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1991 Indiana Forest Products Price Report and Trend Analysis

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1991 INDIANA FOREST PRODUCTS PRICE REPORT AND TREND ANALYSIS

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INTRODUCTION

The Department of Forestry and Natural Resources, Purdue University in cooperation with the Indiana Agricultural Statistics Service has conducted a formal survey of Indiana sawmills and veneer mills since at least 1957. The primary data collected is the price paid for logs delivered to the mills. From 1957 to 1976 the results were published as an Extension Circular. From 1977 to 1989 the results were published in the Indiana Forest Products Marketing and Wood Utilization Report. This is the second year that the results have been published as a Purdue Agricultural Experiment Station Bulletin.

METHODOLOGY

The questionnaire was mailed in early May to the 240 mills listed in the data base as buying logs. A follow-up questionnaire was mailed out six weeks later. During the first week of July selected mills were contacted by phone in an attempt to increase the response. No attempt was made to sample non-respondents. Therefore, it must be assumed that the response is biased. The standard errors should be used for year-to-year comparisons only.

The data base used for the survey is the comprehensive mill listing being jointly maintained by Purdue's Department of Forestry and Natural Resources (William L. Hoover) and the Indiana Division of Forestry (Robert W. Mayer). A major revision is currently underway in conjunction with the timber drain study being conducted by the Indiana Division of Forestry in cooperation with the Forest Survey Unit, U.S. Forest Service, St. Paul, MN. It is hoped that by maintaining a common data base accuracy can be increased and the total work load reduced.

A total of 67 mills returned the questionnaire. Thirteen of those returned contained no data. Thus, the overall response rate was 28 percent (67/240). The largest number of responses (23) was obtained from mills sawing primarily grade lumber, Table 1. Compared to the 1990 survey the number of mills reporting sawlog prices for the major species increased from about 20 to about 30, depending on the species. Thus, it can be assumed that the mean sawlogs prices reported in Table 2 reflect actual market conditions.

Much less confidence should be given to the average veneer log prices reported in Table 4. The veneer industry in Indiana continues to change. The major change is the conversion of several of the traditional mills to custom slicing only. Four of the 17 face mills slice logs on a contract basis for veneer marketing firms. Thus, the total number of mills that could be expected to provide data has declined. Since only delivered mill prices are reported, prices paid for veneer logs bought for the log export market are not reflected in the survey results.

Table 1. Mills by type included in data base and response to 1991 price survey by type of mill.

	Total	Mills Responding	
		Questionnaires With Data	Questionnaires Without Data
Sawmills (SIC 2421)	281	46	13
Custom	48[1]	3	2[2]
Grade	98	23	5
Pallet	46	8	1
Other	89	12	5
Veneer (SIC 2435)	19	7	0
Custom slice	4	1	0
Rotary	2	0	0
Slice	13	6	0
Cooperage (SIC 2429)	3	1	0
Piling (SIC 2499)	1	0	0
Paper (SIC 2631)	1	0	0
Total	305	54	13

[1] Most custom mills didn't receive the questionnaire since they are listed as not buying logs in data base.
[2] Mills out of business.

The responses were analyzed using a PC-based SPSS package. The responses were screened for obvious errors. In addition, any response that was obviously out of range was discarded. For example, if the responses for a category included one or more mills reporting prices of $40, $50, $60, $70, $80, and one mill reporting $240, the $240 response was discarded.

The median price is the reported price that divides the histogram of the distribution of prices into two equal halves. The median and mean would have the same value if the distribution was an exact bell-shaped normal curve. The standard error of the mean (s.e.) is a measure of the variability of the responses. It indicates the amount by which the mean would vary if a different set of mills had responded to the survey. Note that the standard error is relatively small for those species/grade categories for which ten or more mills responded, but is high for categories for which only a few mills responded.

SAWLOG PRICES

The mean and median prices paid for sawlogs are reported in Table 2. Delivered logs prices declined from May 1990 to May 1991. The declines were substantially greater than those for the 1989 to 1990 period. The biggest percentage declines occurred for the premium species sold primarily for domestic furniture and millwork production, and for export. This species include ash, cherry, and all the oaks. Price increases occurred for a few of the species not traditionally sold for furniture production, including basswood, cottonwood, and soft maple. Soft maple was surprisingly strong.

The changes in log prices were consistent with activity in lumber prices, Table 3. Ash prices, Figure 1, peaked in 1989 and appear to be leveling off this summer. Black cherry prices continued to strengthen over the summer for FAS with the straight load premium[1] added, Figure 2. The lower grades are still in surplus. The price for the best grade of red oak, FAS, started a 14 year climb in 1973, Figure 3. Prices for the common grades have been less cyclical since 1988. FAS prices were in a free-fall from the spring of 1990 until June of this year. White oak prices, Figure 4, remained flat over the last 18 months, except for No. 2A.

Lumber prices have been steady over the last year for most of the other species: hard maple, Figure 5, soft maple, Figure 6, sycamore, Figure 7, and cottonwood, Figure 8. Rising soft maple log prices in the face of steady lumber prices indicate that Indiana mills are picking up a greater portion of the national soft maple market. Yellow poplar (tulipwood) lumber prices, Figure 9, have leveled off this summer after falling since the spring of 1990. This market should strengthen as housing starts and rehabilitations increase, increasing the demand for millwork.

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1. The prices quoted in the Hardwood Market Report are for loads of lumber of mixed grades, usually as the lumber comes from the mill. Buyers who want loads of only the top grade, FAS, pay a premium over the mixed grade price. This compensates the seller for having to market straight loads of lower grade lumber.

Table 2. Prices paid for delivered sawlogs by Indiana sawmills, May 1991 and May 1990.

Species/Grade	1991 Range	No. Respon. 1990	No. Respon. 1991	Mean (s.e.)[1] 1990	Mean (s.e.)[1] 1991	Median 1990	Median 1991	Change (%) Mean	Change (%) Median
White Ash	($/MBF)			($/MBF)		($/MBF)			
Prime	200-800	20	28	560 (23.1)	478 (19.8)	575	500	-14.6	-13.0
No. 1	180-600	24	33	412 (20.8)	358 (15.1)	425	350	-13.1	-17.6
No. 2	120-500	25	33	262 (16.8)	221 (14.9)	250	200	-15.6	-20.0
No. 3	80-200	17	22	132 (8.6)	131 (7.5)	120	135	-0.8	12.5
Basswood									
Prime	100-350	14	22	234 (23.0)	228 (15.7)	225	250	-2.6	11.1
No. 1	100-320	17	26	200 (15.3)	203 (13.2)	200	200	1.5	0.0
No. 2	80-240	17	26	144 (11.1)	152 (8.1)	150	150	5.6	0.0
No. 3	60-180	14	20	109 (7.9)	126 (7.4)	110	120	15.6	9.1
Beech									
Prime	120-220	15	20	159 (7.9)	156 (7.5)	160	150	-1.9	-6.3
No. 1	100-200	14	21	140 (6.8)	141 (6.8)	140	120	0.7	-14.3
No. 2	100-180	14	22	130 (7.8)	127 (5.5)	120	120	-2.3	0.0
No. 3	80-180	15	18	121 (5.9)	122 (7.7)	120	120	0.8	0.0

[1] Standard error of the mean is given in parentheses below the mean.

Table 2. Prices paid for delivered sawlogs by Indiana sawmills, May 1991 and May 1990, continued.

Species/Grade	1991 Range	No. Respon. 1990	No. Respon. 1991	Mean (s.e.) 1990	Mean (s.e.) 1991	Median 1990	Median 1991	Change (%) Mean	Change (%) Median
Cottonwood	($/MBF)			($/MBF)		($/MBF)			
Prime	100-160	8	14	126 (6.3)	126 (5.4)	120	120	0.0	0.0
No. 1	100-160	9	15	112 (8.5)	119 (5.1)	120	120	6.3	0.0
No. 2	80-160	8	14	119 (11.1)	116 (6.4)	120	120	-2.5	0.0
No. 3	60-160	10	13	113 (9.2)	113 (7.4)	120	120	0.0	0.0
Cherry									
Prime	350-650	17	28	568 (23.8)	529 (17.0)	600	550	-6.9	-8.3
No. 1	200-620	22	32	426 (22.2)	403 (20.1)	400	400	-5.4	0.0
No. 2	120-410	23	31	258 (17.2)	240 (15.8)	250	220	-7.0	-12.0
No. 3	80-250	17	22	138 (9.2)	151 (10.0)	140	150	9.4	7.1
White Elm									
Prime	120-250	10	18	153 (10.0)	154 (9.9)	150	145	0.7	-3.3
No. 1	100-220	14	22	150 (9.0)	147 (7.6)	135	145	-2.0	7.4
No. 2	80-180	15	22	135 (7.8)	133 (5.8)	130	125	-1.5	-3.8
No. 3	80-180	11	18	125 (6.4)	127 (7.5)	120	120	1.6	0.0

Table 2. Prices paid for delivered sawlogs by Indiana sawmills, May 1991 and May 1990, continued.

Species/Grade	1991 Range	No. Respon. 1990	No. Respon. 1991	Mean (s.e.) 1990	Mean (s.e.) 1991	Median 1990	Median 1991	Change (%) Mean	Change (%) Median
S. Hickory	($/MBF)			($/MBF)		($/MBF)			
Prime	100-300	12	22	200 (18.9)	177 (10.6)	180	180	-11.5	0.0
No. 1	80-270	17	26	174 (10.1)	159 (8.2)	160	160	-8.6	0.0
No. 2	80-200	17	24	138 (9.1)	139 (6.0)	140	150	7.1	-0.7
No. 3	60-180	14	19	117 (7.6)	125 (8.1)	120	120	6.8	0.0
Hard Maple									
Prime	180-600	17	25	311 (20.5)	290 (15.1)	300	300	-6.8	0.0
No. 1	140-380	22	29	239 (15.1)	229 (11.0)	215	220	-4.2	2.3
No. 2	80-265	20	27	180 (9.8)	169 (9.0)	165	160	-6.1	-3.0
No. 3	80-180	17	22	121 (8.2)	127 (6.7)	120	120	5.0	0.0
Soft Maple									
Prime	120-300	14	24	215 (17.4)	218 (8.9)	200	200	1.4	0.0
No. 1	120-250	19	28	181 (8.5)	184 (8.2)	180	180	1.7	0.0
No. 2	80-220	19	28	143 (7.8)	146 (6.0)	140	150	2.1	7.1
No. 3	80-180	17	22	119 (6.8)	127 (6.7)	120	120	6.7	0.0

Table 2. Prices paid for delivered sawlogs by Indiana sawmills, May 1991 and May 1990, continued.

