Passive Investors and Managed Money in Commodity Futures

Part 5: Impact on Convergence

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Objective

Part 5 takes a closer look at the impact of the five trader groups on the convergence process in the studied futures markets. The specific objective is to determine if one or more groups routinely hinders the process of cash-futures convergence in the final days of a contract's life.

Methods

- The work in Part 5 draws upon the methods used in Parts 3 and 4 with the focus being the last 20 trading days. This represents roughly one calendar month leading up to contract expiration
- The market presence of each trader group in the last 20 days is calculated for each market
- The total beneficial and detrimental price pressure exerted during the final 20 trading days by each trader group is examined for clues as to that group’s impact on the convergence of futures to the underlying cash market. (See Part 4 for a description of the price pressure calculation).

Results – CMEG Corn

Market Presence in the Last 20 Days of Trading

Percent of Open Interest

Contract	Commercial	Non-Commercial	Indexer	Money Mgr	Small Trader
200503	42%	19%	1%	8%	30%
200505	39%	19%	1%	5%	36%
200507	36%	23%	1%	7%	34%
200509	43%	18%	1%	7%	30%
200512	37%	19%	1%	8%	35%
200603	35%	28%	1%	7%	29%
200605	33%	24%	2%	7%	34%
200607	34%	29%	3%	9%	25%
200609	36%	26%	1%	7%	29%
200612	38%	20%	2%	8%	33%
200703	36%	26%	1%	7%	29%
200705	41%	21%	1%	7%	30%
200707	45%	15%	2%	10%	28%
200709	39%	23%	4%	5%	29%
200712	30%	25%	2%	7%	36%
200803	34%	29%	2%	7%	28%
200805	41%	26%	2%	8%	24%
Average:	38%	23%	2%	7%	31%

- Large Commercials and Non-Commercials comprise the bulk of open interest in corn futures during last days of trading.
- Indexers and Money managers are largely absent from the corn market in the last 20 trading days.

Results – CMEG Corn

Sum of Absolute Price Pressure in Last 20 Days

(in cents/bu.)

	Commercials		Non-Commercials		Indexers		Money Managers		Small Traders	
Contract	Beneficial	Detrimental	Beneficial	Detrimental	Beneficial	Detrimental	Beneficial	Detrimental	Beneficial	Detrimental
200503	10	18	20	4	0	3	20	1	6	14
200505	3	15	16	3	10	1	2	9	16	7
200507	32	36	32	20	9	0	18	16	8	19
200509	13	24	22	6	10	0	8	2	3	10
200512	3	16	13	9	6	0	1	3	12	5
200603	0	30	33	5	6	1	8	3	6	12
200605	0	41	27	3	6	0	12	8	4	9
200607	6	61	38	5	10	1	15	7	11	14
200609	15	8	14	23	0	7	10	2	11	8
200612	5	54	51	7	7	2	25	3	7	22
200703	3	95	67	21	18	0	16	2	19	7
200705	37	55	71	21	18	9	50	10	33	23
200707	5	68	52	12	29	0	46	13	45	23
200709	2	95	60	5	34	1	10	12	16	12
200712	0	38	18	15	18	0	14	4	7	37
200803	21	123	81	2	5	3	16	8	33	21
200805	0	126	59	14	30	1	61	7	49	36
Total:	155	902	675	175	216	30	333	112	285	280
Beneficial as a % of Detrimental:	17%		386%		713%		298%		102%	

- Commercials are buying to liquidate shorts while Non-Commercials are selling to liquidate longs. In most contract months the true value is below the futures price so Commercials are pushing price away while Non-Commercial selling is pushing price toward true value.

Results – CMEG Soybeans

Market Presence in the Last 20 Days of Trading

Percent of Open Interest

Contract	Commercial	Non-Commercial	Indexer	Money Mgr	Small Trader
200503	42%	15%	0%	7%	36%
200505	43%	12%	1%	9%	35%
200507	33%	24%	3%	7%	33%
200508	48%	13%	0%	5%	33%
200509	51%	13%	0%	5%	31%
200511	45%	12%	1%	8%	34%
200601	33%	20%	2%	9%	36%
200603	28%	26%	1%	7%	38%
200605	31%	22%	2%	10%	36%
200607	30%	29%	1%	11%	29%
200608	34%	25%	0%	7%	33%
200609	32%	22%	0%	12%	33%
200611	32%	28%	1%	8%	32%
200701	34%	26%	2%	9%	29%
200703	32%	28%	1%	8%	31%
200705	31%	30%	2%	5%	33%
200707	32%	30%	2%	11%	26%
200708	39%	27%	0%	8%	26%
200709	35%	28%	0%	8%	28%
200711	37%	28%	1%	16%	17%
200801	27%	27%	2%	15%	29%
200803	26%	29%	1%	9%	35%
200805	39%	20%	1%	15%	25%
Average:	35%	23%	1%	9%	31%

- Large Commercials and Non-Commercials comprise the bulk of open interest in soybean futures during last days of trading.
- Indexers and Money managers are largely absent from the soybean market in the last 20 trading days.

Results – CMEG Soybeans

Sum of Absolute Price Pressure in Last 20 Days

(in cents/bu.)

Contract	Commercials Beneficial	Commercials Detrimental	Non-Commercials Beneficial	Non-Commercials Detrimental	Indexers Beneficial	Indexers Detrimental	Money Managers Beneficial	Money Managers Detrimental	Small Traders Beneficial	Small Traders Detrimental
200503	32	60	50	16	0	3	60	14	94	53
200505	33	8	40	10	6	13	27	23	3	32
200507	136	128	45	101	47	1	114	2	31	43
200508	20	60	86	18	6	0	43	16	32	47
200509	28	71	79	13	0	0	12	18	47	38
200511	25	34	53	18	13	1	21	18	12	52
200601	52	19	16	43	5	11	30	17	49	38
200603	27	16	40	29	27	0	16	28	11	20
200605	28	16	27	8	0	12	39	2	7	39
200607	28	40	62	21	9	3	22	20	5	30
200608	39	26	47	22	0	0	3	15	13	26
200609	25	16	26	10	0	0	8	12	16	17
200611	24	13	45	30	2	5	38	11	10	62
200701	8	61	49	20	22	1	21	0	4	23
200703	15	76	104	12	5	0	14	8	8	36
200705	11	87	47	9	18	4	23	8	21	38
200707	77	159	80	38	37	2	55	9	18	38
200708	23	129	90	14	0	0	50	17	27	47
200709	42	101	94	28	1	0	9	71	24	40
200711	10	149	108	22	17	3	43	2	17	111
200801	140	63	106	27	4	27	22	58	29	66
200803	174	125	198	175	6	7	25	68	101	63
200805	84	256	159	106	46	0	125	15	94	89
Total:	1112	1716	1659	800	271	94	822	453	673	1082
Beneficial as a % of Detrimental:	65%		207%		288%		181%		62%	

- Commercials are buying to liquidate shorts while Non-Commercials are selling to liquidate longs. In most contract months the true value is below the futures price so Commercials are pushing price away while Non-Commercial selling is pushing price toward true value.

Results – CMEG Wheat

Market Presence in the Last 20 Days of Trading

Percent of Open Interest

Contract	Commercial	Non-Commercial	Indexer	Money Mgr	Small Trader
200503	29%	19%	1%	9%	42%
200505	28%	35%	3%	8%	26%
200507	36%	18%	2%	9%	35%
200509	31%	29%	3%	9%	27%
200512	30%	25%	7%	9%	30%
200603	36%	15%	2%	10%	37%
200605	27%	27%	11%	11%	24%
200607	20%	37%	7%	14%	22%
200609	38%	16%	3%	16%	27%
200612	35%	23%	5%	12%	25%
200703	27%	24%	3%	13%	33%
200705	42%	20%	6%	5%	27%
200707	38%	16%	5%	16%	25%
200709	34%	15%	3%	15%	32%
200712	27%	23%	6%	11%	33%
200803	26%	12%	3%	35%	23%
200805	29%	18%	4%	17%	32%
Average:	31%	22%	4%	13%	29%

- Large Commercials and Small Traders comprise the bulk of open interest in wheat futures during last days of trading.
- Indexers were largely absent from the soybean market in the last 20 trading days. Money Managers had a larger presence.

