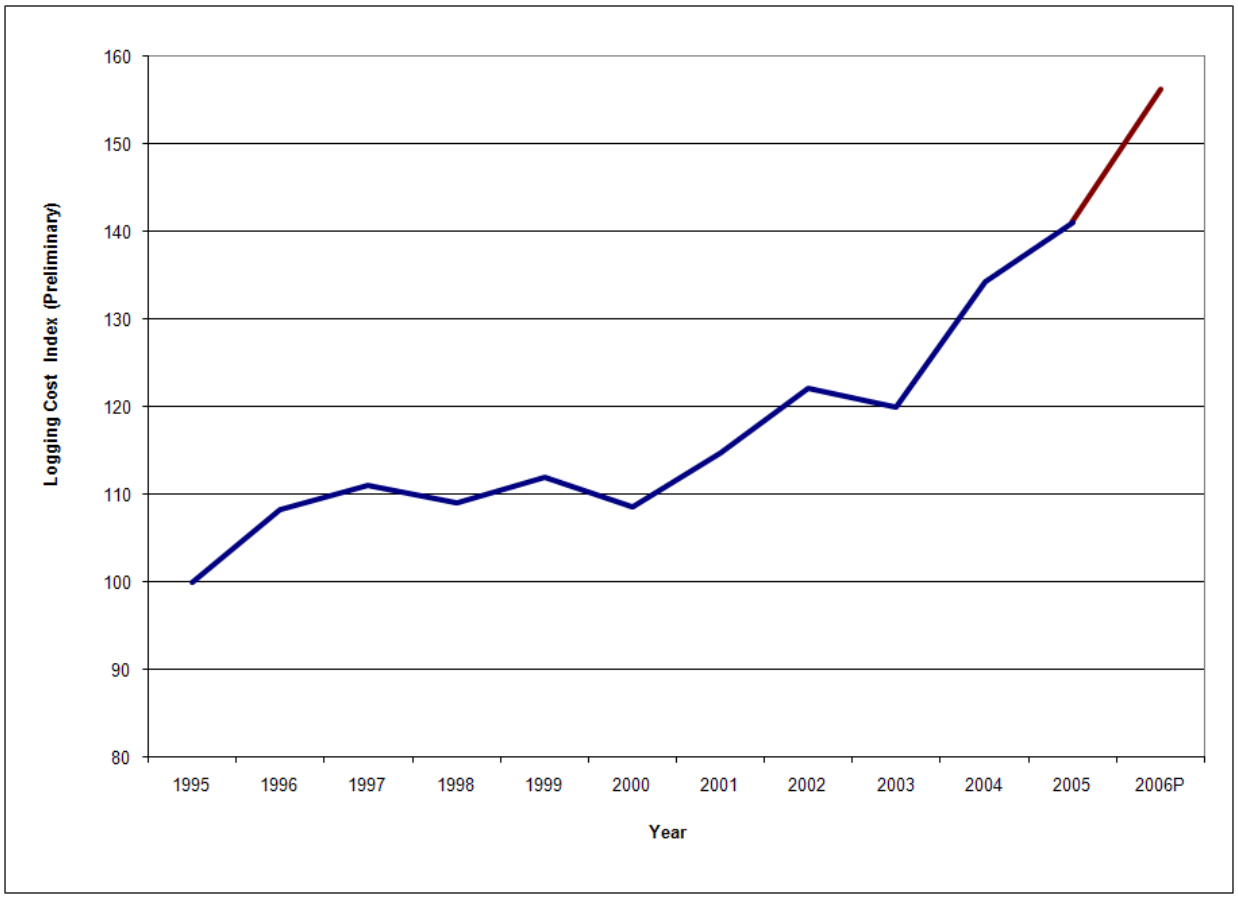
2006 Preliminary Logging Cost Indices



1995-2006P Logging Cost Index

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Preface

The fundamental objective of the Wood Supply Research Institute (WSRI) is to enhance pro-competitive awareness of factors that affect the efficiency, stability, and economic viability of the industrial wood supply system. Members of WSRI believe that the industry needs some continuous, long-term, credible index of trends related to the cost of producing wood and the financial health of the system.

