

Table 1: Average Volume, Bid-Ask Spread, and Price for Calls, Puts, and the Underlying Stocks during the Benchmark and Pre-announcement Period

The reported numbers are the cross-sectional averages across firms of the daily volume, dollar bid-ask spread, option price and implied volatility for calls and puts, and of the daily volume and cumulative abnormal return for the underlying stock in the sample. The average daily call and put option volume is measured either by the number of contracts traded per day or the number of trades per day. The average put/call ratio is the daily average of the number of puts traded relative to the number of calls (in percent). Summary statistics are reported for the benchmark period which is from 200 to 100 days prior to the takeover announcement ([-200, -100]) and the pre-announcement period from 30 to 1 day prior to the takeover announcement ([-30, -1]). For each variable of interest, we test the null hypothesis of no difference in means between the benchmark and pre-announcement periods by using the t-test and the nonparametric test.

	Variable	[-200, -100]	[-30, -1]	% Change
Calls	No. of Contracts	402	936	132.8*,+
	No. of Trades	33	79	139.4*,+
	Dollar Bid-ask Spread	0.36	0.38	5.5
	Price (\$)	2.33	2.53	8.6*,+
	Implied Volatility in %	45.3	50.1	10.6*,+
Puts	No. of Contracts	120	212	76.6*,+
	No. of Trades	11	18	63.6*,+
	Dollar Bid-ask Spread	0.38	0.40	5.2
	Price (\$)	2.28	2.49	9.2*,+
	Implied Volatility in %	45.4	51.0	12.3*,+
	Put/Call Ratio in %	28.9	22.3	-22.8*,+
Underlying Stocks	Share Volume (in 1000)	250	342	36.8*,+
	Cumulative Abnormal Return (%)	9.56	12.92	

* indicates significance at the 5% using the T-test.

+ indicates significance at the 5% using the nonparametric test.

Table 2: Regression Analysis of Announcement-Day Return

For all 78 firms in the sample, the following regression model is estimated:

$$\begin{aligned}
 CAR[-1, 1]_i = & \beta_0 + \beta_1 CAR[-30, -1]_i + \beta_2 \Delta Volume_i^{call} + \beta_3 \Delta Volume_i^{stock} \\
 & + \beta_4 Dummy_i/Rumor + \beta_5 Dummy_i/Takeover + \beta_6 Dummy_i/Hostile \\
 & + \beta_7 Dummy_i/CashOffer + \epsilon_i
 \end{aligned}$$

where $CAR[-1, 1]$ is the two-day cumulative abnormal return from day -1 (close) to day 1 (close), $CAR[-30, -1]$ is the cumulative abnormal return from day -30 to day -1, $\Delta Volume^{call}$ is the logarithmic change in call option volume from benchmark to pre-announcement periods, and $\Delta Volume^{stock}$ is the logarithmic change in stock volume from benchmark to pre-announcement periods. $Dummy/Rumor$, $Dummy/Takeover$, $Dummy/Hostile$, and $Dummy/Cash Offer$ are dummy variables for whether a publicly traceable rumor occurred within the six months prior to the announcement date, whether a takeover or merger occurred, whether the takeover was friendly or hostile, and whether or not the primary method of payment was cash. The cumulative abnormal return is calculated as the difference between the stock return for firm i and the NYSE value-weighted portfolio return. Regression coefficients, t-statistics (in parenthesis), and adjusted R^2 are reported below. The t-statistics are calculated using White's (1980) heteroskedasticity-consistent standard errors.

Coefficient	Specifications		
	1	2	3
Constant	0.14* (6.08)	0.08* (2.55)	0.05 (1.08)
$CAR[-30, -1]$	-0.11 (-0.94)	-0.14 (-1.36)	-0.16 (-1.44)
$\Delta Volume^{call}$	0.04* (2.14)	0.04* (2.17)	0.04* (2.05)
$\Delta Volume^{stock}$	-0.07 (-1.94)	-0.06 (-1.65)	-0.05 (-1.47)
$Dummy/Rumor$		-0.04 (-1.03)	-0.03 (-0.93)
$Dummy/Takeover$		0.05* (2.80)	0.05* (2.83)
$Dummy/Hostile$			0.05 (1.27)
$Dummy/CashOffer$			-0.01 (-0.08)
Adj. R^2 (%)	6.6	14.0	14.2

* indicates significance at the 5%.

