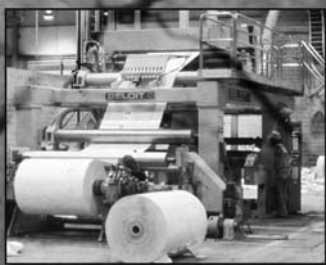


# FORESTRY IN MISSISSIPPI

Based on 1999 Data

The Impact of the Forest Products Industry  
on the Mississippi Economy:  
An Input-Output Analysis



By  
Dr. Ian. A. Munn  
James E. Henderson



Forest and Wildlife Research Center  
**Research Bulletin**

The Forest and Wildlife Research Center at Mississippi State University was established by the Mississippi Legislature with the passage of the renewable natural resources act of 1994. The mission of the center is to conduct research and technical assistance programs relevant to the efficient management and utilization of the forest, wildlife, and fisheries of the state and region, and the protection and enhancement of the natural environment associated with these resources. The FWRC scientists conduct this research in laboratory and forests administered by the University and cooperating agencies and industries throughout the country. Research results are made available to potential users through the University's educational program and through Center publications such as this, which are directed as appropriate to forest landowners and managers, manufacturers and users of forest products, leaders of government and industry, the scientific community and the general public. Dr. G. Sam Foster is director of the Forest and Wildlife Research Center.

## **Authors**

Dr. Ian A. Munn is Professor in the Department of Forestry. His primary research interest is natural resource/forestry economics. James E. Henderson is a Graduate Research Assistant in the Department of Forestry.

## **Acknowledgements**

This research was funded by the U.S. Department of Agriculture, Cooperative State Research, Education and Extension Service, Wood Utilization Research Program.

## **To Order Copies**

Copies of this and other Forest and Wildlife Research Center publications are available from:

Publications Office  
Forest and Wildlife Research Center  
Box 9680  
Mississippi State, MS 39762

Please indicate author(s), title, and publication number if known.

Publications can also be found on our web site at <http://www.cfr.msstate.edu>.

## **Citation**

Munn, I.A., J.E. Henderson. 2003. Forestry in Mississippi: The impact of the forest products industry on the Mississippi economy: An input-output analysis. Forest and Wildlife Research Center, Bulletin FO 216, Mississippi State University. 22 pp.



# **Forestry in Mississippi**

**The Impact of the Forest Products Industry on the  
Mississippi Economy: An Input-Output Analysis**

**by**

**Dr. Ian A. Munn**

**and**

**James E. Henderson**

**Forest and Wildlife Research Center  
Mississippi State University**

---

## INTRODUCTION

Forest resources are a major component of Mississippi's economic base. Forests cover over 18 million acres in Mississippi, or 62% of the state's total land area (Hartsell and London 1995). Over \$1.2 billion dollars 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 (Daniels 2000). 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.

The 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 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 the purchases of consumer goods and services by the employees of the forest products industry and its supporting industries.

The forest products industry and the timberland base that 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 the local economy. 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 three regions within the state: north Mississippi, south Mississippi, and the Delta.

## METHODS

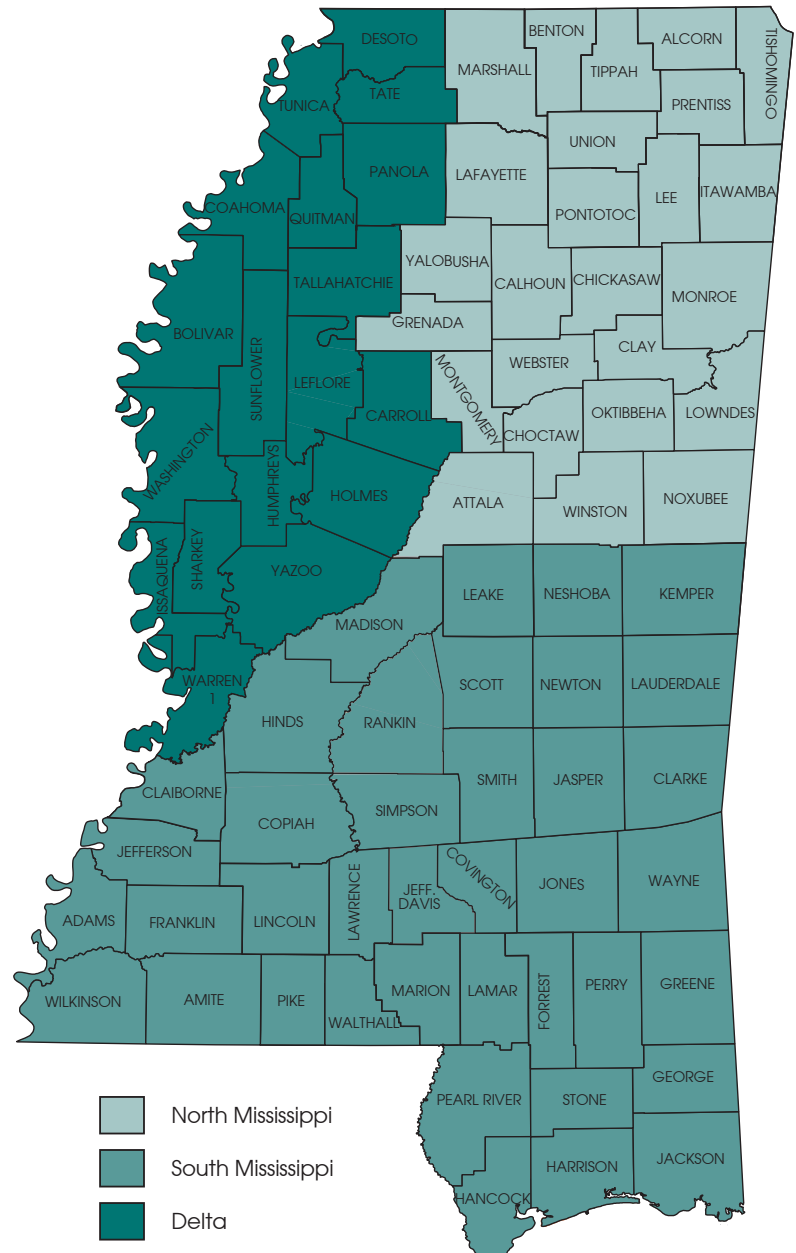
### *Input-Output Modeling*

The economic impacts of the forest industry 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 uses a 528 sector input-output transactions table based upon the Bureau of Economic Analysis' National I-O table (USDC 1984). 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 528 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 1999, the most recent available, were used.

This study examined the impact of the four primary sectors of the forest products industry individually, then examined 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 (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 (2000) to estimate the economic impact of an industry. These economic impacts were investigated at the state level and for three regions within the state: north Mississippi, south Mississippi and the Delta. North Mississippi consists of Alcorn, Attala, Benton, Calhoun, Chickasaw, Choctaw, Clay, Grenada, Itawamba, Lafayette, Lee, Lowndes, Marshall, Monroe, Montgomery, Noxubee, Oktibbeha, Pontotoc, Prentiss, Tippah, Tishomingo, Union, Webster, Winston, and Yalobusha counties. South Mississippi consists of Adams, Amite, Claiborne, Clarke, Copiah, Covington, Forrest, Franklin, George, Greene, Hancock, Harrison, Hinds, Jackson, Jasper, Jefferson, Jefferson Davis, Jones, Kemper, Lamar, Lauderdale, Lawrence, Leake, Lincoln, Madison, Marion, Neshoba, Newton, Pearl River, Perry, Pike, Rankin, Scott, Simpson, Smith, Stone, Walthall, Wayne, and Wilkinson counties. The Delta consists of Bolivar, Carroll, Coahoma, De Soto, Holmes, Humphreys, Issaquena, Le Flore, Panola, Quitman, Sharkey, Sunflower, Tallahatchie, Tate, Tunica, Warren, Washington, and Yazoo counties. The relative importance of the forest products industry varies significantly between regions within Mississippi and this study evaluates 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 63,293 people in 1999, roughly 4% of the state's total employment. The industry paid out over \$2.0 billion in wages. The industry's average annual wage was \$31,958 - \$5,165 more than the state average. Value-added generated by the industry totaled over \$2.95 billion.