The long term cost and productivity study conducted by Mississippi State University (MSU) originated within the Industrial Forestry Operations Research Coop at Virginia Tech in 1990. The study has been supported by the Forest and Wildlife Research Center at MSU since 1999. The objectives of this study have been to: monitor the effects of changes in the wood supply system on logging business performance, monitor the effects of externalities such as weather, tax law, fuel prices, labor legislation on business structures, and gather information and insights that could lead to the development of better understanding of, and management tools for, the wood supply system.

This research project, funded in part by WSRI, is designed to expand the current work at MSU and to enhance the dissemination of this index to a broader audience.

This report presents the preliminary 2006 index based on a sample of 33 contractors for whom complete data were available on September 15, 2008.

This is the eleventh in a series of reports from this project.

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1 Preliminary 2006 Indices

1.1 Introduction

This report is based on 2006 reports from 33 logging firms, all of whom participated in the 2005 reporting. The other firms from 2005 who are not included in this compilation are still participating and have provided much of their information, but key elements are missing or are being re-confirmed before inclusion.

Simply calling 2006 a challenging year for the contractors would be an understatement. The rapid rise in fuel costs especially had an effect on both in-woods and over-the-road costs. Demand for building products softened. Weather played a major role, especially in the Gulf South as a result of Hurricanes Katrina and Rita, and the re-structuring within the industry has lead to uncertainty concerning the future of individual firms.

1.2 Population

The 33 firms produced a total of 3,861,152 tons of wood with annual expenditures of $76,193,740. As a group, the firms produced 23,800 fewer tons in 2006 than in 2005. The magnitude of gains and losses in tons and percentages of 2004 production by individual firms is shown in Figure 1.2.1.

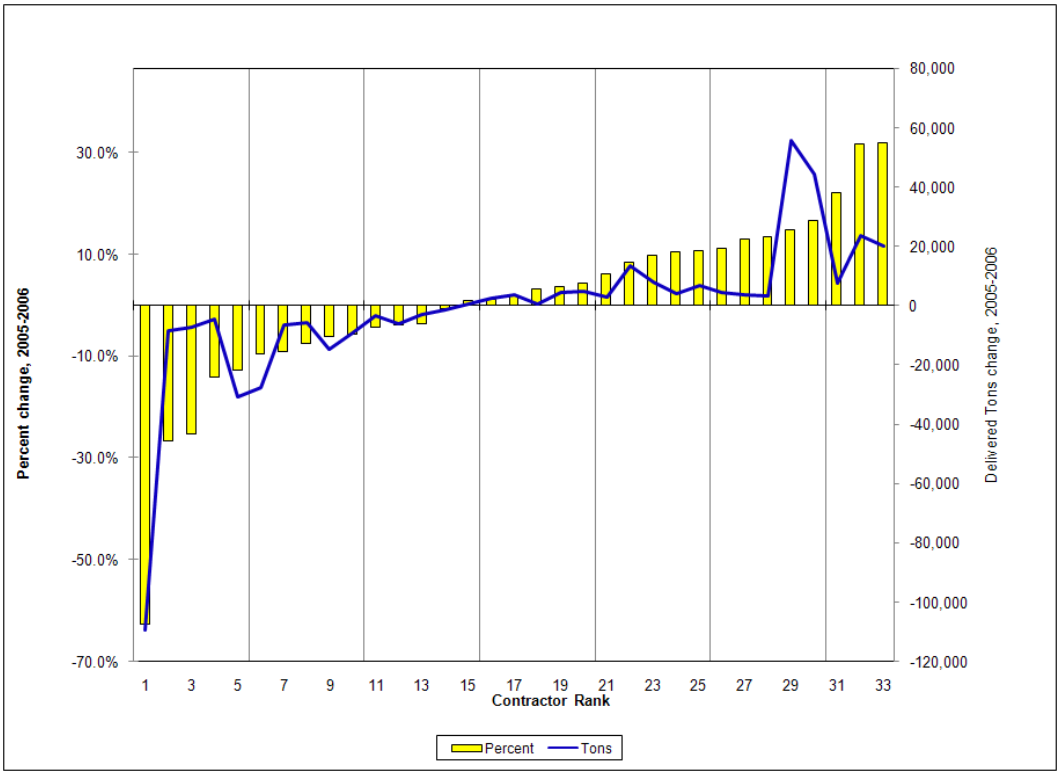

Figure 1.2.1 Annual change in production for individual firms between 2005 and 2006, ranked by percent change.