**Table 3: Implied Volatility and Option Volume
Across Moneyness-Maturity Categories**

For each moneyness-maturity category, the cross-sectional averages of daily implied volatility calculated from the Black-Scholes model and daily volume (measured by the number of contracts traded) are reported for both calls and puts in the benchmark period ([-200, -100]) and the pre-announcement period prior to the takeover announcement ([-30, -1]). For each contract, the daily information from the last quote prior to 2:00 PM (CST) is used in the Black-Scholes model separately for each call (put) option contract to obtain the contract's daily implied volatility estimate. The implied volatilities of individual calls or puts are then averaged within each moneyness-maturity category and across the days in the sample. OTM, ATM and ITM denote out-of-the money, at-the-money, and in-the-money options, respectively.

	Moneyness	Term-to-Expiration $T \leq 60$ days			Term-to-Expiration $T > 60$ days		
		[-200, -100]	[-30, -1]	% Change	[-200, -100]	[-30, -1]	% Change
Implied Volatility							
Calls	OTM	45.85%	54.03%	17.8* ⁺	40.10%	43.21%	7.8* ⁺
	ATM	41.38	45.03	8.8* ⁺	37.86	40.60	7.2* ⁺
	ITM	57.55	63.15	9.7* ⁺	41.20	44.55	8.1* ⁺
Puts	OTM	46.65%	50.46%	8.2* ⁺	41.73%	45.83%	9.8* ⁺
	ATM	39.13	43.53	11.2* ⁺	38.94	42.22	8.4* ⁺
	ITM	50.48	57.06	13.0* ⁺	46.26	51.23	10.7* ⁺
Number of Contracts							
Calls	OTM	100	266	166.0* ⁺	70	90	28.6* ⁺
	ATM	132	327	147.7* ⁺	43	67	55.8* ⁺
	ITM	53	187	252.8* ⁺	20	38	90.0* ⁺
Puts	OTM	31	92	196.7* ⁺	19	21	10.5
	ATM	41	77	87.8* ⁺	13	12	-7.6
	ITM	18	24	33.3	9	7	-22.2

* indicates significance at the 5% using the T-test.

⁺ indicates significance at the 5% using the nonparametric test.

Table 4: Buyer-Initiated and Seller-Initiated Volume for Call and Put Options

The cross-sectional averages across firms of daily buyer-initiated and seller-initiated option volume (as measured by number of contracts traded per day) are reported both for all call and put options as well as moneyness-maturity categories. For each group, the average daily number of contracts traded is reported both in the benchmark period ([-200, -100]) and the pre-announcement period prior to the takeover announcement ([-30, -1]). OTM, ATM and ITM denote out-of-the money, at-the-money, and in-the-money options, respectively. A trade is classified as buyer-initiated or seller-initiated as follows. Trades occurring in the lower half of the spread, at the bid or below are classified as sells. Trades occurring in the upper half of the spread, at the ask or above are classified as buys. Trades occurring at the midpoint of the spread are further classified as a buy (or sell) if the current price is higher (or lower) than the price of previous trade. Trades that are still unclassifiable are identified as cross trades.

