

# ETFs: Use the Right Tool!

*Planning to trade ETFs with ordinary stock algos? Don't. While ETFs may be marketed as a basket of securities that are as tradable as their individual constituents, their actual trading behaviour is **very** different. Gary Stone, Director of Trading Research and Strategy and Ron Taur, Head of Algorithmic Trading, at Bloomberg Tradebook explain the difference in cold hard numbers.*

Most casual observers might understandably assume that an ETF of a given average daily volume would trade in a similar manner to a stock of similar liquidity. Surprisingly, nothing could be much further from the truth. Extensive recent research by Bloomberg Tradebook's quantitative research group, backed by empirical real time evidence, paints an entirely different picture that translates into a major opportunity to reduce ETF trading costs.

## Strategic research

In early 2009, market sentiment was - to put it mildly - negative. Lehman had recently collapsed and outflows from equity funds were at unprecedented levels. The big question was: when sentiment recovered, via what instruments would participants choose to re-enter the market?

At Tradebook we took the view that ETFs looked a highly likely re-entry method. We felt that participants would probably use them initially as a convenient tool to gain exposure and then subsequently as a base around which to trade. In view of that prognosis (which has since been validated by surging ETF activity levels on Tradebook) it was clearly essential to have suitable ETF execution tools in place before conditions changed. As a result, Tradebook's quantitative research group embarked on an exhaustive analysis of ETF trading characteristics at both micro and macro levels. The results were both striking and completely flew in the face of conventional thinking...

## Spread, size and impact

One of the most compelling pieces of evidence arising from the research was the large disparity in dealing spreads between stocks and ETFs of similar average daily volume (ADV). Figure 1 illustrates the sheer scale of this difference; across the entire US ETF universe,

an ETF with ADV below 200,000 typically had a best bid or offer (BBO) spread of 20bps - less than half the spread size of a stock of comparable liquidity. While the absolute numbers are smaller in the case of stocks/ETFs of medium and high liquidity, the percentage difference is similarly substantial.

A similarly diverse picture emerges when considering the relative average BBO sizes of stocks and ETFs. Figure 2 shows that across the entire liquidity spectrum ETFs display appreciably larger BBO size than stocks, especially in the case of the most liquid stocks.

Finally, the relative market impact of ETF orders is also lower than for stock orders representing a comparable percentage of ADV. Figure 3 highlights how that while this applies across all order sizes, it becomes exceptionally prevalent for larger orders that represent 20-25% of ADV.

## The right tool

So what do all these differences add up to? In brief, try applying unmodified stock execution techniques to ETFs and you'll suffer an unnecessary opportunity cost. At a macro level, a conventional stock execution algorithm when applied to ETFs will often erroneously extend the trading horizon by over emphasising stealth versus speed.

ETFs and stocks are clearly very different beasts that require very different handling when it comes to execution techniques. Therefore, tools for trading ETFs have to accommodate their specific nuances if they are to work efficiently. The market impact modelling implications of Figure 3 make that obvious. Figures 1-3 clearly suggest that ETFs can be traded more rapidly than stocks of similar liquidity. At a macro level that is definitely true; an effective ETF algorithm will have faster scheduling than its stock counterpart, so a 30 minute execution strategy for a stock might only be a 10 minute execution strategy for an ETF.

However, at the micro level, the picture is intriguingly very different. In many respects the way ETF order books function is similar to those of many Asian stocks, in that *slower* firing of orders is actually beneficial. An algorithm that completely clears out a price level in the ETF order book and then immediately steps up to the next price level will miss ▶