Results – CMEG Wheat

Sum of Absolute Price Pressure in Last 20 Days

(in cents/bu.)

Contract	Commercials		Non-Commercials		Indexers		Money Managers		Small Traders	
	Beneficial	Detrimental	Beneficial	Detrimental	Beneficial	Detrimental	Beneficial	Detrimental	Beneficial	Detrimental
200503	42	13	38	29	0	8	33	7	16	35
200505	17	16	36	29	5	6	6	18	24	10
200507	66	24	73	25	21	5	14	19	8	27
200509	15	25	24	9	13	1	9	11	8	16
200512	17	15	21	12	8	0	1	6	4	15
200603	47	24	35	7	9	4	11	16	3	49
200605	14	32	16	16	8	0	7	28	8	33
200607	5	46	123	15	10	1	12	15	4	48
200609	48	53	19	37	15	0	23	6	14	17
200612	767	58	40	18	29	4	37	24	5	27
200703	26	49	36	11	29	0	23	49	13	27
200705	45	44	46	36	21	2	25	21	8	48
200707	17	90	71	36	31	4	46	39	34	56
200709	119	104	85	32	3	17	37	78	134	56
200712	109	72	114	21	13	65	25	151	69	61
200803	358	267	253	36	21	19	191	248	148	240
200805	6	98	64	29	156	11	49	67	131	36
Total:	1719	1031	1092	397	395	149	550	802	633	801
Beneficial as a % of Detrimental:	167%		275%		265%		69%		79%	

- Commercials exerted the largest amount of price pressure
- Non-Commercials and Indexers show a very high beneficial-to-detrimental ratio, while money managers have a very low ratio.

Results – KC Wheat

Market Presence in the Last 20 Days of Trading

Percent of Open Interest

Contract	Commercial	Non-Commercial	Indexer	Money Mgr	Small Trader
200503	65%	6%	0%	6%	22%
200505	53%	5%	1%	3%	38%
200507	40%	13%	0%	4%	43%
200509	61%	10%	0%	3%	26%
200512	63%	6%	1%	8%	24%
200603	65%	7%	1%	7%	19%
200605	46%	14%	3%	8%	29%
200607	44%	10%	2%	8%	36%
200609	44%	20%	1%	6%	29%
200612	57%	6%	2%	9%	26%
200703	53%	4%	4%	7%	32%
200705	67%	1%	2%	3%	26%
200707	53%	4%	3%	11%	30%
200709	59%	11%	2%	7%	21%
200712	62%	5%	2%	10%	21%
200803	48%	3%	3%	20%	27%
200805	79%	4%	1%	4%	11%
Average:	56%	8%	2%	7%	27%

- Large Commercials comprise the bulk of open interest in Kansas City wheat futures during last days of trading.
- Indexers, Money managers and Large Non-Commercials are largely absent from this market in the last 20 trading days.

Results – KC Wheat

Sum of Absolute Price Pressure in Last 20 Days

(in cents/bu.)

	Commercials		Non-Commercials		Indexers		Money Managers		Small Traders	
Contract	Beneficial	Detrimental	Beneficial	Detrimental	Beneficial	Detrimental	Beneficial	Detrimental	Beneficial	Detrimental
200503	48	26	10	12	0	8	57	0	22	56
200505	37	25	4	8	2	7	6	17	17	26
200507	24	13	6	27	0	4	18	10	27	18
200509	26	28	9	7	0	3	11	15	27	9
200512	43	29	5	15	0	4	4	23	25	6
200603	59	27	6	34	0	6	2	17	79	7
200605	60	63	46	4	32	5	22	10	33	30
200607	85	40	11	19	0	8	1	28	50	13
200609	38	32	25	17	1	11	6	6	30	16
200612	41	50	14	8	9	0	17	16	32	14
200703	63	57	18	6	12	3	20	3	8	39
200705	5	85	17	2	22	3	18	6	68	17
200707	129	6	19	34	8	17	38	57	26	56
200709	88	78	60	20	12	0	14	90	13	158
200712	212	29	38	33	0	24	22	50	41	171
200803	211	365	45	21	33	17	305	60	116	302
200805	158	105	38	56	44	10	64	23	109	44
Total:	1330	1058	371	322	176	131	626	432	723	981
Beneficial as a % of Detrimental:	126%		115%		135%		145%		74%	

- Since Commercials have a dominant market presence, it is not surprising that they show the highest degree of price pressure, both beneficial and detrimental.
- The March08 contract experienced wild price swings near expiration, with money managers adding a large degree of beneficial price pressure.

Results – MN Wheat

Market Presence in the Last 20 Days of Trading

Percent of Open Interest

Contract	Commercial	Non-Commercial	Indexer	Money Mgr	Small Trader
200503	65%	4%	0%	10%	22%
200505	56%	3%	0%	8%	32%
200507	50%	3%	0%	3%	45%
200509	74%	1%	0%	2%	23%
200512	52%	7%	0%	10%	30%
200603	37%	4%	0%	36%	23%
200605	63%	8%	0%	9%	20%
200607	69%	2%	0%	6%	23%
200609	65%	6%	0%	4%	26%
200612	47%	4%	0%	5%	45%
200703	52%	2%	0%	10%	36%
200705	84%	2%	0%	2%	12%
200707	55%	3%	0%	20%	21%
200709	65%	3%	0%	8%	25%
200712	60%	6%	0%	2%	31%
200803	48%	7%	0%	2%	44%
200805	52%	1%	0%	33%	15%
Average:	58%	4%	0%	10%	28%

- Large Commercials comprise the bulk of open interest in Minneapolis wheat futures during last days of trading.
- Indexers, Money managers and Large Non-Commercials are largely absent from this market in the last 20 trading days.

Results – MN Wheat

Sum of Absolute Price Pressure in Last 20 Days

(in cents/bu.)

Contract	Commercials Beneficial	Commercials Detrimental	Non-Commercials Beneficial	Non-Commercials Detrimental	Indexers Beneficial	Indexers Detrimental	Money Managers Beneficial	Money Managers Detrimental	Small Traders Beneficial	Small Traders Detrimental
200503	32	48	33	10	0	0	61	0	15	47
200505	19	16	12	6	0	0	28	27	9	21
200507	29	48	11	12	0	0	8	5	55	34
200509	31	46	15	11	0	0	19	2	55	10
200512	37	5	9	7	0	0	4	26	6	23
200603	54	11	10	8	0	0	24	42	36	7
200605	46	19	42	24	0	0	15	39	13	19
200607	104	12	28	9	0	0	0	18	35	19
200609	19	31	24	7	0	0	8	8	9	37
200612	32	47	23	9	0	0	3	19	43	21
200703	51	25	11	10	0	0	10	16	19	28
200705	41	35	34	6	0	0	1	11	38	18
200707	73	72	38	15	0	0	69	33	54	38
200709	191	45	18	29	0	0	15	70	13	111
200712	188	28	36	36	0	0	15	17	97	218
200803	384	1216	743	39	0	0	208	68	648	407
200805	170	131	13	21	0	0	143	14	69	220
Total:	1501	1835	1100	259	0	0	632	412	1214	1278
Beneficial as a % of Detrimental:	82%		424%				153%		95%	

- Indexers had no presence in this market as it approached expiration.
- Commercials and small, non-reporting traders dominate in the last days.
- March08 experienced wild swings near expiration where detrimental pressure by commercials was offset by beneficial pressure from small traders.