Each sector of the forest products industry made substantial contributions to the state economy. Tables 3, 4, 5, and 6 provide data on the total effects (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 sector. In general, the effects reported for the analyzed 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 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 1999, the value of Mississippi's timber harvest at the point of first processing was \$1.36 billion dollars. The direct effect of the industry was substantial. Landowners received \$1.26 billion for their standing timber (Daniels 2000). Logging firms employed 5,135 people and paid \$129 million in wages. Value-added exceeded \$248 million (Table 2).

The total effect (direct, indirect, and induced) of logging on Mississippi's economy was even greater (Table 3). In 1999, over 10,796 jobs were related to timber harvesting activities with wages totaling \$280 million. Logging generated an estimated \$1.14 billion addition to Mississippi's total industry output and \$476 million value-added to Mississippi's economy. Construction, wholesale and retail trade, financial and real estate, and transportation and communication services are among those sectors that benefit

**\$1.14 Billion**

*Total Industry Output*

**10,796 Jobs**

**\$280 Million**

*In Wages*

**\$476 Million**

*In Value Added*

substantially from the indirect and induced effects created by the logging industry. 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 1999, these firms directly employed 21,040

workers and paid \$651 million in wages. The average annual wage was \$30,966 - \$4,173 higher than the state average. Industry output for the sector was \$3.1 billion and the value-added by manufacturing exceeded \$930 million (Table 2).

The solid wood products sector utilized roughly 1.5 billion board feet of pine stumpage and 0.6 billion board feet of hardwood stumpage in 1999, resulting in payments to Mississippi landowners of almost \$866 million (Daniels 2000). Miscellaneous products such as stumpwood and Christmas trees generated an additional \$4.8 million for landowners (Daniels

2000).

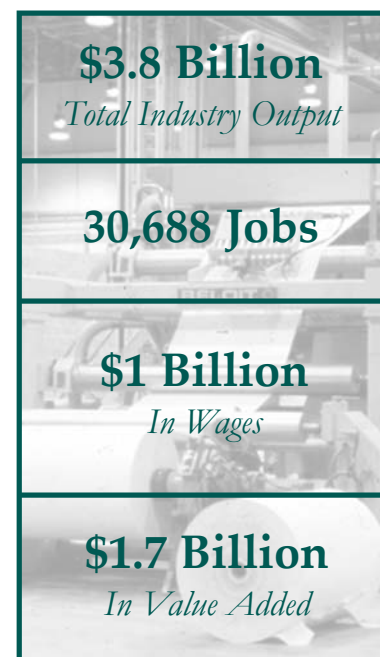
The total impact of the solid wood products sector on Mississippi's economy was substantial. The indirect and induced effects of this sector had major impacts on the transportation and communications, wholesale and retail trade, and financial and real estate sectors, increasing the total industrial output of these sectors by over \$200 million each. This sector generated 55,618 jobs, either directly or in supporting industries. Employee compensation for these jobs was \$1.6 billion annually. Total value-added was over \$2.4 billion and industry output generated by the solid wood products sector and its supporting industries amounted to \$5.9 billion (Table 4).

### ***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 1999, these firms employed 8,627 workers and paid \$478 million in wages.

The average annual wage was \$55,435, more than double the state average. Total industry output for the sector was \$2.1 billion and value-added by manufacturing exceeded \$753 million (Table 2).

The indirect and induced effects of the pulp and paper sector had a major impact on the



wholesale and retail trade, construction, transportation and communications, and financial and real estate, increasing the total industrial output of these sectors by more than \$150 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 30,688. Total wages exceeded \$1 billion. Industry output related to the activities of the pulp and paper sector amounted to \$3.8 billion with an associated \$1.7 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 1999, these firms employed 25,137 workers and paid \$720 million in wages. The average annual wage was \$28, 654, which is \$1,861 more than the state's average wage.

Total industry output for the sector was \$2.2 billion and the value-added by manufacturing totaled \$850 million (Table 2).

Other industrial sectors that benefited from the indirect and induced effects of the wood furniture sector included the construction, wholesale and retail trade, financial and real estate, transportation and communication services, and health services sectors. Direct, indirect, and induced employment totaled

50,079. Total wages totaled almost \$1.4 billion. Industry output related to the activities of the wood furniture and related products sector amounted to \$4.1 billion with an associated \$1.9 billion value-added (Table 6).

### 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 (Barnett and Reinschmiedt 1996). In 1999, the combined impact of all sectors of the forest products industry on Mississippi's economy was dramatic. Forestry-related employment (direct, indirect, and induced) accounted for 9% of all jobs in Mississippi. The average annual wage in forestry related occupations was \$31,958 - \$5,165 greater than the average annual wage in Mississippi (Table 2).

In Mississippi, total industry output related to the forest products industry exceeded \$14.0 billion and related value-added exceeded \$6.2 billion. Related employment totaled 141,848 full-or part-time jobs with an associated annual payroll of \$4.2 billion (Table 7).



### Regional Differences

The Forest Products Industry varies substantially between regions in Mississippi. In absolute terms, the forest products industry has



---

the greatest regional impact in north Mississippi where it directly employs over 35 thousand people and generates over \$1.5 billion in value-added (Table 8a). A substantial portion of this total is attributable to wood furniture manufacturing, which employs almost 22 thousand people and generates over \$744 million in value-added. Including indirect and induced effects, the Forest Product Industry accounts for over 68 thousand jobs in the region and \$2.7 billion in value-added (Table 8b).

In south Mississippi, the industry directly employs over 23 thousand people and generates almost \$1.3 billion in value-added (Table 9a). Solid wood manufacturing accounts for almost half of these totals, employing 11 thousand people and generating \$530 million in value-added. Solid wood manufacturing employs roughly 30% more people in the south than in the north. In contrast, wood furniture manufacturing employment in south Mississippi is only 10% of that in the north. Including indirect and induced effects, the Forest Product Industry accounts for over 58 thousand jobs in the region and \$2.8 billion in value-added (Table 9b). Note that while total employment is 10 thousand less than in north Mississippi, total value-added actually exceeds that in north Mississippi. This result is due to 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 five thousand jobs and generates less than \$198 million in value-added (Table 10a). Even including induced and indirect effects, the contribution of the forest products industry to the local economy is minor, accounting for slightly over nine thousand jobs and \$372 million in value-added (Table 10b).

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 10% of the regional total in north Mississippi, to 2.6% in south Mississippi, and 1.6% in the Delta (Figure 1). 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 20% of the regional economy compared to less than 10% for the south and less than 5% for the Delta (Figure 2). 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.

