

GRAINS & OIL

Season				
High	Low	High	Low	Close

WHEAT (CBT) 5,000 bu.: \$ per bu.

Season	High	Low	High	Low	Close	Chg.	Interst.	Open
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U.S. TREASURY BONDS (CBT)

4.37	3.24½	Mar	3.36½	3.32	3.33
4.41	3.29%	May	3.39%	3.37	3.37½
4.27	3.29½	Jul	3.36½	3.33½	3.35
4.32	3.26½	Sep	3.42½	3.39	3.41
4.16	3.50%	Dec	3.54%	3.50%	3.53
3.79	3.59	Mar	3.61%	3.58½	3.59½

Est. sales 8,431. Prev. sales 11,916.
Prev day's open int 58,271, off 30.

Guide		Rate		Yield	
Rate	Yield	Rate	Yield	Rate	Yield
3.35	3.65%	3.50	3.80%	3.65	4.00%
3.50	3.80%	3.65	4.00%	3.80	4.20%
3.65	4.20%	3.80	4.40%	3.95	4.60%
3.80	4.40%	4.00	4.60%	4.15	4.80%
3.95	4.60%	4.15	4.80%	4.30	5.00%
4.10	5.00%	4.30	5.20%	4.45	5.40%
4.25	5.20%	4.45	5.40%	4.60	5.60%
4.40	5.40%	4.60	5.60%	4.75	5.80%
4.55	5.60%	4.75	5.80%	4.90	6.00%
4.70	6.00%	4.90	6.20%	5.05	6.40%
4.85	6.20%	5.05	6.40%	5.20	6.60%
5.00	6.40%	5.20	6.60%	5.35	6.80%
5.15	6.60%	5.35	6.80%	5.50	7.00%
5.30	7.00%	5.50	7.20%	5.65	7.40%
5.45	7.20%	5.65	7.40%	5.80	7.60%
5.60	7.40%	5.80	7.60%	5.95	7.80%
5.75	7.60%	5.95	7.80%	6.10	8.00%
5.90	8.00%	6.10	8.20%	6.25	8.40%
6.05	8.20%	6.25	8.40%	6.40	8.60%
6.20	8.40%	6.40	8.60%	6.55	8.80%
6.35	8.60%	6.55	8.80%	6.70	9.00%
6.50	9.00%	6.70	9.20%	6.85	9.40%
6.65	9.20%	6.85	9.40%	7.00	9.60%
6.80	9.40%	7.00	9.60%	7.15	9.80%
6.95	9.60%	7.15	9.80%	7.30	10.00%
7.10	10.00%	7.30	10.20%	7.45	10.40%
7.25	10.20%	7.45	10.40%	7.60	10.60%
7.40	10.40%	7.60	10.60%	7.75	10.80%
7.55	10.60%	7.75	10.80%	7.90	11.00%
7.70	10.80%	7.90	11.00%	8.05	11.20%
7.85	11.00%	8.05	11.20%	8.20	11.40%
8.00	11.20%	8.20	11.40%	8.35	11.60%
8.15	11.40%	8.35	11.60%	8.50	11.80%
8.30	11.60%	8.50	11.80%	8.65	12.00%
8.45	11.80%	8.65	12.00%	8.80	12.20%
8.60	12.00%	8.80	12.20%	8.95	12.40%
8.75	12.20%	8.95	12.40%	9.10	12.60%
8.90	12.40%	9.10	12.60%	9.25	12.80%
9.05	12.60%	9.25	12.80%	9.40	13.00%
9.20	12.80%	9.40	13.00%	9.55	13.20%
9.35	13.00%	9.55	13.20%	9.70	13.40%
9.50	13.20%	9.70	13.40%	9.85	13.60%
9.65	13.40%	9.85	13.60%	10.00	13.80%
9.80	13.60%	10.00	13.80%	10.15	14.00%
9.95	13.80%	10.15	14.00%	10.30	14.20%
10.10	14.00%	10.30	14.20%	10.45	14.40%
10.25	14.20%	10.45	14.40%	10.60	14.60%
10.40	14.40%	10.60	14.60%	10.75	14.80%
10.55	14.60%	10.75	14.80%	10.90	15.00%
10.70	14.80%	10.90	15.00%	11.05	15.20%
10.85	15.00%	11.05	15.20%	11.20	15.40%
11.00	15.20%	11.20	15.40%	11.35	15.60%
11.15	15.40%	11.35	15.60%	11.50	15.80%
11.30	15.60%	11.50	15.80%	11.65	16.00%
11.45	15.80%	11.65	16.00%	11.80	16.20%
11.60	16.00%	11.80	16.20%	11.95	16.40%
11.75	16.20%	11.95	16.40%	12.10	16.60%
11.90	16.40%	12.10	16.80%	12.25	17.00%
12.05	16.60%	12.25	17.20%	12.40	17.40%
12.20	16.80%	12.40	17.60%	12.55	17.80%
