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2010 Indiana Forest Products Price Report and Trend Analysis

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Survey Procedures and Response

Data for this survey was obtained by a direct mail survey of all known sawmills, veneer mills, concentration yards, loggers, and firms producing wood chips, sawdust, etc., as a byproduct. Only firms operating in Indiana were included. The survey was conducted by the Indiana Agricultural Statistics Service. The prices reported are for logs delivered to the log yards of the reporting mills and concentration yards. This report is intended to be used as an indication of price trends, not for the appraisal of logs or standing timber (stumpage). Data is collected once a year, but log prices are constantly changing. Standard appraisal techniques by those familiar with local market conditions should be used to obtain estimates of current market values for particular stands of timber or lots of logs. Because of the small number of mills reporting logging costs, "stumpage prices" estimated by deducting the average logging and hauling costs (Table 4) from delivered log prices must be interpreted with caution.

The survey was mailed to 293 firms, an increase of 81 compared to the 2009 survey. The year's list was expanded by an internet search for any firm that appeared appropriate. There was an initial mailing and one reminder postcard sent to non-respondents. A portion of the firms not responding were contacted by phone by enumerators of the Indiana Agricultural Statistics Service. Purdue's Department of Forestry and Natural Resources pays for this assistance using funds from its John S. Wright Endowment, not from public funds.

An abbreviated survey form was used for the 111 firms that do not buy logs. The long form with the tables for prices paid for sawlogs and veneer logs went to 182 firms.

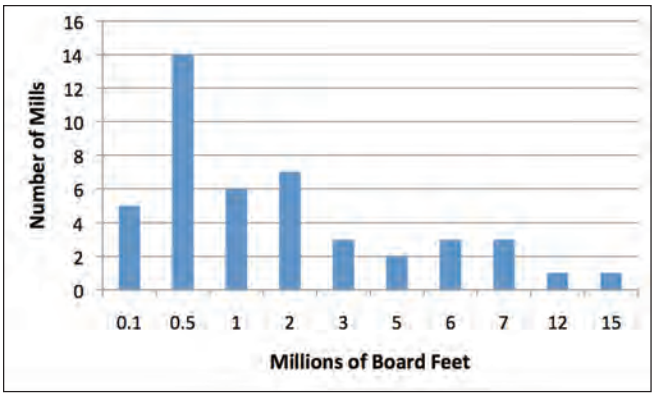

Figure 1. Distribution of the 44 mills reporting 2009 level of production

Sixty-two mills reported some useful data, compared to 73 last year and 88 in 2008. Twenty-eight specifically declined to provide data, 11 were returned for bad addresses, and four reported that they didn't buy logs. Thus, 123 mills were accounted for making the overall response rate 50 percent, slightly below last year's 54 percent.

The number of mills contributing price data for each product is shown in the fourth column in Tables 2 and 3, and in the fifth column in Tables 4 and 5. Forty-four mills reported their 2009 board foot production, compared to 51 in 2008, and 56 in 2007. Nineteen mills reported producing 0.5 million board feet (MMBF) or less, Figure 1. Total production reported was 120 MMBF, compared to 157 million MMBF in 2008, 175 in 2007, and 205 million in 2006. The largest mill production reported was 15 MMBF, compared to 20 MMBF in 2008. These annual levels are not comparable

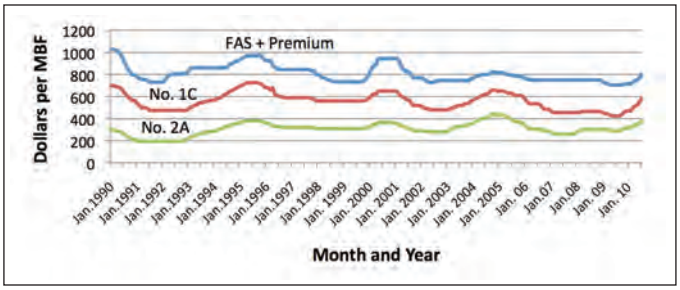

*Figure 2. Ash lumber prices, monthly, January 1990 to July 2010 (*Hardwood Market Report*, Memphis, Tenn.)*

since a year-to-year comparison is not made for individual mills.

The price statistics by species and grade don't include data from small custom mills, because most do not buy logs, or they pay a set price for all species and grades of pallet grade logs. They are, however, the primary source of data on the cost of custom sawing. Thus, the custom sawing costs reported in Table 4 do not reflect the operating cost of large mills.

Hardwood Lumber Prices

If you compare the current business climate to post-WWII business cycles, the overall economy and the housing market should have been cycling up for at least the last six months. Some economists have concluded that the U.S. economy is undergoing a fundamental restructuring. They often add to this the projection that it's unlikely our children will be better off than we are financially. In other words, per capita economic growth in GDP will decline. It's not apparent that policy makers understand the implications of this. Rather than freeing up resources for growth and the psychological and behavior patterns associated with growth, they are burdening the economy with an unprecedented public debt and sending signals to those making growth happen to lower their expectations. Economic growth critically depends on individuals' expectations that hard work, investments in higher education, and investments in productive assets will make them better off. That said, the economy is undergoing a very slow recovery, the rate of which is tied primarily to the ability of financial institutions to clear out bad housing loan portfolios and to the economic growth of our international trading partners.

