

Relief in Sight for Hog Producers

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“This little piggy went to market.” And so did the brothers and sisters, and many of their mothers too. The rapid liquidation of animals has resulted in smaller numbers for the breeding herd, and smaller than expected numbers for the market herd as well. As a result, fall and winter prices will not be as scary as previously believed.

Pork production for all of 2002 is now estimated to be 19.7 billion pounds, about 2.7% greater than last year. For next year, estimated production will be down around 2% to 19.3 billion pounds. Prices for this year are now expected to average near \$35.00 per live hundredweight, but should improve to near \$40 for next year.

While the outlook has improved for producers, the lowest quarterly prices of the year are still expected to occur in the final quarter, with a continuation of large losses. But, by the first quarter of 2003, prices should improve and greatly shrink losses. By late spring, hog prices may be back to near break evens for most producers.

Pork producers should evaluate their variable costs (or out-of-pocket costs). Most will be able to cover these this fall and thus should continue to produce in the short-run. In addition, they will want to cull their lowest productive animals and keep weights moderate, as they continue to evaluate their long-term desire and their competitiveness in the industry.

The Numbers

The source of the better news was USDA's September *Quarterly Hogs and Pigs* report. The breeding herd was reported to be down 1.7 percent as of September 1, compared to a slightly higher inventory in June. The decline is attributable to rapid liquidation of sows in July (up 20%), August (up 17%), and September (up 12%). During these three months, a total of 120,000 more sows were slaughtered as compared to the same period last year. Looking back to the spring, sow slaughter in the months of April, May, and June was also five percent higher than the same period last year representing an additional 40,000 sows.

Fewer sows in the herd meant that farrowings this past summer were much lower than anticipated. In the previous June quarterly update, producers indicated they would farrow two percent more sows in the June-August period, but actually reduced farrowings by 1.5%. As a result of the smaller summer farrowings, the quantity of market hogs was also much smaller than anticipated. Pigs that weighed 120 to 179 pounds representing the bulk of October slaughter were up 3%. But slaughter of market animals should begin to drop below year earlier levels in November as the 60 to 119 pound inventory was down modestly. Pigs that will come to market in roughly December to February were down 1%.

Producers indicated intentions to continue to reduce sow farrowings and thus market hog supplies into 2003. Fall farrowing intentions were down 2.5%, and winter farrowing intentions were down 1%.

The number of pigs weaned per sow has also stabilized after years of rapid growth. This past summer the farrowing rate was unchanged at 8.87 pigs. In the spring of 2002, the rate actually dropped to 8.81 from 8.89 a year ago.

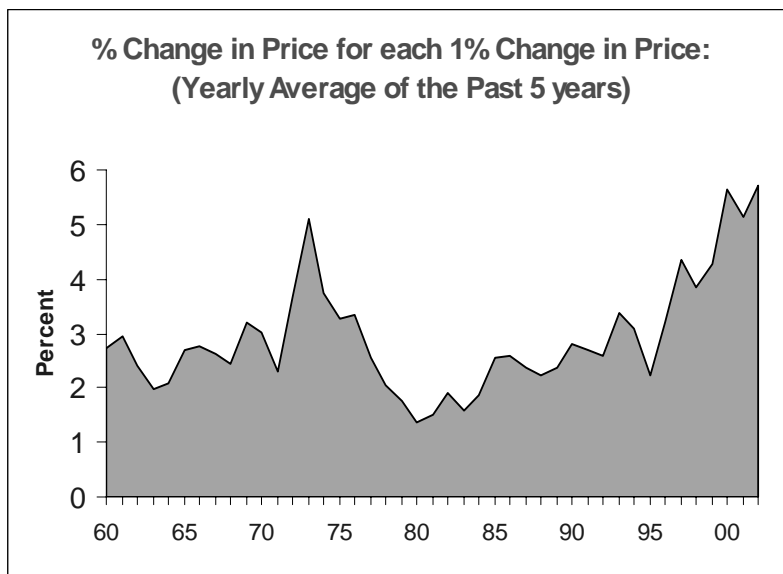
Prices More Volatile?