Maturity		Buyer-Initiated			Seller-Initiated			Difference in % Change Between Buy and Sell
		[-200, -100]	[-30, -1]	% Change	[-200, -100]	[-30, -1]	% Change	
	All Calls	152	383	152.0	166	398	139.7	12.3 ⁺
	All Puts	43	77	79.1	50	95	90.0	-10.9 ⁺
T _≤ 60 Days	Calls							
	OTM	38	115	202.6	40	100	150.0	52.6 ^{*,+}
	ATM	49	137	179.6	59	145	145.7	33.9
	ITM	20	71	255.0	24	91	279.2	-24.2 ^{*,+}
T _≤ 60 Days	Puts							
	OTM	13	42	223.1	13	39	200.0	23.1
	ATM	16	30	87.5	18	37	105.5	-18.0 ⁺
	ITM	8	10	25.0	9	13	44.4	-19.4 ⁺
T _{>} 60 Days	Calls							
	OTM	25	35	40.0	28	37	32.1	7.9
	ATM	16	25	56.2	19	32	68.4	-12.2 ⁺
	ITM	8	15	87.5	8	19	137.5	-50.0 ^{*,+}
T _{>} 60 Days	Puts							
	OTM	7	7	0.0	7	10	42.8	-42.8 ^{*,+}
	ATM	4	4	0.0	7	7	0.0	0.0
	ITM	4	4	0.0	4	4	0.0	0.0

* indicates significance at the 5% using the T-test.

+ indicates significance at the 5% using the nonparametric test.

**Table 5: Comparison of Call-Volume Changes
Between Inactive and Active Firms**

The cross-sectional averages across firms of daily call option volume, as measured by number of contracts, are reported both for inactive and active firms. We partition our sample into two equal-size subsamples based on daily average number of contracts of call options in the benchmark period. For each group, the average daily number of contracts traded is reported both in the benchmark period ([-200, -100]) and the pre-announcement period prior to the takeover announcement ([-30, -1]). OTM, ATM and ITM denote out-of-the money, at-the-money, and in-the-money options, respectively.

		Inactive Calls			Active Calls			Difference in % Change btw Inactive & Active Calls
		[-200, -100]	[-30, -1]	% Change	[-200, -100]	[-30, -1]	% Change	
All Volume	All Calls	57	543	852	737	1319	79	773
T \leq 60 Days	OTM	12	162	1250	179	359	100	1150
	ATM	13	193	1384	251	461	84	1300
	ITM	5	150	2900	85	212	149	2751
T $>$ 60 Days	OTM	9	29	222	124	145	17	205
	ATM	6	25	316	79	107	35	281
	ITM	4	32	700	33	43	30	670
Buyer- initiated Volume	All Calls	21	246	1071	270	593	120	951
T \leq 60 Days	OTM	4	71	1675	70	154	120	1555
	ATM	5	83	1560	93	187	101	1459
	ITM	2	37	1750	35	91	160	1590
T $>$ 60 Days	OTM	3	15	400	48	54	13	387
	ATM	3	10	233	28	39	39	194
	ITM	2	10	400	14	17	21	379
Seller- initiated Volume	All Calls	26	223	757	302	569	88	669
T \leq 60 Days	OTM	5	55	1000	74	141	90	910
	ATM	6	87	1350	111	201	81	1269
	ITM	2	57	2750	41	109	165	2585
T $>$ 60 Days	OTM	4	12	200	51	60	18	182
	ATM	3	10	233	34	54	59	174
	ITM	2	15	650	15	22	47	603

Table 6: Comparison of Call-Volume Changes Between Firms Experiencing Large and Small Price Changes During the Announcement Period

The cross-sectional averages across firms of daily call option volume, as measured by number of contracts, are reported both for firms that experienced large and small price changes during the announcement period. We partition our sample into two equal-size subsamples based on two-day cumulative abnormal return during $[-1, 1]$. The abnormal return is defined as the individual firm return minus the NYSE value-weighted return. For each group, the average daily number of contracts traded is reported both in the benchmark period ($[-200, -100]$) and the pre-announcement period prior to the takeover announcement ($[-30, -1]$). OTM, ATM and ITM denote out-of-the money, at-the-money, and in-the-money options, respectively.