The largest production increase by a single firm was 55,679 tons; the greatest reduction was 109,397 tons. When expressed as percentages of 2005 production, the gains and losses (columns) for individual firms were, for the most part, balanced. The volume change associated with each percentage change (the line) indicates that there was no particular pattern of gains and losses by firm size. The biggest percentage loss and the second largest percentage gain were experienced by large producers.

The firms are spread throughout the Eastern United States. Participating firms operate in the Lake States and the Appalachian regions, but most are located in the Southern Piedmont and Coastal Plain.

Differences in land forms and forest ownership patterns within physiographic regions, the mobility and versatility of the operations, and changing markets make further stratification difficult. Many of the operations are located near the fall line, the border between the coastal plain and piedmont, and work in both regions. The Gulf South coastal plain includes land forms and land ownership patterns similar to the Eastern Piedmont.

The population includes firms that harvest pine and hardwood sawtimber, pine and hardwood pulpwood, conduct thinning operations, chipping operations, and operate Scandinavian style cut-to-length operations. Many of the participating firms move between thinning and clearcutting, tree-length and merchandizing, and operate as single or multiple crews as markets and opportunities dictate.

1.3 Average Total Cost per Ton Index

The 2006 preliminary Average Total Cost per Ton Index rose by 17 points as indicated by the black line in Figure 1.3.1.

Figure 1.3.1 Preliminary average Total Logging Cost per Ton Index, Consumer Price Index, and Producer Price Index (Logging), 1995-2006P.

The Consumer Price Index rose four points and the Producer Price Index (Logging) rose one point in 2006. Logging costs, as measured by the index, have increased a net 56 percent through the end of 2006. Prices paid for logging services, as measured by the PPI (Logging), have decreased nine percent since 1995. The logging cost index has been rising faster than the consumer price index since 2003. The current spread is 24 points.

1.4 Annual Production

The range in annual production per firm reflects changes in the population. The smaller, specialized firms have continued to operate in the same range, with the midsize firms expanding and contracting with market shifts (Figure 1.4.1).