Species/Grade	1991 Range	No. Respon. 1990	No. Respon. 1991	Mean (s.e.) 1990	Mean (s.e.) 1991	Median 1990	Median 1991	Change (%) Mean	Change (%) Median
White Oak	($/MBF)			($/MBF)		($/MBF)			
Prime	350-700	18	27	586 (24.9)	500 (18.1)	600	500	-14.7	-16.7
No. 1	210-600	24	33	421 (22.6)	381 (17.2)	400	375	-9.5	-6.3
No. 2	120-400	28	33	249 (13.3)	232 (13.5)	245	200	-6.8	-18.4
No. 3	80-250	20	23	136 (10.2)	135 (8.2)	125	120	-0.7	-4.0
Red Oak									
Prime	380-600	19	28	616 (18.4)	532 (13.9)	600	550	-13.6	-8.3
No. 1	300-600	24	33	436 (21.0)	407 (14.2)	450	400	-6.7	-11.1
No. 2	120-400	27	32	259 (14.1)	246 (13.2)	250	250	-5.0	0.0
No. 3	80-250	19	24	146 (11.0)	142 (9.2)	150	138	-2.7	-8.0
Black Oak									
Prime	300-600	18	26	540 (19.5)	473 (15.3)	600	500	-12.4	-16.7
No. 1	200-500	23	32	375 (17.2)	350 (13.6)	400	350	-6.7	-12.5
No. 2	120-400	26	32	217 (11.7)	206 (10.7)	210	200	-5.1	-4.8
No. 3	80-230	18	23	138 (10.9)	138 (7.9)	135	150	0.0	11.1

Table 2. Prices paid for delivered sawlogs by Indiana sawmills, May 1991 and May 1990, continued.

Species/Grade	1991 Range	No. Respon. 1990	No. Respon. 1991	Mean (s.e.) 1990	Mean (s.e.) 1991	Median 1990	Median 1991	Change (%) Mean	Change (%) Median
Tulip Poplar	($/MBF)			($/MBF)		($/MBF)			
Prime	240-350	19	26	308 (9.8)	275 (5.8)	300	263	-10.7	-12.3
No. 1	140-300	24	30	240 (15.8)	219 (7.6)	235	205	-8.8	-12.8
No. 2	100-220	23	28	160 (8.0)	162 (5.0)	160	160	1.3	0.0
No. 3	80-180	18	22	119 (6.4)	128 (6.5)	120	120	7.6	0.0
Sycamore									
Prime	110-200	11	20	148 (7.8)	145 (5.1)	150	150	-2.0	0.0
No. 1	100-180	13	21	140 (7.2)	131 (5.0)	140	120	-6.4	-14.3
No. 2	80-180	12	21	128 (6.6)	125 (5.9)	120	120	-2.3	0.0
No. 3	80-180	13	17	122 (6.0)	125 (7.7)	120	120	2.5	0.0
Sweetgum									
Prime	110-200	10	19	156 (10.3)	144 (6.3)	155	140	-7.7	-9.7
No. 1	90-180	11	19	140 (8.2)	130 (5.4)	140	120	-7.1	-14.3
No. 2	80-180	10	19	125 (7.2)	122 (6.1)	120	120	-2.4	0.0
No. 3	80-180	12	15	121 (6.3)	121 (8.1)	120	120	0.0	0.0

Table 2. Prices paid for delivered sawlogs by Indiana sawmills, May 1991 and May 1990, continued.

Species/Grade	1991 Range	No. Respon. 1990	No. Respon. 1991	Mean (s.e.) 1990	Mean (s.e.) 1991	Median 1990	Median 1991	Change (%) Mean	Change (%) Median
Black Walnut	($/MBF)			($/MBF)		($/MBF)			
Prime	400-1000	15	24	777 (41.4)	754 (33.8)	750	700	-3.0	-6.7
No. 1	350-1000	18	30	619 (41.4)	613 (32.2)	550	550	-1.0	0.0
No. 2	150-650	18	30	406 (33.3)	383 (26.5)	400	300	-5.7	-25.0
No. 3	100-550	15	24	201 (18.4)	207 (21.6)	200	200	3.0	0.0
Softwood									
Any species	100-120	0	2	n.a.	110	n.a.	110	n.a.	n.a.
Red cedar	350	0	1	n.a.	350	n.a.	350	n.a.	n.a.

Table 3. Hardwood lumber prices, 4/4 Appalachian unless otherwise indicated (Hardwood Market Report, Memphis, Tenn), $ per MBF.

	Jan. 1989	July 1989	Jan. 1990	July 1990	Jan. 1991	July 1991
Tough Ash						
FAS + Premium	1,025	1,030	1,030	900	780	730
No. 1C	695	700	700	640	540	475
No. 2C	300	300	300	260	200	195
Basswood						
FAS + Premium	640	640	650	650	650	650
No. 1C	305	305	305	305	305	305
No. 2A	177	177	177	177	177	177
Beech						
FAS	295	295	295	295	295	295
No. 1C	255	255	255	255	255	255
No. 2A	195	195	195	195	195	195
Cottonwood (Southern)						
FAS	365	365	365	380	400	400
No. 1C	270	270	270	270	285	285
No. 2C	135	135	140	150	150	150
Cherry						
FAS + Premium	1,115	1,065	1,090	1,115	1,135	1,175
No. 1C	830	770	690	660	620	620
No. 2A	445	390	355	325	285	285
Elm (Southern)						
FAS	385	375	345	345	335	335
No. 1C	365	355	325	325	315	315
No. 2B	230	220	200	200	200	200
Hickory						
FAS	340	340	340	340	335	335
No. 1C	320	320	320	320	315	315
No. 2A	160	160	160	200	195	195
Hard Maple						
FAS + Premium	595	635	650	680	660	660
No. 1C	380	385	400	430	430	430
No. 2C	230	230	235	265	265	265
Soft Maple						
FAS + Premium	420	450	480	565	565	565
No. 1C	350	350	365	405	405	405
No. 2C	210	210	215	250	250	250
White Oak (Plain)						
FAS + Premium	995	1,000	1,000	980	950	950
No. 1C	465	465	465	465	465	465
No. 2A	235	240	255	260	235	220
Red Oak						
FAS + Premium	1,020	1,165	955	995	920	845
No. 1C	535	905	535	545	535	525
No. 2A	250	710	275	285	265	250
Yellow Poplar						
FAS + Premium	505	530	585	595	530	510
No. 1C	290	285	300	320	295	280
No. 2A	195	195	195	200	200	195

Table 3. Hardwood lumber prices, 4/4 Appalachian unless otherwise indicated (Hardwood Market Report, Memphis, Tenn), $ per MBF, cont.

	Jan. 1989	July 1989	Jan. 1990	July 1990	Jan. 91	July 91
Sycamore (Southern, Plain)						
FAS	295	295	300	310	315	315
No. 1C	275	275	280	290	295	295
No. 2A	240	240	245	255	255	255
Black Walnut						
FAS	1,605	1,605	1,605	1,605	1,605	1,605
No. 1C	855	855	855	855	855	855
No. 2A	290	290	290	290	290	290

VENEER LOG PRICES

Because veneer log prices were solicited only from veneer mills and their response was low, the veneer log prices must be interpreted carefully. The price reported for any species, grade, and size category with less than five responses is essentially meaningless. Therefore, this year's results are meaningful only for the prime grade of the smaller log sizes of walnut and the oaks. Comparison of 1991 prices with 1990 prices are also of limited value where the 1990 sample was less than five.

The reported black walnut veneer log prices, Table 4, were down for the larger high quality logs. Prices were much stronger for the smaller lower grade logs. The demand for walnut veneer remains strong within its market niche, but the furniture makers are having to make-do with the affordable quality available from the smaller lower grade logs. Increased efficiency in edge gluing of veneer is critical in keeping the product affordable.

White oak prices were off across-the-board. Veneer quality white oak logs still sell at a substantial premium to white oak sawlogs. The "glory days" of white oak appear to be over, however. Red oak veneer log prices fell by more than 25 percent for the prime grade. There appears to be very little, if, any difference between the price of lower grade red oak veneer log and the best sawlog grade.

Veneer Log Grades

The standards for defining the "prime" and "select" veneer log grades are determined by each mill responding to the survey. This has been the practice since the survey was started in 1954. It is consistent with the industry practice of not adopting a common veneer log grading system. Each veneer mill has developed a proprietary grading scheme to meets its unique needs.

The prime grade should be interpreted to represent a log containing no noticeable defects such as knots, adventitious buds, splits, end checks, crook, and sweep. This grade does not take into account the many subtle factors that can significantly increase the value of a veneer log, such as geographical source of the tree, soil in which the tree was grown, growth rate, bark texture, among others.

The select grade should be interpreted as a log better than a prime grade sawlogs, but containing at least one significant defect.

Table 4. Prices paid for delivered veneer logs by Indiana veneer mills, May 1990 and revised May 1989.

