

**Documentation of Productivity and Efficiency Relationships  
for a Group of Southern Logging Contractors**

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(ABSTRACT)

A case study examined contractor demographics, business characteristics, costs and production information from twenty-three tree-length logging firms in six southern states from 1988 to 1994. Firms were evaluated in regard to the economic efficiency with which they converted inputs - dollars of capital, consumables, labor, overhead and insurance and contract hauling - into outputs - tons of wood delivered to the mill. While the firms exhibited a wide range of efficiency, average annual efficiency of all firms combined seemed to be relatively stable for the time period. Firms delivered between 20,000 and 250,000 tons of wood annually with a median of 61,000 tons. Coastal plain operations tended to be the largest, followed by piedmont, then Appalachian mountain operations. Annual production as a function of annual expenditures showed no obvious economies of scale in operation size. Most contractors increased annual production during the study, five contractors had production levels in the final year of the study that were less than their first year. Efficiency generally improved in firms that increased production gradually through better utilization of existing capacity. Contractors expanding their operations to increase productivity seemed to suffer efficiency losses more often than gains. Those firms that hauled their own wood had higher efficiencies than firms that contracted out trucking. There were no significant efficiency differences between loggers in the three physiographic regions within their respective trucking strategies. Efficiency generally declined as average annual hauling distance increased, however a regression equation explained only 18% of the variation in total economic efficiency.

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