Who trades options?

An academic study of who trades what in the options markets finds that traders prefer to keep their strategies simple.

BY GEORGE HOEKSTRA

Whenever you trade an option, someone takes the other side of your trade. Have you ever wondered that person is? Professional market makers, whose job is to provide a market in the options on that stock, often do. But who else trades options and how can you use this information?

A recent academic study of option market activity analyzed 12 years of trading data at the Chicago Board Options Exchange (CBOE) to see who trades options and why they do it. The conclusions are summarized in a paper titled *Option Market Activity* by professors Josef Lakonishok, Inmoo Lee, Neil Pearson, and Allen Poteshman of the University of Illinois.

These researchers uncovered some interesting details about option market activity from 1990 to 2001 that debunk some myths about how options markets work and offer clues about how to trade options more effectively.

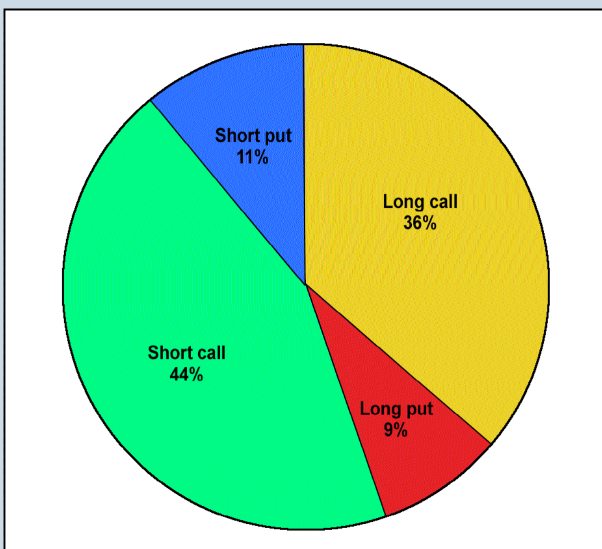
Call options are big business

First, the researchers broke down the CBOE data into four different groups of non market makers: firm proprietary traders, discount customers, full-service customers, and other public customers. These four investor groups trade many more calls than puts. Figure 1 breaks down their trades according to open interest during the 12-year period.

Open interest in calls was four times as large as open interest in puts (80 percent vs. 20 percent). The most popular trade among non market makers was to sell calls, mainly as part of popular covered call positions (long stock, short call).

FIGURE 1 — TYPES OF POSITIONS

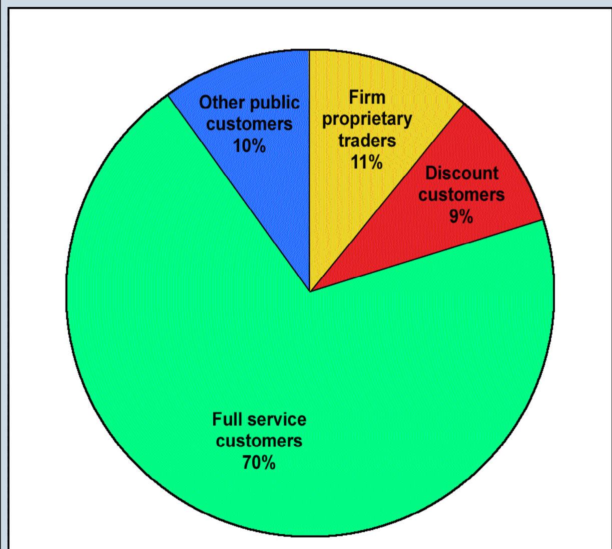
Non market makers traded calls almost exclusively from 1990 to 2001. By contrast, only 20 percent of all trades used puts (short or long).



Source: *Option Market Activity*

FIGURE 2 — WHO SELLS CALLS?

Full-service customers — hedge funds and retail traders — held 70 percent of the short-call open interest, meaning they often sold covered calls.



Source: *Option Market Activity*

Who sells calls?

Figure 2 shows who sold calls from 1990 to 2001. Customers of full-service brokerage firms held 70 percent of the short-call open interest. These customers include hedge funds and retail investors who often use more sophisticated investment strategies. Most of their positions hedge long stock positions — i.e., covered calls.

