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1998 Indiana Sawlog Price Report and Trend Analysis

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William L. Hoover
Professor of Forest Economics
Department of Forestry and Natural Resources
Purdue University
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Delivered log prices paid by mills in Indiana were surveyed in April of 1998. The trend of declining response rate continued, however. The few number of mills reporting veneer log prices precludes publishing this data. The number of mills reporting prices for a given species and grade of log is given in Table 1, along with the standard error of the mean price.

Delivered vs. Stumpage Prices

Keep in mind that the prices shown in Table 1 are fob mill. They are the prices paid for logs after they are delivered to a sawmill. The stumpage value of a log is the delivered log price minus the cost of logging and hauling. Based on the custom costs reported, see below, the stumpage value of logs is approximately $250 less than the delivered log value. Of course this cost for any particular stand of timber could be significantly different than this average based on very few reports of costs.

Sawlog Prices

Sawlog prices were generally higher in the Spring of 1998 than for the same period in 1997, Table 1. Ash is an exception with Prime log price down over 15 percent and No. 1's down slightly. Ash lumber prices, Table 2, continued to decline into November of 1998. The recent trend for the prices of sawlogs of the less valuable species to increase the most continued for 1998. Beech, cottonwood, elm, hickory and gum increased by more than 10 percent, even though lumber prices for these species did not increase in most cases. Black cherry continued its spectacular wave of popularity, boosting sawlog prices over 15 percent. Increases in black cherry lumber prices into November, Table 2, supported the sawlog price increases.

One mill reported a price of $400 per MBF for Eastern red cedar logs. Two mills reported pine prices. The average was $210 per MBF.

Custom Costs

Ten mills reported custom sawing costs. The high was 300 per MBF and the low was 200. The average was $221 per MBF.

Only two mills reported logging cost. The average cost reported was $130 per MBF. The average hauling cost reported was $156 per MBF. The average haul distance was 43 miles. This makes the average hauling cost $3.63per MBF per mile, much higher than past reports.

Trend Analysis

The weighted average forest products prices for average and quality stands is presented in Table 3. The veneer log prices that were reported were included in the calculation of the index numbers for 1998. The trend for the average price of logs to increase in real terms continued in 1998. For the average stand, Figure 1, the compound rate of interest reflected by the trend line for real prices is 1.33%. The compound rate for the quality stand, Figure 2, is 1.47%. I again warn investors not to make price

projections by compounding these rates over long periods of time. Rather, price should be projected linearly using the equation for the trend line. The trend line equations are,

Average Stand,

$$P = 168.33 + 2.47933 * T,$$

where, T = 1 for 1957, T = 2 for 1958, ... , T = 42 for 1998, . . . , T = 64 for 2020, etc.

Quality Stand,

$$P = 199.698 + 4.2283 * T$$

The continuing increases in timber values continues to surprise me. One has to wonder how mills continue to make a profit in the face of rising raw material costs. As I've noted in the past it's possible to rationalize this trend by pointing to increased efficiency in lumber production and increased lumber prices. Most of the grade lumber produced in Indiana sawmills is now coming off of band head rigs, not the wider kerf circular head rigs. Many other steps in the production process are also more efficient in terms of lumber yield and reduced labor cost. As a result of the narrow kerf and more efficient edging the number of board feet of lumber produced per board foot of sawlog has increased. The difference between board feet of lumber per board foot of log is referred to as "overrun."

The Doyle log scale used to measure log volume in Indiana hasn't changed, even though overrun has increased. There is no reason to change to another log scale or adjust the Doyle log scale for a narrower kerf. The increased overrun is captured in increased log price per MBF. There might be a reason to change log scales if the competition for stumpage and logs wasn't so high. It would be interesting to estimate how much of the real price increase is due to supply and demand conditions in the stumpage and log markets, and how much is due to increased mill efficiency. The data to make such an estimate is not readily available, however. I assume some mills have done such studies. The Division of Forestry can help.

The implication for the future is that once the sawmill industry has taken full advantage of opportunities to increase overrun and reduce labor costs, it will not be possible to continue to pay more for logs based on reduced production costs. There is an upper limit on this component of the log and stumpage price structure. There is also an upper limit on the price consumers are willing to pay for goods produced from solid lumber. We observed this limiting factor in the walnut lumber market over the last 15 years. We're also likely to eventually see it in the black cherry market. So don't bet your long run timber growing investment dollars on just the prime species. The largest percentage gains due to future real price increases are with the less valuable species. As always, hedge your position with a mix of species. Diversification and balance in all things, even timber growing.