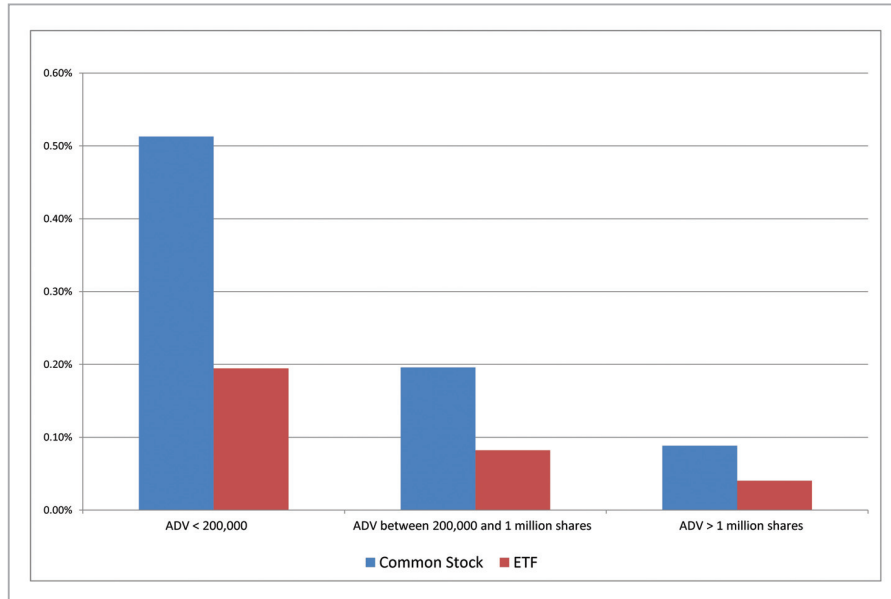


Figure 1: Average BBO Spread

opportunities if the original level in the order book is subsequently replenished (as will an algorithm that fires orders at multiple price levels simultaneously). By contrast, an algorithm that injects a delay before stepping to the next level allows time for other participants to replenish the original price level, thereby presenting the chance to trade again (perhaps repeatedly) at a more advantageous price.

### Price prediction models

In order to accommodate the differing trading characteristics of stocks and ETFs (as well as the conflicting micro/macro behaviour of ETFs), Bloomberg Tradebook now provides “ETF tunings” for all its stock algorithms and DMA order types.

However, while these alone would offer an improvement in execution, a further enhancement has been the incorporation of ETF-specific short term price prediction models into Tradebook execution tools. These provide an accurate indication of the immediate direction of the ETF and therefore whether a more/less aggressive trading stance is advisable (i.e. whether or not it is worth crossing the spread).

The development process for these prediction models saw ETFs spring further surprises.



Conventional logic might suggest that a high frequency comparison between the ETF and its constituent basket of stocks would be a robust indicator of short term price direction. (If the ETF was trading rich compared to the constituent stocks then it should logically decline.)

However, the research revealed that this approach had in fact minimal predictive value. By contrast, other approaches - such as comparing an ETF with its global peer group - were found to be far more accurate. Just how accurate is apparent from the numbers; since it was introduced, the price predictor model has added 2.6 bps of improved performance on ETFs versus the interval VWAP.

### Wider demographic

A further indication of the effectiveness of this Tradebook combination of more measured price level sweeping and accurate price prediction for ETF trading has been the technology’s adoption by new

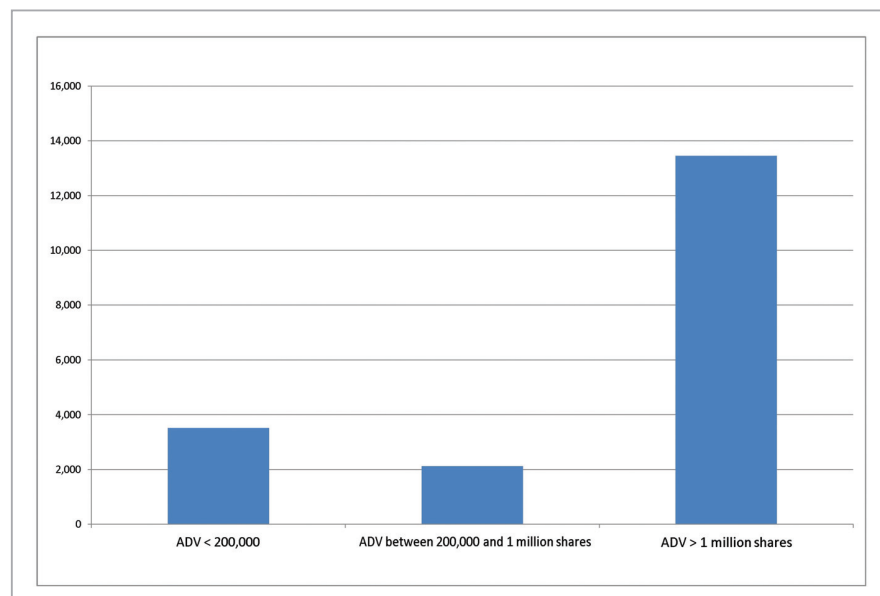


Figure 2: Average BBO Size in Shares (ETF - Stock)