Results – Cotton

Market Presence in the Last 20 Days of Trading

Percent of Open Interest

Contract	Commercial	Non-Commercial	Indexer	Money Mgr	Small Trader
200503	63%	5%	3%	13%	16%
200505	77%	4%	2%	7%	9%
200507	67%	6%	4%	10%	13%
200510	55%	9%	0%	0%	35%
200512	68%	4%	7%	7%	13%
200603	79%	4%	3%	5%	9%
200605	45%	10%	5%	10%	31%
200607	51%	6%	7%	11%	24%
200610	54%	24%	0%	1%	20%
200612	63%	8%	4%	9%	16%
200703	71%	6%	4%	10%	10%
200705	52%	8%	5%	12%	23%
200707	44%	7%	5%	11%	33%
200710	50%	8%	0%	4%	38%
200712	42%	9%	6%	14%	30%
200803	70%	5%	5%	9%	11%
200805	76%	5%	3%	9%	7%
Average:	60%	8%	4%	8%	20%

- Large Commercials dominate the cotton market in the last 20 days of trading.
- Indexers, Money managers and Large Non-Commercials are largely absent from this market in the last 20 trading days.

Results – Cotton

Sum of Absolute Price Pressure in Last 20 Days

(in $/lb.)

Contract	Commercials Beneficial	Commercials Detrimental	Non-Commercials Beneficial	Non-Commercials Detrimental	Indexers Beneficial	Indexers Detrimental	Money Managers Beneficial	Money Managers Detrimental	Small Traders Beneficial	Small Traders Detrimental
200503	7	2	0	1	0	1	4	3	2	7
200505	14	3	1	1	0	3	1	2	1	6
200507	10	2	2	2	0	2	3	1	3	4
200510	7	4	3	2	0	0	0	1	7	5
200512	3	3	1	1	3	1	1	0	2	1
200603	7	6	0	1	2	0	1	0	2	3
200605	6	3	1	2	4	0	0	1	2	3
200607	5	3	1	1	6	0	0	3	5	4
200610	4	3	1	3	0	0	1	0	4	2
200612	5	2	2	1	4	1	1	1	3	3
200703	4	1	1	1	2	0	0	5	0	2
200705	5	3	2	1	3	0	1	2	2	1
200707	9	1	2	1	0	3	1	1	1	7
200710	4	4	2	2	0	0	1	0	5	1
200712	3	4	1	1	4	0	4	0	1	1
200803	30	5	3	2	0	4	1	6	5	19
200805	1	10	5	1	5	0	5	2	6	2
Total:	123	59	28	24	34	15	26	29	52	71
Beneficial as a % of Detrimental:	206%		117%		223%		88%		73%	

- Commercials exert the most pressure and it tends to be beneficial.
- Amidst some wild price activity as the March08 contract expired, commercials exerted a high degree of beneficial pressure—bringing prices back in line with the cash market.

Results – Natural Gas

Market Presence in the Last 20 Days of Trading

Percent of Open Interest

Contract	Commercial	Non-Commercial	Indexer	Money Mgr	Small Trader
200502	27%	11%	15%	30%	17%
200503	22%	12%	18%	28%	19%
200504	23%	8%	12%	37%	19%
200505	29%	6%	14%	30%	20%
200506	27%	7%	13%	32%	21%
200507	27%	11%	13%	30%	19%
200508	33%	7%	11%	30%	19%
200509	23%	8%	12%	41%	16%
200510	25%	12%	15%	33%	15%
200511	29%	12%	18%	25%	15%
200512	29%	11%	17%	27%	17%
200601	28%	15%	16%	25%	16%
200602	26%	12%	16%	31%	14%
200603	23%	10%	21%	32%	14%
200604	23%	12%	15%	33%	17%
200605	23%	11%	20%	34%	13%
200606	22%	9%	15%	39%	15%
200607	24%	14%	19%	28%	15%
200608	26%	12%	16%	31%	15%
200609	24%	12%	13%	39%	12%
200610	26%	12%	12%	38%	12%

Results – Natural Gas (cont'd)

Market Presence in the Last 20 Days of Trading

Percent of Open Interest

Contract	Commercial	Non-Commercial	Indexer	Money Mgr	Small Trader
200611	25%	13%	19%	31%	12%
200612	24%	13%	17%	30%	16%
200701	27%	12%	20%	27%	14%
200702	22%	9%	16%	35%	18%
200703	22%	10%	17%	41%	11%
200704	28%	8%	16%	34%	15%
200705	24%	15%	20%	29%	12%
200706	23%	16%	16%	26%	19%
200707	25%	11%	21%	29%	13%
200708	22%	10%	13%	40%	14%
200709	22%	13%	18%	31%	16%
200710	19%	11%	17%	38%	14%
200711	16%	11%	20%	38%	15%
200712	25%	10%	16%	35%	15%
200801	23%	9%	22%	33%	13%
200802	24%	11%	18%	33%	15%
200803	15%	12%	18%	43%	12%
200804	16%	17%	13%	42%	11%
200805	16%	9%	13%	49%	13%
200806	13%	9%	10%	56%	12%
200807	15%	10%	11%	50%	13%
Average:	23%	11%	16%	34%	15%

- Surprisingly, money managers had a very large presence in the last days of the natural gas contracts.
- Indexers remained in this market longer and with a bigger presence than they do in the other markets.

Results – Natural Gas

Sum of Absolute Price Pressure in Last 20 Days

(in $/MMBtu)

	Commercials		Non-Commercials		Indexers		Money Managers		Small Traders	
Contract	Beneficial	Detrimental	Beneficial	Detrimental	Beneficial	Detrimental	Beneficial	Detrimental	Beneficial	Detrimental
200502	0.3	0.3	0.2	0.1	0.5	0.7	1.6	0.2	0.3	0.2
200503	0.1	0.4	0.4	0.0	0.3	0.4	1.1	0.2	0.4	0.1
200504	0.2	0.2	0.1	0.1	0.2	0.5	0.9	0.2	0.3	0.2
200505	0.3	0.4	0.2	0.1	0.8	0.1	0.6	0.5	0.3	0.3
200506	0.3	0.4	0.1	0.1	0.5	0.0	0.5	0.6	0.3	0.1
200507	0.2	0.3	0.4	0.2	0.2	0.9	1.6	0.2	0.8	0.2
200508	0.4	0.6	0.1	0.3	0.7	0.4	1.0	0.5	0.8	0.6
200509	0.8	0.1	1.3	1.0	0.4	1.3	1.6	0.5	1.0	0.3
200510	1.1	0.9	1.8	0.7	0.6	1.2	2.3	0.7	0.8	1.6
200511	1.5	0.9	3.2	0.3	1.8	1.9	2.9	0.9	0.3	1.8
200512	0.3	1.1	1.0	0.3	1.7	0.5	3.2	0.8	1.7	1.2
200601	1.0	2.7	1.5	3.4	4.3	0.6	1.9	3.9	3.0	0.9
200602	0.1	1.9	1.6	0.7	2.8	0.6	1.8	1.0	1.1	0.5
200603	0.5	0.9	0.4	2.0	2.6	0.4	1.8	0.5	1.3	0.4
200604	0.7	0.5	0.4	0.6	0.1	0.6	1.5	0.1	0.6	0.1
200605	0.7	0.2	0.4	0.2	0.1	1.6	2.2	0.6	0.8	0.6
200606	0.8	0.7	0.3	0.6	1.7	0.0	1.0	1.0	0.2	0.4
200607	0.4	0.6	0.9	0.3	1.6	0.3	0.6	1.9	1.2	0.4
200608	0.2	0.3	0.9	0.5	0.1	1.5	2.9	0.3	0.3	0.7
200609	0.2	1.1	0.6	0.7	3.1	0.1	2.0	1.6	0.3	0.4
200610	0.4	0.7	0.2	0.7	1.3	0.0	2.0	0.3	0.4	0.2
200611	1.4	0.3	0.9	1.2	0.3	2.0	2.6	0.0	0.9	0.4

Results – Natural Gas

Sum of Absolute Price Pressure in Last 20 Days

($/MMBtu)