Many producers have asked why hog prices are so volatile. Another way of saying this is that hog prices now seem to have large swings with relatively small changes in production. My analysis suggests they are exactly correct. This is the most volatile price period, at least back to 1960.

This is demonstrated in **Figure 1**. The relationship here has a couple of steps, so stay with it. First I looked at the yearly percentage change in prices and production. Then I took the absolute value of these changes, took an average of the last five years for each, and finally took the ratio of the average percentage change in prices for the last five years, divided by the average annual change in production for the last five years. In essence, this is called the price flexibility. That is, by what percent do prices change when there is a 1% change in production. We have normally thought this ratio was about 2.0 to 2.5. That is a 1% change in production will result in a 2% to 2.5% change in price.

Looking at the Figure you can see that other than the mid-1970's, this relationship held reasonably well. But note the vast surge in the relationship since the mid-1990's when the ratio has reached around 5 to 1. This means that a

Figure 1



ratio has reached around 5 to 1. This means that a 1% change in supply has resulted in about a 5% change in price on average during this time period. The most volatile period, at least based upon changes in production since 1960.

The more stable production industry of today has not stabilized prices. They remain quite volatile. In fact, with profit margins overall tighter, this instability has likely

added greater price risk. Or another way of saying this is that price volatility has

remained large around a lower overall price. Thus, the periods of loss are potentially financially disastrous to more producers, and the periods of profits are not as rewarding. (Sounds like a pretty good description of the past 5 years doesn't it)?