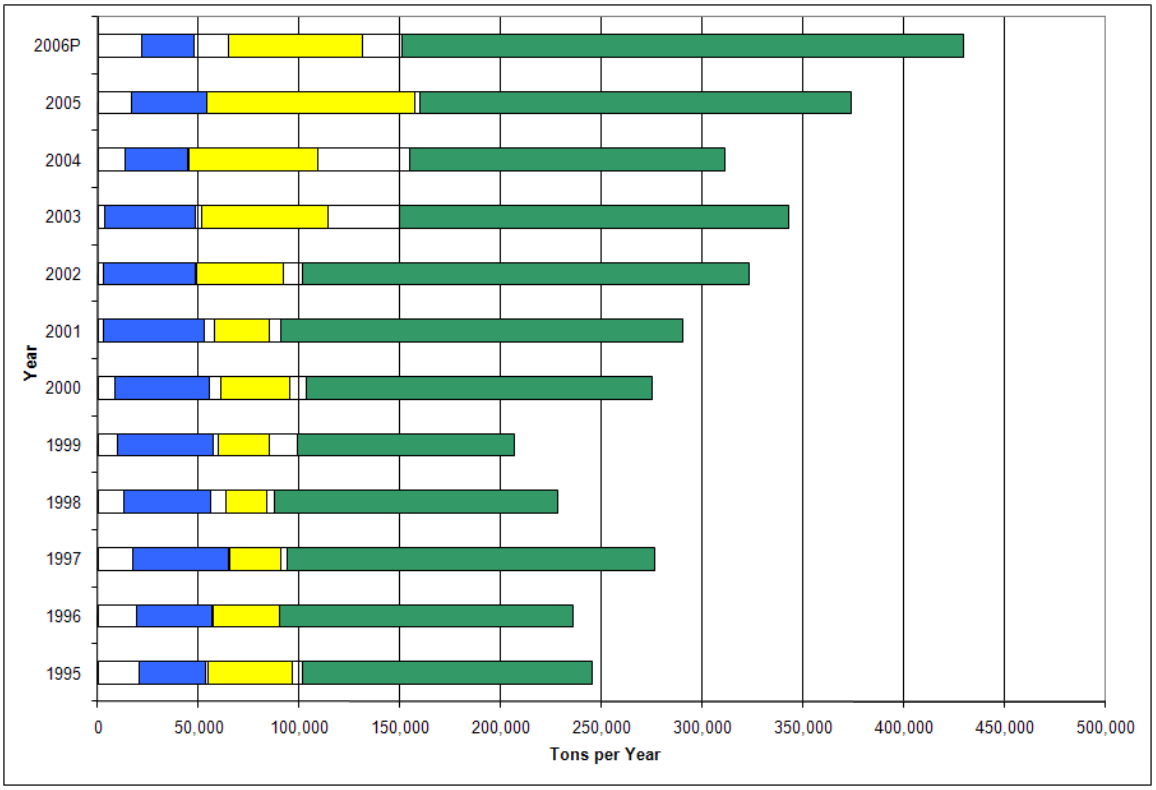

Figure 1.4.1 Annual production by firm size, 1995-2006P. Small firms are indicated by blue, medium firms by yellow, and large firms by green.

The spread of annual production between the smallest and largest firm is wider in this preliminary set (407,480 tons) than in the 2005 population (357,251 tons). The smallest producer in 2006 held the same position in 2005, and the largest producer has changed.

1.5 Cost Indices by Firm Size

The average cost per ton for all firms increased at about the same rate 2005 to 2006. (Figure 1.5.1). The rate of increase was in the middle for the smaller firms, highest for the mid-sized operations, and lowest for the larger firms.

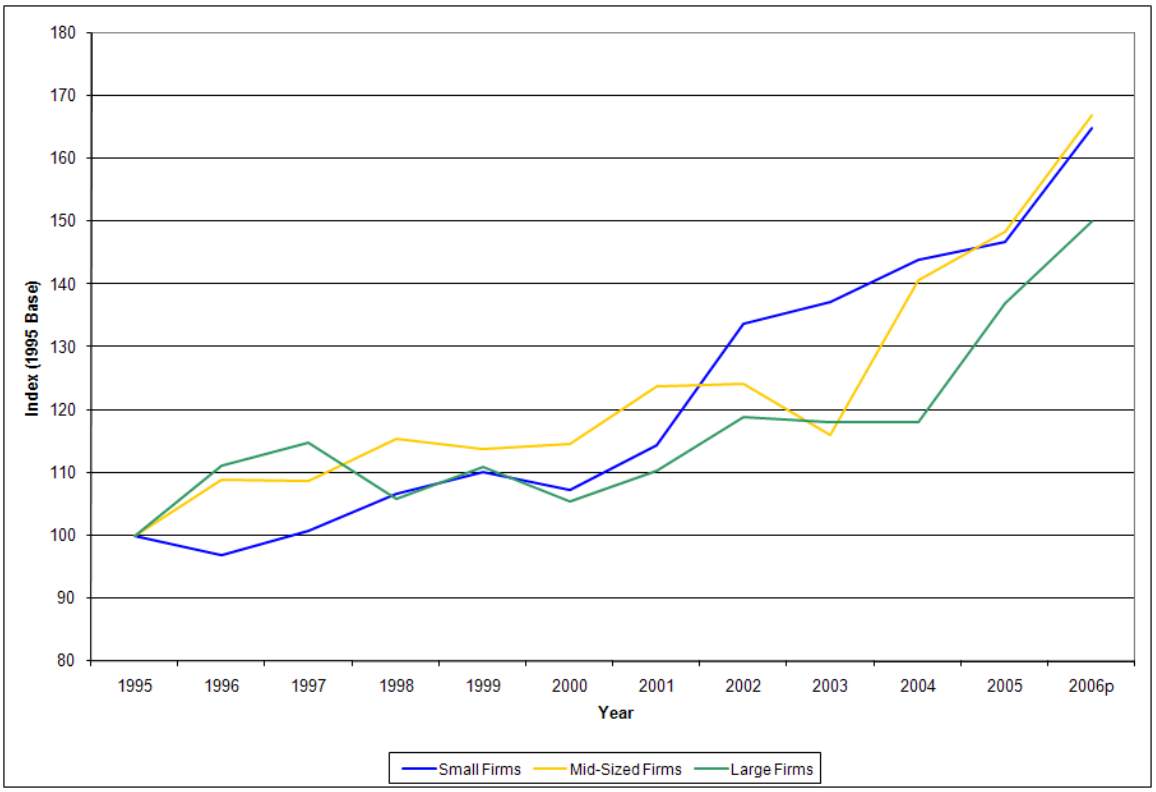

Figure 1.5.1 Average total logging cost indices by firm size, 1995-2006P.

