Table I
Margins and implied volatilities

Contract	Start Date	Sample	N	Mean ISD	Mean Speculative Margin	Mean Initial Member Margin	Mean Speculative Coverage	Mean Member Coverage
Chicago Board of Trade								
Corn	3/85	26.21	520.58	5.10	353.85	3.38		
Soybeans	12/84	26.16	1396.38	5.61	1067.31	4.20		
Treasury Bond	3/84	29.11	2618.97	5.32	2120.69	4.27		
Wheat	3/87	16.21	725.31	4.38	543.75	3.24		
Chicago Mercantile Exchange								
British Pound	3/85	26.12	2197.23	5.44	1938.46	5.02		
Deutschemark	3/84	29.12	1864.17	5.45	1689.66	5.01		
Eurodollar	3/85	17.01	925.00	7.06	823.53	6.07		
Japanese Yen	6/86	21.10	2069.67	4.90	1788.10	4.24		
Live Cattle	12/84	23.14	756.78	4.02	619.57	3.29		
Swiss Franc	3/85	26.12	2111.38	4.81	1875.00	4.25		
S&P 500	3/84	26.17	1134.62	10.17	4865.38	4.56		
Coffee, Sugar and Cocoa Exchange								
Coffee	12/87	15.30	2733.33	5.25	1366.67	2.62		
Sugar	3/85	26.53	1209.62	5.46	604.81	2.73		
Commodity Exchange								
Copper	6/86	20.30	1734.50	4.81	1355.00	3.66		
Gold	3/84	28.16	1692.46	5.34	1253.57	3.95		
Silver	12/84	27.24	2004.52	5.55	1585.00	4.10		
New York Mercantile Exchange								
Crude Oil	12/86	19.36	2284.21	7.53	2284.21	7.53		
Heating Oil	9/87	15.37	2293.33	6.79	2293.33	6.79		

Note: Start date is the first sample date. Mean margin is the average of initial speculative or initial member margin required on the sample dates. Mean ISD is the average implied standard deviation for options trading on the sample dates. The Barone-Adesi and Whaley (1987) model is used to impute volatilities. The Whaley (1982) method is used to combine volatilities at each sample date. Margin coverage is respective level of margin divided by the dollar volatility of the contract. Dollar volatilities are ISD multiplied by the dollar value of the contract and divided by the square root of 365.

Table II
Margin coverage adjustments

Initial Member Margin

Contract	α_1	$t(\alpha_1)$
Deutschemark	-.004579*	-3.52
S&P 500	-.004704*	-2.88
Soybean	-.012160*	-4.04
Treasury Bond	-.017178*	-6.84

Level of margin coverage at time t-1

	Lowest Quartile		Second Quartile		Third Quartile		Highest Quartile	
Contract	α_1	$t(\alpha_1)$	α_1	$t(\alpha_1)$	α_1	$t(\alpha_1)$	α_1	$t(\alpha_1)$
Deutschemark	-.0135*	(-3.18)	-.0084*	(-2.58)	-.0097*	(-3.43)	-.0090*	(-3.78)
S&P 500	-.0438*	(-4.47)	-.0417*	(-5.25)	-.0239*	(-4.44)	-.0233*	(-5.35)
Soybean	-.0277*	(-2.12)	-.0265*	(-2.88)	-.0200*	(-2.91)	-.0180*	(-3.49)
Treasury Bond	-.0408*	(-5.96)	-.0389*	(-6.48)	-.0356*	(-6.55)	-.0321*	(-6.83)

CR_t is the time-t ratio of initial member margin to the option-implied volatility stated in dollars. Q^l is the coverage quartile for margin coverage during the sample period. K, the number of lagged changes in coverage ratio included in the specification, is determined by AIC. Critical values are from Fuller (1976): -1.95 at the 5% level and -2.58 at the 1% level. Lower values of t are indicative of reversion to the mean; i.e., the null of no mean reversion is rejected.

Table III
Pooled Time-Series Regressions

Coefficient Restriction: $\alpha_2=0$			Coefficient Restriction: $\delta_k=0$	
Proxy:	RPR	SPREAD	RPR	SPREAD
Contract				
α_0	7.22* (4.98)	6.84* (4.99)	6.52*(8.86)	6.60* (10.32)
α_1	-0.13* (2.05)	-0.45* (2.22)	-0.12(1.70)	-0.46* (2.16)
α_2			-3.21*(7.00)	-3.15* (6.87)
δ_1 *British Pound*	-7.79 (.74)	-5.54 (.52)		
δ_2 *Cattle*	-11.43(1.71)	-10.63(1.60)		
δ_3 *Coffee*	-3.04(1.79)	-3.57(1.76)		
δ_4 *Copper*	-3.51(1.62)	-3.36(1.55)		
δ_5 *Corn*	-5.67*(2.68)	-5.90* (2.78)		
δ_6 *Crude Oil*	-3.47*(4.02)	-3.27* (3.77)		
δ_7 *Deutschemark*	-29.44*(4.00)	-29.31* (3.98)		
δ_8 *Eurodollar*	-1874*(7.18)	-1911* (7.32)		
δ_9 *Gold*	-4.92 (.62)	-4.98 (.63)		
δ_{10} *Heating Oil*	-3.92*(4.20)	-3.88* (4.15)		
δ_{11} *Japanese Yen*	-47.49*(2.76)	-43.64* (2.52)		
δ_{12} *Swiss Franc*	-23.58*(2.11)	-23.09* (2.06)		
δ_{13} *Sugar*	-1.53*(2.37)	-1.54* (2.38)		
δ_{14} *Silver*	-1.36 (.21)	-0.20 (.03)		
δ_{15} *Soy Bean*	-17.12*(2.77)	-16.66* (2.69)		
δ_{16} *S&P 500*	-22.34*(3.59)	-21.16* (3.42)		
δ_{17} *Treasury Bond*	-14.55(1.40)	-12.75 (1.23)		
δ_{18} *Wheat*	-6.56(1.77)	-6.15 (1.66)		

Tests of coefficient restrictions:

17.33	17.07	12.22	12.26
8.93	8.73	NA	NA

*Significant at the 5% level. (T statistics in parentheses.)