Species/Grade /Log Dia.	1991 Range	No. Respon. 1990	No. Respon. 1991	Mean (s.e.)[1] 1990	Mean (s.e.)[1] 1991	Median 1990	Median 1991	Change (%) Mean	Change (%) Median
Black Walnut	($/MBF)			($/MBF)		($/MBF)			
Prime									
12-13	1000-3000	5	9	1480 (146.3)	1728 (260.7)	1500	1500	16.8	0.0
14-15	1000-4000	5	11	2300 (300.0)	2281 (321.4)	2000	2000	-0.8	0.0
16-17	2000-6000	5	12	3600 (400.0)	3177 (368.1)	3000	3000	-11.8	0.0
18-20	2500-8000	4	11	4875 (657.5)	4182 (473.3)	5000	4000	-14.2	-20.0
21-23	3000-10000	2	8	6500 (500.0)	5188 (834.2)	6500	5000	-20.2	-23.1
24-28	3000-10000	2	8	6500 (500.0)	5625 (805.9)	6500	5500	-13.5	-15.4
>28	3000-10000	2	8	6500 (500.0)	6375 (929.4)	6500	6250	-19.0	-3.8
Select									
12-13	1000-1500	4	5	1025 (62.9)	1200 (122.5)	1000	1000	17.1	0.0
14-15	1000-2500	5	7	1500 (0.0)	1757 (211.4)	1500	1500	17.1	0.0
16-17	1500-3000	5	7	2100 (187.1)	2143 (179.8)	2000	2000	2.0	0.0
18-20	2000-3500	5	6	2600 (187.1)	2750 (214.1)	2500	2750	5.8	10.0
21-23	2500-4500	2	6	3000 (0.0)	3333 (333.3)	3000	3250	11.1	8.3
24-28	2500-5000	2	5	3000 (0.0)	3800 (435.9)	3000	3500	26.7	16.7
>28	3000-6000	2	5	3000 (0.0)	4200 (514.8)	3000	4000	40.0	33.3

[1] Standard error of the mean is given in parentheses below the mean.

Table 4. Prices paid for delivered veneer logs by Indiana veneer mills, May 1991 and May 1990, continued.

Species/Grade /Log Dia.	1991 Range	No. Respon. 1990	No. Respon. 1991	Mean (s.e.) 1990	Mean (s.e.) 1991	Median 1990	Median 1991	Change (%) Mean	Change (%) Median
White Oak	($/MBF)			($/MBF)		($/MBF)			
Prime									
13-14	400-1600	6	12	1183 (127.9)	1090 (101.7)	1100	1000	-7.9	-9.1
15-17	800-2000	6	12	1383 (122.2)	1479 (102.9)	1350	1500	6.9	11.1
18-20	1000-2500	6	12	1933 (154.2)	1902 (137.6)	1900	1875	-1.6	-1.3
21-23	1200-3000	6	12	2416 (244.2)	2260 (145.5)	2350	2500	-6.5	6.4
24-28	1500-3500	4	9	3750 (478.7)	2675 (254.3)	3500	2700	-28.7	-22.9
>28	1800-5000	1	6	3000 (0.0)	2729 (478.0)	3000	2500	-9.0	-16.7
Select									
13-14	300-1500	3	7	867 (133.3)	768 (147.5)	1000	700	-11.4	-30.0
15-17	600-1500	3	6	1033 (88.2)	975 (125.0)	1000	1000	-5.6	0.0
18-20	800-1800	4	6	1175 (118.1)	1408 (141.7)	1100	1500	19.8	36.4
21-23	1000-2000	2	6	1550 (50.0)	1600 (152.8)	1550	1550	3.2	0.0
24-28	1300-2000	1	6	2200 (0.0)	1650 (117.6)	2200	1550	-25.0	-29.5
>28	1600-2000	1	4	2200 (0.0)	1900 (100.0)	2200	2000	-13.6	-9.1

Table 4. Prices paid for delivered veneer logs by Indiana veneer mills, May 1991 and May 1990, continued.

Species/Grade /Log Dia.	1991 Range	No. Respon. 1990	No. Respon. 1991	Mean (s.e.) 1990	Mean (s.e.) 1991	Median 1990	Median 1991	Change (%) Mean	Change (%) Median
Red Oak									
Prime	($/MBF)			($/MBF)		($/MBF)			
16-17	400-1600	5	7	1260 (108.9)	985 (138.8)	1350	1000	-21.8	-25.9
18-20	450-1700	4	5	1225 (105.1)	930 (216.6)	1225	900	-24.1	-26.5
21-23	500-1000	4	4	1275 (77.7)	775 (110.9)	1275	800	-39.2	-37.3
24-28	500-900	2	3	1250 (150.0)	733 (120.2)	1250	800	-41.3	-36.0
>28	500-900	2	3	1250 (150.0)	767 (133.3)	1250	900	-38.6	-28.0
Select									
16-17	300-1000	0	4	n.a.	675 (143.6)	n.a.	700	n.a.	n.a.
18-20	350	0	1	n.a.	350 (n.a.)	n.a.	350	n.a.	n.a.
21-23	400	0	1	n.a.	400 (n.a.)	n.a.	400	n.a.	n.a.
24-28	400	0	1	n.a.	400. (n.a.)	n.a.	400	n.a.	n.a.
>28	400	0	1	n.a.	400 (n.a.)	n.a.	400	n.a.	n.a.

Table 4. Prices paid for delivered veneer logs by Indiana veneer mills, May 1991 and May 1990, continued.

Species/Grade /Log Dia.	1991 Range	No. Respon. 1990	No. Respon. 1991	Mean (s.e.) 1990	Mean (s.e.) 1991	Median 1990	Median 1991	Change (%) Mean	Change (%) Median
Hard Maple	($/MBF)			($/MBF)		($/MBF)			
Prime									
16-20	280-1525	2	7	800 (200.0)	786 (160.6)	800	800	-1.8	0.0
>20	280-1525	2	4	800 (400.0)	801 (287.9)	800	700	0.0	-12.5
Select									
16-20	180	0	1	n.a.	180 (n.a.)	n.a.	180	n.a.	n.a.
>20	180	0	1	n.a.	180 (n.a.)	n.a.	180	n.a.	n.a.
Tulip Poplar									
Prime									
16-20	275-400	3	5	367 (60.1)	337 (26.3)	400	310	-8.2	-22.5
>20	300-400	4	4	400 (35.4)	330 (23.5)	425	310	-17.5	-27.1
Select									
16-20	225	0	1	n.a.	225 (n.a.)	n.a.	225	n.a.	n.a.
>20	265	0	1	n.a.	265 (n.a.)	n.a.	265	n.a.	n.a.

CUSTOM COSTS AND MISCELLANEOUS PRODUCTS

Costs reported for custom activities, Table 5, continue to be highly variable, but within the same range as last year. Logging costs appear to have declined, but since only three mills reported this cost in 1990, there is little basis for comparison. The average hauling cost is just over $1.00 per MBF per mile. This cost hasn't changed substantially since the last oil "crisis."

The price paid for pallet lumber logs, Table 6, was essentially unchanged. An expected continuation of the current strong market for railroad ties should hold up the price for lower quality timber. Bark prices remain strong for mills located within a reasonable haul distance of urban landscape markets, or a wood-residue fired boiler.

Handle logs, Table 7, were down about the same amount as sawlogs. The slight premium over sawlog prices remains, however. There is a slight premium for hard maple handle logs, but none for hickory.

Table 5. Custom costs reported by Indiana mills, May 1990, and revised 1989.

	No. Responses	1991 Range	Mean (s.e.) 1990	Mean (s.e.) 1991	Median 1990	Median 1991
Sawing $/MBF	19	100-200	140 (5.3)	138 (5.1)	150	150
Logging $/MBF	9	35-120	79 (12.1)	67 (7.9)	65	60
Hauling:						
$/MBF	9	35-65	53 (6.6)	53 (3.7)	60	55
Distance	10	15-110	69 (14.2)	50 (8.5)	60	43
$/MBF/Mile	n.a.		0.77	1.06	1.00	1.28

Table 6. Prices of miscellaneous products reported by Indiana mills, May 1991 and May 1990, fob the producing mill.

	No. Responses	1991 Range	Mean (s.e.) 1990	Mean (s.e.) 1991	Median 1990	Median 1991
Pallet logs, $/MBF	19	90-170	140 (5.3)	137 (6.2)	140	140
Pulp Chips, $/Ton	17	6- 34	15.36 (2.2)	14.85 (1.5)	14.56	14.50
Sawdust, $/Ton	16	1-15.00	3.62 (0.5)	6.33 (0.9)	4.00	6.37
Bark, $/Ton	18	1- 30	10.53 (2.3)	11.15 (1.8)	7.50	9.50

Table 7. Prices paid for handle logs by Indiana mills, May 1991 and May 1990, fob mill.

	No. Responses	1991 Range	Mean (s.e.) 1990 ($/MBF)	Mean (s.e.) 1991 ($/MBF)
White Ash				
No. 1	6	280-500	600	426 (34)
No. 2	4	350-400	450	381 (10)
No. 3	3	250-350	250	308 (30)
Hard Maple				
No. 1	2	250-350	400	300 (35)
No. 2	1	200	200	200
No. 3	0	n.a.	n.a.	n.a.
Hickory				
No. 1	2	150-200	n.a.	175 (18)
No. 2	2	120-180	n.a.	150 (20)
No. 3	1	120	n.a.	120

INDIANA TIMBER PRICE INDEX -- UPDATE

The delivered log prices collected in the Indiana Forest Products Price Survey are used to calculate the delivered log value of typical stands of timber. This provides trend-line data that can be used to monitor long-term price trends for timber. The species and log quality distribution used to calculate the weighted averages were reported in Indiana Forest Products Marketing and Wood Utilization Report, Bulletin No. 189, June 16, 1987, p. 13.

The actual price, Table 8, is a weighted average of the delivered log prices reported in the price survey. The price index is the series of actual prices divided by the price in 1957, the base year. The real price is the actual price deflated by the producer price index for all commodities with 1982 as the base year. Thus, the real price series represents the purchasing power of dollars based on a 1982 market basket of industrial goods.