---

## LITERATURE CITED

- Alward, G. S., H. C. Davis, K. A. Depotakis, and E. M. Lofting. 1985. Regional non-survey input-output analysis with IMPLAN. Paper presented at the Southern Regional Science Association Conference. Washington, D.C. May 9-10, 1985.
- Alward, G. S., E. Siverts, C. Taylor and S. Winter. 1993. MicroIMPLAN User's Guide U.S.D.A. Forest Service. Land Management Planning, Fort Collins, Colorado.
- Barnett, B. and L. Reinschmiedt. 1996. Agriculture and Forestry in Mississippi - An Analysis of the Impacts of Food and Fiber Related Sectors on the Mississippi Economy. Agricultural Economics Technical Bulletin No. 95. Mississippi State University, Mississippi State, Mississippi.
- Daniels, R. 2000. 1999 Harvest of Forest Products. Forest Resources Market Notes, Cooperative Extension Service, Mississippi State University, Mississippi State, Mississippi.
- Hartsell, A. J. and J. D. London. 1995. Forest Statistics for Mississippi Counties - 1994. U.S.D.A. Forest Service, Southern Forest Experiment Station, Resource Bulletin SO - 190.
- Minnesota IMPLAN Group, Inc. 2000. Introduction to IMPLAN. Minnesota IMPLAN Group, Inc. Stillwater, Minnesota.
- USDC 1984. The detailed input-output structure of the U. S. economy, 1977. The Use and Make of Commodities by Business. Vol. 1. U.S. Department of Commerce, Bureau of Economic Analysis, Washington, D.C.

**Table 1. Aggregation Scheme for IMPLAN Input-Output Analysis of the Forest Products Industry Impact on the Mississippi Economy, 1999.**

MODEL SECTORS	ORIGINAL IMPLAN SECTORS
MISCELLANEOUS FOREST PRODUCTS	Forest Products; Forestry Products
LOGGING	Logging Camps & Logging Contractors
SOLID WOOD PRODUCTS	Sawmills & Planing Mills; Hardwood Dimension & Flooring; Millwork; Special Product Sawmills, Not Elsewhere Classified (N.E.C.); Veneer & Plywood; Structural Wood Members, N.E.C.; Wood Containers; Wood Pallets & Skids; Prefabricated Wood Buildings; Wood Preserving; Reconstituted Wood Products; Wood Products, N.E.C.
WOOD FURNITURE	Wood Kitchen Cabinets; Wood Household Furniture; Upholstered Household Furniture; Wood TV & Radio Cabinets; Wood Office Furniture; Wood Partitions & Fixtures
PULP AND PAPER	Pulp Mills; Paper Mills, Except Building Paper; Paperboard Mills; Paperboard Containers & Boxes; Paper Coated & Laminated Packaging; Paper Coated & Laminated N.E.C.; Bags, Paper; Die-cut Paper & Board; Sanitary Paper Products; Envelopes; Stationery Products; Converted Paper Products, N.E.C.
RESOURCE SERVICES	Commercial Fishing; Agricultural, Forestry, Fishery Services
MINING	Iron Ores; Copper Ores; Lead & Zinc Ores; Gold Ores; Silver Ores; Ferroalloy Ores, Except Vanadium; Metal Mining Services; Uranium-radium-vanadium Ores; Metal Ores, N.E.C.; Coal Mining; Natural Gas & Crude Petroleum; Natural Gas Liquids; Dimension Stone; Sand & Gravel; Clay, Ceramic, Refractory Minerals; Potash, Soda, & Borate Minerals; Phosphate Rock; Chemical, Fertilizer Mineral Mines; Nonmetallic Minerals; Misc. Nonmetallic Minerals, N.E.C.
CONSTRUCTION	New Residential Structures; New Industrial & Commercial Buildings; New Utility Structures; New Highways & Streets; New Farm Structures; New Mineral Extraction Facilities; New Government Facilities; Maintenance & Repair, Residences; Maintenance & Repair Other Facilities; Maintenance & Repair Oil & Gas Wells
AGRICULTURAL PRODUCTS	Dairy Farm Products; Poultry & Eggs; Ranch Fed Cattle; Range Fed Cattle; Cattle Feedlots; Sheep, Lambs & Goats; Hogs, Pigs, & Swine; Other Meat Animal Products; Miscellaneous Livestock; Cotton; Food Grains; Feed Grains; Hay & Pasture; Grass Seeds; Tobacco; Fruits; Tree Nuts; Vegetables; Sugar Crops; Miscellaneous Crops; Oil Bearing Crops; Greenhouse & Nursery Products; Landscape & Horticultural Services
AGRICULTURAL PROCESSING	Meat Packing Plants; Sausages & Other Prepared Meats; Poultry Processing; Creamery Butter; Cheese, Natural & Processed; Condensed & Evaporated Milk; Ice Cream & Frozen Desserts; Fluid Milk; Flour & Other Grain Mill Produce; Cereal Preparations; Rice Milling; Blended & Prepared Flour; Wet Corn Milling; Cottonseed Oil Mills; Soybean Oil Mills; Vegetable Oil Mills, N.E.C.; Animal & Marine Fats & Oils; Shortening & Cooking Oils; Dog, Cat, & Other Pet Food;
FOOD PROCESSING	Canned Specialties; Canned Fruits & Vegetables; Dehydrated Food Products; Pickles, Sauces, & Salad Dressings; Frozen Fruits, Juices & Vegetables; Frozen Specialties; Bread, Cake, & Related Products; Cookies & Crackers; Sugar; Confectionery Products; Chocolate & Cocoa Products; Chewing Gum; Salted & Roasted Nuts & Seeds; Malt Beverages; Malt; Wines, Brandy, & Brandy Spirits; Distilled Liquor, Except Brandy; Bottled & Canned Soft Drinks; Flavoring Extracts & Syrups; Canned & Cured Sea Foods; Prepared Fresh Or Frozen Fish; Roasted Coffee; Potato Chips & Similar Snacks; Manufactured Ice; Macaroni & Spaghetti; Food Preparations, N.E.C.; Cigarettes; Cigars; Chewing & Smoking Tobacco; Tobacco Stemming & Redrying
FARM INPUTS AND MACHINERY	Prepared Feeds, N.E.C.; Nitrogenous & Phosphatic Fert.; Fertilizers, Mixing Only; Agricultural Chemicals, N.E.C.; Farm Machinery & Equipment; Lawn & Garden Equipment