In the last price report I indicated that an uptick was underway for hardwood lumber and veneer. This turned out to be true, but was driven almost exclusively by rebuilding inventories drawn down by lowered production of green lumber to the point that even the

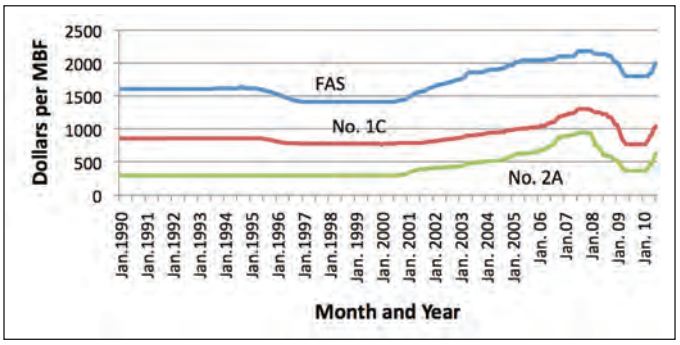

*Figure 3. Black walnut lumber prices, monthly, January 1990 to July 2010 (*Hardwood Market Report*, Memphis, TN)*

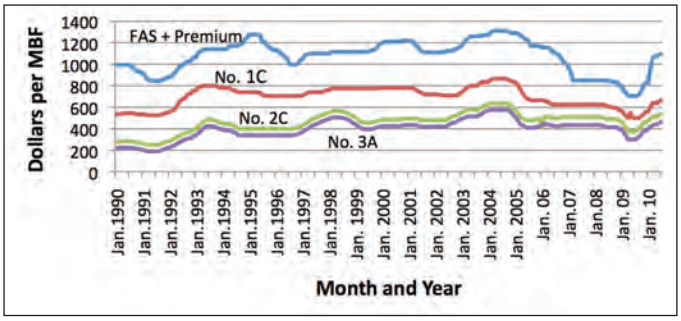

*Figure 4. Red oak lumber prices, monthly, January 1990 to June 2010 (*Hardwood Market Report*, Memphis, TN)*

anemic levels of finished goods output could not be sustained. Inventories for most species and grades of hardwood lumber caught up over last winter, but with, at best, break-even mill margins. As is to be expected in business cycles, the decline in stumpage offerings and resulting log production fell more than the demand for logs. Forestland owners knew that demand for stumpage had declined along with offering prices. They were in no rush to sell, an advantage of investing in timber. This market provides an advantage to mills that own timberland with timber they can draw on. Although their return on timber is lower because of market-based transfer pricing, their mill margin is higher, because they don't need to buy as much open-market wood as they would otherwise. The worst-case scenario is mills that had locked in stumpage contracts when prices were higher. They are "underwater" on these contracts to use the current term for owing more on a contract (mortgage) than the property is worth.

Lumber prices for most species (Table 1) increased over the spring, but only ash is close to its most recent peak in 2005 (Figure 2). Apparently programs to control the spread of the emerald ash borer (EAB) have restricted the flow of ash logs to the extent that lumber supply has not kept up with demand. The prices of what I call the

ratchet species—beech, sycamore, and cottonwood—were flat, as usual, but unexpectedly, black cherry lumber prices were also flat. Basswood, hickory, hard maple, soft maple, white oak, red oak, yellow poplar, and black walnut increased since the first of the year. The largest increase was for black walnut (Figure 3), which is back to 2004 levels. Red oak lumber (Figure 4) has gone back up to 2006 levels.

Increased lumber prices are due in part to reduced log supply. The reduction in stumpage availability was noted above, but another critical factor is a significant reduction in the availability of loggers. At the low end of the logging business, it's easy for operators to come and go from the business with used equipment and to acquire timber "on the shares." This doesn't require working capital to buy stumpage ahead of logging. The most efficient loggers with access to capital have survived the downturn, as have those specializing in the "tender-loving-logging" required for very high value trees destined for the veneer market. Many of the operators in the middle don't have access to capital and have stayed out. It will take an overall increase in economic activity to free up loans for loggers in what is a very risky business. Until then, log supplies will remain tight, driving up lumber prices for those species for which demand increases.

Sawlog Prices

The number of mills reporting sawlog prices was down about 50 percent compared to 2009 (Table 2). Based on the discussion of lumber price trends, we'd expect delivered log prices to be up proportionately more than lumber prices. They were for all species except for the lower grades of soft maple, sweetgum, and sycamore. Red oak and black walnut increased the most, falling in the 20 to 30 percent range. Surprisingly, black cherry increased, even though there was little apparent pull from lumber prices. The nominal (Figure 5) and real (Figure 6) sawlog prices for black walnut are presented to again make the point that even black walnut lumber prices in real terms have not kept up with the real cost of logs. This squeezes sawmills to increase efficiency and otherwise cut costs.

Softwood Logs

The average for the seven mills reporting pine sawlog prices (end of Table 2) was up from $210 in 2009 to $223 this year. One veneer mill reported a price for pine logs to be sliced, but it's not clear if this was for logs produced in-state. Red cedar dropped to $375 from $404 with only three mills reporting cedar prices this year.

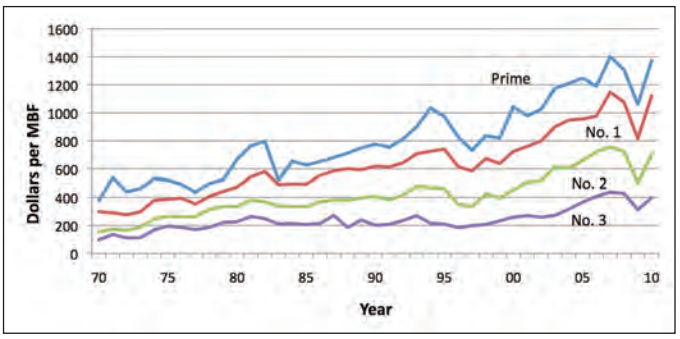

Figure 5. Price of black walnut sawlogs delivered to mills in Indiana, 1970 to 2010

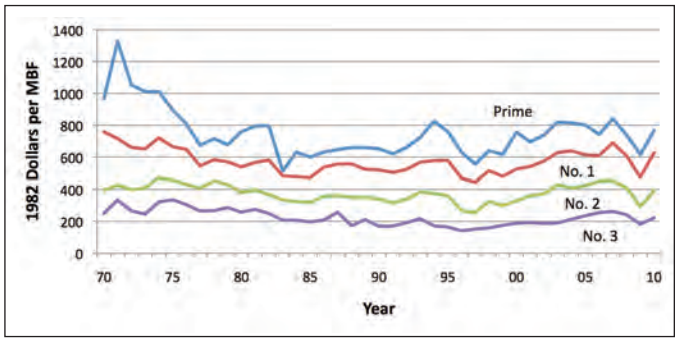

Figure 6. Price of black walnut sawlogs adjusted for inflation, 1982 dollars, based on Producer Price Index for finished goods (U.S. Dept. of Commerce, Census Bureau)

Veneer Log Prices

Veneer log prices (Table 3) also were up for most species and grades. White oak prices were down except for the smaller logs. Black cherry veneer log prices were up significantly more than sawlog prices. Prices were down substantially from 2008 to 2009. It's not unusual for the prices for sawlogs and veneer logs of a given species to move independently, since the end-use markets differ.