12.35	17.00%	12.55	18.00%	12.70	18.20%
12.50	17.20%	12.70	18.40%	12.85	18.60%
12.65	17.40%	12.85	18.80%	13.00	19.00%
12.80	17.60%	13.00	19.20%	13.15	19.40%
12.95	17.80%	13.15	19.60%	13.30	19.80%
13.10	18.00%	13.30	20.00%	13.45	20.20%
13.25	18.20%	13.45	20.40%	13.60	20.60%
13.40	18.40%	13.60	20.80%	13.75	21.00%
13.55	18.60%	13.75	21.20%	13.90	21.40%
13.70	18.80%	13.90	21.60%	14.05	21.80%
13.85	19.00%	14.05	22.00%	14.20	22.20%
14.00	19.20%	14.20	22.40%	14.35	22.60%
14.15	19.40%	14.35	22.80%	14.50	23.00%
14.30	19.60%	14.50	23.20%	14.65	23.40%
14.45	19.80%	14.65	23.60%	14.80	23.80%
14.60	20.00%	14.80	24.00%	14.95	24.20%
14.75	20.20%	14.95	24.40%	15.10	24.60%
14.90	20.40%	15.10	24.80%	15.25	25.00%
15.05	20.60%	15.25	25.20%	15.40	25.40%
15.20	20.80%	15.40	25.60%	15.55	25.80%
15.35	21.00%	15.55	26.00%	15.70	26.20%
15.50	21.20%	15.70	26.40%	15.85	26.60%
15.65	21.40%	15.85	26.80%	16.00	27.00%
15.80	21.60%	16.00	27.20%	16.15	27.40%
15.95	21.80%	16.15	27.60%	16.30	27.80%
16.10	22.00%	16.30	28.00%	16.45	28.20%
16.25	22.20%	16.45	28.40%	16.60	28.60%
16.40	22.40%	16.60	28.80%	16.75	29.00%
16.55	22.60%	16.75	29.20%	16.90	29.40%
16.70	22.80%	16.90	29.60%	17.05	29.80%
16.85	23.00%	17.05	30.00%	17.20	30.20%
17.00	23.20%	17.20	30.40%	17.35	30.60%
17.15	23.40%	17.35	30.80%	17.50	31.00%
17.30	23.60%	17.50	31.20%	17.65	31.40%
17.45	23.80%	17.65	31.60%	17.80	31.80%
17.60	24.00%	17.80	32.00%	17.95	32.20%
17.75	24.20%	17.95	32.40%	18.10	32.60%
17.90	24.40%	18.10	32.80%	18.25	33.00%
18.05	24.60%	18.25	33.20%	18.40	33.40%
18.20	24.80%	18.40	33.60%	18.55	33.80%
18.35	25.00%	18.55	34.00%	18.70	34.20%
18.50	25.20%	18.70	34.40%	18.85	34.60%
18.65	25.40%	18.85	34.80%	19.00	35.00%
18.80	25.60%	19.00	35.20%	19.15	35.40%
18.95	25.80%	19.15	35.60%	19.30	35.80%
19.10	26.00%	19.30	36.00%	19.45	36.20%
19.25	26.20%	19.45	36.40%	19.60	36.60%
19.40	26.40%	19.60	36.80%	19.75	37.00%
19.55	26.60%	19.75	37.20%	19.90	37.40%
19.70	26.80%	19.90	37.60%	20.05	37.80%
19.85	27.00%	20.05	38.00%	20.20	38.20%
20.00	27.20%	20.20	38.40%	20.35	38.60%
20.15	27.40%	20.35	38.80%	20.50	39.00%
20.30	27.60%	20.50	39.20%	20.65	39.40%
20.45	27.80%	20.65	39.60%	20.80	39.80%
20.60	28.00%	20.80	40.00%	20.95	40.20%
20.75	28.20%	20.95	40.40%	21.10	40.60%
20.90	28.40%	21.10	40.80%	21.25	41.00%
21.05	28.60%	21.25	41.20%	21.40	41.40%
21.20	28.80%	21.40	41.60%	21.55	41.80%
21.35	29.00%	21.55	42.00%	21.70	42.20%
21.50	29.20%	21.70	42.40%	21.85	42.60%
21.65	29.40%	21.85	42.80%	22.00	43.00%
21.80	29.60%	22.00	43.20%	22.15	43.40%
21.95	29.80%	22.15	43.60%	22.30	43.80%
22.10	30.00%	22.30	44.00%	22.45	44.20%
22.25	30.20%	22.45	44.40%	22.60	44.60%
22.40	30.40%	22.60	44.80%	22.75	45.00%