Table 1 continued from page 8

FABRIC MILLS AND LEATHER	Broadwoven Fabric Mills & Finishing; Narrow Fabric Mills; Thread Mills; Textile Goods, N.E.C.; Leather Tanning & Finishing; Leather Gloves & Mittens; Personal Leather Goods; Leather Goods, N.E.C
PETROLEUM AND CHEMICALS	Bags, Plastic; Alkalies & Chlorine; Industrial Gases; Inorganic Pigments; Inorganic Chemicals N.E.C.; Cyclic Crudes, Interm. & Indus.; Plastics Materials & Resins; Synthetic Rubber; Cellulosic Man-made Fibers; Organic Fibers, Noncellulosic; Drugs; Soap & Other Detergents; Polishes & Sanitation Goods; Surface Active Agents; Toilet Preparations; Paints & Allied Products; Gum & Wood Chemicals; Adhesives & Sealants; Explosives; Printing Ink; Carbon Black; Chemical Preparations, N.E.C.; Petroleum Refining; Paving Mixtures & Blocks; Asphalt Felts & Coatings; Lubricating Oils & Greases; Petroleum & Coal Products, N.E.C.; Tires & Inner Tubes; Rubber & Plastics Footwear; Rubber & Plastics Hose & Belting; Gaskets, Packing & Sealing; Fabricated Rubber Products, N.E.C.; Miscellaneous Plastics Products
GLASS, STONE, AND CLAY	Glass & Glass Products, Exc. Containers; Glass Containers; Cement, Hydraulic; Brick & Structural Clay Tile; Ceramic Wall & Floor Tile; Clay Refractories; Structural Clay Products, N.E.C.; Vitreous Plumbing Fixtures; Vitreous China Food Utensils; Fine Earthenware Food Utensils; Porcelain Electrical Supplies; Pottery Products, N.E.C.; Concrete Block & Brick; Concrete Products, N.E.C.; Ready-mixed Concrete; Lime; Gypsum Products; Cut Stone & Stone Products; Abrasive Products; Asbestos Products; Minerals, Ground Or Treated; Mineral Wool; Nonclay Refractories; Nonmetallic Mineral Products, N.E.C.
METAL INDUSTRIES	Blast Furnaces & Steel Mills; Electrometallurgical Products; Steel Wire & Related Products; Cold Finishing of Steel Shapes; Steel Pipe & Tubes; Iron & Steel Foundries; Primary Copper; Primary Aluminum; Primary Nonferrous Metals, N.E.C.; Secondary Nonferrous Metals; Copper Rolling & Drawing; Aluminum Rolling & Drawing; Nonferrous Rolling & Drawing; Nonferrous Wire Drawing & Ins.; Aluminum Foundries; Brass, Bronze, & Copper Foundries; Nonferrous Castings, N.E.C.; Metal Heat Treating; Primary Metal Products, N.E.C.; Metal Cans; Metal Barrels, Drums & Pails; Cutlery; Hand & Edge Tools, N.E.C.; Hand Saws & Saw Blades; Hardware, N.E.C.; Metal Sanitary Ware; Plumbing Fixture Fittings & Trim; Heating Equipment, Except Elect; Fabricated Structural Metal; Metal Doors, Sash, & Trim; Fabricated Plate Work; Sheet Metal Work; Architectural Metal Work; Prefabricated Metal Buildings; Miscellaneous Metal Work; Screw Machine Products & Bolt; Iron & Steel Forgings; Nonferrous Forgings; Automotive Stampings; Crowns & Closures; Metal Stampings, N.E.C.; Plating & Polishing; Metal Coating & Allied Services; Small Arms Ammunition; Ammunition, Except For Small Arms; Small Arms; Other Ordnance & Accessories; Industrial & Fluid Valves; Steel Springs, Except Wire; Pipe, Valves, & Pipe Fittings; Miscellaneous Fabricated Wire Products; Metal Foil & Leaf; Fabricated Metal Products, N.E.C.
MACHINERY AND EQUIPMENT	Steam Engines & Turbines; Internal Combustion Engines; Construction Machinery & Equipment; Mining Machinery, Except Oil Fields; Oil Field Machinery; Elevators & Moving Stairways; Conveyors & Conveying Equipment; Hoists, Cranes, & Monorails; Machine Tools, Metal Cutting Type; Machine Tools, Metal Forming Type; Industrial Patterns; Special Dies & Tools & Accessories; Power Driven Hand Tools; Rolling Mill Machinery; Welding Apparatus; Metalworking Machinery, N.E.C.; Textile Machinery; Woodworking Machinery; Paper Industries Machinery; Printing Trades Machinery; Food Products Machinery; Special Industry Machinery N.E.C.; Pumps & Compressors; Ball & Roller Bearings; Blowers & Fans; Packaging Machinery; Power Transmission Equipment; Industrial Furnaces & Ovens; General Industrial Machinery, N.E.C.; Commercial Laundry Equipment; Refrigeration & Heating Equipment; Measuring & Dispensing Pumps; Service Industry Machines,

Table 1 continued from page 9

	N.E.C.; Carburetors, Pistons, Rings, Valves; Fluid Power Cylinders & Actuators; Fluid Power Pumps & Motors; Scales & Balances; Industrial Machines N.E.C.; Transformers; Switchgear & Switchboard Apparatus; Motors & Generators; Carbon & Graphite Products; Relays & Industrial Controls; Electrical Industrial Apparatus; Household Cooking Equipment; Household Refrigerators & Freezers; Household Laundry Equipment; Electric Housewares & Fans; Household Vacuum Cleaners; Household Appliances, N.E.C.; Electric Lamps; Wiring Devices; Lighting Fixtures & Equipment; Storage Batteries; Primary Batteries, Dry & Wet; Engine Electrical Equipment; Magnetic & Optical Recording Media; Electrical Equipment, N.E.C.
TRANSPORTATION EQUIPMENT	Industrial Trucks & Tractors; Motor Vehicles; Truck & Bus Bodies; Motor Vehicle Parts & Accessories; Truck Trailers; Motor Homes; Aircraft; Aircraft & Missile Engines; Aircraft & Missile Equipment; Ship Building & Repairing; Boat Building & Repairing; Railroad Equipment; Motorcycles, Bicycles, & Parts; Travel Trailers & Campers; Transportation Equipment, N.E.C
TECHNOLOGY INDUSTRIES	Electronic Computers; Computer Storage Devices; Computer Terminals; Computer Peripheral Equipment; Calculating & Accounting Machines; Typewriters & Office Machines; Automatic Merchandising Machines; Radio & TV Receiving Sets; Phonograph Records & Tape; Telephone & Telegraph Apparatus; Radio & TV Communication Equipment; Communications Equipment N.E.C.; Electron Tubes; Printed Circuit Boards; Semiconductors & Related Devices; Electronic Components, N.E.C.; Complete Guided Missiles; Tanks & Tank Components; Search & Navigation Equipment; Laboratory Apparatus & Furniture; Automatic Temperature Controls; Mechanical Measuring Devices; Instruments To Measure Electricity; Analytical Instruments; Optical Instruments & Lenses; Surgical & Medical Instrument; Surgical Appliances & Supplies; Dental Equipment & Supplies; X-ray Apparatus; Electromedical Apparatus; Ophthalmic Goods; Photographic Equipment & Supplies
TRANSPORTATION AND COMMUNICATION SERVICES	Railroads & Related Services; Local, Interurban Passenger Trains; Motor Freight Transport & Warehousing; Water Transportation; Air Transportation; Pipe Lines, Except Natural Gas; Arrangement Of Passenger Transportation; Transportation Services; Communications, Except Radio & TV; Radio & TV Broadcasting
MISCELLANEOUS MANUFACTURING	Womens Hosiery, Except Socks; Hosiery, N.E.C.; Knit Outerwear Mills; Knit Underwear Mills; Knit Fabric Mills; Knitting Mills, N.E.C.; Yarn Mills & Finishing Of Textiles; Carpets & Rugs; Coated Fabrics, Not Rubberized; Tire Cord & Fabric; Nonwoven Fabrics; Cordage & Twine; Apparel Made From Purchased Mat; Curtains & Draperies; Housefurnishings, N.E.C.; Textile Bags; Canvas Products; Pleating & Stitching; Automotive & Apparel Trimming; Schiffi Machine Embroideries; Fabricated Textile Products, N.E.C.; Mobile Homes; Metal Household Furniture; Mattresses & Bedspings; Household Furniture, N.E.C.; Metal Office Furniture; Public Building Furniture; Metal Partitions & Fixtures; Blinds, Shades, & Drapery; Furniture & Fixtures, N.E.C.; Newspapers; Periodicals; Book Publishing; Book Printing; Miscellaneous Publishing; Commercial Printing; Manifold Business Forms; Greeting Card Publishing; Blankbooks & Looseleaf Binder; Bookbinding & Related; Typesetting; Plate Making; Footwear Cut Stock; House Slippers; Shoes, Except Rubber; Luggage; Womens Handbags & Purses; Watches, Clocks, & Parts; Jewelry, Precious Metal; Lead Pencils & Art Goods; Marking Devices; Carbon Paper & Inked Ribbons; Costume Jewelry; Fasteners, Buttons, Needles, Pins; Brooms & Brushes; Signs & Advertising Displays; Burial Caskets & Vaults; Hard Surface Floor Coverings; Manufacturing Industries, N.E.C.; Silverware & Plated Ware; Jewelers Materials & Lapidary; Musical Instruments; Dolls; Games, Toys, & Childrens Vehicles; Sporting & Athletic Goods, N.E.C.; Pens & Mechanical Pencils