The index for the smaller firms rose 18 points, that for the mid-sized firms rose 19 points and that for the larger firms rose 14 points. The large contractor index has risen for two years, after being static for two years. The difference in costs between the larger and the mid-size and small firms has less to do with size than the work performed. These smaller firms tend to perform a wider range of harvest types and work smaller tracts.

1.6 Distribution of Total Cost

The distribution of expenditures across the six summary categories continued to change (Figure 1.6.1). It is important to remember that these are expressed as a percentage of total cost per ton, and a specific category may have a higher dollar cost per ton from one year to the next, but make a smaller contribution to total costs if rate of increase in total costs was greater than that for the category being considered.

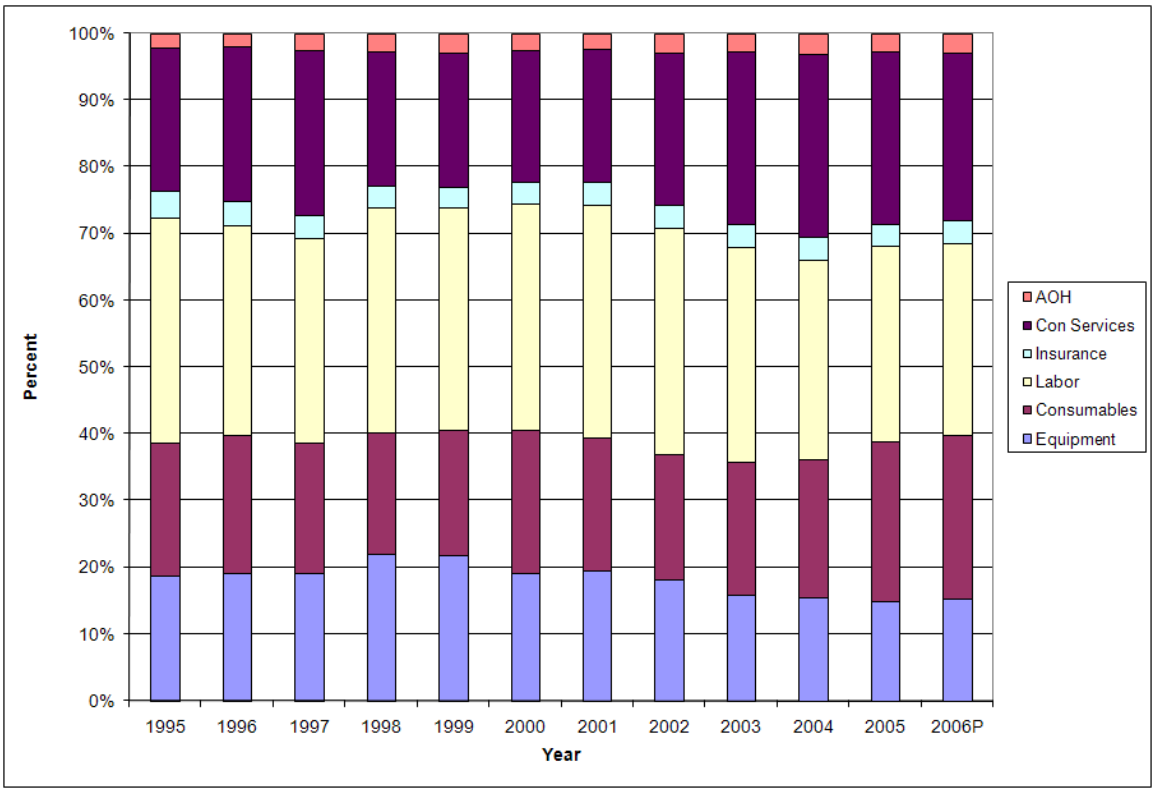

Figure 1.6.1 Cost components as a percentage of the average total logging cost per ton, 1995-2006P.

