New Kid On The Block

New and improved: These words have adorned product introductions since either the dawn of time or the invention of toothpaste and detergent, depending on whether you take a theological or a Procter & Gamble point of view. The phrase bounces off most of us, but occasionally there are product introductions and extensions that really take off and even surpass the original. Miller Brewing's Lite brand and the Chicago Mercantile Exchange's e-mini index futures stand out in this regard.

Of course, new and improved does not have to derive from the original producer. Research In Motion has improved the personal digital assistant to the point where Palm was trading below the $1.00 level before its recent 1-for-20 reverse split, and the host of start-ups who improved on Xerox' early research in personal computing is the stuff of Silicon Valley legend.

Let's Get Physical
Broad-based index futures such as the NASDAQ 100 or S&P 500 have been cash-settled: If you hold the contract, either long or short, into delivery, you would pay or receive the difference between your entry and exit price times the number of contracts and its contract multiplier.

For example, let's say you had the good sense and timing to have sold the September 2002 S&P 500 future 10 times at 941.00 on August 23. The contract expired at 841.80 on September 19. Your gross gain would have been:

10 contracts * $250 multiplier * (941.00 – 841.80), or $248,000

Nice work if you can get it.

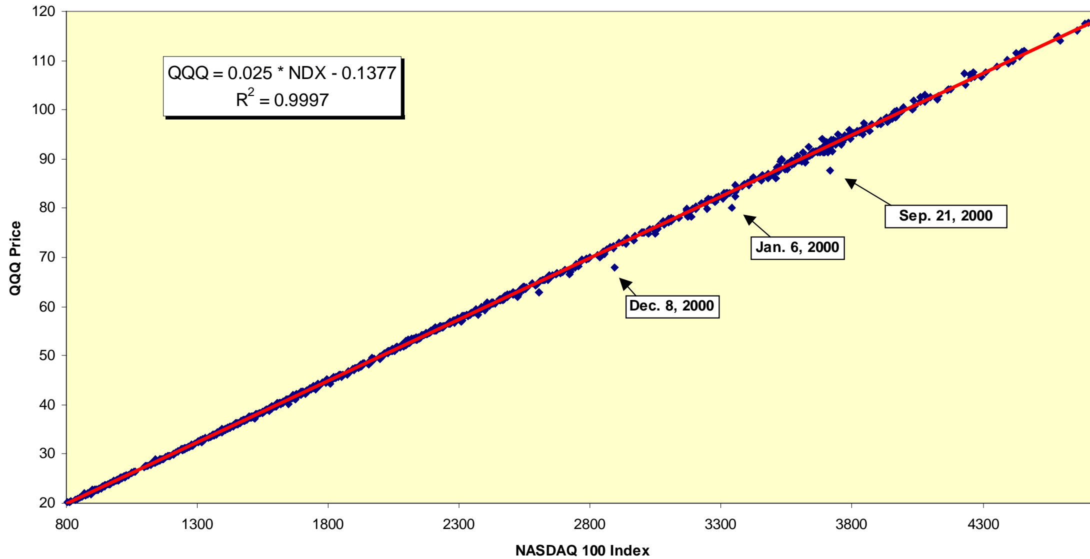
Most other futures contracts, however, are settled by physical delivery: You will get 5,000 bushels of wheat or 1,000 barrels of crude oil for a long position. Equity options are settled physically as well. The advantages of physical delivery include a complete lack of basis risk – the futures contract and the underlying asset will converge perfectly at expiration – and the lack of a time gap between the settlement of the futures and the delivery of the underlying asset.

The reason for index futures' cash settlement was the near-impossibility of delivering fractional shares of 100 or 500 different stocks. But what if you, in that execrable consultant-speak, think outside of the box a little bit and conclude you could provide traders with both the index exposure they know and love and physical delivery into a familiar exchange-traded fund (ETF) such as the NASDAQ 100 Trust (QQQ)?