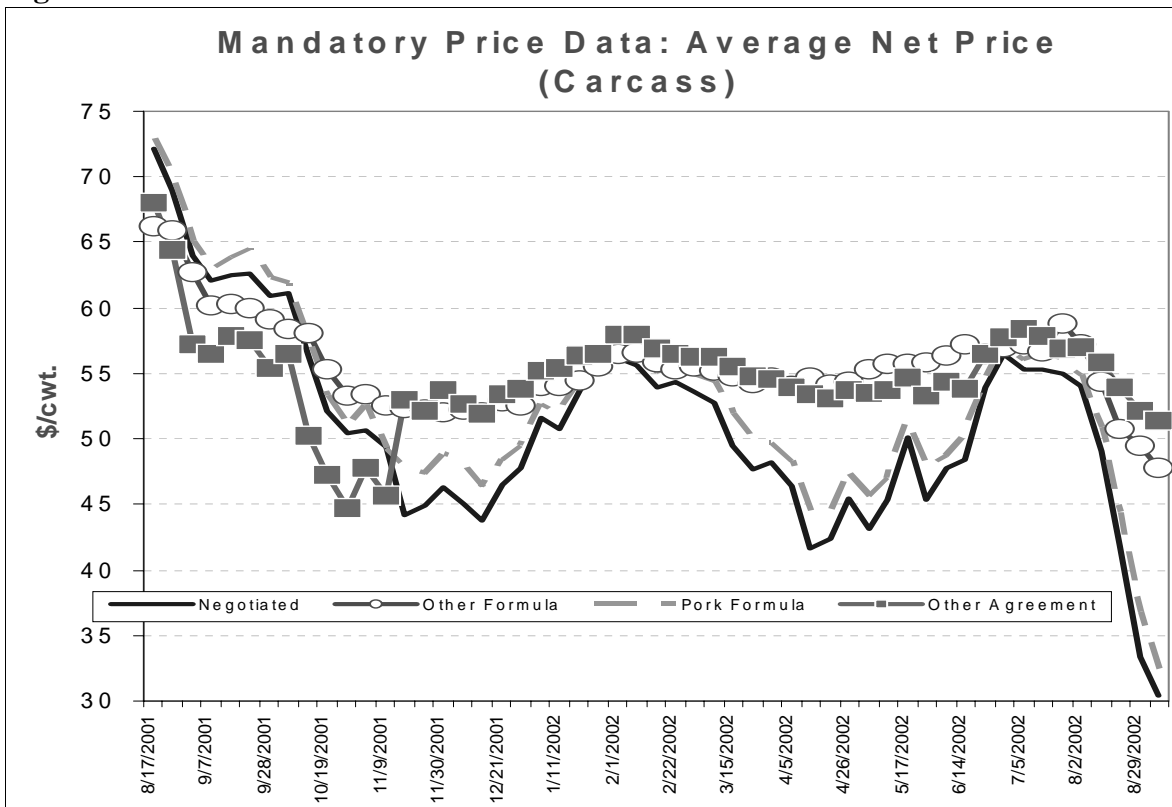
Contracts Do Make a Difference

“Do low hog prices mean producers are receiving low price?” The answer is of course no, some are receiving sharply higher prices than others. This was a revelation in 1998, and was just as true in the panic selling in late August this year and is illustrated in **Figure 2**.

These are weekly observations of the carcass prices paid by packers for hogs on various types of purchase procedures. The solid line without a marker is the price paid by packers for hogs sold on a negotiated basis. These would be animals for which there is no prior marketing arrangement (no contract). The dashed line is the price on formula contracts which are tied to some base price like a Western Corn Belt base. The line with the circles is for contracts tied to a futures contract, and the line with squares are contracts with some type of floor price. There is about 13 months of data back to August of 2001.

Note how the prices for negotiated hogs fell to about \$30 per carcass hundredweight by early September of 2002, while the other formula and floor contracts were close to \$50. Over this time period, the lowest prices were received by negotiated hogs for which there

Figure 2



was no contract, and this category also had the highest variation in prices. Observation of this data was why I suggested that independence was no longer an option for producers wanting to remain in the industry. This conclusion may be a bit rushed since “kinks in the data” collected by mandatory reporting are still being worked out, and quality differences may not be fully accounted for. Also, there are only 13 months of observations here. The question remains whether prices for the “negotiated hogs” will be the highest when slaughter runs are short?

At the very least, independent producers must evaluate the merit of staying independent with highly volatile prices, squeezed margins, and perhaps receiving relatively lower prices, than producers with marketing contracts?

Supplies and Prices

Slaughter hog marketings should begin to drop relative to year-previous levels in December and continue through 2003. Pork production is expected to be nearly unchanged this fall and winter, and then drop by around 2% to 3% for the remainder of 2003. For all of 2003 pork production is expected to down about 2% to 19.3 billion pounds.

Competitive meat supplies will also be helpful to the pork sector, especially beef. Beef supplies will begin to drop in the final quarter of 2002 and be down about 3% to 4% for all of 2003. In addition broiler supplies are only expected to increase by 2%. Thus, total red meat and poultry production in 2003 should be lower by 2%.

While Wall Street is struggling to be convinced that the general economy will avoid a double recessionary dip, most economists are more optimistic. Their general outlook is for a continued slow recovery, with relatively modest growth rates in the 2% to 3% range. This should be supportive to hog prices also.

Marketing weights have already come down sharply and are also expected to help moderate pork supplies during the next 12 months. The reason is higher feed prices and low hog prices. The transition to lower weights occurred in August. At the start of the month, slaughter weights were nearly 1% above the previous year, but dropped to below by the end of the month. Weights have moderated further in September dropping as much as 2% below last year, likely because of advance marketings of market hogs. For the fall, I expect weights will remain slightly under last year, but can be expected to increase with higher hog prices into the winter. For the next 12 months, I anticipate weights to be up about only .4 percent.

The hog price tone should improve immediately with prospects for less pork than had been anticipated. Still, pork production in the fourth quarter of 2002 and first quarter of 2003 will likely be nearly unchanged from the same quarter in the previous year. However, by the spring and summer, supplies are expected to begin to drop by about 3% to 3%. For all of 2003, pork production should be down about 2%.

Fall prices for 51% to 52% lean hogs are now expected to average in the \$30 to \$34 range. This is a substantial improvement over mid-to-higher-\$20 discussed before the report. Prices should improve further in the winter to the higher \$30s, and keep marching higher into the spring when they are expected to average in the low \$40s. Summer 2003 prices may reach the low-to-mid \$40.