Black walnut veneer log prices were up across the board, except for the largest size class. Modern veneering techniques, especially trimming for export sales, have reduced the premium for larger logs. Steaming to soften the wood for slicing provides a more-or-less uniform color across sap and heart wood for the lumber market, but the sap wood is clipped off for walnut veneer. Like white oak, however, the percentage of heartwood does increase with log diameter.

There was somewhat of an uptick in white oak demand last winter, but it wasn't sustained. Prices were up for the smaller log sizes only. We don't think our prices reflect the pick-up in the tight cooperage market reflecting an uptick in the market for bourbon and wine barrels. We're also not clear on how our prices reflect the

radial-sawn white oak market. This market requires high-quality logs, because the logs are sliced along the rays of the wood, rather than by the usual flat slicing technique.

Hard maple veneer log prices were also up while yellow poplar was down based on the 3 mills that report poplar prices.

Implications

It's a wonder that hardwood markets, especially for logs, have increased to the extent reported. Some upward price pressure on logs will continue until the capacity of the logging industry catches up with the volume that timber buyers would like to move to their mill yards. Given the current 12-month inventory of unsold homes that must work down to no more than 6-months inventory before hardwood sales improve, the hardwood industry cannot look forward to a significant increase in demand for at least 12 months. Many economists are predicting at least 18 months of continued very slow growth. Concerns about the national debt and tax policy, among others, have severely reduced the willingness of businesses of any size to take a chance on stepping-up production in anticipation of an economic recovery.

We assume that stumpage prices have increased along with log prices, but forest owners should consider that these higher prices are based on a much lower volume of stumpage purchases than at any time since the mid 1970s when hardwood lumber production started an upward trend, ending in 1999 (Hardwood Market Report, 2010, No. 33, p. 1). Eastern production is almost 50 percent lower than this peak. It appears that the largest proportion of Indiana forestland is owned for reasons other than financial returns from timber production. This fact tends to reduce the number of owners wanting or needing to sell stumpage. As a result, it's highly unlikely that stumpage prices will back off significantly because more sellers are calling timber buyers.

Biomass production continues to be a hot topic. The long-established demand for mill residue will continue and increase somewhat for mulch and wood pellets. Also,

Table 1. Hardwood Lumber prices, dollars per thousand board feet (MBF), one-inch thick (4/4) Appalachian market area unless otherwise indicated. Source: *Hardwood Market Report*, P.O. Box 2633, Memphis, TN 38088-2633

	Lumber Grade	Jan 2007	July 2007	Jan 2008	July 2008	Jan 2009	July 2009	Jan 2010	July 2010
Ash	FAS + Prem.	750	750	750	750	735	705	715	805
	No. 1C	455	455	455	465	455	425	470	580
	No. 2A	270	260	280	300	300	290	320	380
Basswood	FAS + Prem.	775	755	710	685	685	645	635	660
	No. 1C	415	385	360	340	330	300	300	335
	No. 2A	210	200	200	200	200	180	180	190
Beech	FAS	500	500	500	500	500	500	500	500
	No. 1C	435	435	435	420	420	420	420	420
	No. 2A	345	345	345	345	345	345	345	345
Cottonwood (Southern)	FAS	600	600	600	600	615	605	605	605
	No. 1C	400	400	400	400	415	405	405	405
	No. 2A	220	220	220	220	220	220	220	220
Cherry (North Central)	FAS + Prem.	2470	2320	2320	2145	1975	1630	1610	1610
	No. 1C	1445	1275	1230	1035	825	660	660	720
	No. 2A	715	680	635	535	455	350	350	375
Hickory	FAS + Prem.	755	735	735	690	650	615	615	640
	No. 1C	660	650	600	550	490	500	500	530
	No. 2A	450	450	425	390	350	350	350	405
Hard Maple (unselected)	FAS + Prem.	1535	1240	1240	1220	1220	1080	1080	1095
	No. 1C	1180	940	900	845	815	655	655	710
	No. 2A	610	530	490	480	480	480	480	545
Soft Maple (unselected)	FAS + Prem.	1400	1310	1295	1215	980	880	880	895
	No. 1C	700	585	570	550	550	525	535	610
	No. 2A	290	275	275	275	275	275	275	320
White Oak (plain)	FAS + Prem.	1335	1390	1390	1390	1205	800	915	1165
	No. 1C	610	640	640	610	560	450	540	655
	No. 2A	440	440	450	450	420	325	365	500

Table 1. (continued)

	Lumber Grade	Jan 2007	July 2007	Jan 2008	July 2008	Jan 2009	July 2009	Jan 2010	July 2010
Red Oak (plain)	FAS + Prem.	935	850	850	835	800	705	825	1095
	No. 1C	625	625	625	605	570	500	560	665
	No. 2A	510	510	510	490	470	385	470	540
Yellow Poplar	FAS + Prem.	800	775	740	680	680	600	620	640
	No. 1C	400	380	350	330	370	340	420	470
	No. 2A	295	295	290	290	300	290	310	320
Sycamore (Southern plain)	FAS	455	455	455	455	455	455	455	455
	No. 1C	435	435	435	435	435	435	435	435
	No. 2A	375	375	375	375	375	375	375	375
Black Walnut (steamed)	FAS	2100	2180	2180	2135	2010	1800	1800	1995
	No. 1C	1210	1300	1285	1225	1065	765	765	1040
	No. 2A	885	940	930	595	520	360	360	620

Table 2. Prices paid for delivered sawlogs by Indiana sawmills, May 2009 and May 2010.