The percent of total costs going toward equipment held constant year on year for this set of contractors. The percentage for the last three years has held at the lowest level for the reporting period used here and for the 18 years the study has been underway. Consumable supplies increased from 24% in 2005 to 24.6% in the preliminary 2006 data. Labor costs moved downward 0.9% from 29.5% in 2005 to 28.6% for this data. Again this change may reflect change within the population, or it may be a function of the operations, largely small and medium-sized firms who have not yet provided complete data. Interestingly, contracted services costs also fell back 0.8% from those of 2005. Whether this was the result of reduced contract trucking by some of the firms, shorter haul distances as procurement areas shrunk, or simply a fluke of the data, it is surprising given the higher fuel costs later in the year.

The smaller cost components were reduced, possibly as cost reduction measures. Administrative overheads increased by 0.2% back to 2002 levels. The percentage going for insurance (other than workers' compensation, which is included in labor) increased slightly. In summation, the increase in fuel and other consumable supplies coupled with the uncertainties of the market for their services has resulted in a hesitancy to reinvest in equipment and efforts to control costs whether possible.

1.7 Component Cost Indices

General inflation – the Consumer Price Index – has risen 32% over the period covered here. Cost components that have risen less than 32% since 1995 are, in real terms, costing less per ton than they did in 1995, those with indices greater than 32% are costing more. Figures1.7a through 1.7f show the changes in the indices for each of the component costs since 1995.

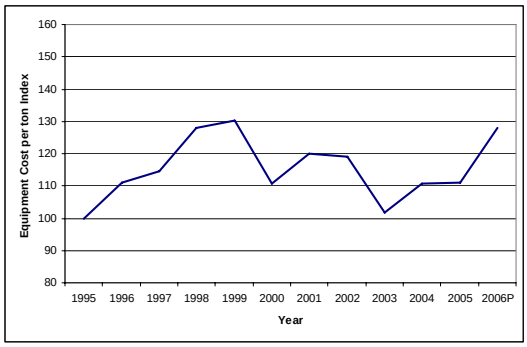

Figure 1.7a. Equipment cost/ton index.

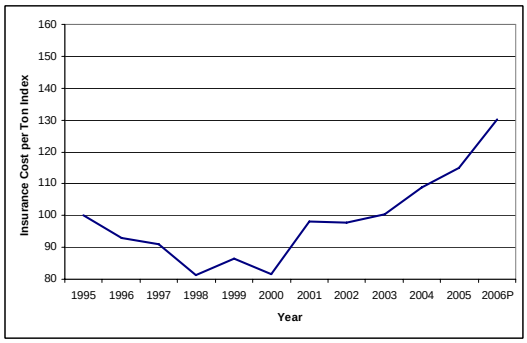

Figure 1.7d. Insurance cost/ton index.

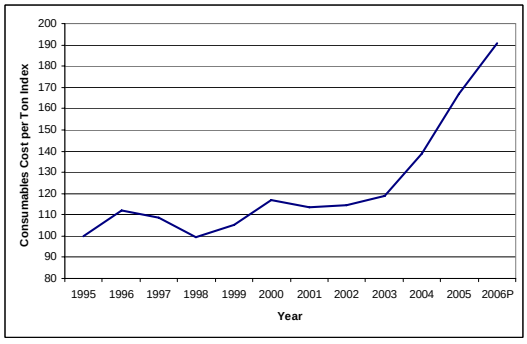

Figure 1.7b. Consumable supplies cost/ton index.

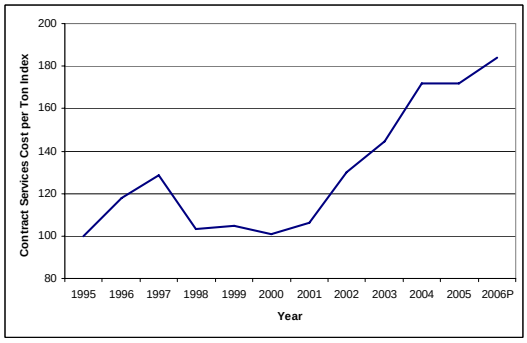

Figure 1.7e. Contracted services cost/ton index.