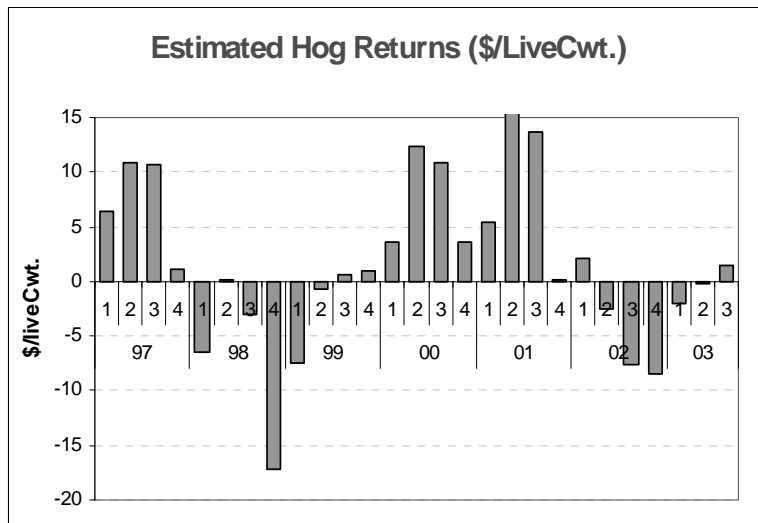
Implications

Because of the rapid liquidation, financial losses are not expected to be nearly as bad as feared prior to the report. Total costs are currently estimated in the \$39 to \$41 range and have declined somewhat with moderation in corn and meal prices since the September 12th USDA grain updates.

Estimated losses in the third quarter just completed are estimated at about \$20 per head (\$7.60/ live hundredweight), and are expected to be somewhat worse for the last quarter this year at \$22 per head, (\$8.40 per live hundredweight). However, by winter, those losses should be sharply reduced at about \$5 per head, with a potential return to breakeven by spring, and some profits by summer. Lower feed prices by the fall of 2003 could drop costs back into the higher \$30s.

Losses during this period are expected to extend from the second quarter of 2002 through the second quarter of 2003 and average \$4.13 per live hundredweight. In comparison, in the five quarters from the first quarter of 1998 through the first quarter of 1999, losses averaged \$6.78 per live hundredweight.

Figure 3



Producers are breathing a sigh of relief. Losses are still going to accumulate this fall and early winter, but they are not going to be nearly as severe as had been anticipated. A return to break evens can be anticipated by early spring, with some positive returns by late spring and summer. If additional sow liquidation continues this fall and winter, hog prices should be strong in the last-half of 2003 and into 2004. For now, producers should

calculate their variable or “out-of-pocket costs” and continue to produce hogs this fall as long as they anticipate they can recover these variable costs. In general, most will continue to keep animals in inventory but they should trim their least productive animals,

keep market weights moderate, and continue to evaluate their longer-term strategies in this changing industry.

All indications suggests that a hog production cycle still exist and that price swings on the cycle are larger than they have been in the past. Swings from a low price period to high prices tends to be about 1.5 years. With low prices coming in the last-half of 2002, this time lag would put the favorable price period into late 2003 and the first-half of 2004 time period. Because the liquidation was accelerated this year, the next strong price period may be somewhat earlier say from mid 2003 to mid 2004.

Another hypothesis is that producer philosophy will change in coming years. In the 1985 to 1995 period, the industry was transformed from small-scale operations to a large-scale operation industry. The initial incentives to move in this direction were high returns on investment in an industry that had not been industrialized. Huge sums of money were made by original innovators during this period. Then the late adopters continued to flood into the industry in the mid-1990s creating excess production. The 1998-1999 losses dimmed the profit expectations, but too many got through. Now a second period of sharp losses four years latter has sufficiently discouraged some producers. Some smaller family farms with depreciated facilities will continue to drop out. But a new event is occurring, and that is large corporate operations are shutting down. Some will be resold, but others are simply closing the doors, or permanently reducing production. The attitude has clearly shifted to, "Why would anyone want to raise hogs in the future?" This form of discouragement is exactly the attitude that must prevail to get the aggregate supply back in better balance with demand, and provide better margins in the future. If this hypothesis holds, profit margins may be on an overall improvement in coming years.