Average Stand

The value of the logs in an average stand of timber declined from $291 per MBF in 1990 to $270 per MBF in 1991, a 7.2 percent drop. After adjusting for inflation the decline over the last year was 7.8 percent. If the change in real prices from 1957 to 1991 had been constant from year to year, that is, a straight line, the yearly change would have averaged 0.9 percent. This trend is unchanged from last year, but the index was below the trend line in 1991 for the first time since 1986, Figure 10.

Quality Stand

The value of the logs in a high quality stand of timber decreased from $420 per MBF in 1990 to $381 per MBF in 1991, a 9.1 percent decline. After adjusting for inflation the decrease was from was from $361 per MBF to $326 per MBF, a 9.7 decline. If the change in real prices from 1957 to 1990 had been constant from year to year, that is, a straight line, the yearly change would have averaged 1.4 percent. This is the same trend as last year, but the index also fell below the trend line in 1991, Figure 11.

Table 8. Weighted average actual price, price index, and deflated price for an average and quality stand of timber in Indiana, 1957 to 1990.

Year	Average Stand[1]			Quality Stand[1]		
	Actual Price	Index Number	Real Price[2]	Actual Price	Index Number	Real Price[2]
	($/MBF)		($/MBF)	($/MBF)		($/MBF)
1957	55.6	100.0	172.3	67.3	100.0	208.6
1958	54.3	97.7	166.0	67.0	99.6	204.8
1959	54.7	98.4	166.8	68.9	102.4	210.1
1960	58.0	104.3	176.7	70.7	105.1	215.4
1961	59.5	107.0	182.0	71.2	105.8	217.8
1962	59.8	107.6	182.4	73.6	109.4	224.5
1963	59.4	106.8	181.7	76.0	112.9	232.5
1964	60.9	109.5	185.9	75.9	112.8	231.7
1965	65.0	116.9	194.5	81.3	120.8	243.3
1966	69.7	125.4	201.9	88.5	131.5	256.4
1967	71.9	129.3	207.9	89.4	132.8	258.5
1968	76.5	137.6	215.8	97.8	145.3	275.9
1969	78.7	141.5	213.7	100.2	148.9	272.0
1970	84.1	151.3	220.2	105.5	156.8	276.3
1971	87.0	156.5	220.8	109.4	162.6	277.7
1972	89.8	161.5	218.0	112.6	167.3	273.3
1973	113.5	204.1	243.6	141.3	210.0	303.3
1974	135.1	243.0	244.0	172.0	255.6	310.6
1975	124.9	224.6	206.5	167.6	249.0	277.0
1976	133.5	240.1	210.9	174.2	258.8	275.2
1977	143.5	258.1	213.6	190.1	282.5	283.0
1978	181.7	326.8	251.0	237.6	353.0	328.2
1979	200.1	359.9	245.6	264.7	393.3	324.8
1980	208.8	375.5	224.7	314.5	467.3	338.4
1981	206.6	371.6	203.6	289.4	430.0	285.2
1982	201.5	362.4	194.6	284.1	422.1	274.4
1983	201.0	361.5	191.7	268.5	399.0	256.1
1984	233.6	420.1	217.7	325.6	483.8	303.4
1985	210.4	378.4	196.7	279.6	415.5	261.4
1986	224.1	403.1	223.7	321.2	477.3	320.6
1987	258.0	464.0	254.1	343.6	510.5	338.5
1988	262.7	472.5	245.7	355.7	528.5	332.7
1989	288.8	519.4	257.2	431.0	640.4	383.8
1990	290.5	522.5	249.8	419.7	623.6	360.9
1991	270.1	485.8	230.9	381.3	566.6	325.9

[1] See Indiana Forest Products Marketing and Wood Utilization Report, Bulletin No. 189, June 16, 1987, p. 13, for definition of stand quality

[2] Actual price deflated by Producer Price Index for All Commodities, U.S. Dept. Commerce, 1982 base year.

IMPLICATIONS

Like any other manufacturing industry, Indiana's lumber and wood products industry is constantly changing. Over the last several years sawmills have been caught in a classical cost squeeze. What mills get for their product, lumber prices, have declined more than the cost of their primary input, sawlogs. This drives marginal producers out of business. Nevertheless, total lumber output continues to increase as mills that want to stay competitive increase efficiency with improved conversion technology and the use of Statistical Process Control (SPC) technology in monitoring sawing performance. An increasing number of mills are also capturing additional value by drying and in some cases surfacing their product.

The number of mills in Indiana has declined over the last year. The estimated number of sawmills for the 1962 to 1988 period is shown in Figure 12. The factors determining the number of mills at which the industry stabilizes in the long-run will be timber availability of course, and the cost of hauling logs. The high cost of procuring and hauling hardwood logs generally limits the capacity of mills to the volume of timber available within a 100 mile haul.

The expansion of lumber production by Indiana's industry is based primarily on the increased inventory of timber. At this time it's unclear whether or not the resource base can support the current level of production. The long-term upward trend in timber prices is a clear indication that the harvest is increasing faster than increase in inventory. The drain study now under way will help to clarify this issue.

Advise to Timber Sellers

The natural tendency during a period of falling timber prices is for landowners to stay out of the market. At this point in the cycle, however, timber owners should note that the price of lumber of the premium species has stabilized and that the price of the other species has been stable for over a year. Thus, as mills build up log supplies for the winter, buyers will be looking at stable lumber prices. Owners of lower quality stands of timber should be especially willing to offer their product for sale.

The economic numbers coming out of Washington make the vigor of the ongoing recovery unclear. The big unknown appears to be the extent to which additional restructuring of the major manufacturing industries is necessary. The computer industry is currently in the news. Additional cuts by the U.S.-based auto industry may also be necessary. These adjustments are expected to dampen the rate of recovery, not turn the economy back down. As a result, there appears to be little reason to expect significant upward pressure on hardwood lumber prices. Timber owners with high quality stands will find receptive buyers with a favorable outlook on product prices.

Figure 1. Ash lumber prices, monthly, 1948 to July 1991, 4/4 Appalachian, Hardwood Market Report.

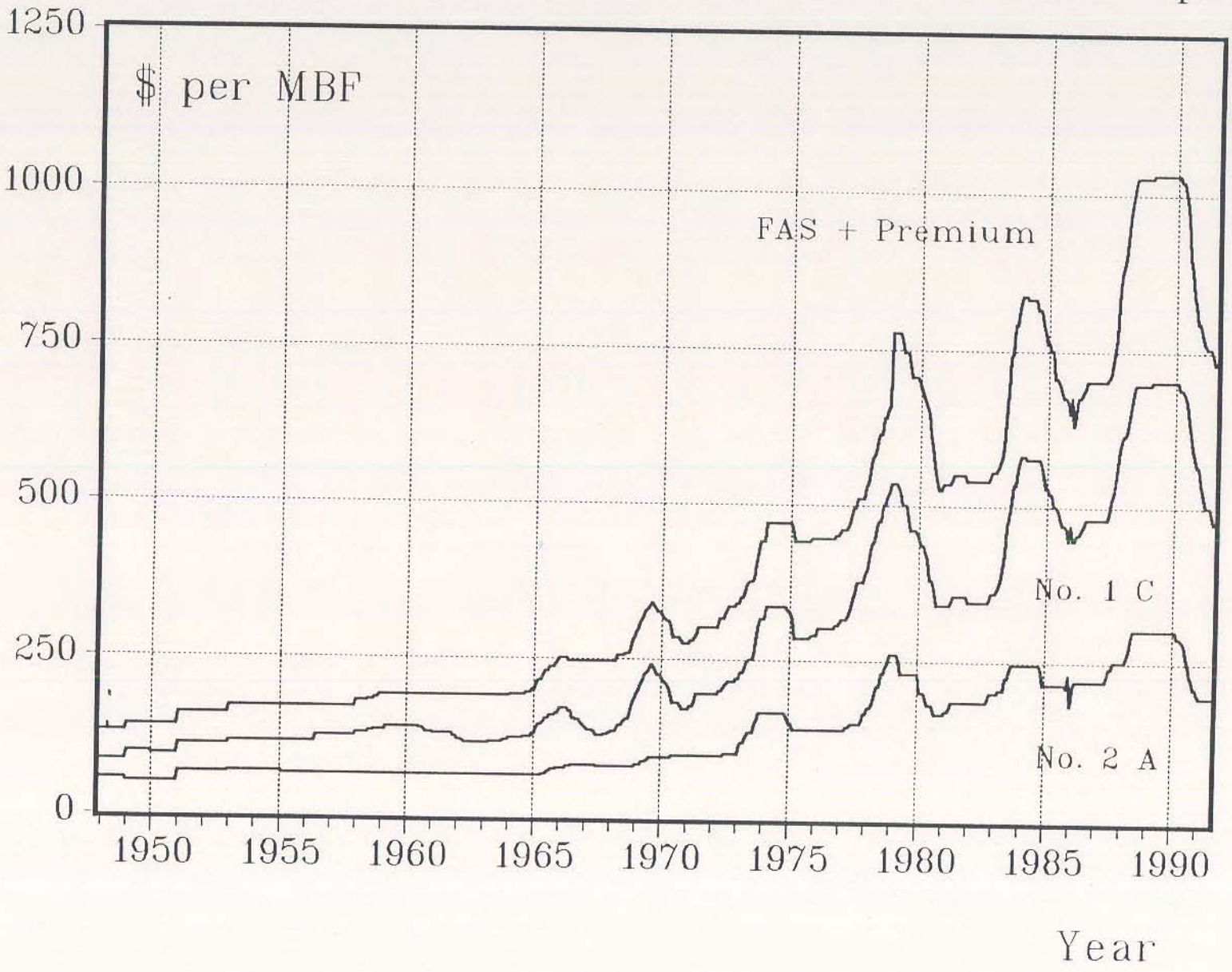

Figure 2. Black cherry lumber prices, monthly, 1948 to July 1991, 4/4 Appalachian, Hardwood Mkt. Rpt.