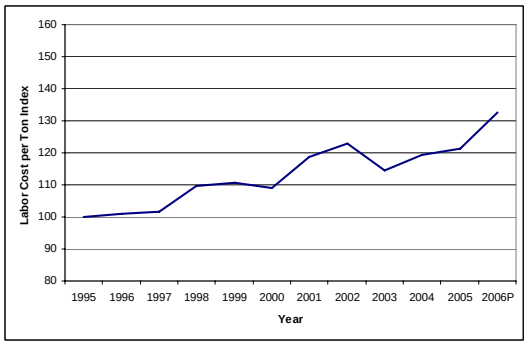

Figure 1.7c. Labor cost/ton index.

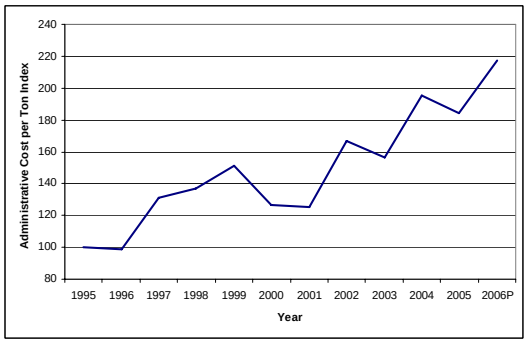

Figure 1.7c. Administrative overheads cost/ton index.

Figure 1.7. Component cost/ton indices for all participating firms, 1995-2006P.

It is important to note that although the cost indices for expenditures per ton moved upward for all six of the component costs, each component accounted for a different portion of the total cost per ton across the years (see Figure1.6.1). Administrative Overheads (AOH) and Consumable supplies had the largest increases (30 and 22 points respectively). However administrative overheads only account for 3% of the cost per ton

while consumable supplies accounts for 24%. The two components most sensitive to fuel costs, consumable supplies and contract trucking accounted for 41% of the direct costs per ton in 2000 and for 49% in these 2006 preliminary data. Labor, the largest single expense category rose faster in this preliminary data for 2006 than it did in 2005. In 2000, labor accounted for 34% of total costs, and has fallen to 29.6%. The two smallest expense categories, insurance (other than workers comp) and administrative overheads, rose as well. Their contribution to total cost is relatively small, insurance has followed general inflation, but the increase in the index for administrative costs has risen even more than that for consumable supplies.

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2 Discussion

All of the firms providing data for this 2006 preliminary report were participants in the study during 2005. This allowed analysis of year to year, same firm change (Table 2.1). Production for these firms decreased 23,832 tons, whereas costs increased by $3,660,656.

Table 2.1 Shift in production and expenditures between 2005 and 2006 for participating firms.

	Shift		Percent change
Production (tons)		-23,832	-0.61%
Expenditures			
Equipment		470,486	4.20%
Consumables		$1,478,009	8.62%
Wages	*$931,956*		*5.9%*
Owner's Draw	*-$7,150*		*-0.4%*
WCI	*$10,193*		*0.7%*
Total Labor		$935,000	4.90%
Insurance		$188,391	7.65%
Contract Services		$461,997	2.23%
AOH		$169,994	8.07%
Total Cost		**$3,660,656**	**4.84%**

Consumable supplies dominated the cost increases, followed by labor and contracted services. The only category showing a decrease was the allowance for owners draw, which is tied to production. Administrative overhead and insurance costs rivaled consumable supplies for the largest percentage increases; the base for these percentages is relatively small in comparison of that of the other cost components. But, it is interesting to note that the combined dollar increase in these two “minor” items was roughly three quarters of the increase in equipment outlay.

The increase in Consumable Supplies and Contract services were tied to the increase in fuel costs. Contracting may be to a sister firm under the same ownership as the logging firm or to external contractors, but the splitting of the harvest and delivery task into two separate undertaking affects the changes in other cost components, especially those for equipment, consumable supplies and labor. The increase may be due to an increased use of contract trucking, or the increased rates charged by contractors to offset their increased equipment, labor and supplies costs for other firms in common ownership.

Appendix

The following tables provide the source data used to develop the figures in the body of the report. They are numbered and structured to mimic the figures as closely as possible.

Appendix Contents

Appendix

Table A1. Annual change in production for individual firms between 2005 and 2006P, ranked by percent change (Figure 1.2.1).