Another interesting conclusion is some advanced strategies that get a great deal of attention in trading literature and textbooks weren't used much.

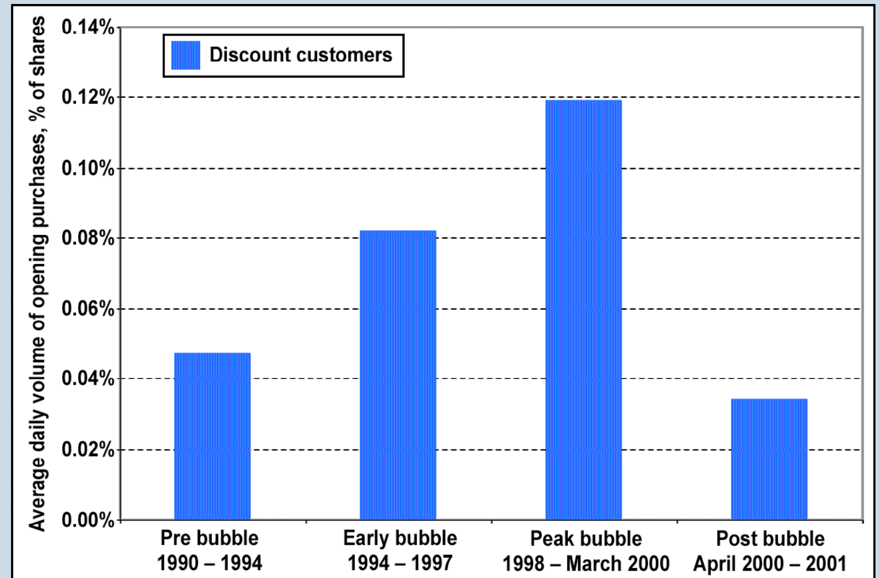
The following strategies weren't as popular as you might think:

Straddles, strangles, and butterfly spreads. Options educators often focus on ways options can be used to speculate on changes in stock volatility. Straddles, strangles, and butterflies are volatility-based strategies. But the study's data reveals "volatility trading through straddles, strangles, and butterflies — whether for speculative or hedging purposes — explains at most a small fraction of option trading." Traders may enjoy discussing these positions, but few use them in real-world situations.

Protective puts. Another high-profile strategy is buying puts to hedge long stock positions. This is a sensible strategy that resembles buying insurance on the underlying stock. However, the study shows that very few traders use protective puts. Indeed, traders rarely bought puts for any reason; Figure 1 shows only 9 percent of total open interest was long puts.

FIGURE 3 — CALL-BUYING VOLUME SURROUNDING TECH BUBBLE

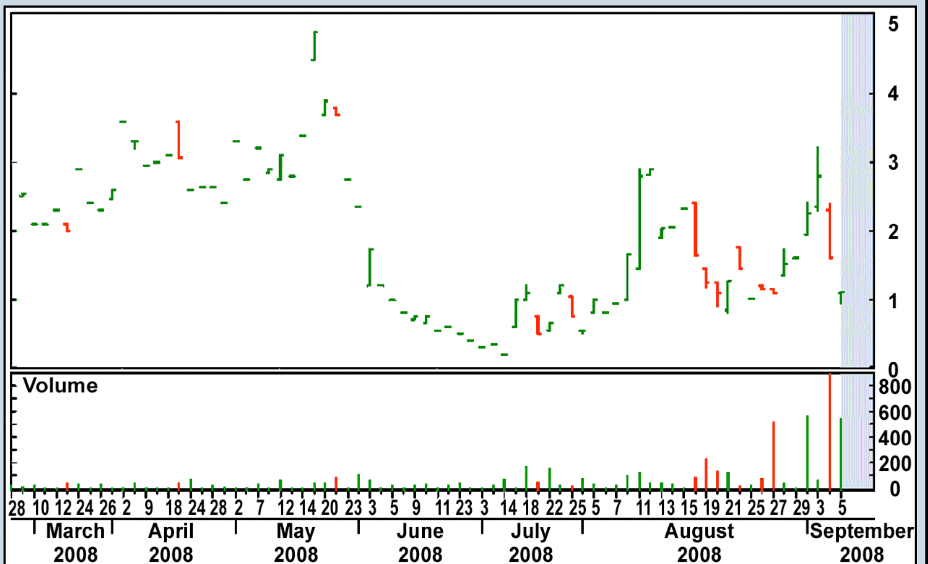
Discount customers bought more calls as the technology bubble inflated in the late 1990s.