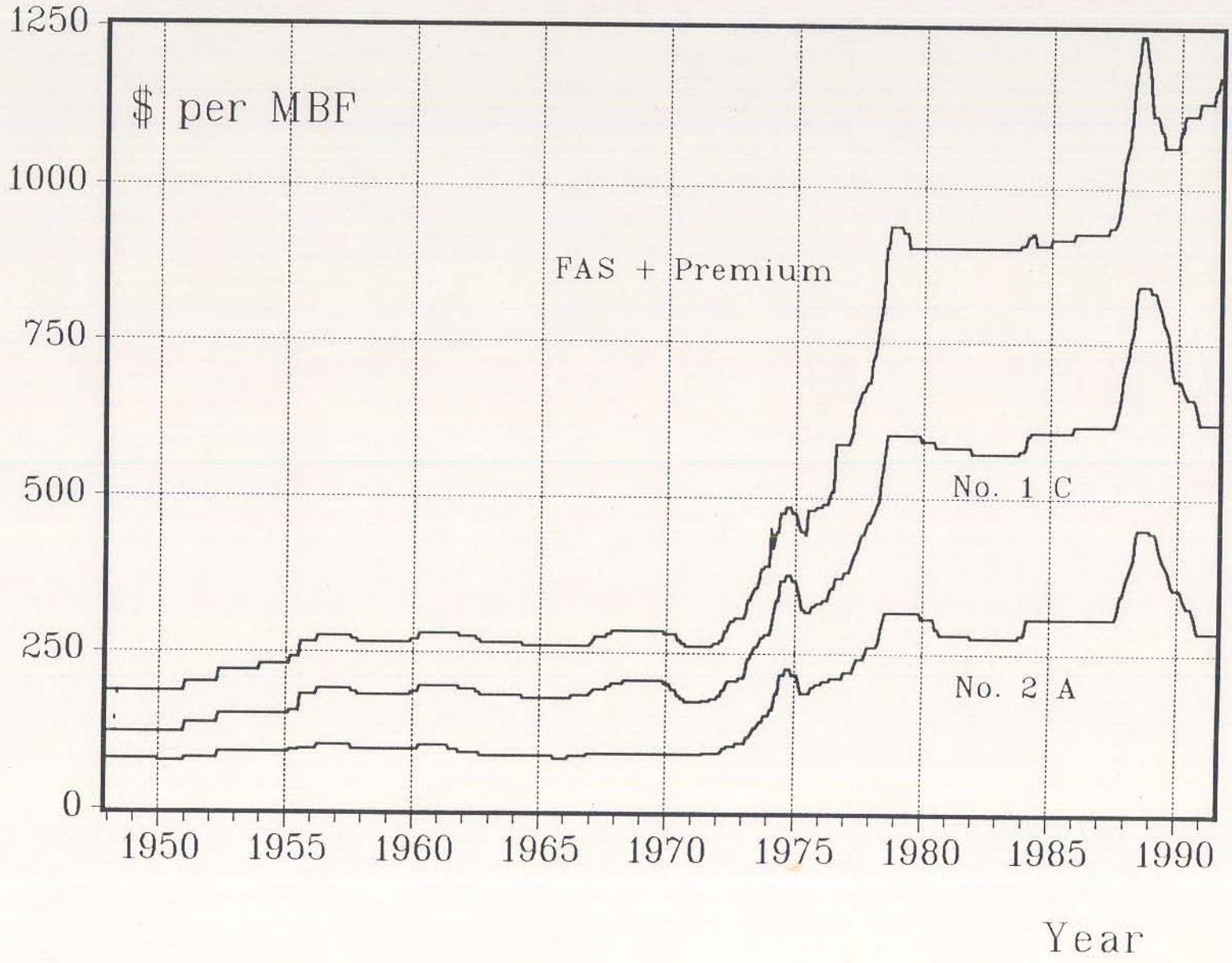

Figure 3. Red oak lumber prices, monthly, 1948 to July 1991, 4/4 Appalachian, Hardwood Market Report

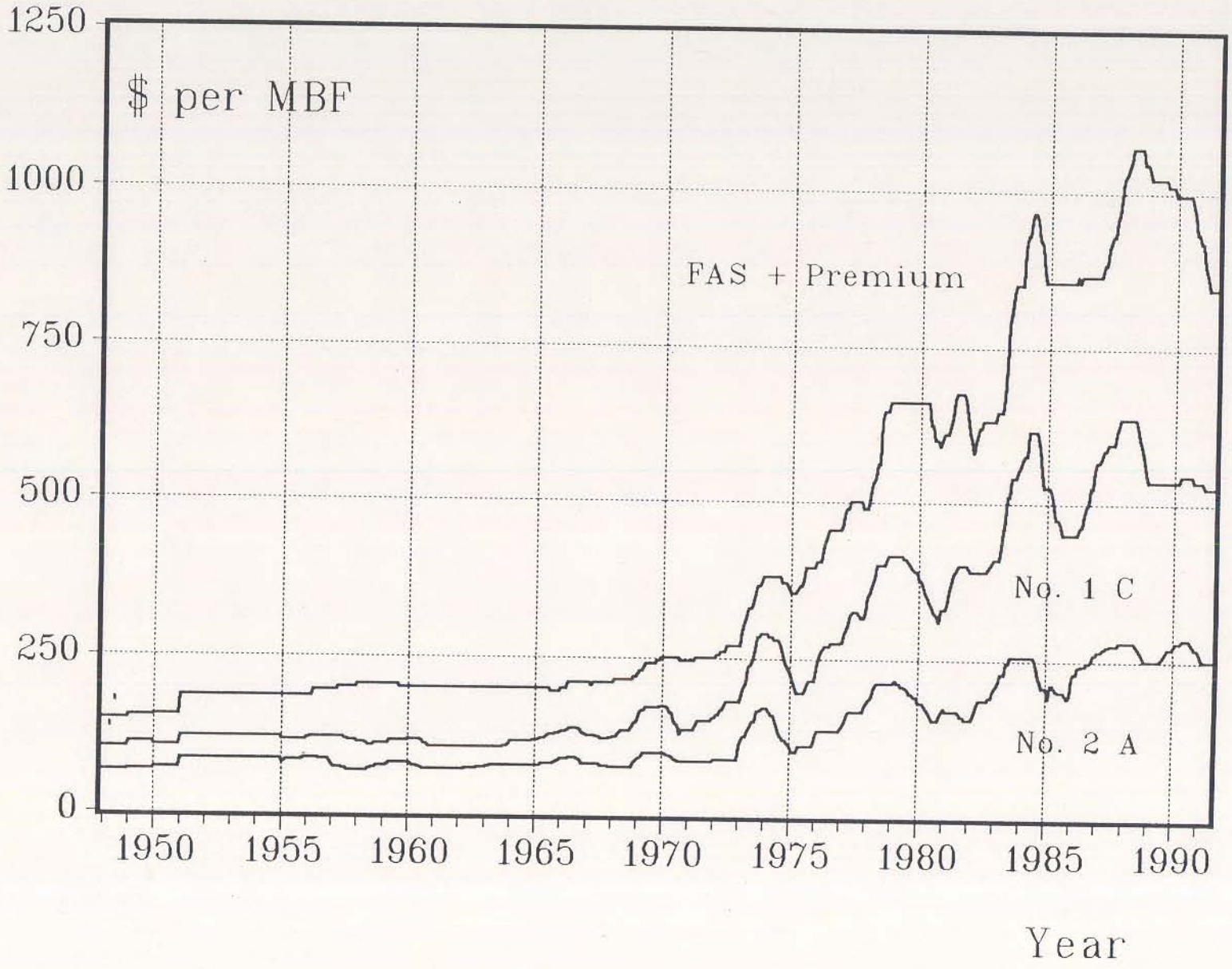

Figure 4. White oak lumber price, monthly, 1948 to July 1991, 4/4 Appalachian, Hardwood Market Report