Table 1 continued from page 10

UTILITY SERVICES	Electric Services; Gas Production & Distribution; Water Supply & Sewerage Systems; Sanitary Services & Steam Supplies
WHOLESALE AND RETAIL TRADE	Wholesale Trade; Building Materials & Gardening; General Merchandise Stores; Food Stores; Automotive Dealers & Service Stations; Apparel & Accessory Stores; Furniture & Home Furnishings Stores; Eating & Drinking; Miscellaneous Retail;
FINANCIAL AND REAL ESTATE	Banking; Credit Agencies; Security & Commodity Brokers; Insurance Carriers; Insurance Agents & Brokers; Owner-occupied Dwellings; Real Estate
MISCELLANEOUS SERVICES	Hotels & Lodging Places; Laundry, Cleaning & Shoe Repair; Portrait & Photographic Studios; Beauty & Barber Shops; Funeral Service & Crematories; Miscellaneous Personal Services; Advertising; Other Business Services; Photofinishing, Commercial Photography; Services To Buildings; Equipment Rental & Leasing; Personnel Supply Services; Computer & Data Processing Services; Detective & Protective Services; Automobile Rental & Leasing; Automobile Parking & Car Washing; Automobile Repair & Services; Electrical Repair Service; Watch, Clock, Jewelry & Furniture; Miscellaneous Repair Shops; Legal Services; Child Day Care Services; Social Services, N.E.C.; Residential Care; Other Nonprofit Organizations; Business Associations; Labor & Civic Organizations; Religious Organizations; Engineering, Architectural Services; Accounting, Auditing, & Bookkeeping; Management & Consulting Services; Research, Development, & Testing
RECREATION AND AMUSEMENT	Motion Pictures; Theatrical Producers, Bands etc; Bowling Alleys & Pool Halls; Commercial Sports Except Racing; Racing & Track Operations; Amusement & Recreation Services; Membership Sports & Recreation
HEALTH SERVICES	Doctors & Dentists; Nursing & Protective Care; Hospitals; Other Medical & Health Services
EDUCATION	Elementary & Secondary School; Colleges, Universities, Schools; Other Educational Services; Job Trainings & Related Service; State & Local Government - Education
GOVERNMENT	Local Government Passenger Transportation; State & Local Electric Utilities; Other State & Local Govt Enterprise; U.S. Postal Service; Federal Electric Utilities; Other Federal Government Enterprise; Federal Government - Military; Federal Government - Non-military; Commodity Credit Corporation; State & Local Government - Non-Education;
DOMESTIC SERVICES	Domestic Services
BALANCE	Noncomparable Imports; Scrap; Used & Secondhand Goods; Rest Of The World Industry; Inventory Valuation Adjustment

**Table 2. Direct Effects on Mississippi Employment, Wages, Output, and Value-Added of the Aggregated Economic Sectors (1999).**

MODEL SECTORS	EMPLOYMENT (Number of Jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISCELLANEOUS FOREST PRODUCTS	3,354	43.19	281.13	171.90
LOGGING	5,135	129.48	755.73	248.56
SOLID WOOD PRODUCTS	21,040	651.53	3,145.01	935.17
WOOD FURNITURE	25,137	720.30	2,240.56	849.93
PULP AND PAPER	8,627	478.24	2,095.65	753.80
<b>FOREST PRODUCTS INDUSTRY</b> (sum of above sectors)	<b>63,293</b>	<b>2,022.74</b>	<b>8,518.08</b>	<b>2,959.36</b>
RESOURCE SERVICES	10,952	127.68	249.69	165.38
MINING	4,929	194.02	725.24	485.60
CONSTRUCTION	103,137	3,018.66	9,731.97	3,387.95
AGRICULTURAL PRODUCTS	58,628	834.03	3,452.37	1,249.91
AGRICULTURAL PROCESSING	22,322	510.66	3,924.48	653.41
FOOD PROCESSING	7,128	169.88	1,278.34	271.03
FARM INPUTS & MACHINERY	4,004	150.45	1,146.08	251.48
FABRIC MILLS AND LEATHER	1,570	49.65	208.42	62.67
MISCELLANEOUS MANUFACTURING	42,838	1,089.65	4,719.59	1,508.33
PETROLEUM AND CHEMICALS	21,460	917.16	7,137.56	1,633.56
GLASS, STONE, AND CLAY	6,363	224.47	875.78	334.89
METAL INDUSTRIES	18,215	667.05	3,216.69	1,032.93
MACHINERY AND EQUIPMENT	34,190	1,215.30	5,253.92	1,772.03
TRANSPORTATION EQUIPMENT	27,040	1,038.21	3,549.83	1,183.16
TECHNOLOGY INDUSTRIES	5,239	168.70	897.14	252.14
TRANS. AND COMM. SERVICES	55,600	1,924.78	6,572.70	3,084.59
UTILITY SERVICES	7,960	422.77	2,499.46	1,561.57
WHOLESALE AND RETAIL TRADE	292,976	5,850.35	13,221.01	9,726.56
FINANCIAL AND REAL ESTATE	71,984	1,819.98	9,742.55	6,660.65
MISC. SERVICES	218,939	4,846.64	10,093.80	6,120.05
RECREATION AND AMUSEMENT	32,373	713.83	1,760.06	1,120.18
HEALTH SERVICES	88,088	3,304.08	5,642.92	3,680.85
EDUCATION	120,964	3,215.37	3,472.58	3,221.08
GOVERNMENT	174,954	5,876.75	8,867.86	8,003.63
DOMESTIC SERVICES	17,066	144.78	144.78	144.78
<b>ALL SECTORS*</b>	<b>1,512,212</b>	<b>40,517.60</b>	<b>116,639.45</b>	<b>60,354.31</b>

**Table 3. Total Effects of the Logging Sector on Mississippi Employment, Wages, Output, and Value-Added for the Aggregated Economic Sectors(1999).**

MODEL SECTORS	EMPLOYMENT (Number of Jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISC. FOREST PRODUCTS	23	0.26	1.47	0.90
<b>LOGGING</b>	<b>5,135</b>	<b>129.48</b>	<b>755.72</b>	<b>248.56</b>
SOLID WOOD PRODUCTS	39	1.20	6.11	1.67
WOOD FURNITURE	20	0.53	1.70	0.63
PULP AND PAPER	5	0.19	0.90	0.25
RESOURCE SERVICES	11	0.13	0.25	0.16
MINING	18	0.71	2.85	1.92
CONSTRUCTION	423	12.56	36.86	13.87
AGRICULTURAL PRODUCTS	62	0.81	2.80	1.17
AGRICULTURAL PROCESSING	20	0.53	4.41	0.68
FOOD PROCESSING	6	0.21	1.17	0.40
FARM INPUTS & MACHINERY	16	0.82	5.24	1.32
FABRIC MILLS AND LEATHER	1	0.04	0.15	0.05
MISC. MANUFACTURING	52	1.30	5.53	1.75
PETROLEUM AND CHEMICALS	21	1.09	15.54	2.62
GLASS, STONE, AND CLAY	2	0.07	0.27	0.11
METAL INDUSTRIES	24	0.76	3.60	1.22
MACHINERY AND EQUIPMENT	46	1.65	6.83	2.35
TRANSPORTATION EQUIPMENT	15	0.53	2.58	0.67
TECHNOLOGY INDUSTRIES	12	0.42	2.17	0.62
TRANS. AND COMM. SERVICES	234	7.95	27.88	12.77
UTILITY SERVICES	40	2.00	12.25	7.03
WHOLESALE AND RETAIL TRADE	1,300	26.49	60.68	43.97
FINANCIAL AND REAL ESTATE	338	8.44	45.98	31.08
MISC. SERVICES	946	22.73	45.79	28.39
RECREATION AND AMUSEMENT	64	1.26	3.30	1.83
HEALTH SERVICES	320	12.61	21.48	14.09
EDUCATION	735	17.69	26.50	18.36
GOVERNMENT	808	27.22	44.36	37.72
DOMESTIC SERVICES	60	0.51	0.51	0.51
<b>ALL SECTORS</b>	<b>10,796</b>	<b>280.17</b>	<b>1,144.87</b>	<b>476.66</b>