22.55	30.60%	22.75	45.20%	22.90	45.40%
22.70	30.80%	22.90	45.60%	23.05	45.80%
22.85	31.00%	23.05	46.00%	23.20	46.20%
23.00	31.20%	23.20	46.40%	23.35	46.60%
23.15	31.40%	23.35	46.80%	23.50	47.00%
23.30	31.60%	23.50	47.20%	23.65	47.40%
23.45	31.80%	23.65	47.60%	23.80	47.80%
23.60	32.00%	23.80	48.00%	23.95	48.20%
23.75	32.20%	23.95	48.40%	24.10	48.60%
23.90	32.40%	24.10	48.80%	24.25	49.00%
24.05	32.60%	24.25	49.20%	24.40	49.40%
24.20	32.80%	24.40	49.60%	24.55	49.80%
24.35	33.00%	24.55	50.00%	24.70	50.20%
24.50	33.20%	24.70	50.40%	24.85	50.60%
24.65	33.40%	24.85	50.80%	25.00	51.00%
24.80	33.60%	25.00	51.20%	25.15	51.40%
24.95	33.80%	25.15	51.60%	25.30	51.80%
25.10	34.00%	25.30	52.00%	25.45	52.20%
25.25	34.20%	25.45	52.40%	25.60	52.60%
25.40	34.40%	25.60	52.80%	25.75	53.00%
25.55	34.60%	25.75	53.20%	25.90	53.40%
25.70	34.80%	25.90	53.60%	26.05	53.80%
25.85	35.00%	26.05	54.00%	26.20	54.20%
26.00	35.20%	26.20	54.40%	26.35	54.60%
26.15	35.40%	26.35	54.80%	26.50	55.00%
26.30	35.60%	26.50	55.20%	26.65	55.40%
26.45	35.80%	26.65	55.60%	26.80	55.80%
26.60	36.00%	26.80	56.00%	26.95	56.20%
26.75	36.20%	26.95	56.40%	27.10	56.60%
26.90	36.40%	27.10	56.80%	27.25	57.00%
27.05	36.60%	27.25	57.20%	27.40	57.40%
27.20	36.80%	27.40	57.60%	27.55	57.80%
27.35	37.00%	27.55	58.00%	27.70	58.20%
27.50	37.20%	27.70	58.40%	27.85	58.60%
27.65	37.40%	27.85	58.80%	28.00	59.00%
27.80	37.60%	28.00	59.20%	28.15	59.40%
27.95	37.80%	28.15	59.60%	28.30	59.80%
28.10	38.00%	28.30	60.00%	28.45	60.20%
28.25	38.20%	28.45	60.40%	28.60	60.60%
28.40	38.40%	28.60	60.80%	28.75	61.00%
28.55	38.60%	28.75	61.20%	28.90	61.40%
28.70	38.80%	28.90	61.60%	29.05	61.80%
28.85	39.00%	29.05	62.00%	29.20	62.20%
29.00	39.20%	29.20	62.40%	29.35	62.60%
29.15	39.40%	29.35	62.80%	29.50	63.00%
29.30	39.60%	29.50	63.20%	29.65	63.40%
29.45	39.80%	29.65	63.60%	29.80	63.80%
29.60	40.00%	29.80	64.00%	29.95	64.20%
29.75	40.20%	29.95	64.40%	30.10	64.60%
29.90	40.40%	30.10	64.80%	30.25	65.00%
30.05	40.60%	30.25	65.20%	30.40	65.40%
30.20	40.80%	30.40	65.60%	30.55	65.80%
30.35	41.00%	30.55	66.00%	30.70	66.20%
30.50	41.20%	30.70	66.40%	30.85	66.60%
30.65	41.40%	30.85	66.80%	31.00	67.00%
30.80	41.60%	31.00	67.20%	31.15	67.40%
30.95	41.80%	31.15	67.60%	31.30	67.80%
31.10	42.00%	31.30	68.00%	31.45	68.20%
31.25	42.20%	31.45	68.40%	31.60	68.60%
31.40	42.40%	31.60	68.80%	31.75	69.00%
31.55	42.60%	31.75	69.20%	31.90	69.40%
31.70	42.80%	31.90	69.60%	32.05	69.80%
31.85	43.00%	32.05	70.00%	32.20	70.20%
32.00	43.20%	32.20	70.40%	32.35	70.60%
32.15	43.40%	32.35	70.80%	32.50	71.00%
32.30	43.60%	32.50	71.20%	32.65	71.40%
32.45	43.80%	32.65	71.60%	32.80	71.80%
32.60	44.00%	32.80			