Species/Grade	2010 Range	No. Responses		Mean (s.e.)[1]		Median		Change (%)	
		2009	2010	2009	2010	2009	2010	Mean	Median
	($/MBF)			($/MBF)		($/MBF)			
White Ash									
Prime	300–800	23	15	358 (12.71)	457 (30.03)	350	450	27.7	28.6
No. 1	200–450	23	15	312 (12.44)	358 (21.50)	300	400	14.9	33.3
No. 2	150–400	24	16	256 (8.86)	273 (16.69)	250	275	6.7	10
No. 3	100–300	23	14	208 (8.91)	193 (15.0)	200	200	-7.0	0.0
Basswood									
Prime	200–450	14	9	255 (21.17)	310 (27.69)	250	300	21.6	20.0
No. 1	120–350	15	8	227 (17.63)	251 (28.50)	200	250	10.5	25.0
No. 2	120–300	14	9	201 (10.30)	206 (18.33)	200	200	2.7	0.0
No. 3	100–300	16	10	182 (9.63)	196 (20.50)	190	200	7.6	5.3
Beech									
Prime	120–350	14	9	238 (13.8)	262 (24.48)	250	250	10.2	0.0
No. 1	120–300	15	8	236 (11.29)	246 (21.87)	250	250	4.3	0.0
No. 2	120–300	17	8	227 (11.2)	217 (18.35)	240	212.5	-4.6	-11.5
No. 3	120–300	16	9	208 (9.84)	207 (19.58)	200	200	-0.7	0.0
Cottonwood									
Prime	120–300	14	5	176 (9.00)	194 (30.59)	165	200	10.4	21.2
No. 1	120–300	14	5	174 (8.56)	194 (30.59)	165	200	11.3	21.2
No. 2	120–300	14	5	174 (8.56)	190 (30.56)	165	180	9.0	9.1
No. 3	120–300	16	7	175 (7.53)	187 (22.22)	175	180	6.9	2.9
Cherry									
Prime	400–1200	25	15	690 (42.33)	827 (60.13)	650	800	19.8	23.1
No. 1	300–1000	27	16	506 (31.95)	613 (47.98)	500	600	21.2	20.0
No. 2	200–600	24	17	329 (21.19)	359 (27.20)	300	300	8.9	0.0
No. 3	100–350	20	15	224 (15.58)	229 (21.12)	200	240	2.6	20.0
Elm									
Prime	120–400	12	6	238 (35.46)	243 (39.47)	200	220	2.1	10.0
No. 1	120–350	11	5	229 (29.62)	232 (41.16)	200	200	1.3	0.0
No. 2	120–300	12	6	204 (13.45)	210 (26.58)	200	210	2.9	5.0
No. 3	120–300	15	8	199 (11.19)	200 (21.55)	200	195	0.3	-2.5

Table 2. (continued)

Species/Grade	2010 Range	No. Responses		Mean (s.e.)[1]		Median		Change (%)	
		2009	2010	2009	2010	2009	2010	Mean	Median
	($/MBF)			($/MBF)		($/MBF)			
Hickory									
Prime	350–450	21	10	346 (14.76)	398 (12.05)	350	400	14.9	14.3
No. 1	280–400	22	10	297 (13.50)	336 (12.77)	300	338	12.9	12.5
No. 2	150–300	23	11	252 (10.39)	266 (15.76)	250	300	5.9	20.0
No. 3	100–300	18	10	206 (12.24)	191 (19.63)	200	200	-7.1	0.0
Hard Maple									
Prime	350–900	23	13	604 (36.51)	677 (50.20)	600	700	12.0	16.7
No. 1	250–800	23	14	482 (29.92)	541 (42.48)	500	525	12.4	5.0
No. 2	200–600	23	15	336 (18.52)	346 (28.63)	300	300	2.7	0.0
No. 3	150–350	20	13	236 (16.93)	236 (18.23)	220	240	0.0	9.1
Soft Maple									
Prime	300–600	17	11	335 (17.55)	386 (27.04)	350	350	15.2	0.0
No. 1	200–400	19	11	288 (14.10)	291 (18.85)	275	300	1.0	9.1
No. 2	120–300	18	11	234 (11.69)	220 (17.06)	235	200	-6.2	-14.9
No. 3	120–300	18	10	212 (9.88)	194 (17.65)	200	190	-8.3	-5.0
White Oak									
Prime	400–1150	25	15	665 (39.33)	717 (59.50)	600	650	7.8	8.3
No. 1	200–800	26	16	478 (27.61)	498 (41.99)	475	475	4.3	0.0
No. 2	200–600	28	16	325 (21.23)	334 (26.80)	300	313	3.0	4.2
No. 3	100–400	20	14	229 (15.23)	224 (22.72)	200	220	-2.4	10.0
Red Oak									
Prime	300–900	28	15	496 (28.95)	617 (40.14)	475	600	24.4	26.3
No. 1	200–800	27	16	379 (20.39)	503 (33.06)	400	500	32.8	25.0
No. 2	200–600	26	16	278 (13.68)	358 (24.97)	300	350	28.6	16.7
No. 3	100–400	22	14	221 (11.22)	247 (24.12)	200	250	11.9	25.0
Black Oak									
Prime	200–900	23	14	454 (28.10)	566 (41.24)	400	575	24.6	43.8
No. 1	200–800	24	15	366 (25.32)	455 (37.50)	350	450	24.2	28.6
No. 2	200–600	24	16	271 (14.34)	328 (26.16)	290	300	21.0	3.4
No. 3	100–400	20	14	216 (11.43)	239 (23.44)	200	235	10.4	17.5
Tulip Poplar									
Prime	200–500	24	14	359 (9.35)	405 (21.76)	355	400	12.9	12.7
No. 1	200–450	26	15	299 (10.35)	337 (19.88)	300	350	12.8	16.7
No. 2	150–380	23	16	237 (9.69)	254 (15.70)	250	250	7.4	0.0
No. 3	100–360	22	14	200 (9.03)	203 (19.45)	200	200	1.7	0.0
Sycamore									
Prime	120–400	15	9	228 (13.17)	240 (29.72)	250	250	5.3	0.0
No. 1	120–350	16	8	212 (11.11)	221 (28.44)	200	225	4.4	12.5
No. 2	120–300	15	9	211 (11.12)	201 (18.82)	200	200	-4.8	0.0
No. 3	100–300	18	11	214 (9.68)	192 (19.01)	200	200	-10.6	0.0
Sweetgum									
Prime	120–400	14	6	211 (13.21)	228 (44.38)	200	200	8.0	0.0
No. 1	120–350	13	7	203 (11.34)	210 (32.07)	200	200	3.4	0.0
No. 2	120–300	12	6	198 (11.73)	192 (28.22)	200	165	-3.4	-17.5
No. 3	120–300	14	8	191 (9.69)	189 (21.50)	200	165	-1.0	-17.5
Black Walnut									
Prime	1000–2500	26	14	1060 (62.02)	1373 (117.51)	1000	1250	29.5	25.0
No. 1	750–2000	27	16	816 (52.96)	1122 (85.51)	750	1000	37.5	33.3
No. 2	400–1400	26	17	503 (37.01)	703 (58.39)	425	700	39.6	64.7
No. 3	150–1000	22	16	312 (32.17)	398 (56.48)	290	325	27.6	12.1
Softwood									
Pine	140–300	7	7	210 (19.02)	223 (22.01)	200	200	6.1	0.0
Red cedar	300–425	7	3	404 (37.96)	375 (38.19)	400	400	-7.1	0.0