**Table 4. Total Effects of the Solid Wood Products Sector on Mississippi Employment, Wages, Output, and Value-Added by Industrial Sectors (1999).**

MODEL SECTORS	EMPLOYMENT (Number of Jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISC. FOREST PRODUCTS	104	1.01	4.60	2.84
LOGGING	3,286	82.84	483.54	159.04
<b>SOLID WOOD PRODUCTS</b>	<b>21,041</b>	<b>651.61</b>	<b>3,145.71</b>	<b>935.27</b>
WOOD FURNITURE	101	2.70	8.70	3.25
PULP AND PAPER	58	2.42	11.51	3.18
RESOURCE SERVICES	43	0.50	0.96	0.62
MINING	96	3.78	15.12	10.16
CONSTRUCTION	2,184	65.27	185.18	71.78
AGRICULTURAL PRODUCTS	353	4.64	15.59	6.67
AGRICULTURAL PROCESSING	105	2.85	23.89	3.71
FOOD PROCESSING	31	1.12	6.38	2.20
FARM INPUTS & MACHINERY	37	1.38	9.74	2.41
FABRIC MILLS AND LEATHER	6	0.20	0.82	0.26
MISC. MANUFACTURING	287	7.29	30.30	9.77
PETROLEUM AND CHEMICALS	215	11.72	125.94	24.33
GLASS, STONE, AND CLAY	30	1.01	3.70	1.56
METAL INDUSTRIES	66	2.08	9.43	3.35
MACHINERY AND EQUIPMENT	196	7.09	29.30	10.02
TRANSPORTATION EQUIPMENT	52	1.83	9.01	2.39
TECHNOLOGY INDUSTRIES	61	2.12	11.05	3.14
TRANS. AND COMM. SERVICES	2,338	81.30	269.54	121.26
UTILITY SERVICES	347	19.11	108.32	72.50
WHOLESALE AND RETAIL TRADE	8,093	182.33	423.63	304.78
FINANCIAL AND REAL ESTATE	1,762	44.52	247.47	167.56
MISC. SERVICES	5,523	124.43	257.85	156.67
RECREATION AND AMUSEMENT	344	6.79	17.60	9.89
HEALTH SERVICES	1,725	68.31	116.45	76.35
EDUCATION	2,678	71.03	80.68	71.57
GOVERNMENT	4,131	140.00	223.95	193.54
DOMESTIC SERVICES	327	2.78	2.78	2.78
<b>ALL SECTORS</b>	<b>55,618</b>	<b>1,594.07</b>	<b>5,878.72</b>	<b>2,432.82</b>

**Table 5. Total Effects of the Pulp and Paper Sector on Mississippi Employment, Wages, Output, and Value-Added by Industrial Sectors (1999).**

MODEL SECTORS	EMPLOYMENT (Number of Jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISC. FOREST PRODUCTS	13	0.12	0.52	0.32
LOGGING	425	10.71	62.53	20.57
SOLID WOOD PRODUCTS	332	10.19	52.70	14.19
WOOD FURNITURE	70	1.87	6.03	2.25
<b>PULP AND PAPER</b>	<b>8,629</b>	<b>478.33</b>	<b>2,095.94</b>	<b>753.84</b>
RESOURCE SERVICES	25	0.29	0.57	0.37
MINING	77	3.20	12.48	8.34
CONSTRUCTION	1,934	57.87	153.17	63.06
AGRICULTURAL PRODUCTS	248	3.32	11.15	4.80
AGRICULTURAL PROCESSING	79	2.14	19.11	2.81
FOOD PROCESSING	21	0.78	4.42	1.52
FARM INPUTS & MACHINERY	25	0.90	6.45	1.58
FABRIC MILLS AND LEATHER	6	0.18	0.73	0.24
MISC. MANUFACTURING	206	5.29	21.80	7.07
PETROLEUM AND CHEMICALS	242	13.97	114.45	26.98
GLASS, STONE, AND CLAY	8	0.27	0.98	0.41
METAL INDUSTRIES	30	1.05	5.27	1.65
MACHINERY AND EQUIPMENT	157	5.66	23.42	7.82
TRANSPORTATION EQUIPMENT	36	1.28	6.26	1.67
TECHNOLOGY INDUSTRIES	43	1.49	7.79	2.21
TRANS. AND COMM. SERVICES	1,569	55.47	183.22	82.98
UTILITY SERVICES	291	14.76	88.88	53.14
WHOLESALE AND RETAIL TRADE	5,312	116.28	268.80	194.05
FINANCIAL AND REAL ESTATE	1,102	28.06	160.25	109.07
MISC. SERVICES	3,475	78.89	165.45	99.43
RECREATION AND AMUSEMENT	234	4.64	12.09	6.78
HEALTH SERVICES	1,203	47.55	81.04	53.14
EDUCATION	1,753	47.37	50.97	47.50
GOVERNMENT	2,917	98.47	162.44	136.89
DOMESTIC SERVICES	227	1.93	1.93	1.93
<b>ALL SECTORS</b>	<b>30,688</b>	<b>1,092.31</b>	<b>3,780.83</b>	<b>1,706.60</b>



**Table 6. Total Effects of the Wood Furniture Sector on Mississippi Employment, Wages, Output, and Value-Added by Industrial Sectors (1999).**

MODEL SECTORS	EMPLOYMENT (Number of Jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISC. FOREST PRODUCTS	6	0.06	0.25	0.15
LOGGING	167	4.21	24.57	8.08
SOLID WOOD PRODUCTS	1,770	47.49	186.50	63.55
<b>WOOD FURNITURE</b>	<b>25,136</b>	<b>720.29</b>	<b>2,240.51</b>	<b>849.91</b>
PULP AND PAPER	69	2.86	13.66	3.70
RESOURCE SERVICES	38	0.44	0.85	0.55
MINING	46	1.82	7.25	4.87
CONSTRUCTION	1,606	48.10	134.50	52.70
AGRICULTURAL PRODUCTS	314	4.45	15.56	6.50
AGRICULTURAL PROCESSING	127	3.39	34.76	4.57
FOOD PROCESSING	25	0.93	5.29	1.82
FARM INPUTS & MACHINERY	19	0.63	4.74	1.12
FABRIC MILLS AND LEATHER	305	9.74	40.14	12.79
MISC. MANUFACTURING	282	7.21	29.53	9.64
PETROLEUM AND CHEMICALS	86	4.08	46.24	9.03
GLASS, STONE, AND CLAY	22	0.74	2.69	1.13
METAL INDUSTRIES	150	4.42	21.76	8.16
MACHINERY AND EQUIPMENT	130	4.68	19.31	6.62
TRANSPORTATION EQUIPMENT	33	1.20	5.71	1.58
TECHNOLOGY INDUSTRIES	47	1.62	8.36	2.36
TRANS. AND COMM. SERVICES	1,132	39.25	133.96	61.52
UTILITY SERVICES	169	9.10	52.63	34.10
WHOLESALE AND RETAIL TRADE	6,328	139.18	321.95	232.35
FINANCIAL AND REAL ESTATE	1,384	35.82	201.67	137.47
MISC. SERVICES	3,754	83.22	170.04	103.33
RECREATION AND AMUSEMENT	289	5.69	15.03	8.29
HEALTH SERVICES	1,438	57.23	97.62	63.99
EDUCATION	1,816	48.85	52.61	48.97
GOVERNMENT	3,115	106.34	169.08	146.84
DOMESTIC SERVICES	276	2.34	2.34	2.34
<b>ALL SECTORS</b>	<b>50,079</b>	<b>1,395.37</b>	<b>4,059.11</b>	<b>1,888.03</b>

