FURNITURE	50	1.47	4.50	1.55
PULP AND PAPER	7,762	453.55	2,401.44	764.45
RESOURCE SERVICES	105	2.08	3.29	2.03
MINING	252	11.26	56.37	19.39
CONSTRUCTION	189	5.55	14.11	5.08
AGRICULTURAL PRODUCTS	350	4.78	23.33	10.58
AGRICULTURAL PROCESSING	205	4.78	37.87	5.41
FOOD PROCESSING	85	2.17	16.88	3.28
FARM INPUTS & MACHINERY	10	0.40	3.30	0.75
FABRIC MILLS & LEATHER	10	0.31	1.28	0.36
MISCELLANEOUS MANUFACTURING	1,520	37.06	82.84	46.69
PETROLEUM & CHEMICALS	595	29.38	259.45	47.98
GLASS, STONE, AND CLAY	3	0.10	0.42	0.18
METAL INDUSTRIES	16	0.61	2.70	0.91
MACHINERY & EQUIPMENT	103	3.69	17.60	5.28
TRANSPORTATION EQUIPMENT	41	1.78	6.60	2.02
TECHNOLOGY INDUSTRIES	53	1.82	9.72	2.40
TRANS. & COMM. SERVICES	983	35.69	121.47	51.05
UTILITY SERVICES	340	17.81	79.50	43.36
WHOLESALE AND RETAIL TRADE	4,944	118.59	280.06	172.96
FINANCIAL AND REAL ESTATE	1,128	27.30	119.63	72.95
MISCELLANEOUS SERVICES	4,197	78.02	208.36	111.23
RECREATION & AMUSEMENT	285	7.10	18.48	11.27
HEALTH SERVICES	747	32.42	70.36	36.92
EDUCATION	402	12.48	15.08	14.25
GOVERNMENT	1,086	39.39	50.21	46.36
DOMESTIC SERVICES	362	14.23	51.79	31.52
ALL SECTORS	26,681	969.29	4,145.44	1,615.13

Table 6. Total effects of the wood furniture sector on Mississippi employment, wages, output, and value-added by aggregated industrial sectors, 2001.

Model Sectors	Employment (Full- and part-time jobs)	Wages and Salaries (\$MM)	Total Industry Output (\$MM)	Value-Added (\$MM)
MISCELLANEOUS FOREST PRODUCTS	0	0.02	0.26	0.13
LOGGING	406	11.47	48.97	24.14
SOLID WOOD PRODUCTS	2,142	70.42	351.89	96.18
WOOD FURNITURE	24,829	732.80	2,251.81	775.03
PULP AND PAPER	6	0.37	1.96	0.62
RESOURCE SERVICES	91	1.81	2.85	1.76
MINING	180	8.02	40.17	13.82
CONSTRUCTION	174	5.11	12.99	4.67
AGRICULTURAL PRODUCTS	367	5.01	24.45	11.09
AGRICULTURAL PROCESSING	185	4.30	34.10	4.87
FOOD PROCESSING	115	2.91	22.65	4.40
FARM INPUTS & MACHINERY	11	0.40	3.36	0.76
FABRIC MILLS & LEATHER	105	3.24	13.46	3.76
MISCELLANEOUS MANUFACTURING	2,054	50.09	111.97	63.11
PETROLEUM & CHEMICALS	514	25.39	224.21	41.46
GLASS, STONE, AND CLAY	4	0.15	0.61	0.26
METAL INDUSTRIES	29	1.09	4.83	1.63
MACHINERY & EQUIPMENT	82	2.94	14.01	4.20
TRANSPORTATION EQUIPMENT	53	2.31	8.56	2.62
TECHNOLOGY INDUSTRIES	57	1.96	10.44	2.58
TRANS. & COMM. SERVICES	1,015	36.87	125.48	52.73
UTILITY SERVICES	212	11.11	49.61	27.06
WHOLESALE AND RETAIL TRADE	6,517	156.33	369.19	228.00
FINANCIAL AND REAL ESTATE	1,466	35.50	155.54	94.85
MISCELLANEOUS SERVICES	4,459	82.90	221.39	118.18
RECREATION & AMUSEMENT	407	10.11	26.33	16.05
HEALTH SERVICES	1,062	46.09	100.04	52.50
EDUCATION	502	15.57	18.82	17.79
GOVERNMENT	1,026	37.21	47.42	43.79
DOMESTIC SERVICES	483	18.97	69.05	42.03
ALL SECTORS	48,552	1,380.49	4,438.77	1,806.55

Table 7. Total effects of the forest products industry on Mississippi employment, wages, output, and value-added by aggregated industrial sectors, 2001.