Table 1. Hogs and Pigs in the United States, Sept 1, 2002

	2001	2002	2002 as % of 2001
	thousand head		percent
<u>Inventory</u>			
All hogs and pigs	59,777	60,220	100.7
Kept for breeding	6,158	6,054	98.3
Kept for market	53,619	54,165	101.0
<u>Market hogs by weight</u>			
Under 60 pounds	19,911	19,684	98.9
60-119	13,438	13,409	99.8
120-179	10,854	11,146	102.7
180 and over	9,417	9,926	105.4
<u>Sows farrowing</u>			
Mar - May	2,870	2,933	102.2
June - Aug	2,878	2,834	98.5
Sep - Nov ¹	2,889	2,818	97.5
Dec - Feb ¹	2,837	2,806	98.9
<u>Pigs saved per litter</u>			
Mar - May	8.89	8.81	99.1
June - Aug	8.87	8.87	100.0
<u>Pig crop</u>			
Mar - May	25,509	25,851	101.3
June - Aug	25,539	25,128	98.4

¹ Intentions

Table 2: U.S. Market Hogs Weighing 60 to 179 Pounds on September 1 and Commercial Slaughter in October-December

Years	Number of Hogs 60 to 179 Pounds	Oct-Dec Commercial Slaughter	Ratio
thousand head			
1990	22,350	22,628	101.2
1991	23,680	24,367	102.9
1992	24,509	25,138	102.6
1993	22,720	24,573	108.2
1994	25,130	26,322	104.7
1995	24,517	25,198	102.8
1996	23,370	23,833	102.0
1997	24,061	25,152	104.5
1998	25,587	27,584	107.8
1999	24,543	26,723	108.9
2000	23,872	25,714	107.7
2001	24,292	26,465	108.9
2002	24,555	26,646	108.5 ^a

^a Projected

^b Mean of previous three years

Table 3. U.S. Sow Farrowings and Pig Crop Compared to U.S. Commercial Slaughter (thousand head), with 7-month Lag 1991 to 2003

Year	Sows Farrow	Pig Crop	Ratio	Year	Commercial	Ratio ^b
					Slaughter	
March-May			October-December			
1991	3,287	26,158	7.96	1991	24,367	93.2
1992	3,368	27,208	8.08	1992	25,138	92.4
1993	3,220	26,135	8.12	1993	24,574	94.0
1994	3,390	27,984	8.26	1994	26,322	94.1
1995	3,170	26,373	8.32	1995	25,198	95.5
1996	2,930	24,833	8.48	1996	23,833	96.0
1997	2,911	25,229	8.67	1997	25,152	99.7
1998	3,086	26,989	8.75	1998	27,584	102.2
1999	2,986	26,272	8.80	1999	26,732	101.8
2000	2,885	25,565	8.86	2000	25,714	100.6
2001	2,870	25,509	8.89	2001	26,465	103.7
2002	2,933	25,851	8.81	2002	26,497	102.5
June-August			January-March			
1991	3,105	24,499	7.89	1992	23,802	97.4
1992	3,020	24,590	8.14	1993	23,057	93.8
1993	2,972	24,041	8.09	1994	22,746	94.6
1994	3,107	25,547	8.22	1995	24,229	94.8
1995	2,976	24,813	8.34	1996	23,650	95.3
1996	2,718	23,244	8.55	1997	22,342	96.1
1997	2,946	25,696	8.72	1998	24,776	96.4
1998	3,054	26,634	8.72	1999	25,571	96.0
1999	2,920	25,862	8.86	2000	25,019	96.7
2000	2,889	25,548	8.84	2001	24,574	96.2
2001	2,878	25,539	8.87	2002	24,139	94.5
2002 ^a	2,834	25,128	8.87	2003	24,076	95.8
September-November			April-June			
1991	2,969	23,427	7.89	1992	22,202	94.8
1992	2,992	24,086	8.05	1993	22,661	94.1
1993	2,982	24,003	8.05	1994	22,965	95.7
1994	2,997	24,517	8.18	1995	23,646	96.5
1995	2,815	23,479	8.34	1996	22,201	94.6
1996	2,731	23,327	8.54	1997	21,834	93.6
1997	2,939	25,494	8.67	1998	23,631	92.7
1998	2,993	25,902	8.66	1999	24,292	93.8
1999	2,844	24,973	8.78	2000	23,107	92.5
2000	2,838	25,112	8.85	2001	23,273	92.7
2001	2,889	25,492	8.82	2002	24,290	95.3
2002 ^a	2,818	24,911	8.84	2003	23,392	93.9
December-February			July-September			
91/92	2,892	23,258	8.04	1992	23,746	102.1
92/93	2,808	22,871	8.15	1993	22,777	99.6
93/94	2,885	23,368	8.10	1994	23,673	101.3
94/95	2,886	23,851	8.27	1995	23,264	97.5
95/96	2,735	23,054	8.43	1996	22,711	98.5
96/97	2,684	23,164	8.63	1997	22,679	97.9
97/98	2,929	25,480	8.70	1998	25,038	98.3
98/99	2,891	25,247	8.73	1999	24,960	98.9
99/00	2,798	24,522	8.76	2000	24,097	98.3
00/01	2,748	23,963	8.72	2001	23,631	98.6
01/02	2,837	24,807	8.74	2002	25,112	101.2
02/03	2,806	24,553	8.75	2003	24,398	99.4