**Table 7. Total Effects of the Forest Products Industry on Mississippi Employment, Wages, Output, and Value-Added by Industrial Sectors (1999).**

MODEL SECTORS	EMPLOYMENT (Number of Jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISC. FOREST PRODUCTS	3,355	43.24	281.77	172.28
LOGGING	5,138	129.55	756.17	248.70
SOLID WOOD PRODUCTS	21,041	651.50	3,144.60	935.13
WOOD FURNITURE	25,138	720.28	2,240.60	849.92
PULP AND PAPER	8,629	478.30	2,095.93	753.87
RESOURCE SERVICES	1,264	14.62	28.24	18.09
MINING	224	8.98	35.60	23.88
CONSTRUCTION	5,964	178.38	494.45	195.48
AGRICULTURAL PRODUCTS	1,047	14.31	49.94	20.81
AGRICULTURAL PROCESSING	337	8.95	81.82	11.80
FOOD PROCESSING	79	2.90	16.50	5.68
FARM INPUTS & MACHINERY	101	3.70	25.82	6.44
FABRIC MILLS AND LEATHER	316	10.09	41.56	13.25
MISC. MANUFACTURING	794	20.26	83.69	27.11
PETROLEUM AND CHEMICALS	548	30.03	290.57	61.04
GLASS, STONE, AND CLAY	59	2.02	7.39	3.12
METAL INDUSTRIES	251	7.73	37.29	13.44
MACHINERY AND EQUIPMENT	511	18.43	76.43	25.95
TRANSPORTATION EQUIPMENT	129	4.55	22.15	5.94
TECHNOLOGY INDUSTRIES	156	5.41	28.20	8.00
TRANS. AND COMM. SERVICES	4,996	174.50	582.81	264.33
UTILITY SERVICES	810	42.99	250.33	159.54
WHOLESALE AND RETAIL TRADE	20,040	442.05	1,023.32	738.02
FINANCIAL AND REAL ESTATE	4,381	111.40	626.18	425.55
MISC. SERVICES	13,081	295.15	608.97	369.51
RECREATION AND AMUSEMENT	888	17.53	45.79	25.56
HEALTH SERVICES	4,483	177.59	302.76	198.50
EDUCATION	6,630	177.27	196.53	178.23
GOVERNMENT	10,609	359.33	576.68	496.95
DOMESTIC SERVICES	851	7.22	7.22	7.22
<b>ALL SECTORS</b>	<b>141,848</b>	<b>4,158.26</b>	<b>14,059.30</b>	<b>6,263.32</b>

**Table 8a. Direct Effects of the Forest Products Industry on Employment, Wages, Output, and Value-Added in North Mississippi (1999)**

MODEL SECTORS	EMPLOYMENT (Number of Jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISC. FOREST PRODUCTS	1,045	13.31	65.00	45.44
LOGGING	1,140	29.51	169.49	56.65
SOLID WOOD PRODUCTS	7,250	211.05	975.02	301.09
WOOD FURNITURE	21,884	631.57	1,957.20	744.05
PULP AND PAPER	3,839	224.81	979.72	360.85
<b>ALL FOREST PRODUCTS SECTORS</b> (sum of above sectors)	<b>35,157</b>	<b>1,110.25</b>	<b>4,146.44</b>	<b>1,508.07</b>
<b>ALL SECTORS</b>	<b>343,221</b>	<b>8,962.27</b>	<b>27,761.12</b>	<b>12,880.30</b>

**Table 8b. Total Effects of the Forest Products Industry on Employment, Wages, Output, and Value-Added in North Mississippi (1999)**

MODEL SECTORS	EMPLOYMENT (Number of Jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
LOGGING	2,218	56.05	236.40	95.42
SOLID WOOD PRODUCTS	16,314	440.88	1,634.45	653.88
WOOD FURNITURE	40,177	1,087.25	3,164.14	1,420.47
PULP AND PAPER	12,900	458.54	1,614.85	709.38
<b>ALL FOREST PRODUCTS SECTORS</b>	<b>68,070</b>	<b>1,934.15</b>	<b>6,236.19</b>	<b>2,736.59</b>

**Table 9a. Direct Effects of the Forest Products Industry on Employment, Wages, Output, and Value-Added in South Mississippi (1999)**

MODEL SECTORS	EMPLOYMENT (Number of Jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISC. FOREST PRODUCTS	2,061	25.63	180.16	104.93
LOGGING	3,625	92.53	536.10	177.63
SOLID WOOD PRODUCTS	10,993	364.06	1,825.51	529.60
WOOD FURNITURE	2,739	75.08	240.29	89.84
PULP AND PAPER	4,048	224.35	970.44	351.98
<b>ALL FOREST PRODUCTS SECTORS</b> (sum of above sectors)	<b>23,466</b>	<b>781.65</b>	<b>3,752.50</b>	<b>1,253.98</b>
<b>ALL SECTORS</b>	<b>908,976</b>	<b>25,178.75</b>	<b>69,789.26</b>	<b>37,917.58</b>

**Table 9b. Total Effects of the Forest Products Industry on Employment, Wages, Output, and Value-Added in South Mississippi (1999)**

MODEL SECTORS	EMPLOYMENT (Number of Jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
LOGGING	7,680	208.20	827.49	353.15
SOLID WOOD PRODUCTS	32,170	959.37	3,535.20	1,482.10
WOOD FURNITURE	5,719	159.31	467.15	220.65
PULP AND PAPER	14,754	531.66	1,800.85	831.72
<b>ALL FOREST PRODUCTS SECTORS</b>	<b>58,640</b>	<b>1,774.10</b>	<b>6,290.56</b>	<b>2,798.75</b>

**Table 10a. Direct Effects of the Forest Products Industry on Employment, Wages, Output, and Value-Added in the Mississippi Delta (1999)**

MODEL SECTORS	EMPLOYMENT (Number of Jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
MISC. FOREST PRODUCTS	248	4.25	35.98	21.53
LOGGING	371	7.44	50.14	14.28
SOLID WOOD PRODUCTS	2,797	76.42	344.48	104.49
WOOD FURNITURE	514	13.65	43.06	16.04
PULP AND PAPER	741	29.08	145.49	40.97
<b>ALL FOREST PRODUCTS SECTORS</b> (sum of above sectors)	<b>4,670</b>	<b>130.84</b>	<b>619.14</b>	<b>197.31</b>
<b>ALL SECTORS</b>	<b>259,862</b>	<b>6,375.34</b>	<b>19,084.69</b>	<b>9,554.63</b>

**Table 10b. Total Effects of the Forest Products Industry on Employment, Wages, Output, and Value-Added in the Mississippi Delta (1999)**

MODEL SECTORS	EMPLOYMENT (Number of Jobs)	WAGES AND SALARIES (\$MM)	TOTAL INDUSTRY OUTPUT (\$MM)	VALUE-ADDED (\$MM)
LOGGING	640	14.38	68.63	24.72
SOLID WOOD PRODUCTS	5,763	151.29	563.23	221.15
WOOD FURNITURE	953	25.08	74.66	33.40
PULP AND PAPER	1,782	56.33	219.63	82.43
<b>ALL FOREST PRODUCTS SECTORS</b>	<b>9,291</b>	<b>246.63</b>	<b>912.76</b>	<b>372.07</b>