Model Sectors	Employment (Full- and part-time jobs)	Wages and Salaries (\$MM)	Total Industry Output (\$MM)	Value-Added (\$MM)
MISCELLANEOUS FOREST PRODUCTS	459	28.21	290.87	148.53
LOGGING	6,621	187.21	799.59	394.09
SOLID WOOD PRODUCTS	15,182	499.22	2,494.49	681.78
WOOD FURNITURE	24,829	732.81	2,251.84	775.04
PULP AND PAPER	7,762	453.56	2,401.51	764.48
RESOURCE SERVICES	3,136	62.21	98.03	60.54
MINING	596	26.62	133.26	45.83
CONSTRUCTION	556	16.30	41.47	14.91
AGRICULTURAL PRODUCTS	1,386	18.95	92.44	41.91
AGRICULTURAL PROCESSING	588	13.71	108.61	15.50
FOOD PROCESSING	325	8.26	64.30	12.49
FARM INPUTS & MACHINERY	59	2.23	18.59	4.20
FABRIC MILLS & LEATHER	123	3.80	15.77	4.40
MISCELLANEOUS MANUFACTURING	5,158	125.78	281.18	158.48
PETROLEUM & CHEMICALS	1,527	75.42	666.04	123.17
GLASS, STONE, AND CLAY	10	0.36	1.43	0.61
METAL INDUSTRIES	65	2.43	10.79	3.64
MACHINERY & EQUIPMENT	288	10.30	49.12	14.74
TRANSPORTATION EQUIPMENT	156	6.82	25.25	7.74
TECHNOLOGY INDUSTRIES	166	5.68	30.28	7.47
TRANS. & COMM. SERVICES	3,157	114.63	390.16	163.97
UTILITY SERVICES	826	43.27	193.16	105.35
WHOLESALE AND RETAIL TRADE	18,221	437.06	1,032.15	637.43
FINANCIAL AND REAL ESTATE	4,178	101.15	443.25	270.31
MISCELLANEOUS SERVICES	14,160	263.25	703.01	375.29
RECREATION & AMUSEMENT	1,103	27.43	71.42	43.55
HEALTH SERVICES	2,936	127.48	276.67	145.18
EDUCATION	1,429	44.31	53.54	50.61
GOVERNMENT	3,248	117.79	150.13	138.62
DOMESTIC SERVICES	1,328	52.17	189.85	115.56
ALL SECTORS	119,575	3,608	13,378	5,325

Table 8a. Federal, non-defense tax impacts generated by the forest products industry in Mississippi, 2001.

Type of Tax	North	Central	South	Delta	State
Corporate Profits Tax	25,838,056	24,315,954	31,224,330	9,274,752	95,385,936
Indirect Business Taxes ¹	11,233,464	10,993,009	10,417,974	5,185,643	42,671,147
Personal Taxes ²	107,917,329	56,596,960	62,906,615	22,598,793	260,957,319
Social Security Taxes ³	204,079,110	92,654,076	101,444,873	42,031,831	446,408,740
Total	349,067,960	184,559,998	205,993,792	79,091,020	845,423,141

¹Includes custom duty; excise taxes, and federal non-taxes.

²Includes estate and gift taxes; and income taxes.

³Includes employee contribution; and employer contribution.

Table 8b. State and local government, non-education taxes generated by the forest products industry in Mississippi, 2001.

Type of Tax	North	Central	South	Delta	State
Corporate Profits Tax	4,258,501	4,007,636	5,146,240	1,528,619	15,721,041
Dividends	80,610	75,861	97,414	28,936	297,587
Indirect Business Taxes ¹	114,227,654	83,088,814	92,947,445	36,919,583	357,422,206
Personal Taxes ²	30,008,094	15,692,009	17,532,105	6,353,198	72,633,478
Social Security Taxes ³	3,872,137	2,668,590	2,444,477	1,100,455	11,164,333
Total	152,446,995	105,532,910	118,167,682	45,930,793	457,238,645

¹Includes motor vehicle license; property taxes; state and local non-taxes; sales tax; severance tax; and other taxes.

²Includes estate and gift taxes; income taxes; motor vehicle license; non-taxes; property taxes; and other taxes.

³Includes employee contribution; and employer contribution.