CORN (CBT) 5,000 bu.; \$ per bu.

Futures		Futures		Futures	
Symbol	Price	Symbol	Price	Symbol	Price
3.86 1/4	2.73 1/2	3.32 1/2	3.30 1/2	3.21 1/4	+ 1/8
2.90	2.85	2.36	3.34 1/2	3.35 1/4	+ 1/8
2.88	2.81	3.37 1/2	3.35	3.35 1/2	+ 1/8
2.56	2.50 1/2	3.05 1/4	3.05 1/4	3.05 1/4	+ 1/8
2.83	2.83	2.87 1/2	2.87 1/2	2.87 1/2	+ 1/8
3.12 1/4	3.01	2.97 1/2	2.97 1/2	2.97 1/2	+ 1/8
3.04	3.04	3.03 1/2	3.03 1/2	3.03 1/2	+ 1/8

51 bids 25.212 Prev. bid 25.20.
 Prev day's open int 265,709, off 918

OATS (CBT) 5,000 bu.; \$ per bu.

2.19	1.72	Apr	1.81½	1.77½	1.77½	-
2.16	1.77	May	1.81½	1.77½	1.78	-
2.06	1.72	Jun	1.78¾	1.76¾	1.76¾	-
2.08	1.72	Jul	1.75	1.73	1.73	-
1.92	1.75½	Dec	1.77	1.76½	1.77	-

Est. sales 1,202. Prev. sales 546.
 Prev day's open int 4,485, up 245.

SOYBEANS (CBT) 5,000 bu.; \$ p

9.96	6.30	Mar	7.48	7.41	7.44	+
10.12 1/2	6.39 1/2	May	7.64 1/2	7.58	7.60 1/2	+
10.55 1/2	6.40	Jul	7.77 1/2	7.71	7.72 3/4	+
10.55 1/2	6.40	Aug	7.72	7.67	7.69 1/4	+
10.55 1/2	7.10	Sep	7.42	7.37	7.39 3/4	+
10.55 1/2	6.61 1/2	Nov	7.24 3/4	7.19	7.23 1/4	+
10.55 1/2	7.6	Jan	7.37	7.32	7.36	+
7.58	6.92	Mar	7.50	7.44	7.49	+
7.71	7.50	May			7.57	+

Est. sales 37,797. Prev. sales 41,889.
Prev day's open int 110,843, up 1,798.