**Figure 1. Relative Magnitude of the Forest Products Industry**

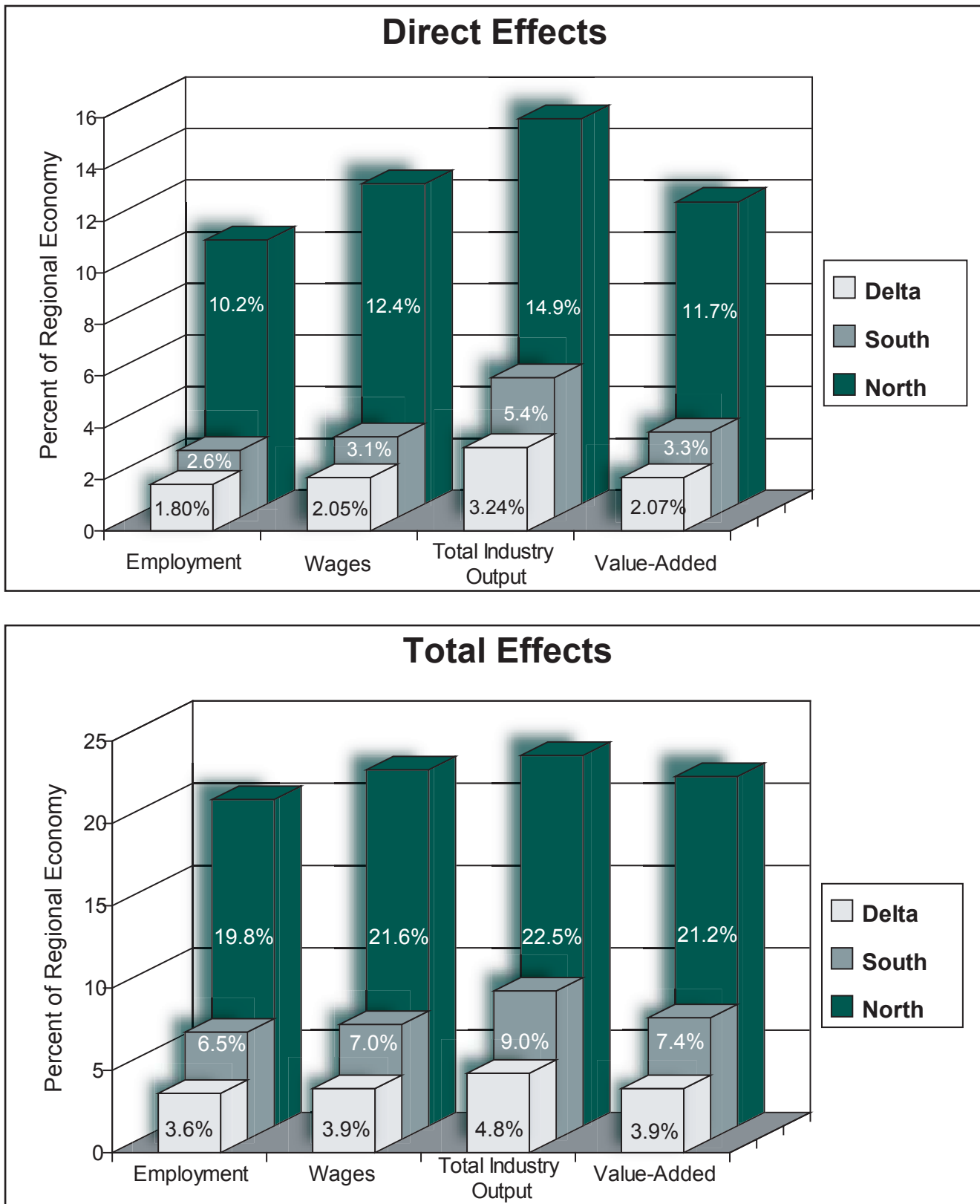
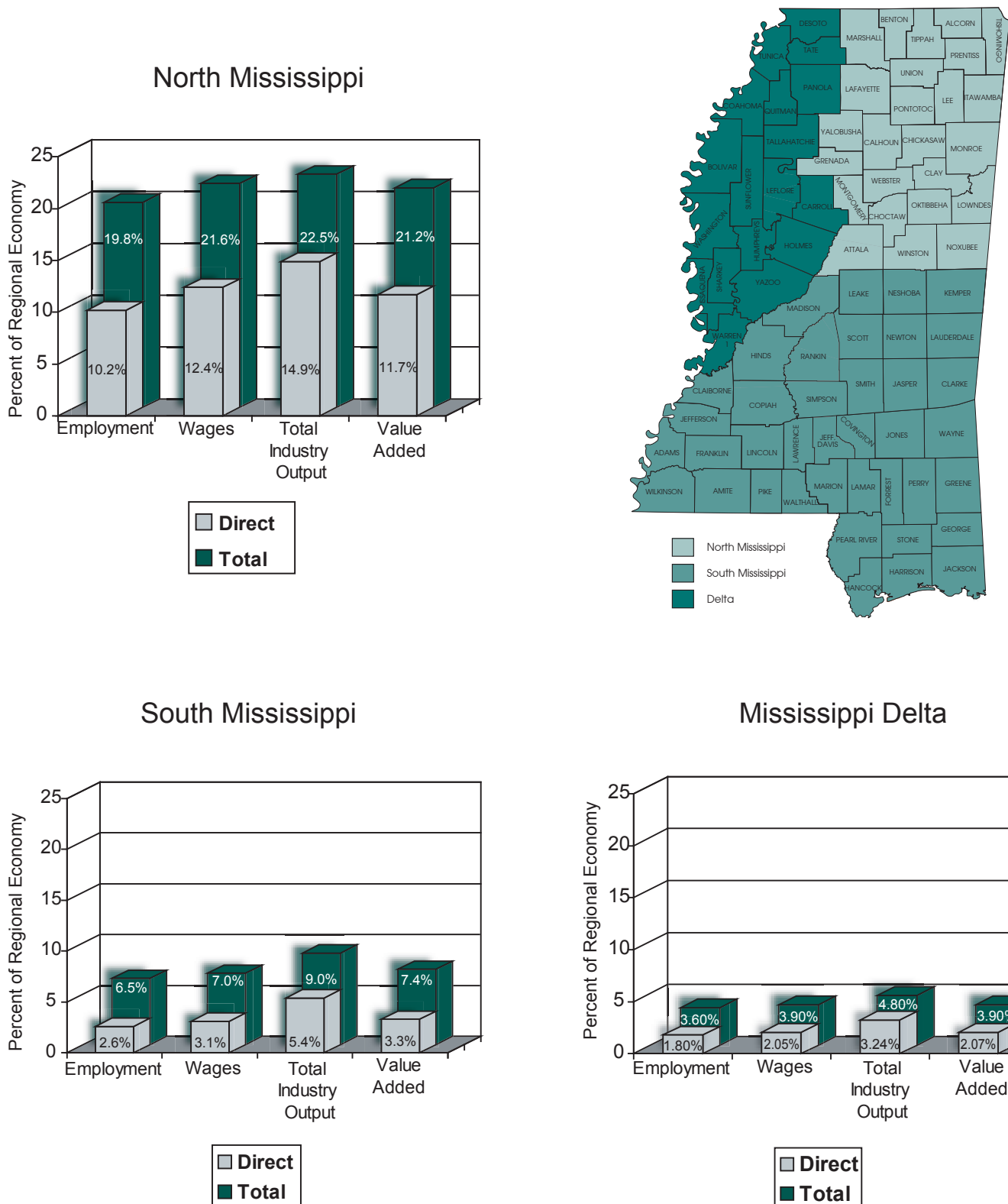


Figure 2. Comparison of Direct and Total Effects of the Forest Products Industry by Region







**Forest and Wildlife Research Center**  
**Mississippi State University**

**Mississippi State**  
UNIVERSITY