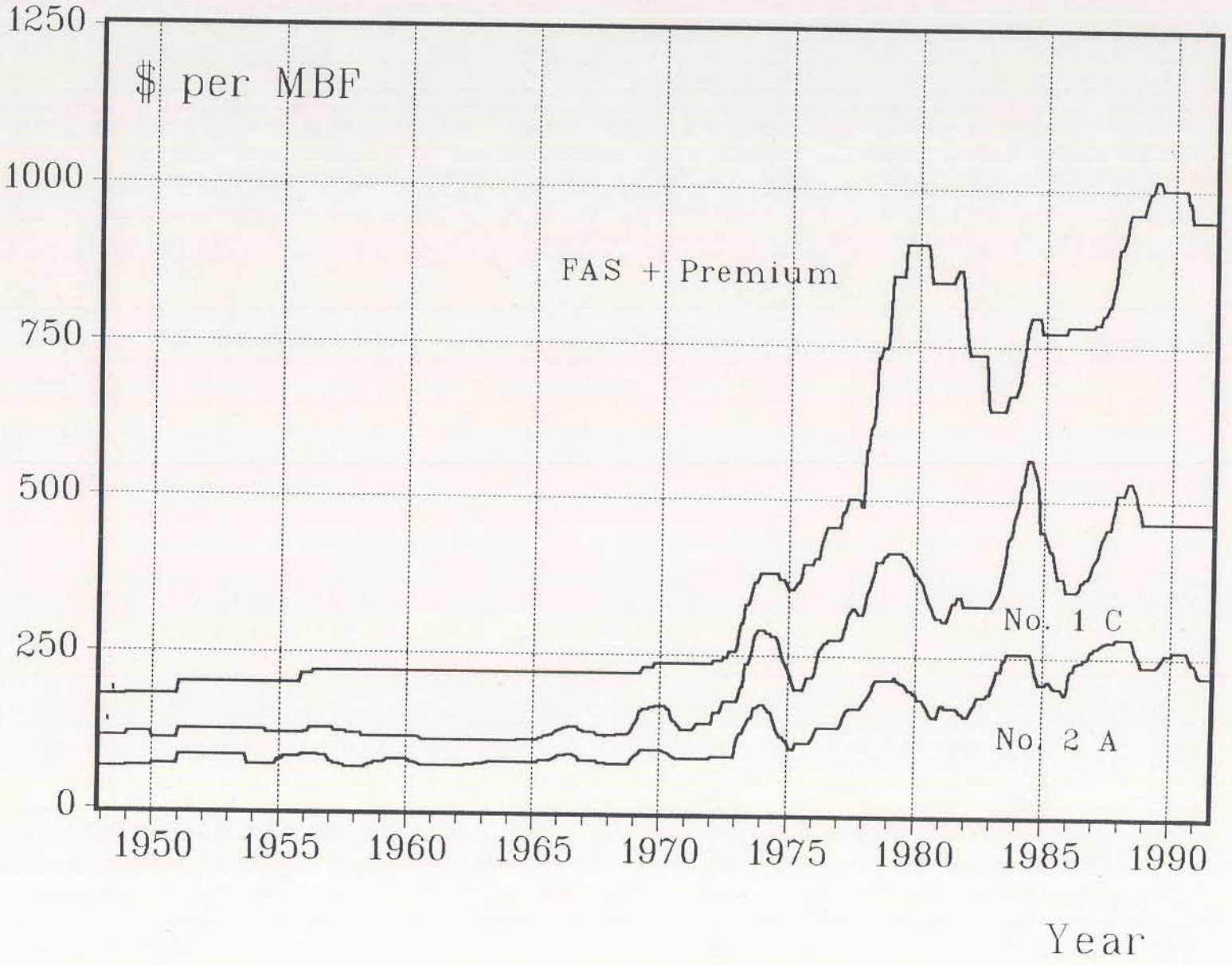

Figure 5. Hard maple lumber prices, monthly, 1948 to July 1991, 4/4 Appalachian, Hardwood Mkt. Rpt.

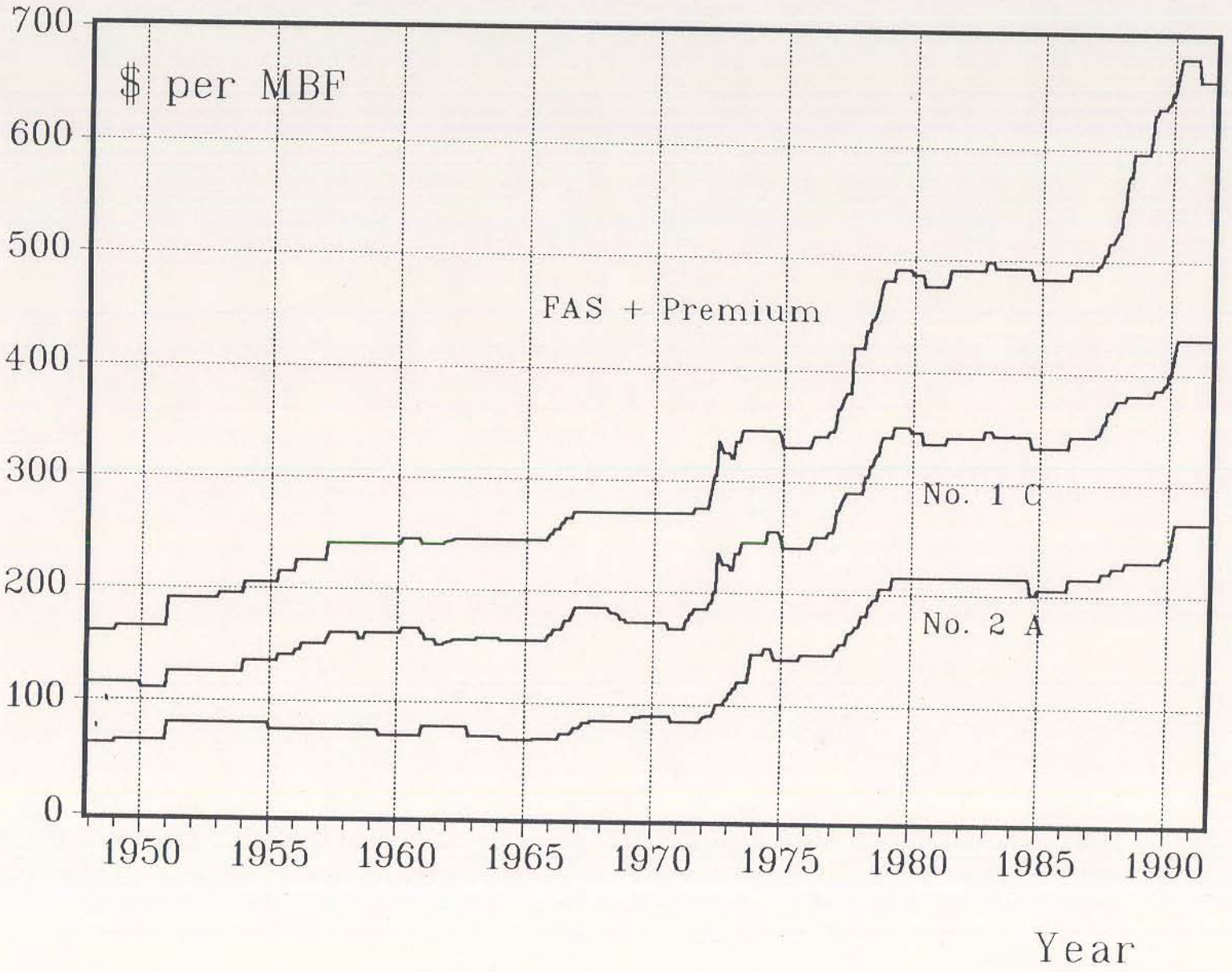

Figure 6. Soft maple lumber prices, monthly, 1948 to July 1991, 4/4 Appalachian, Hardwood Mkt. Rpt.

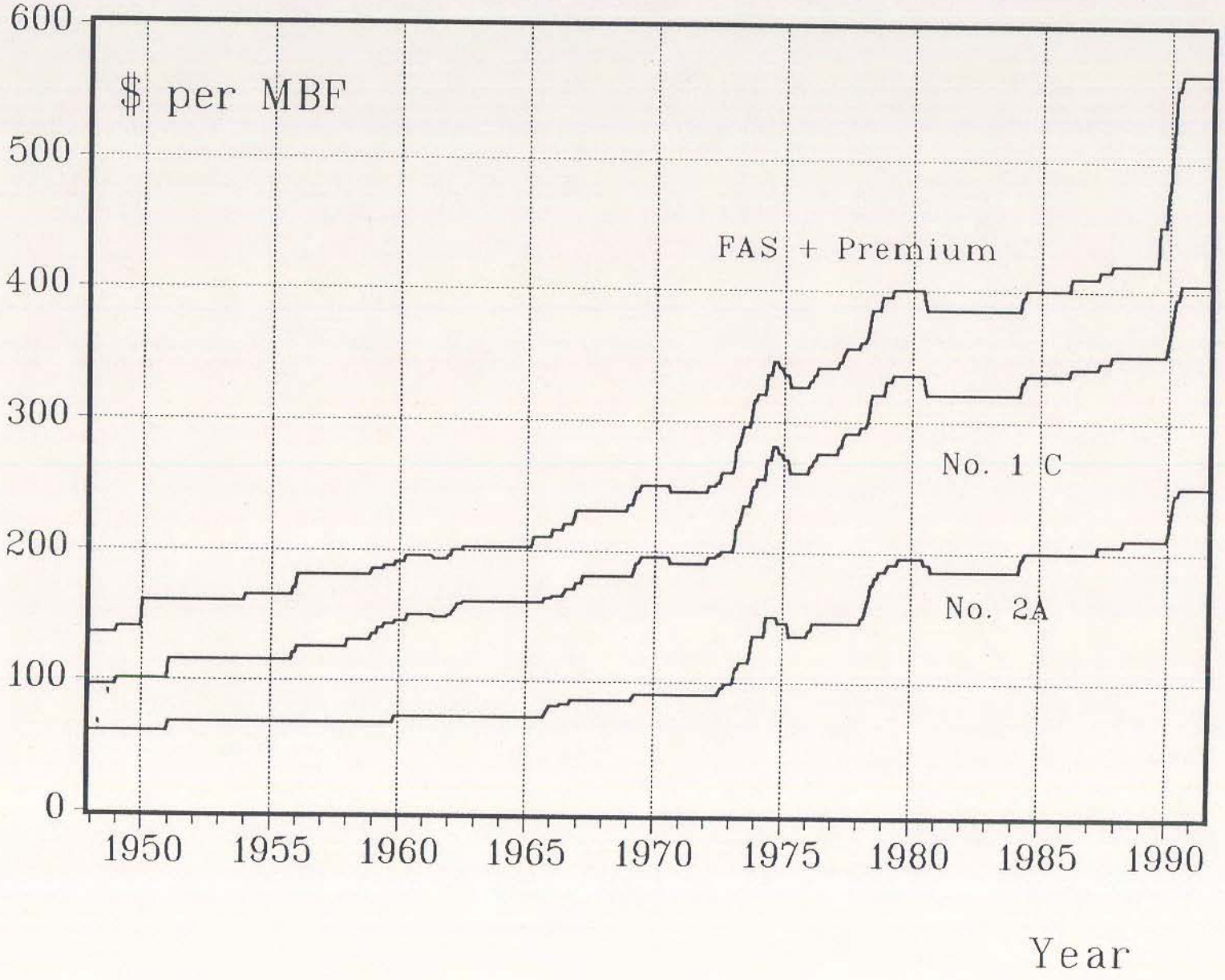

Figure 7. Sycamore lumber prices, monthly, 1948 to July 1991, 4/4 Southern, Hardwood Mkt. Rpt.