SOYBEAN OIL (CBT) 60,000 lb.; € p

36.65	18.33	Mar	27.95	27.53	27.75
35.85	19.75	May	28.37	27.93	28.15
35.25	20.00	Jul	28.48	28.10	28.29
33.25	20.08	Aug	28.35	27.98	28.10
30.40	23.15	Sep	27.72	27.00	27.35
29.25	23.50	Oct	26.70	26.25	26.65
28.75	23.45	Dec	26.50	26.30	26.40
27.60	24.40	Jan			25.27

Est. sales 13,171. Prev. sales 13,392.
Prev day's open int 59,099, up 872.

SOYBEAN MEAL (CBT)—100 tons:

268.50	179.50	Mar	197.20	195.30	196.70	+
267.50	185.00	May	200.80	198.80	200.40	+
267.50	188.00	Jul	204.00	202.20	204.00	+
251.00	187.80	Aug	204.00	202.00	203.70	+
243.00	193.50	Sep	200.00	197.80	199.00	+
240.00	182.00	Oct	195.50	193.00	195.00	+
235.00	182.50	Dec	196.50	194.50	196.00	+
199.00	184.00	Jan	.....	.....	198.00	+
199.50	195.00	Mar	.....	.....	199.50	+

Est. sales 11,003. Prev. sales 13,483.
Prev. day's gross int \$6,100. — 24

FIVE DAY'S OPEN INT 55,600, UP 34.

STOCK INDEX

High	Low	High	Low	Close	Chg
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VALUE LINE STOCK INDEX (KE)
\$500 x index number

ager

Prev. rates 2.75.
Prev. rates 4.019.

Fundamental Analysis, Technical Analysis, Trading, Spreads, & Options

CERTIFICATES OF DEPOSIT (IMM)

\$1 million; pts. 100% add on

91.14	88.67	Mar	90.52	90.47	90.49	+ .04	14.61
90.14	88.45	Jun	90.09	90.03	90.06	+ .05	6.66
89.77	88.68	Sep	89.74	89.69	89.71	+ .06	3.14
89.42	88.59	Dec	89.42	89.38	89.39	+ .06	1.77
90.00	88.45	Mar	89.07	89.06	89.08	+ .06	79
89.58	88.65	Jun	88.76	88.76	88.78	+ .06	40

Est. sales 3,146. Prev. sales 2,626.
Prev day's open int 27,654, up 138.

3-MONTH EURODOLLAR DEPOSITS (IMM)

\$1 million; pts of 100%, add on

90.58	85.02	Mar	90.05	90.00	90.02	+ .04	22,195
90.00	88.04	Jun	89.66	89.61	89.64	+ .06	16,234
89.38	87.91	Sep	89.34	89.29	89.32	+ .07	7,755
89.08	87.76	Dec	89.04	88.98	89.01	+ .06	2,588
88.83	88.11	Mar	88.74	88.69	88.71	+ .06	1,075
89.28	88.30	Jun	88.44	88.40	88.42	+ .06	8,000

Est. sales 4,641. Prev. sales 4,854.
Prev day's open int 50,986, up 672.

BRITISH POUND (IMM)

D. Schw

D (COMEX) 100 troy oz.; \$ per troy oz.

\$62.50	Feb	387.10	381.80	386.50	+7.20	4,629
\$67.00	Mar	385.50	385.50	388.80	+6.90	7
\$68.50	Apr	392.30	387.50	391.80	+6.90	30,110
\$74.00	Jun	398.50	393.40	398.00	+6.90	18,988
\$81.50	Aug	404.50	400.50	404.40	+6.90	12,648
\$88.00	Oct	410.00	407.00	411.10	+6.90	10,115
\$93.00	Dec	418.50	413.80	418.00	+7.00	9,892
\$101.00	Feb	426.50	422.00	425.00	+6.90	13,565
\$110.00	Apr	430.00	427.00	432.20	+6.90	15,287
\$115.50	Jun	439.00	435.70	439.80	+6.90	5,879
\$121.50	Aug	.....	.....	447.50	+6.90	284
\$134.00	Oct	453.90	453.90	455.60	+6.90	247
.....	Dec	.....	.....	463.80	+6.90	10,110
Sales \$2,000. Prev. sales \$2,860.						
v day's open int 121,647, off 1,702.						