Source: *Option Market Activity*

FIGURE 4 — SHERWIN WILLIAMS SEPTEMBER 60 CALL

Trading volume tends to pick up as interest grows and the contract moves closer to expiration.



Source: OptionsXpress

Dot-com bubble fueled call buying

The study also found discount customers bought more calls as the technology bubble inflated in the late 1990s. Before reaching this conclusion, researchers analyzed the average volume of opening purchases in four time periods: pre-bubble (1990-1994), early-bubble (1994-1997), peak-bubble (1998-March 2000), and post-bubble (April 2000-2001).

continued on p. 18

Figure 3 shows that call buying by discount customers doubled from the initial pre-bubble period to the early-bubble period (1990-1994 vs. 1994-1997). Then, as the bubble peaked from 1998 to March 2000, discount customers bought nearly 2.5 times as many calls than before the bubble began. After the bubble, discount customers bought only one-third as many calls as they did during the peak.

Clearly, the technology boom attracted discount customers who speculated that stocks would continue to rise. And many of them were probably new options traders. Volume was concentrated in long calls on large growth stocks. By contrast, the study didn't find increased call buying among other types of investors.

(Click here to download the full *Option Market Activity* article.)

Lessons from this study

First, most options traders use simple strategies such as buying calls and selling covered calls. It makes sense to keep things simple. Don't get caught up in the idea that you should trade complex strategies, which usually require a great deal of capital to execute consistently and add to transaction costs.

Also, the study contradicts a common myth that most retail option traders are wide-eyed, unsophisticated gamblers who buy calls to make short-term, high-leverage bets on stocks. To some extent, this caricature was likely accurate during the dot-com bubble, but even then, call buying was only a small part of the total picture, and it has dried up since 2000.

A corollary to this myth is that selling covered calls is a smart way to take advantage of the overabundance of call buyers who bid up option prices to excessive levels to pay for high-leverage bets. However, the study's data suggests the supply-demand balance is tilted toward an oversupply of call sellers. If more traders want to sell calls than buy them, prices will tend to be driven down. Therefore, that bias may work to call buyers' advantage.

Dig into trading data

Can you benefit from studying trading data on options that seem attractive? The *Options Market Activity* authors used some clever analysis, along with available data, to learn when and how options trades took place. This kind of data is increasingly available to anyone.

Many options are thinly traded, meaning only a few trades are executed each day. These contracts usually have wide bid-ask spreads. Today, it is possible to study how a day's trading unfolds, tick-by-tick. If you are considering buying or selling options on a stock, it makes sense to dig into that data and see what you can learn.

For example, Figure 4 shows a daily chart of a Sherwin Williams (SHW) September 2008 60 call. Charts of individual options are available on most brokers' Web sites. The SHW September 60 call began trading in February 2008.

TABLE 1 — TIME AND SALES DATA

The more an option contract trades, the more likely you will be able to get a better filled price on a limit order.

Date	Time	Exchange	Size	Price
9/4/08	9:31:12		10	2.3
9/4/08	9:45:45	CBOE	5	2.39
9/4/08	11:09:25		48	2.15
9/4/08	11:09:25		46	2.15
9/4/08	11:09:25		53	2.15
9/4/08	11:09:25		84	2.15
9/4/08	11:09:25		19	2.15
9/4/08	11:11:35		2	2.15
9/4/08	11:11:36		9	2.15
9/4/08	11:11:37		5	2.15
9/4/08	11:11:43		123	2.15
9/4/08	11:11:44	CBOE	2	2.15
9/4/08	11:11:44		111	2.15
9/4/08	11:13:29		47	2.25
9/4/08	11:13:29	PSE	15	2.25
9/4/08	11:13:29	PSE	11	2.25
9/4/08	11:13:29	CBOE	78	2.25
9/4/08	11:13:29		30	2.25
9/4/08	11:13:29	PSE	6	2.25
9/4/08	11:13:29		10	2.25
9/4/08	11:13:40	CBOE	9	2.25
9/4/08	11:14:23		21	2.2
9/4/08	11:14:23		9	2.2
9/4/08	11:59:43		10	2
9/4/08	15:07:08		4	1.6
9/4/08	15:07:41		11	1.6
9/4/08	15:28:26	CBOE	10	1.6
9/4/08	15:28:26		10	1.6
9/4/08	15:37:14		12	1.6
9/4/08	15:37:17		4	1.6
9/4/08	15:37:18		8	1.6
9/4/08	15:37:22		4	1.6
9/4/08	15:37:23		4	1.6
9/4/08	15:39:10		6	1.6
9/4/08	15:39:10		54	1.6