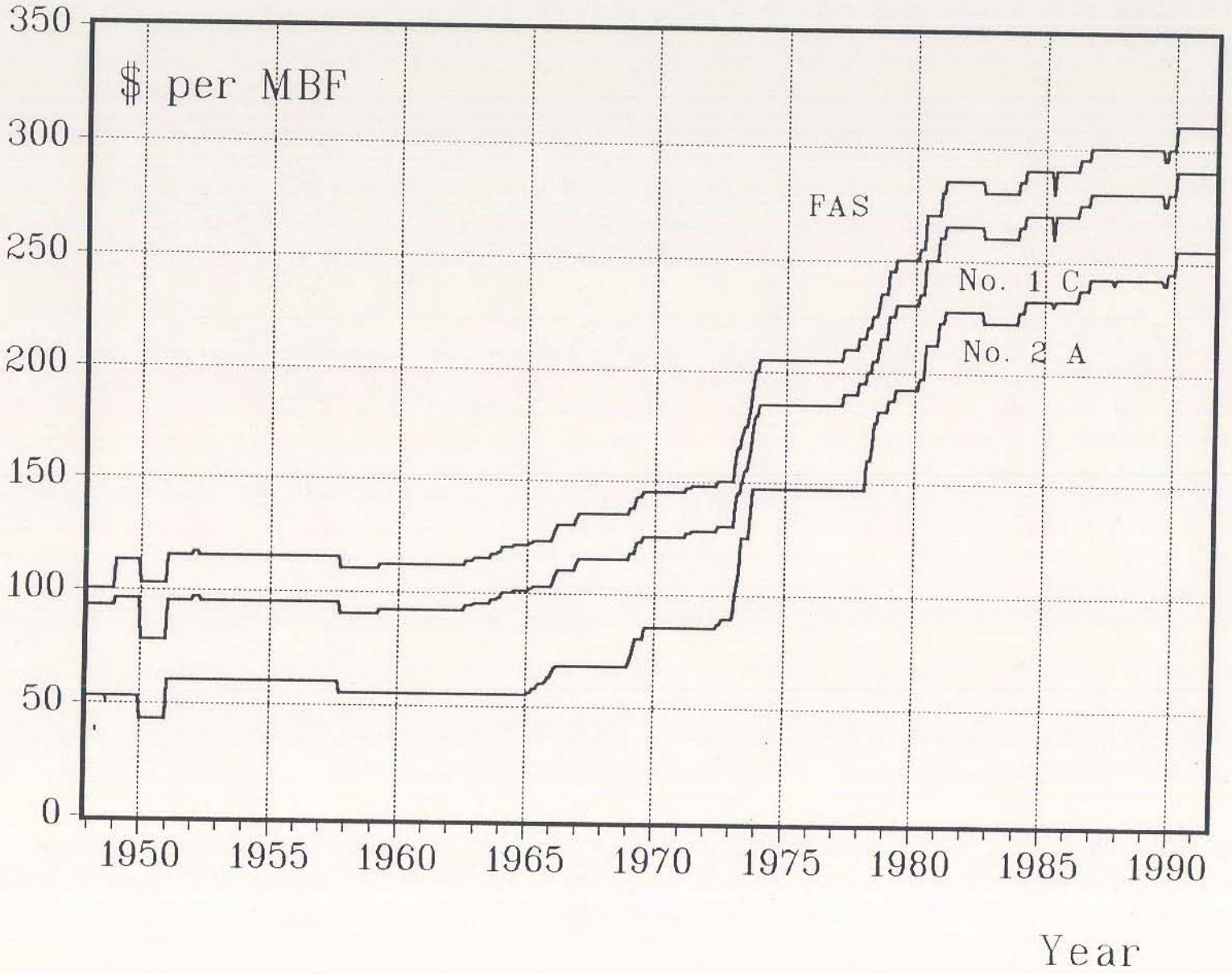

Figure 8. Cottonwood lumber prices, monthly, 1948 to July 1991, 4/4 Southern, Hardwood Mkt. Rpt.

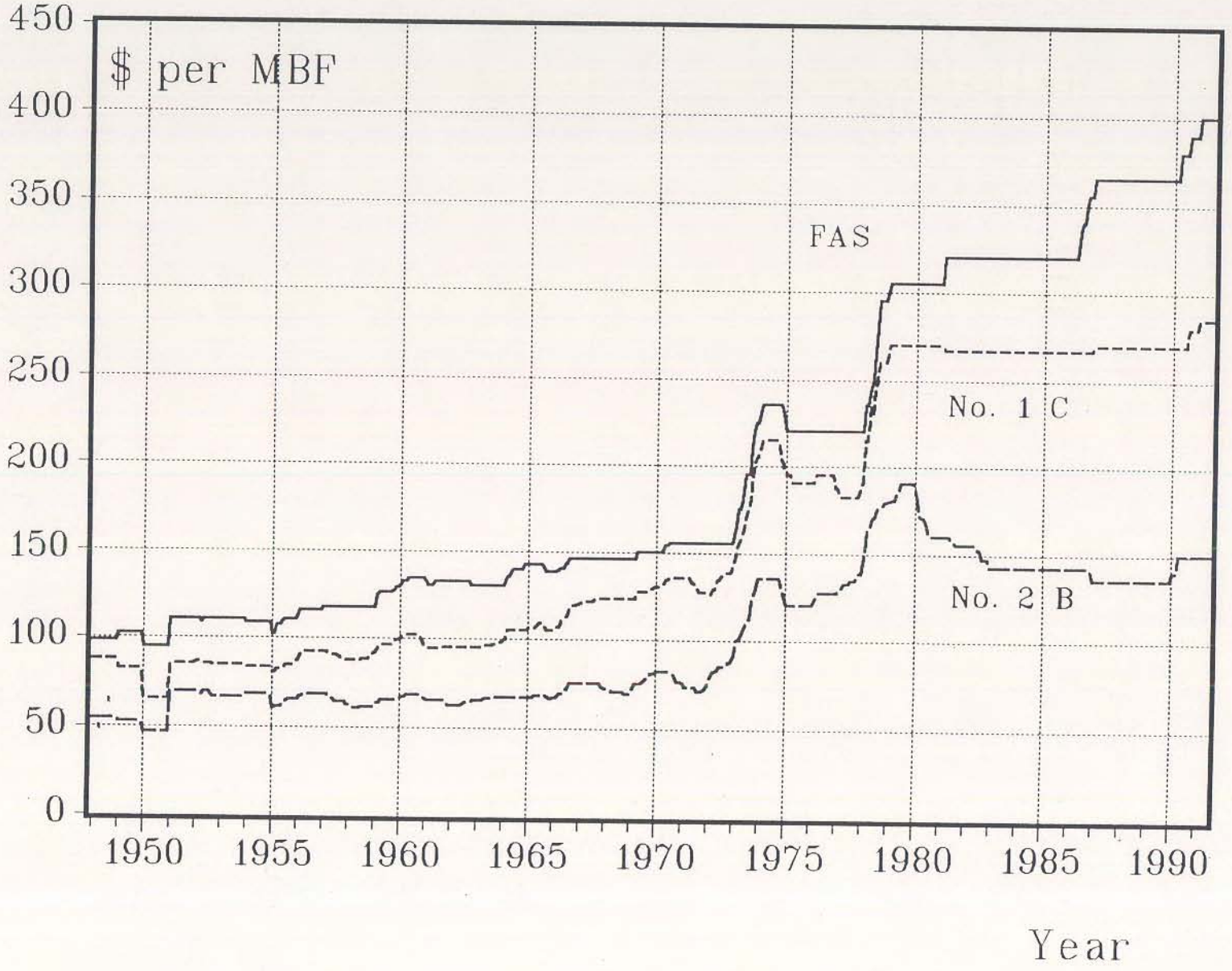

Figure 9. Yellow poplar lumber prices, monthly, 1948 to July 1991, 4/4 Appalachian, Hardwood Mkt. Rpt.