Contract	Commercials Beneficial	Commercials Detrimental	Non-Commercials Beneficial	Non-Commercials Detrimental	Indexers Beneficial	Indexers Detrimental	Money Managers Beneficial	Money Managers Detrimental	Small Traders Beneficial	Small Traders Detrimental
200612	1.2	0.3	0.5	0.4	0.4	1.2	1.3	0.7	0.6	0.4
200701	0.7	0.6	0.4	0.5	1.3	0.2	1.1	0.9	1.4	0.6
200702	1.8	1.0	0.7	0.6	0.1	1.3	2.3	0.2	0.4	0.2
200703	1.4	0.5	0.3	0.5	1.0	0.6	1.0	0.5	0.3	0.2
200704	0.6	0.2	0.2	0.4	0.2	1.0	1.4	0.2	0.2	0.1
200705	0.4	0.4	0.3	0.5	0.9	0.2	0.3	0.8	0.5	0.1
200706	0.2	0.2	0.1	0.3	1.1	0.0	0.2	0.8	0.3	0.2
200707	0.7	0.3	0.4	0.4	1.3	0.1	0.4	1.3	0.2	0.2
200708	1.1	0.2	0.3	0.3	1.5	0.1	0.7	1.5	0.3	0.4
200709	0.5	0.6	0.2	0.5	1.6	0.2	1.5	1.4	0.2	0.3
200710	1.3	0.2	1.2	0.5	0.9	1.1	1.3	1.1	0.3	0.4
200711	0.4	0.2	0.2	0.9	0.7	1.3	2.8	0.4	0.4	0.1
200712	0.3	1.1	0.8	0.3	1.6	0.0	0.9	1.4	0.2	0.5
200801	0.3	0.4	0.2	0.4	1.6	0.3	0.8	0.3	0.6	0.1
200802	0.7	0.5	0.6	0.5	0.7	0.4	0.9	0.7	0.6	0.2
200803	0.4	0.2	0.9	0.1	0.0	1.1	1.5	0.3	0.3	0.2
200804	1.3	1.0	0.2	0.5	1.0	0.6	1.8	0.3	0.9	0.4
200805	0.7	0.3	0.9	0.3	0.2	1.6	2.1	0.5	0.5	0.5
200806	0.9	0.2	0.9	0.6	0.1	0.8	2.1	1.4	0.4	0.9
Total:	27	24	26	22	42	28	62	31	26	17
Beneficial as a % of Detrimental:	111%		117%		150%		199%		147%	

- Indexers and Money managers had the highest beneficial-to-detrimental ratios.
- Commercials and Non-commercials exerted similar price pressure.

Results – Crude Oil

Market Presence in the Last 20 Days of Trading

Percent of Open Interest

Contract	Commercial	Non-Commercial	Indexer	Money Mgr	Small Trader
200502	42%	10%	21%	9%	18%
200503	39%	10%	23%	10%	18%
200504	39%	9%	20%	14%	18%
200505	38%	10%	23%	14%	16%
200506	39%	11%	23%	12%	15%
200507	38%	10%	23%	12%	18%
200508	37%	10%	21%	13%	18%
200509	35%	13%	20%	14%	18%
200510	33%	11%	22%	16%	18%
200511	36%	11%	26%	12%	16%
200512	31%	13%	20%	19%	17%
200601	30%	15%	28%	12%	16%
200602	34%	12%	24%	15%	16%
200603	35%	11%	24%	16%	13%
200604	34%	12%	24%	15%	14%
200605	31%	13%	28%	13%	14%
200606	36%	15%	15%	20%	15%
200607	34%	12%	24%	17%	14%
200608	33%	15%	22%	17%	15%
200609	34%	16%	20%	16%	14%
200610	35%	14%	19%	18%	14%
200611	33%	16%	21%	16%	13%
200612	34%	15%	18%	19%	14%

Results – Crude Oil (cont'd)

Market Presence in the Last 20 Days of Trading

Percent of Open Interest

Contract	Commercial	Non-Commercial	Indexer	Money Mgr	Small Trader
200701	30%	14%	25%	18%	13%
200702	32%	10%	22%	21%	15%
200703	26%	13%	30%	19%	13%
200704	31%	13%	25%	18%	13%
200705	34%	10%	29%	16%	11%
200706	36%	12%	21%	18%	13%
200707	33%	12%	25%	19%	11%
200708	31%	11%	21%	23%	14%
200709	30%	13%	21%	22%	14%
200710	32%	13%	21%	21%	13%
200711	29%	13%	21%	21%	15%
200712	32%	19%	18%	19%	12%
200801	29%	14%	28%	16%	12%
200802	32%	13%	23%	19%	14%
200803	27%	14%	25%	20%	14%
200804	31%	14%	23%	18%	14%
200805	30%	17%	22%	16%	14%
200806	27%	17%	21%	19%	16%
200807	31%	17%	21%	16%	15%
Average:	33%	13%	23%	17%	15%

- As with natural gas, money managers kept a relatively large presence as expiration approached.
- Indexers also kept a bigger presence closer to expiration than is seen with the agricultural contracts. This suggests at least some indexers are not following commodity index guidelines that would have them roll positions before the last 20 days.

Results – Crude Oil

Sum of Absolute Price Pressure in Last 20 Days

($/barrel)

Contract	Commercials Beneficial	Commercials Detrimental	Non-Commercials Beneficial	Non-Commercials Detrimental	Indexers Beneficial	Indexers Detrimental	Money Managers Beneficial	Money Managers Detrimental	Small Traders Beneficial	Small Traders Detrimental
200502	4.1	0.7	1.4	0.9	0.1	2.8	2.9	0.7	3.2	0.2
200503	5.6	0.5	1.4	0.6	0.6	4.9	2.2	4.1	3.4	1.7
200504	4.9	1.3	3.1	0.8	0.7	2.9	5.0	1.7	1.1	0.7
200505	3.2	5.0	1.2	2.4	13.1	1.6	5.1	3.4	2.6	3.6
200506	0.7	6.9	0.5	1.8	10.3	1.0	6.9	2.9	3.4	2.6
200507	9.7	0.4	2.8	0.9	0.3	11.1	7.9	1.9	4.1	1.5
200508	2.0	7.1	1.4	4.0	10.4	2.1	8.1	1.9	3.0	2.3
200509	8.0	2.7	2.5	2.3	2.9	5.6	6.4	1.6	3.0	0.8
200510	3.7	7.8	1.3	3.0	9.0	4.1	6.8	1.7	7.0	2.6
200511	4.4	7.0	4.1	1.6	8.4	5.0	5.1	2.3	2.7	1.0
200512	0.4	4.4	3.6	1.2	9.3	0.8	5.0	5.4	1.3	2.0
200601	1.9	6.3	0.5	2.8	8.7	1.8	6.3	1.6	1.4	2.4
200602	8.9	1.2	2.0	2.7	1.4	3.2	3.3	1.8	2.2	1.3
200603	4.7	5.3	0.9	2.8	12.6	0.6	6.4	1.8	1.6	2.6
200604	4.3	7.2	4.1	2.9	5.9	5.2	10.3	1.3	5.5	1.0
200605	5.3	1.7	1.7	1.9	0.2	6.1	6.8	0.3	5.1	0.9
200606	0.7	11.2	2.8	3.5	9.1	0.5	11.0	3.3	3.7	0.7
200607	0.1	9.5	2.6	3.6	11.9	0.5	3.0	3.6	2.8	0.9
200608	3.0	4.4	1.8	1.7	5.6	2.9	5.1	0.6	2.0	0.8
200609	2.4	6.1	2.4	3.1	10.1	0.7	7.1	3.2	1.0	2.5
200610	0.1	4.9	3.7	1.2	11.4	1.4	3.2	1.8	3.2	0.6
200611	2.3	4.0	4.1	2.7	10.7	0.8	3.3	4.5	1.9	4.5
200612	4.4	6.2	2.9	2.0	9.6	2.4	3.7	2.5	2.4	3.7