We'll get a clearer picture of what's happening with the relative balance between timber supply and demand in Indiana when the forest survey report is released this year. Most of our individual "roadside inventories" indicate a substantial increase in harvest levels. But the issue is the size of the harvest (drain) compared to growth. We'll have to wait on the survey results to get a picture of the actual growth/drain relationship.

Now aren't you sorry you didn't invest more of your assets in good timberland with decent stocking? I would argue that it's still not to late to get into the market. I'd argue even harder that your financial advisor is an "idiot" if he or she isn't encouraging you to properly manage the timber you already own. My gracious, how much good news do those not managing now need before joining the converted?

Table 1. Prices paid for delivered sawlogs by Indiana sawmills, May 1997 and May 1998.

Species/Grade	Range	No. Respon.		Mean (s.e.)1		Median		Change (%)	
		1997	1998	1997	1998	1997	1998	Mean	Median
White Ash	($/MBF)			($/MBF)		($MBF)			
Prime	400-600	14	14	606	512	600	500	-15.5	-16.7
				(15.0)	(20.5)				
No. 1	300-550	15	15	427	410	400	400	-4.0	0.0
				(27.6)	(23.0)				
No. 2	150-400	14	15	266	282	255	275	6.0	7.8
				(18.0)	(20.7)				
No. 3	100-250	12	12	168	185	170	200	10.1	17.7
				(13.5)	(15.3)				
Basswood									
Prime	200-600	9	13	319	356	300	300	11.6	0.0
				(42.8)	(33.9)				
No. 1	180-400	11	15	278	293	300	300	5.4	0.0
				(24.5)	(16.5)				
No. 2	140-300	11	13	205	217	200	200	5.6	0.0
				(12.6)	(12.1)				
No. 3	100-300	10	12	164	178	160	180	8.5	12.5
				(14.6)	(17.3)				
Beech									
Prime	200-320	10	10	219	242	200	225	10.5	12.5
				(28.9)	(15.5)				
No. 1	140-300	11	11	189	219	200	200	15.9	0.0
				(21.7)	(14.8)				
No. 2	100-300	11	11	164	194	200	200	18.3	0.0
				(14.0)	(17.2)				
No. 3	100-220	9	11	154	166	160	200	7.8	25.0
				(12.8)	(14.2)				
Cottonwood									
Prime	100-250	8	6	140	195	145	200	39.3	38.0
				(12.4)	(20.6)				
No. 1	100-220	6	6	133	187	145	200	40.6	38.0
				(12.0)	(17.6)				
No. 2	100-220	6	7	133	181	145	200	36.1	38.0
				(12.0)	(15.8)				
No. 3	100-220	7	9	133	169	145	200	27.1	38.0
				(13.0)	(15.2)				

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

Table 1. Prices paid for delivered sawlogs by Indiana sawmills, May 1997 and May 1998, continued.

Species/Grade	Range ($/MBF)	No. Respon. 1997	No. Respon. 1998	Mean (s.e.)[1] 1997 ($/MBF)	Mean (s.e.)[1] 1998 ($/MBF)	Median 1997 ($/MBF)	Median 1998 ($/MBF)	Change % Mean	Change % Median
Cherry									
Prime	600-1500	12	16	908 (79.0)	1044 (75.7)	800	1000	15.0	25.0
No. 1	400-1200	14	17	674 (47.0)	791 (47.4)	600	800	17.4	33.3
No. 2	200-1000	13	17	446 (48.5)	515 (51.6)	450	450	15.5	0.0
No. 3	100-800	11	14	205 (19.8)	279 (45.8)	200	220	36.1	10.0
Elm									
Prime	160-400	9	7	190 (20.1)	226 (29.8)	200	200	19.0	0.0
No. 1	160-300	8	8	185 (17.2)	215 (14.5)	200	200	16.2	0.0
No. 2	160-220	8	7	160 (15.6)	197 (6.8)	170	200	23.1	17.6
No. 3	100-220	8	9	154 (14.5)	170 (15.1)	155	200	10.4	29.0
S. Hickory									
Prime	200-500	12	13	246 (29.4)	346 (27.7)	200	380	40.7	90.0
No. 1	160-400	13	15	226 (27.9)	279 (19.5)	200	300	23.5	50.0
No. 2	120-300	14	15	174 (16.2)	209 (12.9)	180	200	20.1	11.1
No. 3	100-220	10	12	144 (11.4)	168 (14.1)	150	180	16.7	20.0
Hard Maple									
Prime	400-1000	13	15	664 (63.8)	713 (47.9)	675	750	7.4	11.1
No. 1	300-850	15	17	533 (42.0)	567 (38.8)	550	550	6.4	0.0
No. 2	150-600	15	16	315 (29.1)	367 (28.2)	300	375	16.5	25.0
No. 3	100-300	12	14	190 (17.8)	220 (17.8))	200	210	15.8	5.0
Soft Maple									
Prime	200-500	12	11	319 (22.4)	337 (26.8)	335	325	5.6	-3.0
No. 1	200-470	14	13	263 (20.8)	293 (22.9)	250	300	11.4	20.0
No. 2	160-330	14	13	201 (12.0)	228 (15.6)	200	200	13.4	0.0
No. 3	120-240	10	12	160 (13.7)	172 (12.8)	170	180	7.5	5.9

