1997

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Pulp and Paper Industries — Multi-billion Dollar Contributors to Mississippi’s Economy

by Ian Munn, Assistant Professor and Steve Bullard, Professor
Department of Forestry, Forest and Wildlife Research Center, Mississippi State University

Pulp and paper industries are multi-billion dollar contributors to Mississippi’s economy each year. Pulp and paper manufacturers employ over 9,000 people in the state, and these jobs pay nearly $44,000 per year on average. They’re among the highest paying jobs of any industry in Mississippi. According to the latest “Survey of Manufacturers” by the U.S. Department of Commerce, Bureau of the Census, pulp and paper industries accounted for 4% of manufacturing employment in Mississippi in 1994, but 6% of manufacturing payroll.

Besides high-paying jobs, pulp and paper industries have another, very important characteristic that results in a strong economic impact in Mississippi each year. High outlays for manufacturing facilities and equipment are a necessity for efficient production in these industries, and in 1994 pulp and paper industries accounted for nearly half of all “new capital expenditures” for forest products industries in Mississippi. Such expenditures, plus the induced effects of household spending by pulp and paper industry workers, resulted in a total economic impact of $2.6 billion in the state in 1993. Because of the high “multiplier effect” of pulp and paper manufacturing, there were nearly 22,000 total jobs directly and indirectly based on these industries in the state in 1993 — over twice the 9,000 workers directly employed in the industries that year.

“Value added” is the difference between total industry output and the cost of purchased inputs — it reflects the income created by an industry, and is a good measure of an industry’s direct and indirect economic contribution in a state. The pulp and paper industries’ $1.15 billion of total value added and $1.05 billion in total impact on wages and salaries clearly reflect the industry’s economic importance in Mississippi. Wholesale, retail, and service businesses, construction industries, and chemical and utility industries are among those heavily affected by income created through pulp and paper manufacturing in Mississippi.

An important contribution of the pulp and paper industries in Mississippi is in providing a market for pulpwood. In 1995, 4.8 million cords of pine pulpwood and 3.9 million cords of hardwood pulpwood were harvested in the state. This resulted in payments of $175.7 million dollars to Mississippi forest landowners. In summary, Mississippi’s pulp and paper industries have a multi-billion dollar impact on the state’s economy each year. These industries provide over 9,000 jobs that have an average salary that’s more than double the state’s average annual wage for industrial workers. The total economic impact of these industries is much greater, however, than the direct effects of the industries’ output and employment. Pulp and paper manufacturers have very high “multiplier” effects, and their purchases and wages and salaries are multi-billion factors throughout the Mississippi economy. (see table on facing page)

Background
This is the second in a series of articles on the economic contributions of various segments of the forest products industries to Mississippi’s economy. A previous article emphasized the logging industry, and future articles will highlight lumber and other wood-based industries. These articles report findings of an analysis of the state’s economy conducted by members of the Department of Forestry at Mississippi State University. In the present article, “pulp and paper industries” includes pulp mills, paper and paperboard mills, and manufacturers of paperboard containers and boxes, converted paper and paperboard products and other related paper products.

How the analysis was done
IMPLAN—an input-output computer model for Impact Planning developed by the USDA Forest Service—was used to assess the economic contributions of various industries in Mississippi. The most recent data available was for 1993, and more recent changes in the forest products industries in the state are therefore not reflected by the results. For each industry segment examined, “direct,” “indirect,” and “induced” effects were estimated. Their combined impacts on the state’s economy are reported here.
TABLE — Pulp and paper industries have significant direct effects on Mississippi's economy, but the total impact of the industry is much greater than the direct effects alone.

### Direct Effects (the pulp and paper industry only)...

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Output Value</td>
<td>$1.67 billion</td>
</tr>
<tr>
<td>Value Added</td>
<td>$653.8 million</td>
</tr>
<tr>
<td>Employment</td>
<td>9,062 (full and part-time jobs)</td>
</tr>
<tr>
<td>Wages and Salaries</td>
<td>$398.1 million</td>
</tr>
</tbody>
</table>

Pulp and paper industries are capital intensive. Their direct output value of $1.67 billion is nearly $185,000 per worker. Their average salary was nearly $40,000 in 1993 — among the highest of all industries in Mississippi. As shown below, however, the pulp and paper industries' total effects are much higher than their direct effects alone.

### Total Effects (direct effects + indirect effects + induced effects)...

As shown above, these include only firms directly involved in pulp and paper. Indirect effects take into account the industry's purchase of fuel, chemicals, etc., from firms in Mississippi. Induced effects are generated by the increased consumer spending made possible by the wages associated with pulp and paper's direct and indirect effects.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Output Value</td>
<td>$2.60 billion</td>
</tr>
<tr>
<td>Value Added</td>
<td>$1.13 billion</td>
</tr>
<tr>
<td>Employment</td>
<td>21,693 (full and part-time jobs)</td>
</tr>
<tr>
<td>Wages and Salaries</td>
<td>$1.03 billion</td>
</tr>
</tbody>
</table>

Pulp and paper manufacturing impacts many industries in Mississippi. Examples are construction, petroleum, and transportation industries. Many other industries are also affected by the wages and salaries earned in pulp and paper manufacturing. Examples include service industries, financial and real estate industries, and health services. Total effects are more than double the direct effects in wages and salaries.