Source: OptionsXpress

Related reading: George Hoekstra articles

"The quest for cheap options"
Futures & Options Trader, August 2008.
This option-buying strategy builds on a recent academic study that found a compelling edge in the options market from 1996 to 2005.

"Getting a handle on volatility"
Options Trader, September 2006.
Want to understand volatility? Before you dive into option-pricing models and complex math, do some basic price comparison. You'll be surprised how much you can learn.

"Focusing on volatility," *Options Trader*, August 2005.
To hone in on options with the most favorable odds, structure a search that focuses on a certain stock price, exercise price, and expiration date, and then use a simple analysis approach to identify options that are the most underpriced.

"The option pricing edge," *Options Trader*, October 2005.
Buying options at a 10- to 20-percent discount can be the difference between making and losing money over time. A popular trading approach is to buy options on a stock you expect to have more volatility than the level implied by the price of its options. Higher volatility translates into higher option prices, so if your assessment of future volatility is correct, such options give you an advantage in that higher actual volatility increases the chance of a profitable trade.

"Bargain hunting options," *Active Trader*, January 2005.
If you get the willies every time you read "standard deviation," take heart: This volatility analysis approach and option trading strategy takes the mathematical sting out of finding inexpensive options.

You can purchase and download past articles at http://store.activetradermag.com.

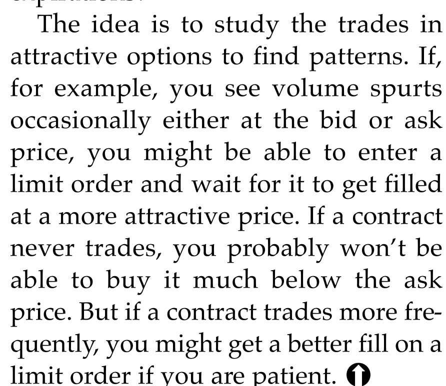
Price and volume data is shown from its initial offering in February to Sept. 5, two weeks before it expired on Sept. 19.

Trading volume was sparse in February and March as the call didn't trade at all on most days. But volume picked up in July and August as expiration drew closer. The first time its daily volume exceeded 100 contracts was July 18. By August the contract traded nearly every day, and in September, its expiration month, volume increased considerably, including one day with 900 contracts traded. This pattern of gradually increasing trading volume is typical as interest grows and the contract moves closer to expiration.

Gleaning insight from time and sales data

Another way to examine an option's trading activity is to use its time and sales data available in the quotes section of most brokers' Web sites.

Table 1 shows the time and sales data for the SHW September 60 call on Sept. 4. There were a couple of small trades at 9:31 a.m. and 9:45 a.m., but then no trades occurred until the five-minute interval from 11:09 a.m. to 11:14 a.m. when volume exceeded the total number of contracts traded so far. What does this mean? One clue is whether the trades are filled at the bid price, ask price, or in between. You can find other clues by examining other Sherwin Williams options. For example, did volume climb in same-strike puts or calls with different strikes or expirations?



The idea is to study the trades in attractive options to find patterns. If, for example, you see volume spurts occasionally either at the bid or ask price, you might be able to enter a limit order and wait for it to get filled at a more attractive price. If a contract never trades, you probably won't be able to buy it much below the ask price. But if a contract trades more frequently, you might get a better fill on a limit order if you are patient.

For information on the author *see p. 6*.