Results – Crude Oil (cont'd)

Sum of Absolute Price Pressure in Last 20 Days

($/barrel)

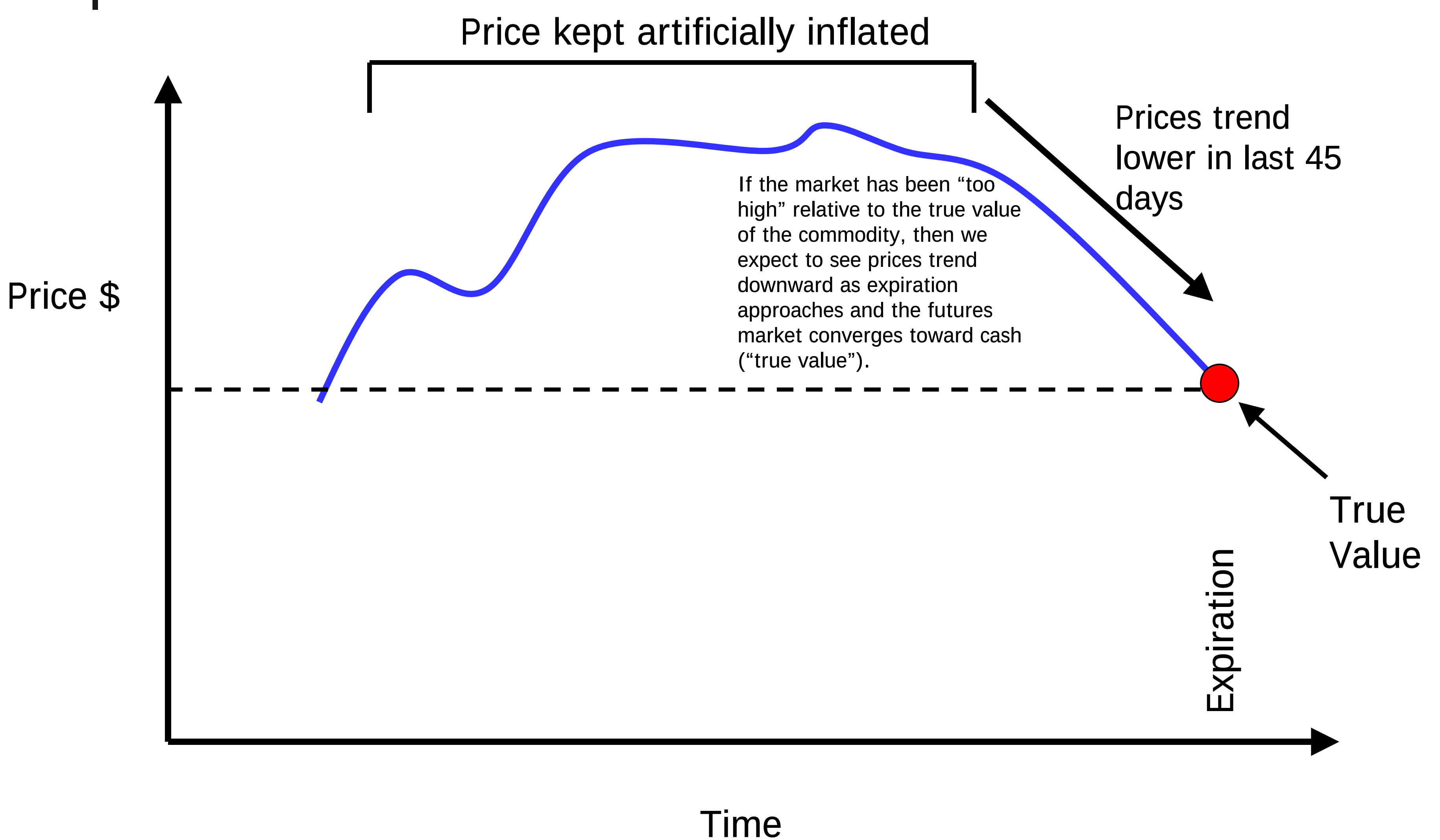
Contract	Commercials Beneficial	Commercials Detrimental	Non-Commercials Beneficial	Non-Commercials Detrimental	Indexers Beneficial	Indexers Detrimental	Money Managers Beneficial	Money Managers Detrimental	Small Traders Beneficial	Small Traders Detrimental
200701	3.8	1.0	1.5	1.4	3.9	3.9	3.9	1.7	2.1	1.2
200702	1.3	4.1	0.8	2.0	17.0	0.0	6.4	4.3	0.7	2.2
200703	8.3	1.4	2.0	4.4	7.7	4.7	11.0	3.3	1.5	1.2
200704	1.5	4.6	0.7	2.7	10.6	0.3	1.4	3.2	0.5	1.7
200705	3.5	3.0	1.6	2.2	7.2	1.7	7.3	2.5	1.7	0.4
200706	4.5	1.2	1.1	1.7	3.9	6.8	10.1	1.1	2.0	2.0
200707	7.6	0.1	2.1	1.4	0.0	10.2	8.0	5.6	2.4	0.6
200708	5.8	0.4	1.8	1.3	0.0	5.0	6.5	2.5	1.0	0.4
200709	0.8	5.3	4.3	3.4	9.9	1.4	7.0	7.5	2.3	2.8
200710	7.7	0.9	3.4	1.7	1.0	4.9	7.3	0.9	2.1	1.5
200711	8.8	1.2	7.3	1.9	1.3	10.4	7.6	4.3	3.4	2.1
200712	5.3	6.3	16.0	7.6	7.6	6.9	7.8	3.3	11.8	3.2
200801	6.9	1.7	7.6	7.6	5.5	9.6	15.9	5.9	2.7	4.4
200802	1.2	7.9	4.8	8.1	14.2	0.2	4.8	5.6	3.0	3.5
200803	16.7	0.7	7.2	2.0	0.4	12.3	6.2	7.3	4.3	1.7
200804	17.2	3.3	12.6	0.6	1.5	13.1	13.0	3.5	3.4	6.4
200805	13.0	2.0	14.7	2.4	2.2	15.0	9.0	5.1	3.3	2.7
200806	18.4	1.2	6.0	3.2	0.3	13.5	8.4	7.8	5.5	3.9
Total:	217	158	148	106	256	188	272	129	121	83
Beneficial as a % of Detrimental:	137%		140%		136%		211%		146%	

- Both Indexers and Money Managers exhibited more beneficial pressure than detrimental during the last 20 days of trading.
- Money Managers had the highest B/D ratio.