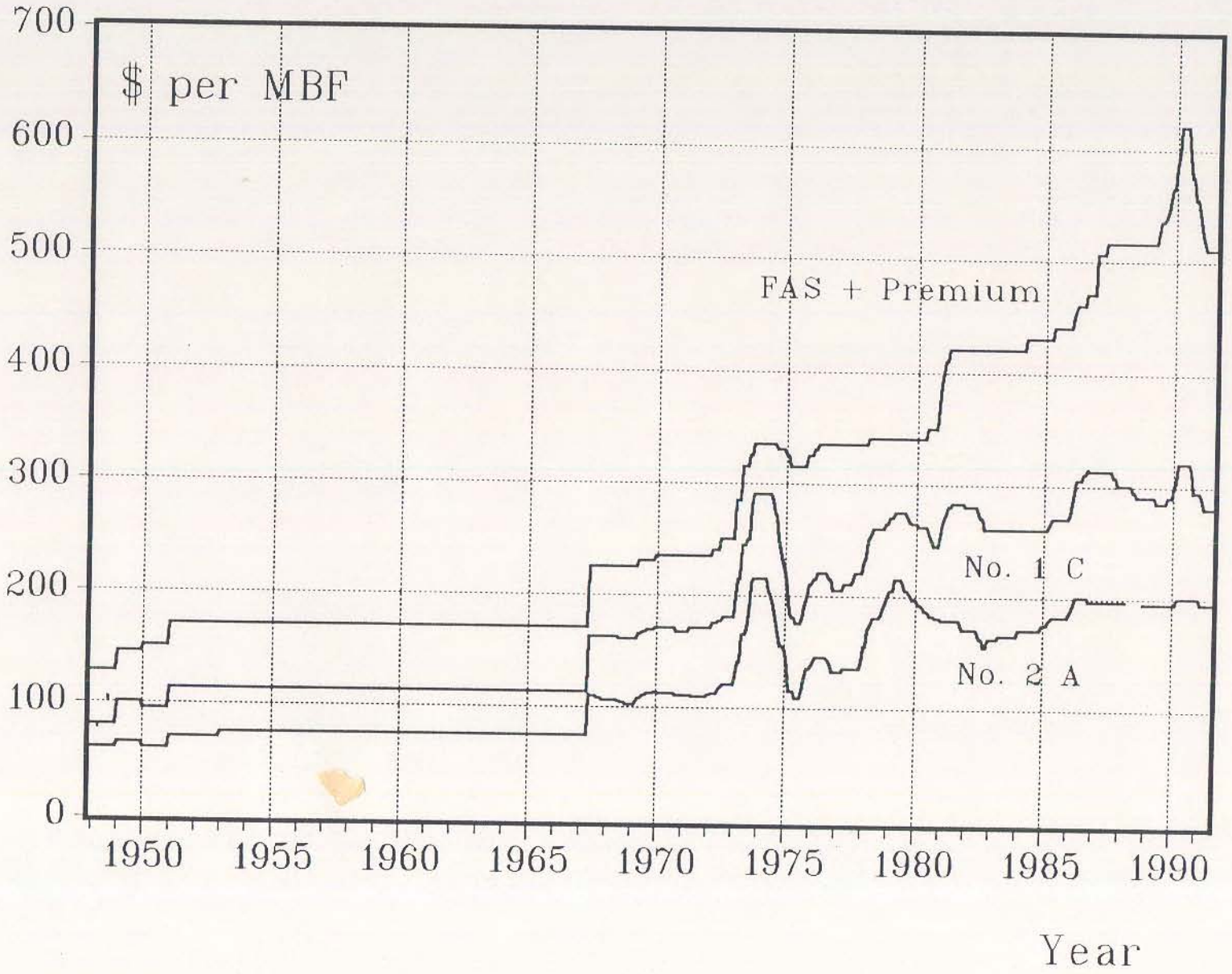

Figure 10. Average stand, actual, deflated and trend line price series, 1957 to 1991.

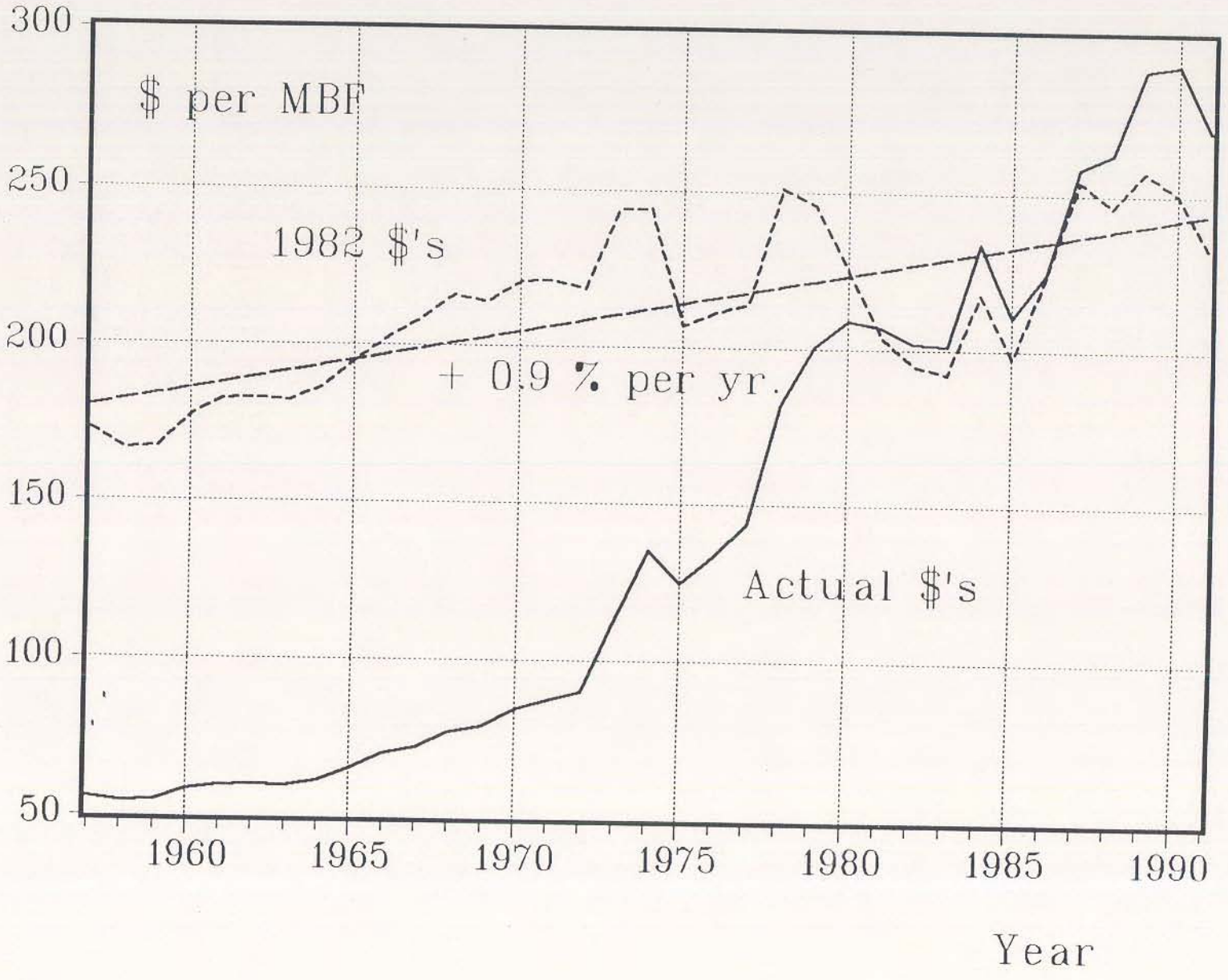

Figure 11. Quality stand, actual, deflated and trend line price series, 1957 to 1991

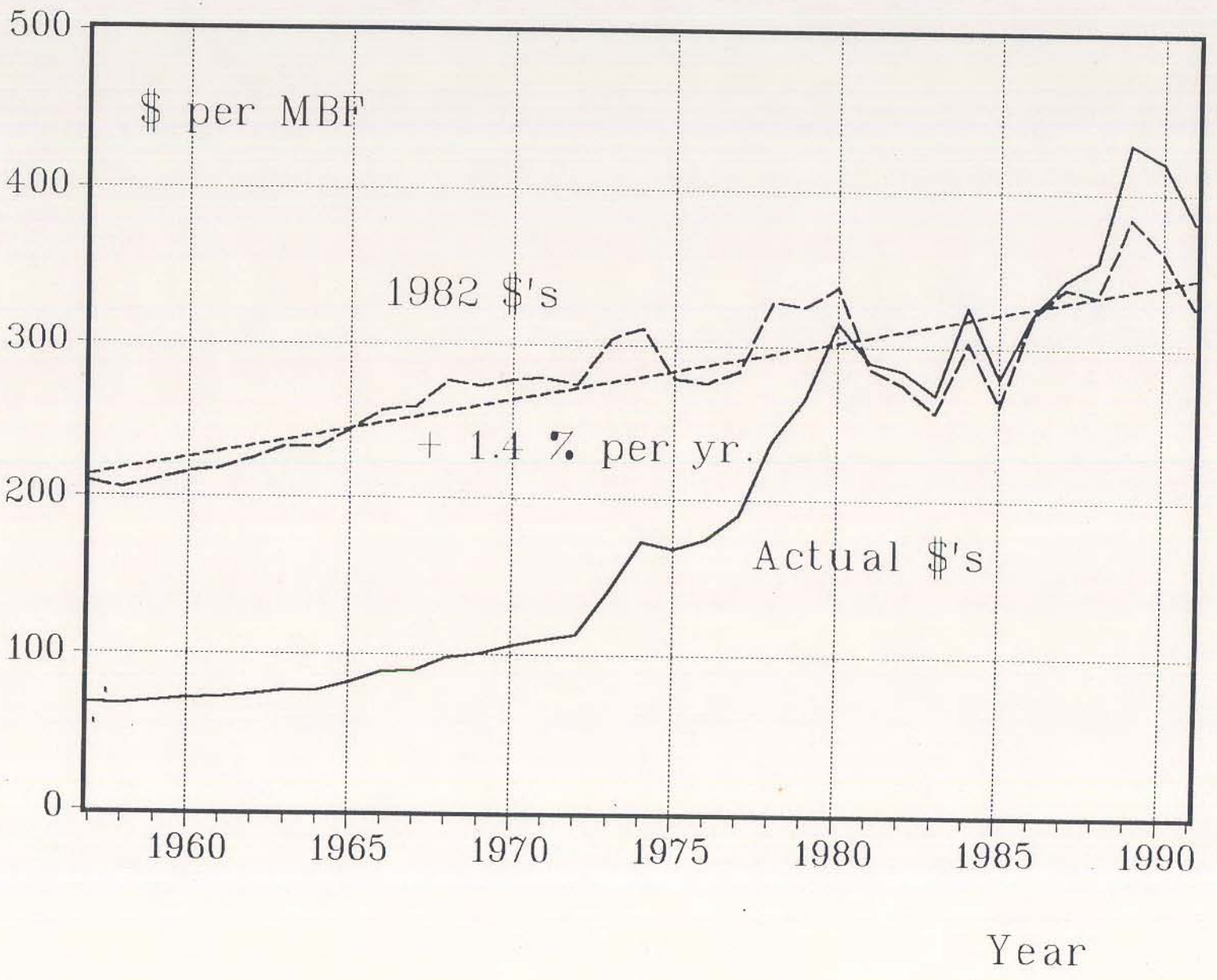

Figure 12. Number of sawmills in Indiana, U.S. Dept. Commerce, County Business Patterns.