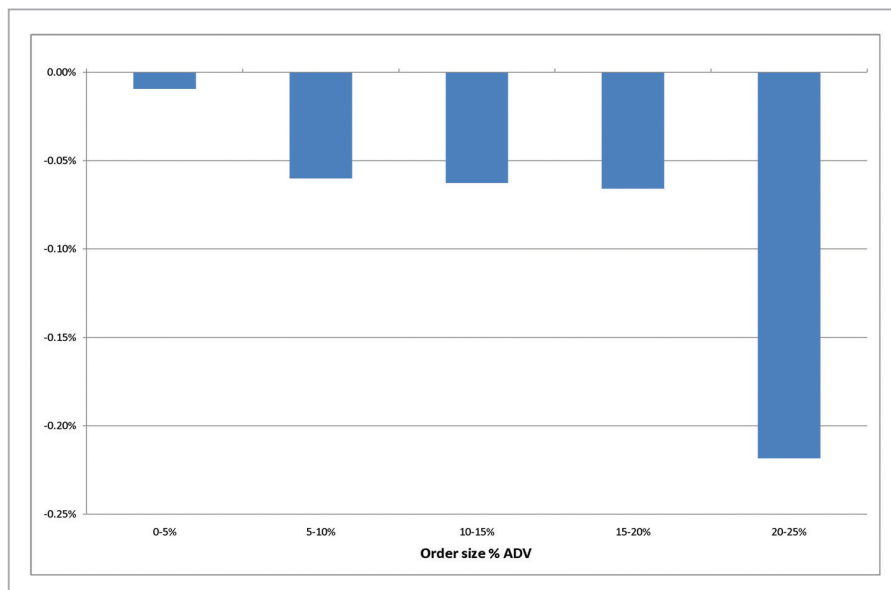


Figure 3: Market Impact Comparison (ETF - Stock)

### End result

The bottom line is that ETFs of a given liquidity trade in a very different manner to their equivalent stocks – a fundamental fact that can be extremely expensive to ignore. Regrettably, the vast majority of execution algorithms do precisely that by naively assuming that the same ADV always equates to the same trading behaviour.

Fortunately Tradebook takes the opposite stance with optimised ETF-specific tools. These expedite ETF trading at the macro level, slow it down (where appropriate) at the micro level - and

categories of users. For example, high frequency (non market making) arbitrage traders are very significant players in ETFs, but they have traditionally always relied upon straightforward market and limit orders for execution.

The introduction of the new Tradebook ETF functionality has changed this, as a rapidly growing number of these traders are now using the ETF flavours of execution tools such as B-Smart™ instead. They are finding that this approach enables intelligent liquidity taking, as well as often capturing the spread, which has a substantial and positive effect on the overall performance of their ETF trading strategies.

accurately predict short term direction to save you the cost of the spread. In the aggregate, employing the price predictor and ETF-specific execution techniques, during Q1 2010, Tradebook's U.S. ETF executions outperformed the Elkins/McSherry universe by 5.1 bps using an interval VWAP benchmark.

Furthermore, this technology is globally applicable; ETFs are growing globally, so Tradebook solutions also work globally. Finally, these solutions apply across *all* ETFs regardless of the underlying constituents – be they commodities, currency, fixed income or global equities.

Right tool + right job = right result.



Bloomberg Tradebook is a global agency broker offering advanced trading algorithms and direct market access to over 60 global equity, futures, and options markets and 41 currency pairs in our Foreign Exchange marketplace. Many traders have created valuation, investment and trading strategy models in various applications and nourish them the Bloomberg Professional® service data API. Now, using the same connectivity as Bloomberg's data API, traders can integrate their strategies with Bloomberg Tradebook's high performance Order API and connect their strategies to the electronic execution highway.

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