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

Table 1. Prices paid for delivered sawlogs by Indiana sawmills, May 1997 and May 1998, cont.

Species/Grade	Range ($/MBF)	No. Respon. 1997	No. Respon. 1998	Mean (s.e.)1 1997 ($/MBF)	Mean (s.e.)1 1998	Median 1997 ($/MBF)	Median 1998	Change (%) Mean	Change (%) Median
White Oak									
Prime	500-1000	12	16	711 (47.6)	728 (41.1)	675	750	2.4	11.1
No. 1	300-850	14	17	486 (40.4)	528 (34.4)	500	500	8.6	0.0
No. 2	150-525	14	16	317 (26.1)	310 (26.5)	300	300	-2.2	0.0
No. 3	150-320	11	12	196 (20.0)	201 (19.2)	200	200	2.6	0.0
Red Oak									
Prime	500-950	13	17	754 (17.4)	772 (30.6)	800	800	2.4	0.0
No. 1	400-650	14	17	536 (32.5)	579 (19.3)	600	600	8.0	0.0
No. 2	150-525	14	16	342 (29.7)	365 (25.2)	325	375	6.7	15.4
No. 3	100-300	11	13	179 (15.3)	225 (18.3)	200	220	25.7	10.0
Black Oak									
Prime	500-880	10	14	706 (14.2)	706 (29.4)	700	700	0.0	0.0
No. 1	400-600	12	16	453 (39.8)	525 (17.8)	500	510	15.9	2.0
No. 2	150-475	13	16	305 (22.3)	315 (20.3)	300	300	3.3	0.0
No. 3	100-300	11	12	168 (14.8)	203 (16.5)	180	200	20.8	11.1
Tulip Poplar									
Prime	300-500	13	14	402 (11.5)	427 (15.2)	400	415	6.2	3.8
No. 1	250-400	15	16	298 (11.8)	333 (13.7)	300	340	11.7	13.3
No. 2	150-320	14	16	213 (11.0)	241 (12.5)	210	250	13.2	19.1
No. 3	100-300	11	13	160 (12.4)	189 (14.7)	160	200	18.1	25.0
Sycamore									
Prime	150-300	11	11	194 (24.9)	211 (11.3)	200	200	8.8	0.0
No. 1	140-220	10	10	172 (18.9)	196 (7.2)	170	200	14.0	17.7
No. 2	100-220	11	11	155 (13.5)	180 (11.8)	160	200	16.1	25.0
No. 3	100-220	7	11	163 (17.7)	171 (12.7)	180	200	4.9	11.1

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

Table 1. Prices paid for delivered sawlogs by Indiana sawmills, May 1997 and May 1998, continued

Species/Grade	Range	No. Respon. 1997	No. Respon. 1998	Mean (s.e)1 1997	Mean (s.e)1 1998	Median 1997	Median 1998	Change (%) Mean	Change (%) Median
Sweetgum	($/MBF)			($/MBF)		($/MBF)			
Prime	160-250	10	8	165 (16.0)	216 (11.5)	170	210	30.9	23.5
No. 1	160-220	8	8	155 (14.5)	193 (7.5)	160	200	24.5	25.0
No. 2	150-220	9	9	156 (14.4)	181 (11.6)	160	200	16.0	25.0
No. 3	100-220	7	10	154 (16.7)	165 (14.4)	160	180	7.1	12.5
Black Walnut									
Prime	400-1200	9	14	732 (77.2)	836 (66.8)	700	1000	14.2	42.9
No. 1	400-850	12	15	585 (62.1)	673 (38.7)	500	700	15.0	40.0
No. 2	300-500	11	14	335 (34.0)	425 (20.8)	300	425	26.9	41.7
No. 3	100-300	10	12	199 (21.2)	207 (17.2)	200	200	4.0	0.0
Softwood									
Pine		1	2	200	210	200	210		
Red cedar		1	1	350	400	350	400	14.3	14.3

Table 2. Hardwood Lumber prices, 4/4 Appalachian unless otherwise indicated (Hardwood Market Report, Memphis, Tenn.), $ per MBF.