Use The QQQs
Single stocks futures (SSFs) can be issued on ETFs, closed end mutual funds and narrow-based indices as well as on individual stocks. Nasdaq Liffe Markets, for whom I consult, will be launching futures on the QQQ in both 100- and 1,000-share sizes on November 8. The NASDAQ 100 complex has some uneven math to it. The QQQ is one-fortieth of the index. The original pit-traded NASDAQ 100 future had a multiplier of $100, and thus represented 4,000 QQQ shares; the e-mini NASDAQ 100 contract, which has a $20 multiplier, thus represents 800 shares of the QQQ.

Accordingly, the 1,000-share QQQ future represents a bonus: As the marketers would say, "new and improved, and now 25% bigger!"

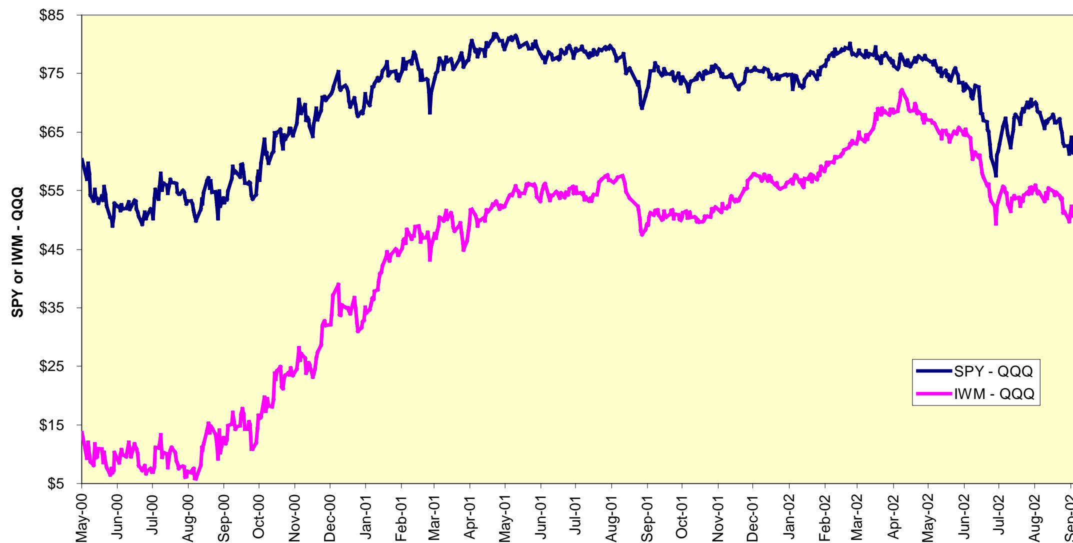
It is important to remember the differences between the index and the QQQ. Even though the NASDAQ 100 stocks pay small dividends, estimated at $0.19, a yield of 0.12%, for the December 2002 contract, the QQQ pays no dividend at all. This is a difference from other ETFs. The common practice here is to distribute a dividend at the end of a holding period, usually a calendar year. This dividend effect can be seen in the tracking error between the QQQ and the NDX, the cash index underlying the futures contract since March 1999. The regression equation displayed on the chart has the expected coefficient of .025, the reciprocal of 40, but it has a constant of (.1377), which represents the average dividend payout over this period. The QQQ future will have a lower visible price than the e-mini NASDAQ 100 as a result.



The r^2 of .9997 suggests a very low tracking error, one that is skewed high by only three data points, highlighted on the chart. Since none of these days were particularly violent in their trade, no explanation of their tracking error is offered; markets sometimes settle out-of-line for strange reasons.

Spreads And Deletions

In addition to the obvious benefits of being able to trade QQQ futures with 20% margin and going short without an uptick, several more sophisticated trades will be possible. One such trade is the spread between the QQQ and other ETFs, such as the Russell 2000-based IWM or the S&P 500-based SPY. These spreads can have some persistent trends and arrive with lower volatility than either ETF component due to the portfolio diversification effect (sum their variances and subtract twice their covariance, as long as you ask).



Another trade is index deletion and enhancement, turning the NASDAQ 100 into the NASDAQ 99 or the NASDAQ 101. The mechanics of putting this trade together and a downloadable spreadsheet for you to use will appear here next week.