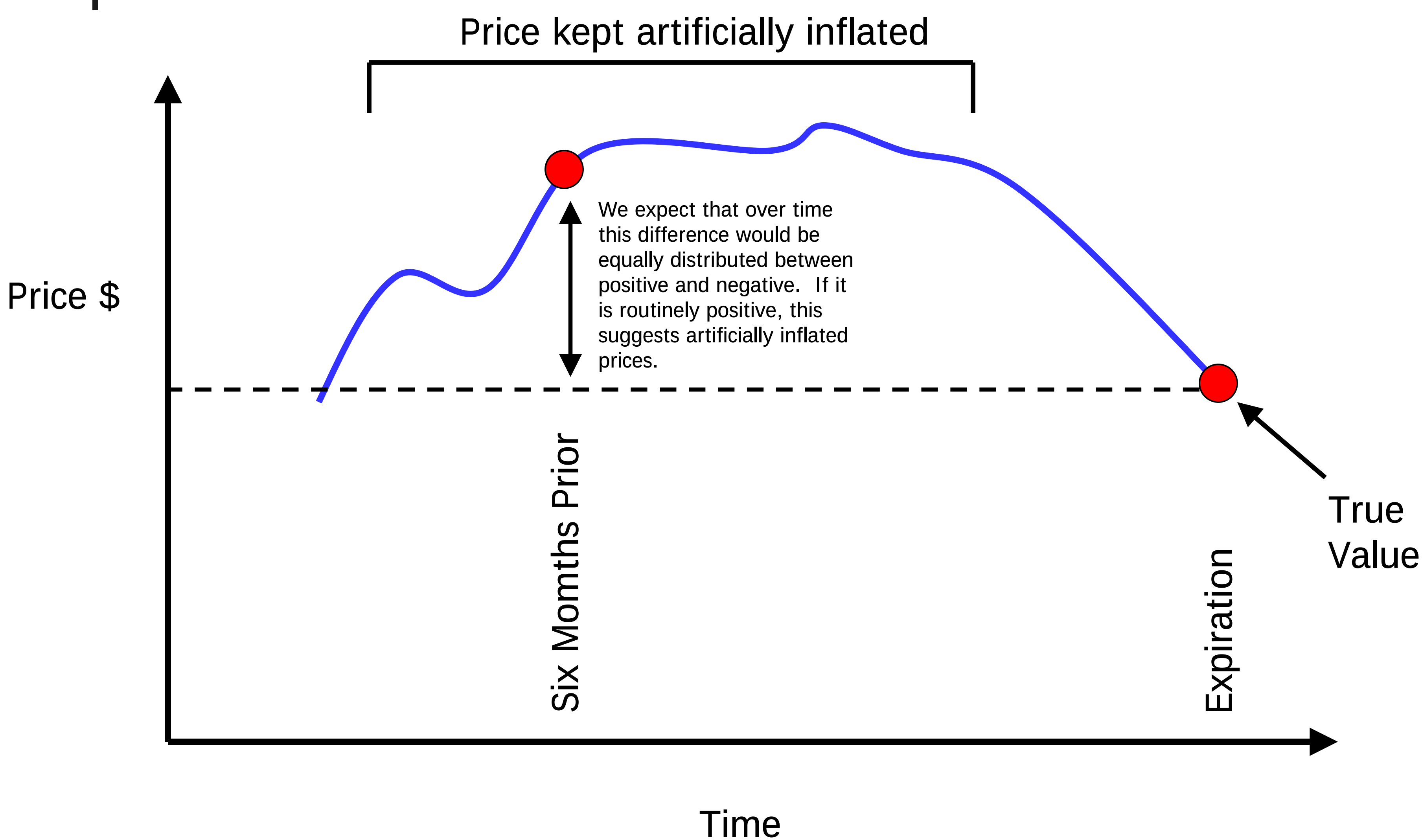
Price Trend Analysis

- This section of the study was designed to test if the growing role of index traders and money managers are hurting the price discovery process by routinely keeping futures prices "too high".
- Two approaches are used, Convergence Trends and a 6-month Comparison.
  - Convergence Trends – here we measure how prices trend during the last 45 trading days. A simple linear regression of prices on trend is used. If the slope is negative, prices are trending lower in the last 45 days.
  - Six-Month Comparison – here we compare prices six months prior to expiration with their value at expiration (true value). The six month prior price is a 10-day average.

Convergence Trend Concept



Six-Month Comparison



Convergence Trend Results, Corn

(Missing values indicate slopes not significantly different from zero at the 5% level)

Contract	Slope
May 04	-0.291
Jul 04	-1.433
Sep 04	-0.325
Dec 04	-0.278
Mar 05	0.313
May 05	-0.523
Jul 05	0.501
Sep 05	-1.240
Dec 05	-0.330
Mar 06	0.370
May 06	0.248
Jul 06	-0.432
Sep 06	-0.621
Dec 06	1.332
Mar 07	0.576
May 07	-1.100
Jul 07	-0.920
Sep 07	0.213
Dec 07	1.087
Mar 08	1.638
May 08	1.406
Jul 08	3.564
Sep 08	-1.983

Number UP:	11
Number DOWN:	12
Average:	0.077

- Over the last 23 contracts the number of negative slopes is nearly equal to the number of positive slopes. This is what we would expect from an unbiased market.
- Five of the last 6 contracts trended higher into expiration, suggesting that prices were “too low” rather than too high.

Six-Month Comparison, Corn

Contract	Price at Delivery	Price 120 Days Before Delivery	Difference
May 04	286.50	246.33	40.18
Jul 04	242.00	274.35	-32.35
Sep 04	206.50	307.08	-100.58
Dec 04	195.00	284.00	-89.00
Mar 05	214.50	228.43	-13.93
May 05	195.25	219.45	-24.20
Jul 05	245.25	214.15	31.10
Sep 05	195.00	231.90	-36.90
Dec 05	194.25	247.65	-53.40
Mar 06	218.75	221.55	-2.80
May 06	248.25	216.65	31.60
Jul 06	253.50	228.30	25.20
Sep 06	223.00	243.00	-20.00
Dec 06	358.75	256.53	102.23
Mar 07	389.50	257.25	132.25
May 07	358.00	371.55	-13.55
Jul 07	341.50	410.43	-68.93
Sep 07	336.50	406.60	-70.10
Dec 07	420.00	396.65	23.35
Mar 08	545.50	373.95	171.55
May 08	589.75	407.83	181.93
Jul 08	657.00	514.80	142.20
Sep 08	547.50	558.23	-10.73
		Number Positive:	10
		Number Negative:	13
		Average:	15.01

- Six months out, corn futures have been too high in 13 of the last 23 contracts.
- Four of the last 5 contracts were under-priced six months prior to expiration.
- Conclusion: No strong evidence of routine mis-pricing in corn futures.

Convergence Trend Results, Soybeans

Contract	Slope
Jul 05	1.876
Aug 05	-1.385
Sep 05	-3.417
Nov 05	2.267
Jan 06	0.551
Mar 06	
May 06	0.325
Jul 06	0.358
Aug 06	-0.921
Sep 06	-1.783
Nov 06	
Jan 07	
Mar 07	1.522
May 07	-0.938
Jul 07	1.994
Aug 07	
Sep 07	1.157
Nov 07	
Jan 08	5.259
Mar 08	5.078
May 08	
Jul 08	7.658
Aug 08	-8.766
Sep 08	-5.671

Number UP:	11
Number DOWN:	7
Average:	0.287

(Missing values indicate slopes not significantly different from zero at the 5% level)

- Over the last 24 contracts, more have trended up into expiration than trended down.
- The last two contracts trended sharply lower into expiration, suggesting that futures were overpriced. This is balanced however by the three contracts earlier in 2008 where futures trended higher into expiration.

Six-Month Comparison, Soybeans

Contract	Price at Delivery	Price 120 Days Before Delivery	Difference
Jul 05	723.00	534.58	188.43
Aug 05	643.00	548.35	94.65
Sep 05	569.50	631.80	-62.30
Nov 05	727.75	541.10	186.65
Jan 06	565.00	705.10	-140.10
Mar 06	574.75	597.13	-22.38
May 06	600.00	598.63	1.38
Jul 06	609.00	580.85	28.15
Aug 06	549.75	610.63	-60.88
Sep 06	532.00	597.33	-65.33
Nov 06	626.75	612.23	14.53
Jan 07	706.00	626.10	79.90
Mar 07	736.50	571.00	165.50
May 07	762.25	684.75	77.50
Jul 07	700.25	641.85	58.40
Aug 07	850.00	798.60	51.40
Sep 07	941.00	789.30	151.70
Nov 07	629.00	617.50	11.50
Jan 08	1297.00	896.20	400.80
Mar 08	1340.00	985.58	354.43
May 08	1371.00	1087.25	283.75
Jul 08	1595.00	1299.23	295.78
Aug 08	1245.50	1410.95	-165.45
Sep 08	1490.00	1288.70	201.30
		Number Positive:	18
		Number Negative:	6
		Average:	88.72

- Six months out, corn futures have been too low in 18 of the last 24 contracts.
- 13 of the last 14 contracts were under-priced six months out.
- Conclusion: No evidence of routine over-pricing in soybean futures. If anything the evidence favors a bias to the downside.