	Lumber Grade	Jan 1995	June 1995	Jan 1996	July 1996	Jan 1997	July 1997	Jan 1998	July 1998	Nov 1998
Ash										
	FAS + Prem.	935	970	925	845	845	845	785	745	735
	No. 1C	695	725	680	600	590	590	560	560	560
	No. 2A	365	380	360	325	320	320	310	310	310
Basswood										
	FAS + Prem.	710	710	710	710	710	735	735	710	710
	No. 1C	350	350	350	350	350	360	360	360	360
	No. 2A	225	225	220	195	195	225	225	225	225
Beech										
	FAS	440	440	440	430	435	465	465	465	465
	No. 1C	400	400	400	390	395	415	415	415	415
	No. 2A	325	325	325	320	325	335	335	335	335
Cottonwood (Southern)										
	FAS	635	625	605	600	600	600	600	600	600
	No. 1C	435	425	405	400	400	400	220	400	400
	No. 2A	255	240	220	220	220	220	220	220	220
Cherry										
	FAS + Prem.	1,685	1,725	1670	1670	1785	1875	1940	2010	2010
	No. 1C	1,040	990	845	845	855	885	905	1045	1105
	No. 2A	590	550	445	445	445	465	480	605	660
Elm (Southern)										
	FAS	355	355	355	355	355	355	355	355	355
	No. 1C	335	335	335	335	335	335	335	335	335
	No. 2B	270	270	270	270	270	270	270	270	270
Hickory	FAS	455	455	455	455	645	755	755	755	755
	No. 1C	435	435	435	435	460	510	510	510	510
	No. 2A	265	265	265	265	275	300	300	300	300
Hard Maple										
	FAS + Prem.	1,015	1,015	990	1060	1215	1370	1370	1250	1200
	No. 1C	675	660	625	635	715	805	845	845	845
	NO. 2A	425	400	370	370	445	495	565	560	495
Soft Maple										
	FAS + Prem.	825	760	700	715	835	975	975	915	855
	No. 1C	600	560	500	500	560	650	650	650	630
	No. 2A	400	365	325	325	355	400	400	400	385
White Oak -Plain										
	FAS + Prem.	975	990	1005	1005	1015	1080	1080	1005	955
	No. 1C	565	585	600	600	600	615	615	595	570
	No. 2A	315	315	315	305	305	365	440	435	400
Red Oak-Plain										
	FAS + Prem.	1,275	1,265	1130	1010	1050	1100	1100	1115	1115
	No. 1C	740	735	705	705	710	740	765	775	775
	No. 2A	400	400	400	400	430	500	565	560	525
Yellow Poplar										
	FAS + Prem.	750	685	625	650	665	710	680	680	660
	No. 1C	420	365	330	355	390	435	435	410	390
	No. 2A	275	240	235	250	270	295	295	295	295

Table 2. Hardwood Lumber prices, 4/4 Appalachian unless otherwise indicated (Hardwood Market Report, Memphis, Tenn.), $ per MBF, cont.

	Lumber Grade	Jan. 1995	June 1995	Jan. 1996	July 1996	Jan 1997	July 1997	Jan 1998	July 1998	Nov 1998
Sycamore (Southern, Plain)										
	FAS	455	455	455	455	455	455	455	455	455
	No. 1C	435	435	435	435	435	435	435	435	435
	No. 2A	375	375	375	375	375	375	375	375	375
Black Walnut										
	FAS	1,615	1,600	1535	1455	1410	1410	1410	1410	1410
	No. 1C	855	855	810	780	775	775	775	775	775
	No. 2A	290	290	290	290	290	290	290	290	290

Table 3. Average Price of Sawlogs from Average and Quality Stands of Timber in Indiana