Table 9a. Direct effects of the forest products industry on employment, wages, output, and value-added in north Mississippi, 2001.

MODEL SECTORS	EMPLOYMENT (Full- and part-time jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISCELLANEOUS FOREST PRODUCTS	45	3.10	31.73	16.30
LOGGING	960	29.69	124.39	62.51
SOLID WOOD PRODUCTS	3,126	104.96	551.96	146.38
WOOD FURNITURE	20,824	625.20	1,904.30	645.67
PULP AND PAPER	1,392	64.72	341.13	94.94
FOREST PRODUCTS INDUSTRY (sum of above sectors)	26,347	827.67	2,953.51	965.80
ALL SECTORS	322,405	8,456.74	26,825.60	12,757.13

Table 9b. Total effects of the forest products industry on employment, wages, output, and value-added in north Mississippi, 2001.

MODEL SECTORS	EMPLOYMENT (Full- and part-time jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
LOGGING	1,637	44.96	168.86	85.91
SOLID WOOD PRODUCTS	7,346	211.67	896.73	324.88
WOOD FURNITURE	38,618	1,082.69	3,465.43	1,377.60
PULP AND PAPER	3,881	127.79	551.97	199.44
FOREST PRODUCTS INDUSTRY (sum of above sectors)	51,482	1,467.11	5,082.99	1,987.83

Table 10a. Direct effects of the forest products industry on employment, wages, output, and value-added in central Mississippi, 2001.

MODEL SECTORS	EMPLOYMENT (Full- and part-time jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISCELLANEOUS FOREST PRODUCTS	1,917	11.50	119.75	60.51
LOGGING	225	63.36	261.86	133.38
SOLID WOOD PRODUCTS	4,265	135.89	652.26	178.15
WOOD FURNITURE	2,507	61.72	207.26	69.28
PULP AND PAPER	2,335	139.20	689.70	235.56
FOREST PRODUCTS INDUSTRY (sum of above sectors)	11,249	411.67	1,930.83	676.88
ALL SECTORS	513,735	15,587.10	43,281.92	23,260.30

Table 10b. Total effects of the forest products industry on employment, wages, output, and value-added in central Mississippi, 2001.

MODEL SECTORS	EMPLOYMENT (Full- and part-time jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
LOGGING	3,202	97.90	358.25	186.80
SOLID WOOD PRODUCTS	9,400	284.46	1,098.28	422.45
WOOD FURNITURE	9,390	121.71	390.02	161.48
PULP AND PAPER	7,404	280.42	1,111.62	463.22
FOREST PRODUCTS INDUSTRY (sum of above sectors)	29,396	784.49	2,958.17	1,233.95

Table 11a. Direct effects of the forest products industry on employment, wages, output, and value-added in south Mississippi, 2001.

MODEL SECTORS	EMPLOYMENT (Full- and part-time jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISCELLANEOUS FOREST PRODUCTS	167	12.69	129.55	66.81
LOGGING	3,313	81.42	258.14	170.54
SOLID WOOD PRODUCTS	5,787	199.41	998.34	281.48
WOOD FURNITURE	951	24.76	74.14	31.96
PULP AND PAPER	2,432	166.87	845.34	310.19
FOREST PRODUCTS INDUSTRY (sum of above sectors)	12,650	485.15	2,305.51	860.98
ALL SECTORS	451,573	12,794.97	38,092.76	18,921.41

Table 11b. Total effects of the forest products industry on employment, wages, output, and value-added in south Mississippi, 2001.

MODEL SECTORS	EMPLOYMENT (Full- and part-time jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
LOGGING	5,030	120.83	483.14	234.67
SOLID WOOD PRODUCTS	13,849	394.39	1,639.40	607.00
WOOD FURNITURE	1,647	42.25	133.90	59.82
PULP AND PAPER	8,655	322.67	1,383.40	565.44
FOREST PRODUCTS INDUSTRY (sum of above sectors)	29,181	880.14	3,639.84	1,446.93

Table 12a. Direct effects of the forest products industry on employment, wages, output, and value-added in the Mississippi Delta, 2001.

MODEL SECTORS	EMPLOYMENT (Full- and part-time jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISCELLANEOUS FOREST PRODUCTS	22	0.93	9.88	4.90
LOGGING	430	13.12	55.15	27.63
SOLID WOOD PRODUCTS	2,005	58.99	292.90	75.82
WOOD FURNITURE	719	21.22	66.14	28.43
PULP AND PAPER	1,431	82.78	521.32	123.78
FOREST PRODUCTS INDUSTRY (sum of above sectors)	4,607	177.04	945.39	260.56
ALL SECTORS	194,177	5,257.08	16,439.66	8,265.36

Table 12b. Total effects of the forest products industry on employment, wages, output, and value-added in the Mississippi Delta, 2001.