Table 3. Prices paid for delivered veneer logs by Indiana mills, May 2009 and May 2010.

Species/Grade/ Log Dia.	2010 Range	No. Responses		Mean (s.e.)[1]		Median		Change (%)	
		2009	2010	2009	2010	2009	2010	Mean	Median
	($/MBF)			($/MBF)		($/MBF)			
Black Walnut									
Prime									
12–13	1200–4640	7	5	2093 (290.0)	2993 (630.29)	2500	3126	43.0	25.0
14–15	1500–6000	8	6	3006 (376.94)	4158 (776.25)	3000	4295	38.3	43.2
16–17	2000–8000	9	8	3560 (451.46)	4891 (820.56)	3241	5000	37.4	54.3
18–20	3000–8640	7	7	4446 (735.95)	5817 (905.07)	3500	7000	30.8	100.0
21–23	2000–9000	6	8	4819 (1048.56)	5872 (869.09)	4000	6238	21.9	56.0
24–28	4000–8000	3	6	6333 (1833.33)	6417 (799.07)	4500	7250	1.3	61.1
>28	4000–10000	3	4	7000 (1527.53)	6500 (1500.00)	6000	6000	-7.1	0.0
Select									
12–13	1000–2750	4	3	1393 (236.76)	2083 (546.45)	1335	2500	49.6	87.3
14–15	1200–3500	5	5	1539 (128.91)	2594 (511.8)	1500	3270	68.5	118.0
16–17	1500–4250	5	4	1992 (389.82)	2938 (695.03)	1500	3000	47.4	100.0
18–20	3200–4000	4	2	2444 (693.90)	3600 (400)	1900	3600	47.3	89.5
21–23	4000–4500	3	2	2013 (277.21)	4250 (250.00)	2000	4250	111.1	112.5
24–28	4000–5000	2	2	2500 (500.00)	4500 (500.0)	2500	4500	80.0	80.0
>28	4000–8000	2	2	3500 (1500.00)	6000 (2000.00)	3500	6000	71.4	71.4
White Oak									
Prime									
13–14	1100–1500	5	3	1256 (204.23)	1267 (120.19)	1200	1200	0.9	0.0
15–17	1500–2000	8	4	1605 (116.44)	1750 (144.35)	1550	1750	9.1	12.9
18–20	1500–2500	9	4	1955 (131.13)	2000 (204.12)	2000	2000	2.3	0.0
21–23	1500–3000	9	4	2466 (166.62)	2500 (353.55)	2500	2750	1.4	10.0
24–28	1500–4000	5	4	2963 (205.06)	2875 (515.39)	3000	3000	-3.0	0.0
>28	1500–5000	3	3	3500 (577.35)	3167 (1013.79)	3500	3000	-9.5	-14.3
Select									
13–14	1200	3	1	1130 (305.67)	1200	850	1200	6.2	41.2
15–17	1400–1800	4	2	1282 (174.38)	1600 (200.0)	1300	1600	24.8	23.1
18–20	750–2000	4	3	1629 (263.05)	1383 (360.94)	1834	1400	-15.1	-23.6
21–23	750–2500	3	3	1817 (486.77)	1750 (520.42)	2200	2000	-3.7	-9.1
24–28	750–3500	2	3	2100 (900.0)	2250 (803.64)	2100	2500	7.1	19.0
>28	750–4500	2	2	2600 (1400.0)	2625 (1875.00)	2600	2625	1.0	1.0
Black Cherry									
Prime									
12–13	1200–4853	4	4	1438 (480.18)	3263 (785.09)	1325	3500	127.0	164.2
14–15	1500–5255	6	4	1825 (477.10)	3991 (879.81)	1750	4605	118.7	163.1
16–17	2000–6335	7	5	2114 (529.46)	4319 (867.50)	1300	4000	104.3	207.7
18–20	3000–7770	7	6	2450 (650.46)	4441 (767.89)	1500	3687	81.3	145.8
21–23	3500–7770	5	5	2590 (733.89)	4967 (845.69)	2500	4000	91.8	60.0
24–28	4000–5000	3	3	3167 (1166.67)	4333 (333.33)	3500	4000	36.8	14.3
>28	4000–5000	3	2	4000 (1527.53)	4500 (500.00)	5000	4500	12.5	-10.0
Select									
12–13	1000–2790	2	3	550 (50.0)	1930 (517.91)	550	2000	250.9	263.6
14–15	1200–3250	3	4	1067 (466.67)	2238 (430.78)	600	2250	109.8	275.0
16–17	1800–3250	3	3	1300 (602.77)	2350 (453.69)	800	2000	80.8	150.0
18–20	1300–3250	4	4	1601 (812.10)	2263 (410.98)	901.5	2250	41.3	149.6
21–23	1300–3000	2	3	1300 (700.00)	2100 (493.29)	1300	2000	61.5	53.8
24–28	1300–3500	2	3	1800 (1200.0)	2267 (648.93)	1800	2000	25.9	11.1
>28	1300–4500	2	3	2800 (2200)	2600 (971.25)	2800	2000	-7.1	-28.6