	Production change, 2005-2006P	
Rank	Tons	Percent
1	-109,367	-62.8%
2	-8,363	-26.7%
3	-7,364	-25.4%
4	-4,400	-14.1%
5	-30,745	-12.9%
6	-27,517	-9.7%
7	-6,500	-9.1%
8	-5,819	-7.6%
9	-14,547	-6.2%
10	-9,057	-5.7%
11	-3,520	-4.3%
12	-6,203	-3.9%
13	-3,042	-3.6%
14	-1,315	-0.6%
15	395	0.8%
16	2,420	1.0%
17	3,500	1.9%
18	717	3.2%
19	4,587	3.6%
20	4,836	4.3%
21	2,727	6.1%
22	13,545	8.3%
23	8,095	9.7%
24	4,176	10.4%
25	6,660	10.7%
26	4,268	11.2%
27	3,556	12.9%
28	3,175	13.4%
29	55,679	14.9%
30	44,530	16.7%
31	7,492	22.1%
32	23,436	31.6%
33	20,132	32.0%

Table A2. Average Total Logging Cost per Ton Index, Consumer Price Index, and Producer Price Index (Logging), 1995-2006P (Figure 1.3.1).

Year	Cost/Ton Index	CPI	PPI-Contract Logging
1995	100	100	100
1996	108	103	96
1997	111	105	98
1998	109	107	97
1999	112	110	94
2000	109	113	91
2001	115	116	86
2002	122	118	85
2003	120	120	87
2004	134	124	90
2005	141	130	90
2006P	156	132	91

Table A3. Annual production by firm size, 1995-2006P (Figure 1.4.1).

	Operation Size--Tons per Year					
	Small Firms		Mid-Sized Firms		Large Firms	
Year	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
1995	20,475	53,172	54,833	96,773	101,352	244,950
1996	19,450	56,403	57,514	89,906	90,239	235,970
1997	17,533	64,926	65,553	91,039	93,771	276,055
1998	12,975	56,278	63,871	84,119	87,722	228,168
1999	9,644	57,170	59,925	85,338	99,334	206,592
2000	8,496	55,596	61,019	95,569	103,507	275,000
2001	2,649	52,633	57,604	85,000	90,862	290,000
2002	2,855	48,447	49,250	92,025	101,337	322,829
2003	3,275	48,566	51,626	114,189	149,526	342,508
2004	13,295	44,456	45,177	108,960	154,945	311,388
2005	16,510	54,291	54,375	157,075	159,961	373,761
2006P	21,600	47,477	64,920	131,125	150,872	429,440

Table A4. Average total logging cost indices by firm size, 1995-2006P (Figure 1.5.1).

Year	Small Firms	Mid-Sized Firms	Large Firms
1995	100	100	100
1996	97	109	111
1997	101	109	115
1998	107	115	106
1999	110	114	111
2000	107	115	105
2001	114	124	110
2002	134	124	119
2003	137	116	118
2004	144	141	118
2005	147	148	137
2006P	165	167	150

Table A5. Cost components as a percentage of total logging cost per ton, 1995-2006P (Figure 1.6.1).

	Component Cost					
Year	Equipment	Consumables	Total Labor	Insurance	Contracted Services	AOH
1995	19%	20%	34%	4%	21%	2%
1996	19%	21%	31%	4%	23%	2%
1997	19%	20%	31%	3%	25%	3%
1998	22%	18%	34%	3%	20%	3%
1999	22%	19%	33%	3%	20%	3%
2000	19%	22%	34%	3%	20%	3%
2001	20%	20%	35%	4%	20%	2%
2002	18%	19%	34%	3%	23%	3%
2003	16%	20%	32%	3%	26%	3%
2004	15%	21%	30%	3%	27%	3%
2005	15%	24%	29%	3%	26%	3%
2006P	15%	25%	29%	3%	25%	3%

Table A6. Component cost per ton indices for all participating firms. (Figures 1.7a-1.7f).

	Component Cost Index					
Year	**Equipment**	**Consumables**	**Total Labor**	**Insurance**	**Contracted Services**	**AOH**
1995	100	100	100	100	100	100
1996	111	112	101	93	118	98
1997	114	109	102	91	129	131
1998	128	99	110	81	103	137
1999	130	105	110	86	105	151
2000	111	117	109	82	101	127
2001	120	114	119	98	106	125
2002	119	115	123	98	130	167
2003	102	119	115	100	145	157
2004	111	139	119	109	172	195
2005	113	169	122	117	170	187
2006P	128	191	133	130	184	217