	Average Stand			Quality stand		
Year	Price	Real Price	Trend Line	Price	Real Price	Trend Line
57	56	171	171	67	205	204
58	54	162	173	64	193	208
59	55	166	176	68	204	212
60	58	172	178	69	206	217
61	59	176	181	70	209	221
62	60	178	183	72	216	225
63	59	178	186	75	223	229
64	60	180	188	74	222	234
65	64	186	191	79	230	238
66	69	195	193	86	244	242
67	70	197	196	87	245	246
68	75	204	198	93	253	250
69	78	204	201	99	260	255
70	83	211	203	104	264	259
71	86	212	206	107	265	263
72	90	216	208	112	268	267
73	113	247	210	139	305	272
74	135	257	213	170	324	276
75	125	215	215	166	286	280
76	134	220	218	173	284	284
77	144	222	220	188	291	288
78	182	260	223	235	337	293
79	201	260	225	261	336	297
80	208	236	228	309	351	301
81	207	215	230	285	296	305
82	197	197	233	277	277	310
83	208	204	235	294	290	314
84	236	227	238	323	311	318
85	210	201	240	274	262	322
86	224	217	243	312	303	327
87	257	244	245	335	318	331
88	262	243	248	346	320	335
89	292	257	250	438	386	339
90	288	242	253	398	334	343
91	268	220	255	363	298	348
92	293	238	258	418	339	352
93	355	285	260	491	394	356
94	365	291	263	507	404	360
95	354	277	265	452	353	365
96	338	257	267	495	377	369
97	357	271	270	448	340	373
98	391	298	272	502	382	377

Figure 1. Average nominal price, real price, and trend line for average stand.

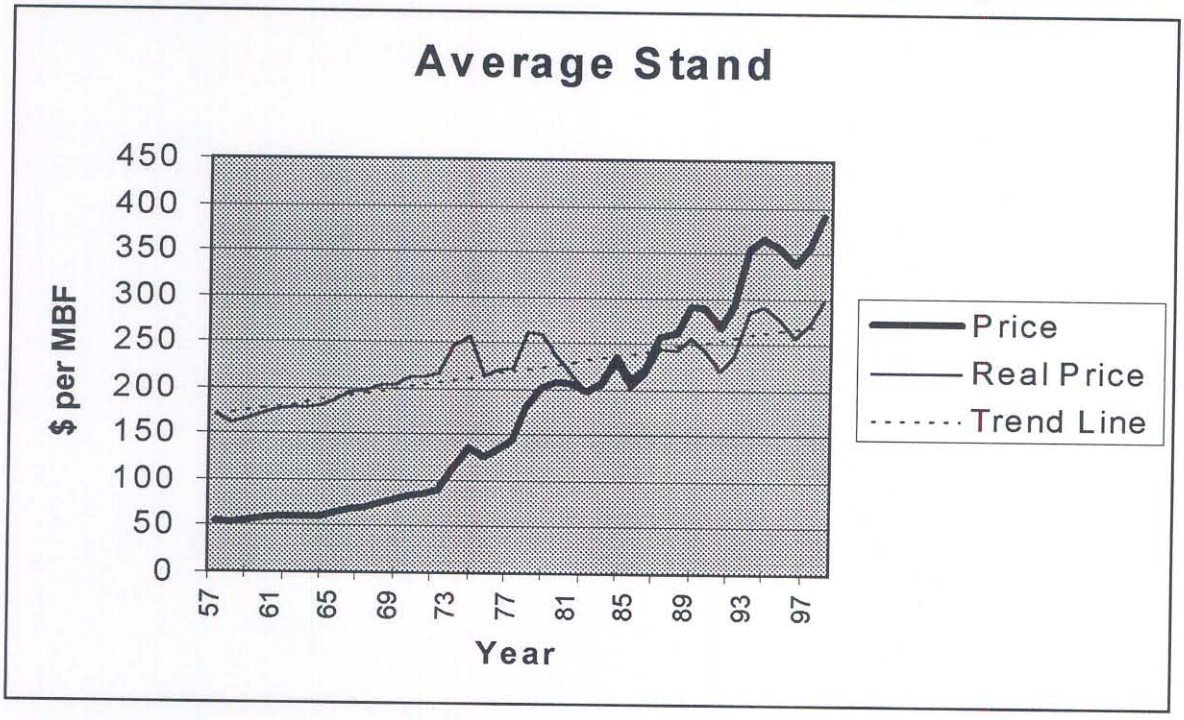

Figure 2. Average nominal price, real price, and trend line for quality stand.