		Large Abnormal Return			Small Abnormal Return			Difference in % Change btw Two Sub-samples
		$[-200, -100]$	$[-30, -1]$	% Change	$[-200, -100]$	$[-30, -1]$	% Change	
All Volume	All Calls	323	1045	223	483	825	71	152
T \leq 60 Days	OTM	85	323	280	110	194	76	204
	ATM	97	372	283	168	282	67	216
	ITM	40	189	372	58	152	162	210
T $>$ 60 Days	OTM	62	85	37	74	90	21	16
	ATM	32	54	68	54	79	46	22
	ITM	14	26	85	24	47	95	-10
Buyer- initiated Volume	All Calls	119	422	255	176	321	82	173
T \leq 60 Days	OTM	28	137	389	45	87	93	296
	ATM	36	153	325	61	116	90	235
	ITM	14	70	400	23	58	152	248
T $>$ 60 Days	OTM	21	33	57	29	35	21	36
	ATM	11	16	45	19	32	68	-23
	ITM	5	10	100	10	17	70	30
Seller- initiated Volume	All Calls	130	446	243	203	350	72	171
T \leq 60 Days	OTM	30	119	297	45	75	67	230
	ATM	39	164	320	77	124	61	259
	ITM	18	93	417	26	73	181	236
T $>$ 60 Days	OTM	23	35	52	31	36	16	36
	ATM	14	27	93	23	37	61	32
	ITM	5	12	140	11	24	118	22

Table 7: Trading Profits Based on Call-Volume Changes in the Period Surrounding a Takeover

For each of 78 sample firms, the moving average trading rule generates a buy signal when the short-term call option volume exceeds the long-period volume by $k\%$ ($k=25\%$, 200% and 500%) on day t . To account for transaction costs, all available calls with expirations greater than the holding period are bought at the closing ask price on day t and are liquidated after x weeks ($x=1, 2,$ and 4 weeks) at the closing bid price. Profits without transaction costs are calculated similarly except that bid-ask mid-points are used. Trading rule profits are examined for three different periods: from 145 days prior to the announcement through the takeover announcement day $(-145, 0)$, from the five days after the announcement to the last day of trading $(5, 250)$, and for the whole period $(-145, 250)$. The average daily trading profit is found by averaging the profits to all call trades for a particular stock each day and then averaging across securities which are held that day. The time-series average of the daily trading profits are reported for trading rules with long-period volume benchmarks of 30, 60, and 100 days. The reported numbers are respectively, the daily average percentage return, the standard error (in parentheses), and the total number of triggers (in curly brackets) for each trading rule. Panel A reports transactions with and without transaction costs for the entire period, including both pre- and post- announcement periods. Panel B reports profits including transaction costs for pre- and post-announcement periods separately.

Panel A: Trading Profit During the Entire Period

Trading Rule	Profit with Transaction Costs			Profit without Transaction Costs		
	Holding Period			Holding Period		
	1 week	2 weeks	4 weeks	1 week	2 weeks	4 weeks
(30, 25%)	-0.34 (0.10) {1538}	0.24 (0.06) {1057}	0.54 (0.04) {673}	1.51 (0.12)	1.19 (0.07)	1.04 (0.05)
(30, 200%)	0.17 (0.23) {416}	0.92 (0.12) {339}	1.07 (0.07) {265}	2.01 (0.26)	1.93 (0.15)	1.64 (0.09)
(30, 500%)	2.92 (0.68) {119}	3.25 (0.50) {100}	2.68 (0.23) {88}	5.15 (0.80)	4.56 (0.57)	3.45 (0.26)
(60, 25%)	-0.19 (0.11) {1373}	0.40 (0.08) {936}	0.51 (0.04) {598}	1.62 (0.13)	1.35 (0.08)	1.00 (0.05)
(60, 200%)	1.45 (0.26) {376}	2.03 (0.22) {295}	1.75 (0.12) {224}	3.31 (0.29)	3.19 (0.26)	2.35 (0.13)
(60, 500%)	2.86 (0.74) {109}	3.46 (0.52) {87}	2.95 (0.25) {73}	4.92 (0.87)	4.69 (0.60)	3.72 (0.29)
(100, 25%)	-0.20 (0.12) {1172}	0.55 (0.08) {789}	0.96 (0.06) {506}	1.58 (0.14)	1.50 (0.09)	1.51 (0.07)
(100, 200%)	1.47 (0.33) {361}	2.77 (0.30) {265}	2.47 (0.17) {193}	3.20 (0.36)	4.00 (0.36)	3.14 (0.20)
(100, 500%)	2.88 (0.63) {108}	4.15 (0.55) {83}	3.24 (0.26) {67}	4.82 (0.75)	5.40 (0.64)	4.04 (0.31)