RADIUM (NYM)
troy oz.; \$ per troy oz.

140.00	Feb	160.15	- .40	4		
86.00	Mar	162.00	158.70	160.15	- .40	4,039
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Jack D. Schwager

A Complete Guide to the Futures Markets

**FUNDAMENTAL ANALYSIS,
TECHNICAL ANALYSIS,
TRADING, SPREADS, AND OPTIONS**

JACK D. SCHWAGER

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To the three generations that have defined my life

Emil and Margaret

JoAnn

Daniel

Preface

Nature abhors a vacuum.

Baruch Spinoza

And so do nonfiction writers. This book was written to fill a perceived void in commodity (futures) market literature. There have been many general-topic, introductory texts on the futures markets and many specialized, in-depth texts (e.g., on technical trading systems, commodity cycles, and financial futures), but the middle ground has been left largely abandoned. This book is primarily intended for the reader who is already familiar with the basic concepts of futures trading and is interested in a broad-based but more substantive and detailed discussion of analytical techniques.

I have always maintained that simplicity is a desirable goal in explanations. Although this book is perhaps best categorized as an intermediate text, care has been taken to present the material in a way that makes it accessible to the intelligent layperson. Prior knowledge is not a prerequisite to the understanding of any section of this book. No doubt, some of the more difficult chapters will require several readings, but they are preceded by chapters that provide all the necessary background information.

Chapter 1, which offers a brief overview of futures markets, is intended to provide the serious novice with the basic knowledge presumed by the remainder of the book. In adherence to the truth in labeling principle, Chapter 1 has been appropriately titled “For Beginners Only.” Readers who are familiar with futures and justifiably feel that they will go into a catatonic state if they read one more definition of futures markets or introduction to hedging are strongly advised to proceed directly to Chapter 2.

It is rather incredible that a number of commodity texts have treated trading as an aside. This is somewhat like writing a two-part volume on art history without illustrations—everything is included except the essential item. The synthesis of market analysis with practical trading considerations is a

primary theme in this book. Analytical methods are not merely presented in a vacuum, but rather are evaluated within the context of the real world of trading.

I am a strong believer in the use of tables and charts to illustrate and explain key points. Wherever possible, graphic depictions have been used instead of verbal descriptions. Unfortunately, many readers tend to gloss over illustrations because some authors use them for padding. In view of this fact, it should be noted that every illustration in this book is directly related to a reference in the text. I cannot overemphasize the importance of carefully examining these charts and tables in conjunction with the verbal presentation.

The market examples sprinkled throughout the text are intended to reflect general concepts rather than the specific fundamentals of the given market. The actual market used as an illustration is an entirely secondary consideration. Thus, readers should avoid skipping certain sections because the discussion employs a market in which they have little interest. Such a selective reading approach is ill-advised because it will result in a disjointed flow of information.

Part 1 of this book provides an in-depth discussion of the various facets of fundamental analysis. Part 2 is, in essence, a short course in regression analysis—perhaps the most effective tool for applying fundamental analysis. Part 3 ties the preceding sections together by providing practical illustrations of how fundamental analysis is applied in a range of markets. Part 4 offers a detailed discussion of technical analysis. The first half of the section focuses on chart analysis, the latter half on systems trading. Part 5 presents an extremely comprehensive guide to spread trading. In addition to a general discussion of spreads, this section includes separate chapters on interest rate spreads, currency spreads, and stock index spreads. Part 6 provides an overview of options on futures, placing particularly strong emphasis on the evaluation of a broad range of option-based trading strategies. Part 7 stresses the importance of a planned trading approach and provides a list of market observations and trading rules.