Table 3. (continued)

Species/Grade/ Log Dia.	2010 Range	No. Responses		Mean (s.e.)[1]		Median		Change (%)	
		2009	2010	2009	2010	2009	2010	Mean	Median
	($/MBF)			($/MBF)		($/MBF)			
Red Oak									
Prime									
16–17	650–1658	6	8	1048 (112.56)	1239 (136.30)	1020	1350	18.1	32.4
18–20	650–1800	5	7	1224 (126.40)	1316 (159.83)	1200	1200	7.5	0.0
21–23	650–1800	5	7	1295 (132.38)	1317 (160.07)	1200	1200	1.7	0.0
24–28	650–1800	3	6	1533 (266.67)	1250 (172.24)	1800	1200	-18.5	-33.3
>28	650–1650	3	5	1600 (305.51)	1140 (162.33)	1800	1200	-28.8	-33.3
Select									
16–17	800–1000	2	2	675 (125.00)	900 (100.0)	675	900	33.3	33.3
18–20	900–1200	3	3	783 (130.17)	1033 (88.19)	800	1000	31.9	25.0
21–23	1000	2	1	875 (325.00)	1000	875	1000	14.3	14.3
24–28	1000	2	1	1025 (475.00)	1000	1025	1000	-2.4	-2.4
>28	1000	2	1	1025 (475.00)	1000	1025	1000	-2.4	-2.4
Hard Maple									
Prime									
16–20	2000–5440	6	4	2126 (49.24)	2860 (860.00)	2130	2000	34.5	-6.0
>20	2000–6180	3	4	2583 (220.48)	3295 (968.86)	2500	2500	27.5	0.0
Select									
16–20	1500–3030	5	4	1230 (242.69)	1958 (364.13)	1000	1650	59.1	65.0
>20	1500–2000	2	3	1550 (950.00)	1833 (166.67)	1550	2000	18.3	29.0
Yellow Poplar									
Prime									
16–20	450–1000	3	4	683 (258.74)	675 (116.37)	525	625	-1.2	14.3
>20	450–1000	4	3	738 (257.69)	683 (164.15)	650	600	-7.3	-15.6
Select									
16–20	550–800	2	2	600 (200.00)	675 (125.00)	600	675	12.5	12.5
>20	550–800	2	2	800 (400.00)	675 (125.00)	800	675	12.5	-15.6

harvesting primarily for conversion to pulp chips will increase because of the large decrease in chips available from sawmills. But, we believe that we're about at the peak of irrational expectations regarding wood-fired, stand-alone electricity plants. Much of the planning for green-energy facilities and technological development is driven by federal tax and cost incentives. There will be forestland owners willing to have their land clearcut for energy and pulp chip markets, but the desire of most private owners to carry stocking based primarily on aesthetics will make for tight stumpage markets for these end uses. It's hard to compete with coal in this region, unless air pollution rules are changed. Cap-and-trade is dead in this Congress, but EPA will be announcing their command-and-control rules by the end of year. It will be after these rules make their way through the courts before there's a major impact, changing the way some firms operate.

The consulting group FORISK provides excellent monthly updates on the bioenergy industry in the United States (*http://www.forisk.com/News-v-38.html*, accessed 8/26/10). Their August white paper notes three realities of the industry: (1) half of announced bioenegy facilities will fail, (2) forest owners are long-term managers, not day traders, and (3) wood suppliers and loggers adapt to new markets incrementally. Thus, knee-jerk policy action is not wise.

Custom Costs

The average cost reported for custom sawing was down to $275 per MBF, compared to $297 per MBF last year, Table 4. The mills reporting are primarily small "local" mills, many portable. Three mills reported on a per-hour basis, but the large spread in prices makes the change from last year hard to determine. We can say that the overall response from custom mills was down. Many owners said they are not operating until things get better. We also get many reports of mill owners not working because of their age, and in some cases because the owner is no longer with us.

Table 4. Custom costs reported by Indiana mills, May 2009 and May 2010

			Mean		Median	
	No. Responses	2010 Range	2009	2010	2009	2010
Sawing ($/MBF)	22	150–600	297	275	250	260
Sawing ($/Hour)	3	60–250	45	143	45	120
Logging ($/MBF)	6	125–200	131	159	140	150
Hauling ($/MBF)	3	3.5–50	50	35	50	50
Distance (Miles)	9	10–50	67	34	40	30
$/MBF/Mile	–	–	1.00	–	1.46	–
$/Mile	–	–	–	1.03	–	1.67

Table 5. Prices of miscellaneous products reported by Indiana mills, May 2009 and May 2010, fob the producing mill

			Mean		Median	
	No. Responses	2010 Range	2009	2010	2009	2010
Cant logs, $/MBF	32	100–350	226	238	223	250
Cant logs, $/ton	8	10–38	31	28	32	33
Pulpwood, $/ton	5	20–270	31	107	31	38
Pulp chips, $/ton	12	15–180	22	38	25	28
Sawdust, $/ton	10	7–30	9	16	8	13
Sawdust, $/cu. yd.	15	2–18	6	6	5	5
Bark, $/ton	4	13–35	13	24	11	24
Bark, $/cu. yd.	17	3–20	9	8	7.75	6
Mixed, $/ton	3	13–43		23		13
Mixed, $/cu. yd.	–	–	3	–	3	–

Reported logging cost rose from $139 last year to $159 this year. The response for hauling cost was also small, as usual. It appears that the $25 to $35 per MBF remains in the ballpark.