Convergence Trend Results, Chicago Wheat

(Missing values indicate slopes not significantly different from zero at the 5% level)

Contract	Slope
May 04	-0.641
Jul 04	1.213
Sep 04	-0.476
Dec 04	-0.748
Mar 05	0.956
May 05	-1.204
Jul 05	0.419
Sep 05	-0.805
Dec 05	-0.945
Mar 06	1.130
May 06	0.281
Jul 06	-0.953
Sep 06	
Dec 06	-1.045
Mar 07	
May 07	0.867
Jul 07	1.724
Sep 07	5.644
Dec 07	5.908
Mar 08	7.123
May 08	-9.240
Jul 08	2.377
Sep 08	-1.392

Number UP:	11
Number DOWN:	10
Average:	0.485

- The last 23 contracts have been nearly equally split between those that trended up into expiration and those that trended down.
- Five of the last 6 contracts trended higher into expiration, suggesting that prices were too low rather than too high.

Six-Month Comparison, Chicago Wheat

Contract	Price at Delivery	Price 120 Days Before Delivery	Difference
May 04	354.00	394.18	-40.18
Jul 04	377.25	322.95	54.30
Sep 04	327.25	396.43	-69.18
Dec 04	285.00	368.40	-83.40
Mar 05	348.00	341.80	6.20
May 05	296.50	326.23	-29.73
Jul 05	338.00	314.95	23.05
Sep 05	311.50	363.33	-51.83
Dec 05	309.50	351.78	-42.28
Mar 06	352.00	338.73	13.28
May 06	394.00	334.23	59.78
Jul 06	366.00	348.80	17.20
Sep 06	377.00	374.40	2.60
Dec 06	477.00	401.23	75.78
Mar 07	446.00	422.33	23.68
May 07	489.00	500.98	-11.98
Jul 07	581.00	490.05	90.95
Sep 07	838.00	484.23	353.78
Dec 07	874.00	489.40	384.60
Mar 08	1160.00	867.15	292.85
May 08	761.00	769.00	-8.00
Jul 08	810.000	840.475	-30.48
Sep 08	703.750	1112.050	-408.30
		Number Positive:	13
		Number Negative:	10
		Average:	27.07

- Since May of 2004, more contracts have been under-priced than over-priced six months prior to expiration.
- 10 of the last 14 contracts were under-priced six months out.
- Conclusion: No evidence of routine over-pricing in Chicago wheat futures. If anything, the evidence favors a bias to the downside.

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Convergence Trend Results, Kansas City Wheat

Contract	Slope
May 04	-0.620
Jul 04	-0.848
Sep 04	-0.789
Dec 04	0.164
Mar 05	0.735
May 05	-0.570
Jul 05	0.373
Sep 05	
Dec 05	-0.555
Mar 06	1.691
May 06	0.960
Jul 06	
Sep 06	-0.980
Dec 06	-0.781
Mar 07	0.515
May 07	
Jul 07	3.839
Sep 07	4.936
Dec 07	2.671
Mar 08	7.878
May 08	-8.252
Jul 08	1.967
Sep 08	-1.079

Number UP:	11
Number DOWN:	9
Average:	0.563

(Missing values indicate slopes not significantly different from zero at the 5% level)

- Again, the split is nearly equal between those that trended higher into expiration and those that trended lower.
- In only six of the last 20 contracts did prices trend lower into expiration as would be expected if some trader group were keeping prices artificially inflated.

Six-Month Comparison, Kansas City Wheat

Contract	Price at Delivery	Price 120 Days Before Delivery	Difference
May 04	387.50	385.18	2.32
Jul 04	355.25	388.88	-33.63
Sep 04	348.50	399.83	-51.33
Dec 04	349.50	389.73	-40.23
Mar 05	369.00	362.60	6.40
May 05	330.00	350.98	-20.98
Jul 05	341.00	318.63	22.38
Sep 05	354.00	359.35	-5.35
Dec 05	361.00	352.13	8.88
Mar 06	414.00	358.28	55.73
May 06	475.00	362.85	112.15
Jul 06	487.00	378.40	108.60
Sep 06	448.00	420.60	27.40
Dec 06	499.50	491.75	7.75
Mar 07	495.25	479.78	15.48
May 07	476.00	526.08	-50.08
Jul 07	608.50	495.28	113.23
Sep 07	807.00	494.90	312.10
Dec 07	1000.00	606.50	393.50
Mar 08	1217.00	841.45	375.55
May 08	811.00	780.70	30.30
Jul 08	845.00	897.85	-52.85
Sep 08	741.50	1146.43	-404.93
		Number Positive:	15
		Number Negative:	8
		Average:	40.54

- Since May of 2004, more contracts have been under-priced than over-priced six months prior to expiration.
- 12 of the last 15 contracts were under-priced six months out.
- Conclusion: No evidence of routine over-pricing in Kansas City wheat futures. If anything, the evidence favors a bias to the downside.

Convergence Trend Results, Minneapolis Wheat

(Missing values indicate slopes not significantly different from zero at the 5% level)

Contract	Slope
May 04	-0.561
Jul 04	-0.948
Sep 04	
Dec 04	-0.955
Mar 05	0.344
May 05	-1.056
Jul 05	0.443
Sep 05	0.255
Dec 05	-0.364
Mar 06	1.059
May 06	0.722
Jul 06	1.360
Sep 06	-1.621
Dec 06	-0.445
Mar 07	0.431
May 07	1.079
Jul 07	3.273
Sep 07	3.795
Dec 07	5.372
Mar 08	19.168
May 08	-5.258
Jul 08	
Sep 08	-1.343
Number UP:	12
Number DOWN:	9
Average:	1.179

- Another near-equal split between those contracts that trended higher into expiration and those that trended lower.
- Only 2 of the last 9 contracts trended lower into expiration.

Six-Month Comparison, Minneapolis Wheat

Contract	Price at Delivery	Price 120 Days Before Delivery	Difference
May 04	412.00	391.43	20.58
Jul 04	370.00	398.23	-28.23
Sep 04	370.00	437.28	-67.28
Dec 04	341.00	403.98	-62.98
Mar 05	370.00	386.45	-16.45
May 05	323.00	374.18	-51.18
Jul 05	356.00	339.35	16.65
Sep 05	385.00	372.40	12.60
Dec 05	370.50	364.83	5.68
Mar 06	423.00	352.25	70.75
May 06	452.00	375.13	76.88
Jul 06	520.00	388.85	131.15
Sep 06	426.50	411.98	14.53
Dec 06	510.00	465.58	44.43
Mar 07	500.00	465.25	34.75
May 07	540.50	520.60	19.90
Jul 07	642.00	506.43	135.58
Sep 07	797.00	515.38	281.63
Dec 07	1130.00	609.45	520.55
Mar 08	1730.00	816.83	913.18
May 08	1300.00	798.98	501.03
Jul 08	981.00	1021.28	-40.28
Sep 08	771.50	1149.65	-378.15
		Number Positive:	16
		Number Negative:	7
		Average:	93.71

- Since May of 2004, far more contracts have been under-priced than over-priced six months prior to expiration.
- 15 of the last 17 contracts were under-priced six months out.
- Conclusion: No evidence of routine over-pricing in Minneapolis wheat futures. If anything, the evidence favors a bias to the downside.

Convergence Trend Results, Cotton

(Missing values indicate slopes not significantly different from zero at the 5% level)

Contract	Slope
May 04	-0.125
Jul 04	-0.461
Oct 04	0.093
Dec 04	
Mar 05	0.078
May 05	0.122
Jul 05	-0.068
Oct 05	0.114
Dec 05	-0.177
Mar 06	
May 06	-0.124
Jul 06	-0.046
Oct 06	-0.142
Dec 06	-0.024
Mar 07	
May 07	-0.200
Jul 07	0.274
Oct 07	0.109
Dec 07	-0.145
Mar 08	0.286
May 08	-0.309
Jul 08	

Number UP:	7
Number DOWN:	11
Average:	-0.041

- Of the last 22 futures expirations, 11 were over-priced, 7 were under priced and 4 were correctly priced.
- Only 3 of the last 14 contracts trended higher into expiration.
- Evidence of bias is very weak, but favors over-pricing.