Table 7: Trading Profits Based on Call-Volume Changes in the Period Surrounding a Takeover

Panel B: Trading Profit During Pre- and Post-announcement Periods

	Pre-announcement Period			Post-announcement Period		
Trading Rule	Holding Period			Holding Period		
	1 week	2 weeks	4 weeks	1 week	2 weeks	4 weeks
(30, 25%)	0.15 (0.16) {907}	0.72 (0.12) {637}	1.06 (0.08) {417}	-1.00 (0.09) {614}	-0.14 (0.07) {412}	-0.20 (0.04) {250}
(30, 200%)	0.97 (0.34) {253}	1.89 (0.25) {211}	1.71 (0.12) {175}	-1.12 (0.13) {148}	-0.10 (0.10) {116}	-0.02 (0.05) {79}
(30, 500%)	5.63 (1.16) {72}	4.86 (0.68) {65}	3.95 (0.32) {59}	-1.15 (0.30) {40}	-0.46 (0.13) {30}	-0.31 (0.09) {24}
(60, 25%)	0.46 (0.19) {797}	1.01 (0.14) {561}	0.98 (0.08) {382}	-0.34 (0.12) {562}	-0.17 (0.07) {367}	-0.10 (0.04) {210}
(60, 200%)	2.11 (0.36) {216}	3.14 (0.34) {177}	2.65 (0.17) {140}	0.40 (0.33) {143}	0.26 (0.15) {105}	0.12 (0.05) {71}
(60, 500%)	7.09 (1.56) {53}	6.10 (0.89) {46}	4.98 (0.41) {40}	-1.01 (0.24) {47}	-0.38 (0.11) {35}	0.01 (0.06) {27}
(100, 25%)	0.68 (0.22) {616}	1.35 (0.16) {432}	1.48 (0.10) {297}	-0.82 (0.11) {541}	-0.30 (0.06) {349}	0.02 (0.05) {204}
(100, 200%)	3.17 (0.55) {182}	4.92 (0.50) {141}	3.54 (0.24) {111}	-0.41 (0.19) {164}	0.20 (0.12) {111}	0.61 (0.11) {70}
(100, 500%)	6.93 (1.38) {51}	7.49 (0.96) {41}	6.05 (0.47) {35}	-1.18 (0.20) {47}	-0.26 (0.10) {36}	-0.05 (0.10) {27}

Table 9: Trading Profits Based on Stock-Volume Changes prior to Takeovers

Prior to takeover announcements, trading rules are generated from stock volume and option positions are taken based on these trading signals as in Table 7. The moving average trading rule generates a buy-signal when the short-term stock volume exceeds the long-period volume by $k\%$ ($k=15\%$, 25% , 50% , 75% , 100% , 200% and 500%) on day t . Reported profits include transaction costs. Following a buy-signal, all available calls with expirations greater than the holding period are bought at the closing ask price on day t and are liquidated after x weeks ($x=1, 2,$ and 4 weeks) at the closing bid price. For each firm that subsequently experiences a takeover bid, trading rule profits are examined from 145 days prior to the announcement through the takeover announcement day $(-145, 0)$. The average daily trading profit is found by averaging the profits to all call trades for a particular stock each day and then averaging across securities which are held that day. The time-series average of the daily trading profits are reported for trading rules with long-period volume benchmarks of 30, 60, and 100 days. The reported numbers are respectively, the daily average percentage return, the standard error (in parentheses), and the total number of triggers (in curly brackets) for each trading rule.