MODEL SECTORS	EMPLOYMENT (Full- and part-time jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
LOGGING	697	19.84	74.76	38.16
SOLID WOOD PRODUCTS	3,952	111.71	466.30	165.26
WOOD FURNITURE	1,242	35.41	115.00	51.25
PULP AND PAPER	4,878	177.34	854.02	284.17
FOREST PRODUCTS INDUSTRY (sum of above sectors)	10,769	344.30	1,510.08	538.84

Figure 1a. Direct effects of the forest products industry on wages, output, and value-added on the Mississippi economy, 2001.

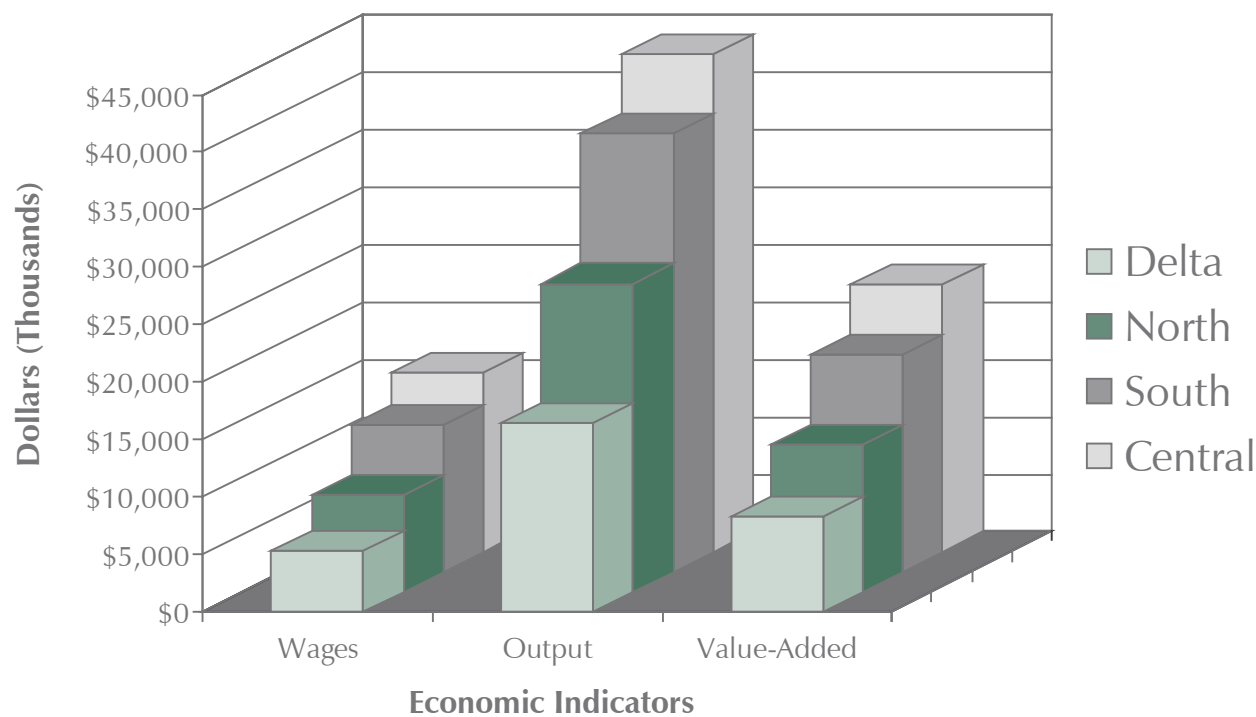


Figure 1b. Total effects of the forest products industry on wages, output, and value-added on the Mississippi economy, 2001.