Six-Month Comparison, Cotton

Contract	Price at Delivery	Price 120 Days Before Delivery	Difference
May 04	63.75	80.60	-16.85
Jul 04	44.87	76.56	-31.69
Oct 04	46.87	63.87	-17.00
Dec 04	44.00	56.22	-12.22
Mar 05	50.42	53.87	-3.45
May 05	53.79	44.89	8.90
Jul 05	46.95	48.86	-1.91
Oct 05	52.20	55.79	-3.59
Dec 05	49.62	51.06	-1.44
Mar 06	53.62	52.44	1.18
May 06	49.44	55.35	-5.91
Jul 06	47.50	57.25	-9.75
Oct 06	47.80	56.95	-9.15
Dec 06	49.00	57.83	-8.83
Mar 07	54.34	57.12	-2.78
May 07	46.70	54.80	-8.10
Jul 07	61.00	56.29	4.72
Oct 07	59.48	55.48	4.01
Dec 07	58.10	58.19	-0.09
Mar 08	81.68	63.72	17.96
May 08	66.25	70.26	-4.01
Jul 08	67.88	73.40	-5.52
		Number Positive:	5
		Number Negative:	17
		Average:	-4.80

- Since May of 2004, far more contracts have been over-priced than under-priced six months prior to expiration.
- 17 of the last 22 contracts were over-priced six months out.
- Conclusion: The evidence favors a persistent upward bias in cotton futures. Index traders could be playing a role here. However, six months out index participation is typically low in cotton futures (See Part 1). More likely, large speculators and money managers are responsible for elevated price levels.

Convergence Trend Results, Natural Gas

(Missing values indicate slopes not significantly different from zero at the 5% level)

Contract	Slope
Aug 06	-0.014
Sep 06	0.025
Oct 06	-0.082
Nov 06	-0.036
Dec 06	0.014
Jan 07	-0.039
Feb 07	-0.046
Mar 07	0.030
Apr 07	-0.009
May 07	
Jun 07	
Jul 07	-0.017
Aug 07	-0.055
Sep 07	-0.022
Oct 07	-0.013
Nov 07	0.013
Dec 07	
Jan 08	-0.039
Feb 08	0.016
Mar 08	0.035
Apr 08	-0.012
May 08	-0.012
Jun 08	-0.012
Jul 08	-0.012
Aug 08	-0.010
Sep 08	0.007

Number UP:	7
Number DOWN:	16
Average:	-0.013

- In 16 of the last 26 futures contracts have trended lower into expiration, suggesting that they were over-priced.
- Only 4 of the last 18 contracts trended higher into expiration.
- This market shows signs of being biased to the high side.

Six-Month Comparison, Natural Gas

Contract	Price at Delivery	Price 120 Days Before Delivery	Difference
Aug 06	7.042	9.226	-2.18
Sep 06	6.816	7.545	-0.73
Oct 06	4.201	8.077	-3.88
Nov 06	7.153	9.348	-2.20
Dec 06	8.318	9.720	-1.40
Jan 07	5.838	10.313	-4.48
Feb 07	6.917	11.072	-4.15
Mar 07	7.547	10.903	-3.36
Apr 07	7.558	7.172	0.39
May 07	7.508	7.627	-0.12
Jun 07	7.591	8.070	-0.48
Jul 07	6.929	6.946	-0.02
Aug 07	6.110	7.708	-1.60
Sep 07	5.430	7.774	-2.34
Oct 07	6.423	8.124	-1.70
Nov 07	7.269	8.900	-1.63
Dec 07	7.203	9.613	-2.41
Jan 08	7.172	8.880	-1.71
Feb 08	7.996	8.658	-0.66
Mar 08	8.930	7.782	1.15
Apr 08	8.59	9.30	-0.72
May 08	8.57	9.55	-0.97
Jun 08	8.65	10.07	-1.42
Jul 08	8.74	10.43	-1.69
Aug 08	8.80	11.29	-2.49
Sep 08	8.82	12.23	-3.41
		Number Positive:	2
		Number Negative:	24
		Average:	-1.70

- Since August of 2006, far more contracts have been over-priced than over-priced six months prior to expiration.
- 24 of the last 26 contracts were over-priced six months out.
- Conclusion: The evidence favors a persistent upward bias in natural gas futures. Index traders could be playing a role here.

Convergence Trend Results, Crude Oil

(Missing values indicate slopes not significantly different from zero at the 5% level)

Contract	Slope
Aug 06	0.085
Sep 06	
Oct 06	-0.340
Nov 06	-0.404
Dec 06	-0.122
Jan 07	
Feb 07	-0.248
Mar 07	-0.130
Apr 07	0.114
May 07	0.061
Jun 07	
Jul 07	
Aug 07	0.218
Sep 07	0.063
Oct 07	0.117
Nov 07	0.393
Dec 07	0.466
Jan 08	
Feb 08	
Mar 08	
Apr 08	0.528
May 08	0.528
Jun 08	0.528
Jul 08	0.346
Aug 08	0.218
Sep 08	-0.718
Number UP:	13
Number DOWN:	6
Average:	0.090

- 13 of the last 26 futures contracts have trended higher into expiration, while 6 have trended lower.
- Only 1 of the last 18 contracts trended lower into expiration.
- The evidence suggests this market has been routinely under-priced over the last year and a half.

Six-Month Comparison, Crude Oil

Contract	Price at Delivery	Price 120 Days Before Delivery	Difference
Aug 06	73.08	68.54	4.54
Sep 06	72.63	65.56	7.07
Oct 06	60.46	66.89	-6.43
Nov 06	56.82	76.04	-19.22
Dec 06	55.81	73.39	-17.58
Jan 07	63.15	73.16	-10.01
Feb 07	51.13	77.30	-26.17
Mar 07	58.07	75.97	-17.90
Apr 07	56.73	66.63	-9.90
May 07	63.38	64.77	-1.39
Jun 07	64.97	64.57	0.40
Jul 07	68.19	65.91	2.28
Aug 07	75.57	57.35	18.22
Sep 07	69.47	64.41	5.06
Oct 07	83.32	67.00	16.32
Nov 07	87.56	69.00	18.56
Dec 07	95.10	68.77	26.33
Jan 08	90.49	71.10	19.39
Feb 08	89.85	74.01	15.84
Mar 08	100.74	69.40	31.34
Apr 08	104.48	77.08	27.40
May 08	119.37	84.47	34.90
Jun 08	129.07	90.74	38.33
Jul 08	134.62	91.54	43.08
Aug 08	127.95	88.83	39.12
Sep 08	114.98	98.58	16.40
		Number Positive:	18
		Number Negative:	8
		Average:	9.84

- Since August of 2006, far more contracts have been under-priced than over-priced six months prior to expiration.
- The last 16 contracts expired higher than the level they were at six months prior to expiration.
- Conclusion: The evidence does not suggest artificially inflated futures prices. If anything, it suggests that there is a downward bias in crude oil futures prices.

Part 5 Summary

- The price pressure analysis did not show any particular trader group routinely applying pressure that was detrimental to convergence.
- In many of the studied markets, index traders and money managers had a very small presence in the days leading up to expiration. This necessarily limits the amount of influence these trader types can have on convergence.
- The convergence trend analysis and six-month comparison indicated that most of the agricultural futures contracts were more likely to be “too cheap” rather than “too rich”.
- Cotton and natural gas are the two commodities that raise concern as prices in these markets do appear to routinely over-estimate their final value (within the study period).
- Confidence in a finding of futures mis-pricing grows as the number of observations increase. It is possible that by altering or expanding the sample, the mis-pricing identified here might be mitigated.