Benchmark Period	30 Days			60 Days			100 Days		
	Holding Period			Holding Period			Holding Period		
	1 week	2 weeks	4 weeks	1 week	2 weeks	4 weeks	1 week	2 weeks	4 weeks
15%	-0.02 (0.13) {974}	0.40 (0.08) {678}	0.97 (0.07) {437}	0.20 (0.16) {859}	0.48 (0.09) {598}	0.99 (0.06) {405}	0.82 (0.20) {662}	0.92 (0.12) {458}	1.61 (0.10) {315}
25%	0.27 (0.17) {826}	0.38 (0.08) {590}	0.88 (0.07) {406}	0.21 (0.16) {721}	0.34 (0.08) {512}	0.70 (0.06) {363}	1.25 (0.30) {562}	1.15 (0.14) {401}	1.63 (0.10) {288}
50%	0.44 (0.19) {551}	0.67 (0.10) {428}	0.67 (0.06) {332}	0.62 (0.20) {491}	0.85 (0.11) {363}	0.92 (0.08) {284}	0.90 (0.23) {378}	1.50 (0.16) {283}	1.14 (0.09) {227}
75%	0.33 (0.22) {394}	1.13 (0.18) {313}	0.67 (0.07) {260}	1.17 (0.27) {344}	1.18 (0.16) {273}	0.84 (0.09) {233}	1.28 (0.29) {270}	1.67 (0.20) {208}	1.76 (0.13) {177}
100%	0.65 (0.35) {293}	1.01 (0.16) {244}	0.63 (0.07) {207}	0.78 (0.24) {257}	1.30 (0.20) {213}	0.88 (0.09) {182}	1.45 (0.36) {204}	1.32 (0.17) {160}	1.36 (0.11) {138}
200%	0.66 (0.33) {111}	1.43 (0.20) {97}	0.72 (0.08) {92}	1.15 (0.36) {90}	1.00 (0.18) {78}	1.25 (0.12) {70}	1.84 (0.56) {72}	1.97 (0.30) {61}	0.65 (0.10) {55}
500%	-0.75 (0.79) {19}	1.56 (0.36) {18}	0.20 (0.11) {18}	-2.26 (0.35) {17}	0.28 (0.42) {16}	-0.08 (0.13) {17}	-1.22 (0.47) {11}	1.76 (0.55) {11}	0.66 (0.19) {11}

Table 10: Out-of-Sample Call Volume-based Trading Profits

For each of the 365 firms used in the out-of-sample test, trading rule profits are calculated for the period from January 1, 1986 through August 31, 1994. The moving average trading rule generates a buy-signal when the short-term call option volume exceeds the long-period volume by $k\%$ ($k=25\%$, 200% and 500%) on day t . Following a buy-signal, all available calls with expirations greater than the holding period are bought at the closing ask price on day t and are liquidated after x weeks ($x=1, 2,$ and 4 weeks) at the closing bid price to calculate trading profits after transaction costs. Bid-ask mid-points are used to calculate profits excluding transaction costs. The average daily trading profit is found by averaging the profits to all call trades for a particular stock each day and then averaging across securities which are held that day. The time-series average of the daily trading profits are reported for trading rules with long-period volume benchmarks of 30, 60, and 100 days. The reported numbers are respectively, the daily average percentage return, the standard error (in parentheses), and the total number of triggers (in curly brackets) for each trading rule.