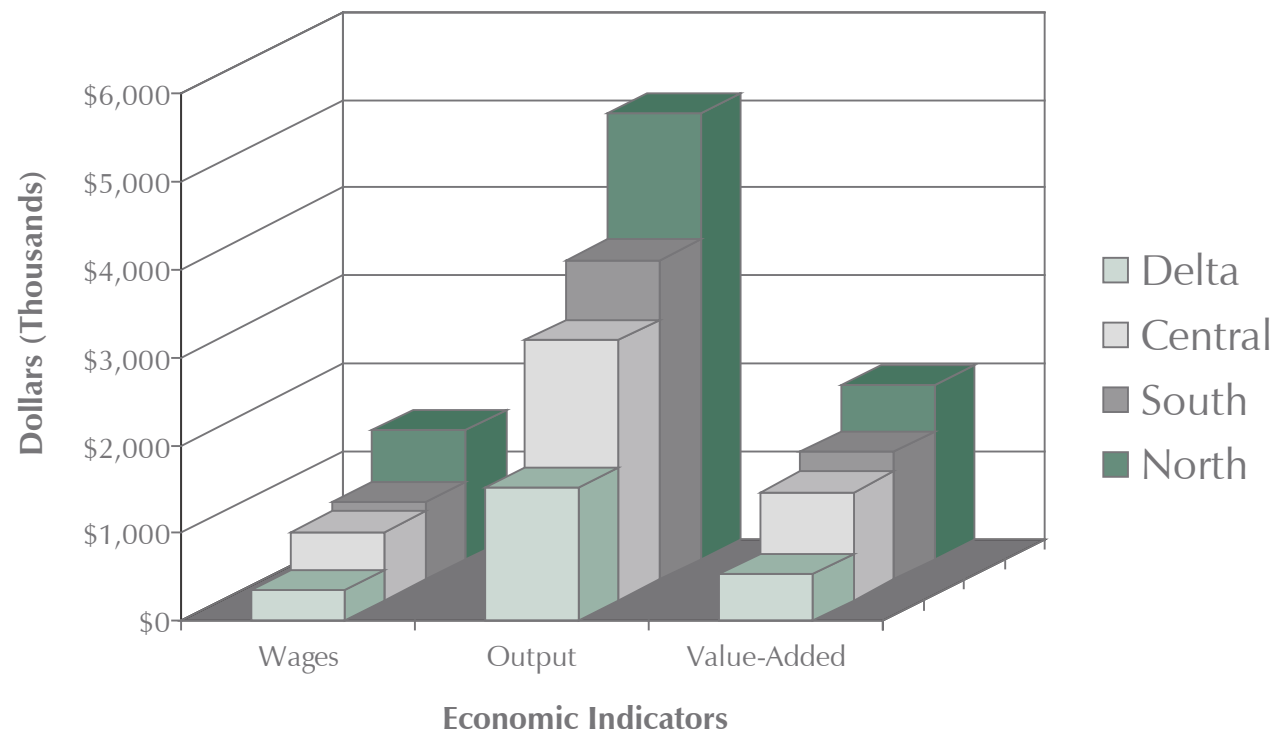


Figure 2a. Relative magnitude of the direct effects of forest products industry compared to the regional Mississippi economy, 2001.