Table 4. U.S. Commercial Slaughter, Slaughter Carcass Weights, and Quarterly Pork Production 1990-2002

Year	Quarter	Commercial Slaughter (thou. hd.)	Carcass Weight Per Hog	Pork Production (mill. #'s)	Percent Change Year-Ago
1990	I	21,879	178.3	3,902	+4
	II	20,257	179.9	3,645	-7.2
	III	20,350	178.8	3,639	-4.0
	IV	22,628	181.4	4,105	-1.2
1991	I	21,508	181.4	3,902	0.0
	II	20,921	181.3	3,792	4.0
	III	21,371	178.8	3,822	5.0
	IV	24,365	182.0	4,434	8.0
1992	I	23,802	181.5	4,321	10.7
	II	22,202	181.7	4,033	6.4
	III	23,746	179.6	4,264	11.6
	IV	25,138	181.7	4,567	3.0
1993	I	23,057	182.5	4,207	-2.6
	II	22,661	183.2	4,151	2.9
	III	22,777	181.7	4,138	-3.0
	IV	24,573	184.5	4,534	-0.7
1994	I	22,746	183.9	4,182	-0.6
	II	22,965	184.6	4,240	2.1
	III	23,673	182.7	4,326	4.5
	IV	26,322	186.6	4,913	8.4
1995	I	24,229	185.2	4,488	7.3
	II	23,646	185.8	4,394	3.6
	III	23,264	182.3	4,240	-2.0
	IV	25,198	186.1	4,690	-4.5
1996	I	23,650	185.6	4,389	-2.2
	II	22,201	184.9	4,104	-6.6
	III	22,711	182.4	4,143	-2.3
	IV	23,833	186.7	4,449	-5.1
1997	I	22,342	187.7	4,194	-4.4
	II	21,834	187.4	4,091	-0.3
	III	22,666	185.0	4,196	1.3
	IV	25,152	189.5	4,766	7.1
1998	I	24,776	189.2	4,688	11.8
	II	23,631	187.5	4,429	8.3
	III	25,038	184.7	4,625	10.2
	IV	27,523	188.9	5,239	9.9
1999	I	25,571	190.3	4,865	3.8
	II	24,292	190.6	4,630	4.5
	III	24,960	187.2	4,672	1.0
	IV	26,732	191.2	5,110	-2.5
2000	I	25,019	192.8	4,824	-0.8
	II	23,107	193.8	4,478	-3.3
	III	24,097	191.1	4,606	-1.4
	IV	25,714	194.8	5,010	-2.0
2001	I	24,574	195.5	4,805	-0.4
	II	23,273	195.3	4,546	1.5
	III	23,631	192.5	4,548	-1.3
	IV	26,465	198.0	5,239	4.6
2002	I	24,139	198.0	4,779	-0.5
	II	24,290	197.6	4,800	5.6
	III ^p	25,112	192.7	4,840	6.4
	IV ^{ac}	26,571	197.3	5,242	0.1
2003	I ^a	24,076	198.2	4,772	-0.1
	II ^a	23,392	198.4	4,641	-3.3
	III ^a	24,398	195.5	4,770	-1.5
	IV ^a	25,700	199.4	5,125	-2.2