Trading Rule	Profit with Transaction Costs			Profit without Transaction Costs		
	Holding Period			Holding Period		
	1 week	2 weeks	4 weeks	1 week	2 weeks	4 weeks
(30, 25%)	-1.36 (0.03) {21368}	-0.48 (0.02) {15132}	-0.12 (0.02) {9913}	0.58 (0.04)	0.46 (0.03)	0.38 (0.02)
(30, 200%)	-1.34 (0.05) {4700}	-0.50 (0.03) {4059}	-0.09 (0.02) {3458}	0.62 (0.05)	0.49 (0.03)	0.38 (0.02)
(30, 500%)	-1.27 (0.09) {1155}	-0.46 (0.07) {1070}	-0.09 (0.03) {992}	0.69 (0.10)	0.57 (0.08)	0.44 (0.04)
(60, 25%)	-1.26 (0.03) {19294}	-0.46 (0.02) {13674}	-0.10 (0.02) {9083}	0.58 (0.04)	0.48 (0.03)	0.36 (0.02)
(60, 200%)	-1.22 (0.05) {3940}	-0.41 (0.04) {3341}	-0.05 (0.02) {2766}	0.67 (0.06)	0.57 (0.04)	0.45 (0.02)
(60, 500%)	-0.65 (0.14) {862}	-0.08 (0.11) {777}	0.10 (0.04) {697}	1.38 (0.16)	0.95 (0.14)	0.59 (0.05)
(100, 25%)	-1.30 (0.03) {17798}	-0.48 (0.03) {12591}	-0.09 (0.02) {8379}	0.55 (0.04)	0.44 (0.03)	0.38 (0.02)
(100, 200%)	-1.23 (0.05) {3594}	-0.43 (0.03) {2998}	-0.07 (0.02) {2455}	0.58 (0.06)	0.52 (0.04)	0.39 (0.02)
(100, 500%)	-0.67 (0.14) {776}	0.24 (0.10) {674}	0.30 (0.06) {601}	1.30 (0.15)	1.07 (0.11)	0.83 (0.06)

Table 12: Out-of-Sample Stock Volume-based Trading Profits

For each of the 365 firms used in the out-of-sample test, trading rule profits after transaction costs are calculated for the period from January 1, 1986 through August 31, 1994. The moving average trading rule generates a buy signal when the short-term stock option volume exceeds the long-period volume by $k\%$ ($k=15\%$, 25% , 50% , 75% , 100% , 200% and 500%) on day t . To account for transaction costs, all available calls with expirations greater than the holding period are bought at the closing ask price on day t and are liquidated after x weeks ($x=1, 2,$ and 4 weeks) at the closing bid price. The average daily trading profit for each day is found by averaging the profits to all call trades for a particular stock and then averaging across securities which are held that day. The time-series average of the daily trading profits are reported for trading rules with long-period volume benchmarks of 30, 60, and 100 days. The reported numbers are respectively, the daily average percentage return, the standard error (in parentheses), and the total number of triggers (in curly brackets) for each trading rule.

Trading Rule	Profit with Transaction Costs			Profit without Transaction Costs		
	Holding Period			Holding Period		
	1 week	2 weeks	4 weeks	1 week	2 weeks	4 weeks
(100, 15%)	-1.25 (0.03) {23789}	-0.52 (0.02) {16461}	-0.09 (0.02) {10783}	0.46 (0.04)	0.33 (0.03)	0.39 (0.02)
(100, 25%)	-1.24 (0.03) {19492}	-0.43 (0.02) {13951}	-0.08 (0.02) {9475}	0.47 (0.04)	0.38 (0.03)	0.39 (0.02)
(100, 50%)	-1.29 (0.03) {12237}	-0.55 (0.02) {9327}	-0.12 (0.02) {6901}	0.42 (0.04)	0.30 (0.03)	0.35 (0.02)
(100, 75%)	-1.35 (0.04) {7968}	-0.58 (0.03) {6334}	-0.16 (0.02) {4942}	0.45 (0.04)	0.37 (0.03)	0.31 (0.02)
(100, 100%)	-1.32 (0.04) {5390}	-0.57 (0.03) {4428}	-0.20 (0.02) {3604}	0.49 (0.05)	0.32 (0.03)	0.27 (0.02)
(100, 200%)	-1.43 (0.06) {1796}	-0.66 (0.04) {1510}	-0.33 (0.02) {1309}	0.47 (0.07)	0.27 (0.04)	0.13 (0.02)
(100, 500%)	-1.53 (0.08) {482}	-0.74 (0.05) {340}	-0.35 (0.03) {253}	0.30 (0.09)	0.16 (0.06)	0.09 (0.03)