Miscellaneous Products

The average price paid for cant logs (i.e., logs sawn for pallet lumber, railroad ties, and industrial and trucking blocking) was $238 per MBF compared to $226 last year, Table 5. The price per ton decreased to $28 from $31 in 2009. Pulpwood and chip prices increased substantially for the reason discussed above.

Indiana Timber Price Index

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 information that can be used to monitor long-term prices for timber. The species distribution used to calculate the weighted averages are presented in Table 6. The log quality weights used are presented in Table 7. These weights are based primarily on the 1967 Forest Survey of Indiana.

When we first developed this index some 25 years ago we promised to update the weights used for species and quality when information became available. This was done this year using all available U.S. Forest Service survey data. Trending was used to smooth the changes to the weights between survey years. The revised weights did not make a significant difference in the index. I can make this information available to anyone interested. But, for now we'll continue to use the historical weights.

The nominal (not deflated) price (columns three and six of Table 8) are a weighted average of the delivered log prices reported in the price survey. The price indexes [columns (4) and (7)] are the series of nominal prices divided by the price in 1957, the base year, multiplied by 100. Thus, the index is the percentage of the 1957 price. For example, the average price in 2010 for the average stand was 741 percent of the 1957 price. This index was 877.3 for a quality stand.

The real prices [columns (5) and (8)] are the nominal prices deflated by the producer price index for finished goods with 1982 as the base year, Table 8, column (2). The real price series represents the purchasing power of dollars based on a 1982 market basket of finished producer goods. It's this real price trend that is important for evaluating long-term investments like timber. Receiving a rate of return less than the inflation rate means that the timber owner is losing purchasing power, a negative real rate of return.

Note that each year the previous year's number is recalculated using the producer price index for finished goods for the entire year. The price index used for the current year is the last one reported for the month when the analysis is conducted: July this year. The inflation rate increased by 4 percent from 2009 to June of this year.

Average Stand

The nominal weighted average price for a stand of average quality increased from $358.8 per MBF in 2009 to 412.5 in 2010 (Table 8, column three and Figure 7). This is a 15.0 percent increase, the largest increase since the 1977 to 1978 jump of 26.6 percent, year-to-year. Remember that this series is based on delivered log prices, not stumpage prices.

The deflated or real price increased from $208.50 to $230.30, a 15.0 percent increase. This increase was not enough, however, to reverse the slow decline in the trend-line rate for the real price series. It went from 0.95 percent simple annual compound rate of interest last year to 0.91 percent this year.

The new equation for the trend line for the 1957 to 2010 period is,

Avg. Stand Real Price = 175.95 + 2.08 x T,
where,
T=1 for 1957, 2 for 1958 . . . 54 for 2010

A linear trend line should be used to project real prices of a commodity like hardwood logs. Although it's easier to simply plug an annual compound rate of increase into the compound interest formula (exponential rate of increase), projections for much longer than 10 years give grossly unrealistic results. Real prices can't increase exponentially for long periods of time. The market adjusts by using more substitutes for "real wood" and through the willingness of consumers to accept substitutes. When a market economy works adequately, the relative prices of substitutes stays in balance, assuming extraction and conversion costs stay relatively the same per unit of output. Given increased lumber overrun, thinner veneer, and changes in the export incentives provided by the governments of developing countries, generalities are dangerous. The equalization of environmental standards, reflected in the rules actually enforced, has yet to be achieved.

Table 6. Species composition of the Indiana timber price index for an average and a quality stand.

Species	Average Stand	Quality Stand
Veneer species:	(%)	(%)
White oak	13.4	21.0
Red oak	15.1	20.0
Hard maple	9.6	14.0
Yellow poplar	7.5	9.0
Black walnut	5.4	5.0
Non-veneer species:		
White ash	5.8	3.1
Basswood	1.5	3.1
Beech	5.6	3.1
Cottonwood	6.2	3.1
Black cherry	0.8	3.1
Elm	1.2	3.1
Hickory	4.7	3.1
Soft maple	6.7	3.1
Black oak	11.4	3.1
Sycamore	5.1	3.1

Table 7. Log quality composition of the Indiana timber price index for an average and a quality stand.

	Average Stand		Quality Stand	
Log Grade	Veneer Species	Non-veneer Species	Veneer Species	Non-veneer Species
Veneer logs	(%)	(%)	(%)	(%)
Prime	1.0	0.0	7.0	0.0
Select	3.0	0.0	13.0	0.0
Sawlogs				
Prime	20.0	24.0	19.0	24.0
No. 1	26.0	26.0	21.0	26.0
No. 2	38.0	38.0	33.0	38.0
No. 3	12.0	12.0	7.0	12.0

Quality Stand

The nominal weighted average price for a high quality stand increased from $512.0 per MBF in 2009 to $584.1 this year, a 14.1 percent increase (Table 8, column six and Figure 8). The average real price series for a high quality stand increased from $297.5 in 2009 to $326.1 per MBF this year, a 10 percent jump.

The average annual compound rate of increase for the trend line declined from 1.25 percent per annum in 2009 to 1.21 percent this year (Figure 8). The equation for the trend line is,

Quality Stand Real Price = 210.77 + 3.62 x T,
where
T=1 for 1957, 2 for 1958 . . . 54 for 2010

Comparing the trend lines for the real price series for the average and quality stand indicates that some improvement in the quality of a stand results in an increase in the real rate of return.