a Projected

c Average of the two estimation methods (Table 2 and 3)

p Preliminary

Table 5. Actual and Forecast Hog Prices, Lean Carcass Prices, and Retail Pork Prices^a

Year	Quarter	Barrow and Gilts 6-Mkt Price (\$/cwt)	Lean Value (Live Price/74 yield) (\$/carcass cwt)	Retail Pork ¢/carcass cwt
1990	I	\$49.45	\$66.82	196.2
	II	\$59.01	\$79.74	208.4
	III	\$57.67	\$77.93	222.6
	IV	\$51.67	\$69.82	223.1
1991	I	\$51.50	\$69.59	215.2
	II	\$53.34	\$72.08	213.2
	III	\$50.85	\$68.72	214.6
	IV	\$39.84	\$53.84	204.6
1992	I	\$38.68	\$52.27	198.9
	II	\$44.83	\$60.58	195.9
	III	\$43.86	\$59.27	200.6
	IV	\$41.84	\$56.54	197.0
1993	I	\$43.96	\$59.41	194.6
	II	\$46.83	\$63.28	194.3
	III	\$47.49	\$64.18	200.2
	IV	\$43.23	\$58.42	201.3
1994	I	\$45.19	\$61.07	200.8
	II	\$42.44	\$57.35	198.8
	III	\$40.07	\$54.15	199.0
	IV	\$30.56	\$41.30	193.6
1995	I	\$38.19	\$51.61	191.6
	II	\$38.57	\$52.12	190.2
	III	\$48.32	\$65.30	195.6
	IV	\$42.86	\$57.92	201.8
1996	I	\$45.33	\$61.26	206.3
	II	\$54.84	\$74.11	214.9
	III	\$57.96	\$78.32	230.4
	IV	\$55.10	\$74.46	231.9
1997	I	\$51.06	\$69.00	231.0
	II	\$56.41	\$76.23	229.7
	III	\$54.45	\$73.58	234.5
	IV	\$43.69	\$59.04	231.0
1998	I	\$34.74	\$46.95	233.0
	II	\$39.42	\$53.27	226.9
	III	\$33.95	\$45.88	231.0
	IV	\$19.30	\$26.08	226.9
1999	I	\$28.83	\$38.96	235.8
	II	\$35.18	\$47.54	238.4
	III	\$35.70	\$48.24	246.4
	IV	\$36.29	\$49.04	245.2
2000	I	\$41.14	\$55.59	249.8
	II	\$50.43	\$68.15	257.3
	III	\$46.43	\$62.74	264.3
	IV	\$40.78	\$55.11	261.3
2001	I	\$42.83	\$57.88	262.5
	II	\$52.05	\$70.34	267.0
	III	\$51.05	\$68.99	275.0
	IV	\$37.30	\$50.41	273.0
2002	I	\$39.43	\$53.28	270.9
	II	\$34.98	\$47.27	267.7
	III ^p	\$33.68	\$45.51	266.0
	IV ^a	\$32.10	\$43.38	
2003	I ^a	\$38.76	\$52.38	
	II ^a	\$40.93	\$55.31	
	III ^a	\$41.78	\$56.46	
	IV ^a	\$37.85	\$51.15	

^a Predicted prices for 2002 (III) forward are made with two equations with the results averaged.

^p Preliminary