The coverage of this book in its entirety may exceed the needs or desires of some readers. Those who prefer a less comprehensive version can try the following abridged list of chapters: 1–12, 18–22 (optional), 23–27, 30–31, 35, and 37–38. This list of chapters can largely be read without any loss of continuity. One minor exception is that some references in the optional chapters 18–22 assume a knowledge of all of the material covered in Part 2. However, to a major extent, these chapters can still be understood without such a background.

This book does not provide any magic formulas for generating an instant fortune. Traders who believe in free lunches, chain letters, and the tooth fairy should have no trouble finding books which promise to show them how to make \$1,000,000 per year—part time, and with no risk! However, such traders may want to await the publication of the inflation-adjusted revised editions of these texts, which will reveal how to make \$2,000,000 per year. This volume is intended for readers of a more skeptical bent, who believe that successful speculation will require some input of their own ideas, experience, and talent.

The ultimate goal of this text is to aid the reader along the road of trading self-sufficiency by providing knowledge and understanding of a wide range of analytical tools and a sense of their trading applicability.

JACK D. SCHWAGER

Millwood, New York
November 1983

Acknowledgments

In writing this book, I have been fortunate to enjoy the cooperation and aid of a number of expert analysts. First and foremost I would like to thank Norman D. Strahm for his incisive comments and suggestions regarding the sections on regression analysis, system testing, and performance measurement (Chapters 12–17, 28, and 29). This book has further benefited from Norm's coauthorship of Chapter 19. I would also like to acknowledge my debt to Norm for the benefits I derived from our many years of working together on a variety of fundamental and technical research projects.

I would like to thank Steve Chronowitz for reviewing the sections on chart analysis and technical trading systems (Chapters 23–27). The incorporation of many of his suggestions resulted in a more lucid presentation of this material. I am also indebted to Steve for demonstrating the value of chart analysis in the hands of a skilled and experienced practitioner. In my initial years as a commodity research analyst, I tended to doubt that anything as simple as chart analysis could be of any value—an opinion based on innate skepticism rather than experience or empirical research. Steve deserves much of the credit (or blame) for transforming me from a skeptic into a believer.

I am also extremely grateful to a number of other reviewers who provided many excellent suggestions and helped prevent some blunders from being immortalized in print. In this regard, I especially want to thank the following (chapters of review are in parentheses): Fred W. Willey (12–17, 28, 29); Gilbert Shen (12–17); Martin Presler (35–36); Walter Spilka (9); Samuel Kahan (32); Jacob Grossman (32); Guy Machnes (33); Tony Glickman (33); and Gregory Kipnis (34).

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The initial publication proposal for this book consisted of a table of contents and four chapters. I am grateful to Perry J. Kaufman and Courtney Smith, the reviewers of this preliminary material, for their kind words of encouragement and their sound recommendations, which were largely incorporated in the final product.

The illustrations in this book are pivotal to the presentation. Although the majority of charts are original to this work, many have been drawn from other sources. I am very grateful to the following companies and individuals for their permission to reproduce charts originally appearing in their own publications: Commodity Research Bureau, Futures Magazine, ADP Comtrend, Currency Chart Analysis Ltd., ACLI, ContiCommodity Research Computer Center, Chicago Board of Trade, Chicago Mercantile Exchange, Jacob Bernstein, Gregory Kipnis, Stan Jonas, and Robert Stok.

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The regression analysis examples used in this book were run on software made available by Commodity Information Services Co. (CISCO). In addition, the performance measures of Chapter 29 were developed in a joint research project with Norman Strahm on facilities made available by CISCO. I am very grateful to Don Jones and CISCO for their help.

The task of typing the manuscript was complicated by many factors, including the length of this work, the nonsequential writing of the chapters, and numerous revisions. Consequently, I was especially fortunate to have the assistance of Susan Epstein, whose virtually error-proof typing was matched by her excellent organization skills. I am indebted to Susan for helping to keep a difficult task from being even more difficult.

Were it not for Irwin Shisko, this book would never have been written. I wish to express my appreciation to Irwin for providing me with my first job in commodity research and for being my mentor.

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Finally, I would like to thank my newborn son Daniel for being a much-needed, delightful diversion during an extended and frustrating period of revisions, proofing, and indexing.

J.D.S.

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