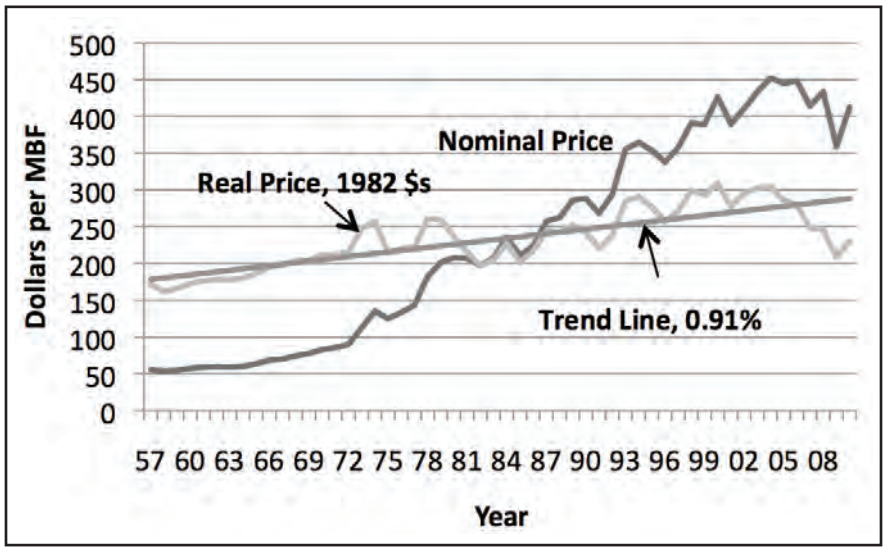

Figure 7. Average stand of timber: nominal, deflated, and trend line price series, 1957 to 2010.

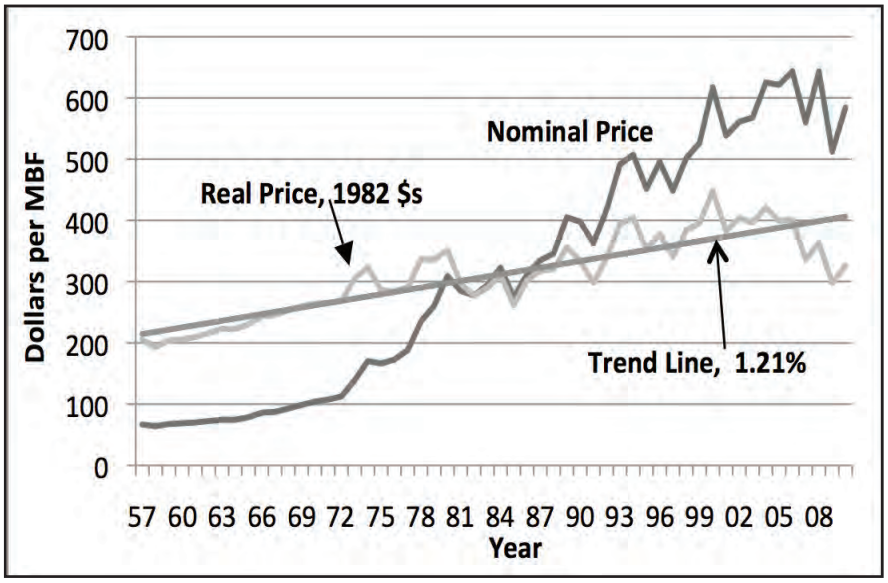

Figure 8. Quality stand of timber: nominal, deflated, and trend line price series 1957 to 2010.

Table 8. Weighted average actual price, price index, and deflated price for an average and quality stand of timber in Indiana, 1972 to 2010.

		Average Stand			Quality Stand		
Year	Producer Price Index	Nominal Price	Index Number	Real Price[1]	Nominal Price	Index Number	Real Price[1]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		($/MBF)		($/MBF)	($/MBF)		($/MBF)
1972	41.8	90.2	162.2	215.8	112.2	168.5	268.4
1973	45.6	112.6	202.5	247.0	139.0	208.8	304.9
1974	52.6	135.3	243.3	257.3	170.2	255.7	323.7
1975	58.2	125.1	225.0	215.0	166.3	249.8	285.8
1976	60.8	133.6	240.2	219.7	172.7	259.4	284.1
1977	64.7	143.6	258.1	221.9	188.0	282.4	290.6
1978	69.8	181.7	326.1	260.3	234.9	352.9	336.6
1979	77.6	201.5	362.3	259.6	260.7	391.6	336.0
1980	88.0	207.8	373.6	236.1	309.3	464.5	351.5
1981	96.1	206.7	371.7	215.1	284.9	427.8	296.4
1982	100.0	196.8	353.8	196.8	277.3	416.5	277.3
1983	101.6	207.6	373.3	204.3	294.4	442.2	289.8
1984	103.7	235.8	424.0	227.4	322.7	484.6	311.2
1985	104.7	210.5	378.5	201.0	274.0	411.5	261.7
1986	103.2	223.6	402.0	216.6	312.2	468.9	302.5
1987	105.4	257.3	462.7	244.2	334.6	502.6	317.5
1988	108.0	262.1	471.3	242.7	345.9	519.6	320.3
1989	113.6	285.9	514.0	251.6	404.9	608.1	356.4
1990	119.2	288.3	518.3	241.8	397.9	597.6	333.8
1991	121.7	268.1	482.1	220.3	362.9	545.1	298.2
1992	123.2	293.4	527.6	238.2	417.6	627.1	338.9
1993	124.7	355.2	638.8	284.9	491.2	737.8	393.9
1994	125.5	364.8	655.9	290.6	507.4	762.1	404.3
1995	127.9	354.0	636.4	276.7	451.6	678.3	353.1
1996	131.3	337.7	607.1	257.2	495.4	744.0	377.3
1997	131.8	357.5	642.7	271.2	448.3	673.3	340.2
1998	130.7	391.1	703.3	299.3	501.7	753.5	383.9
1999	133.0	389.2	699.8	292.6	526.3	790.5	395.7
2000	138.0	426.5	766.9	309.1	617.6	927.5	447.5
2001	140.7	389.7	700.8	277.0	538.5	808.8	382.7
2002	138.9	410.7	738.4	295.7	561.2	842.9	404.0
2003	143.3	433.7	779.7	302.6	567.9	852.9	396.3
2004	148.5	452.2	813.1	304.5	625.1	938.9	421.0
2005	155.7	445.2	800.5	285.9	621.5	933.4	399.9
2006	160.4	448.3	806.0	279.5	643.6	966.6	401.2
2007	166.6	414.2	744.8	248.6	559.9	840.9	336.1
2008	177.1	433.7	779.8	244.9	643.2	966.0	363.2
2009	172.1	358.8	645.2	208.5	512.0	769.0	297.5
2010	179.1	412.5	741.7	230.3	584.1	877.3	326.1