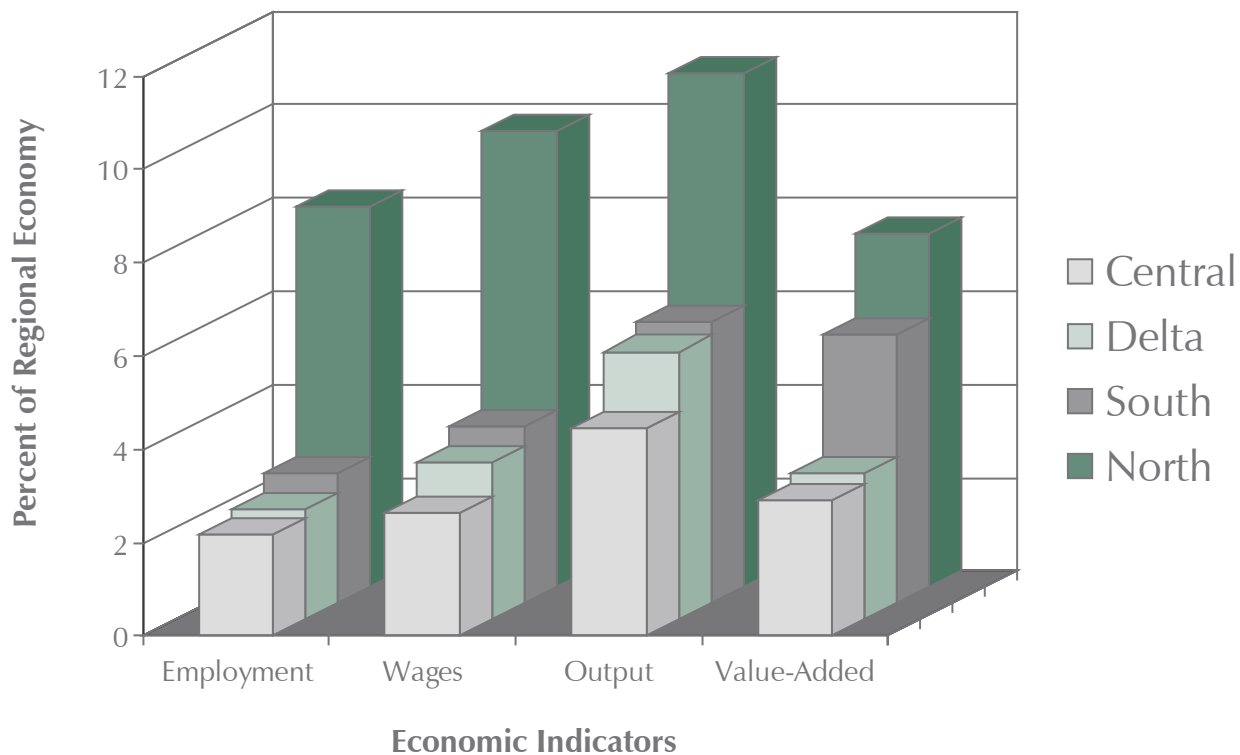
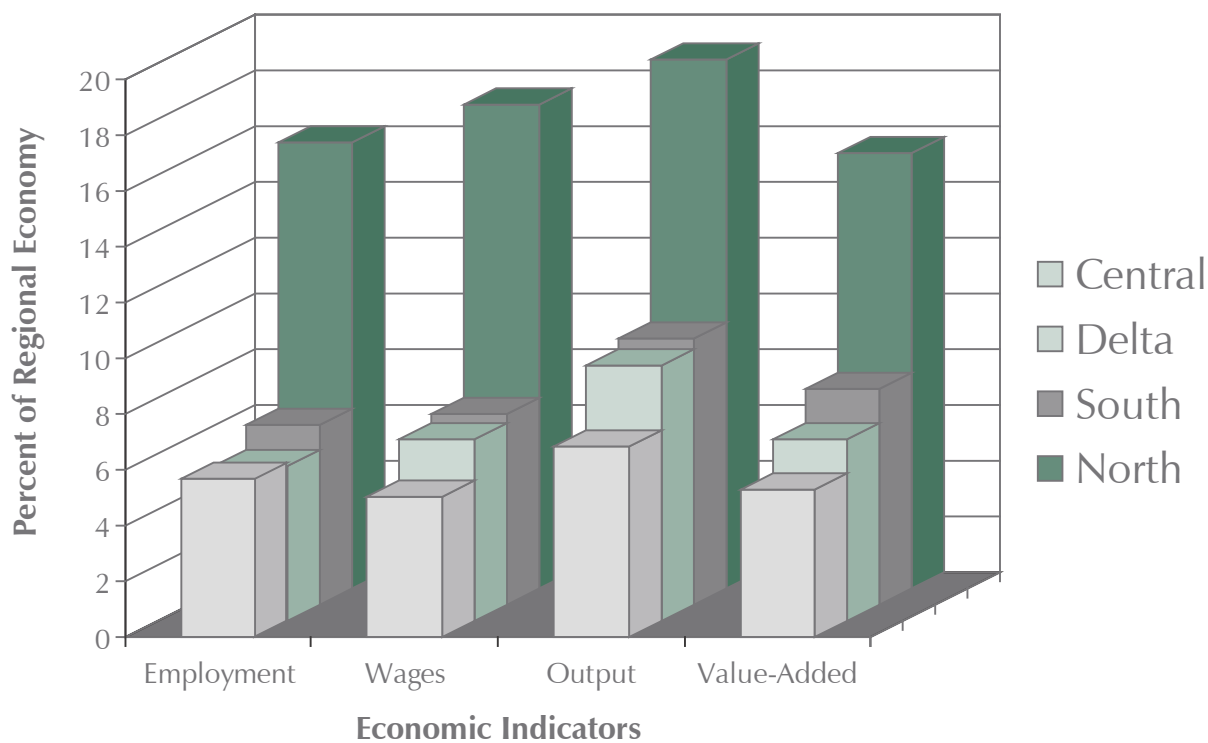


Figure 2b. Relative magnitude of the total effects of forest products industry compared to the regional Mississippi economy, 2001.





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