What’s the Tick Pilot Data Showing?

Crib Sheet:
The Tick Pilot is now more than ¼ the way through. So it’s a good time to gather all our data and take a look at trends.

What we find is:

- All of the initial reactions have held, with longer queues, wider spreads and more dark and inverted trading.
- Investor costs and market marker profits are both higher.
- Some trends have developed, which shows the market is evolving countermeasures to offset higher costs and queue times. This indicates the industry is already working to mitigate negative impacts of the Tick Pilot for investors.
- Trends are strongest in the trade-at bucket, which initially had the largest increase in investor costs.

Sadly, data from the Tick Pilot shows investors are seeing higher costs, more fragmentation and less transparent trading—the three things the industry says it most wants to avoid!

See more tick pilot charts in our Tick Pilot Dashboard

Exhibit 1: Almost all stocks have wider spreads, even for the stocks with spreads wider than 5 cents, despite deeper NBBO

Source: KCG Estimates
Initial Impact and Trends

It’s been over 6 months since tick pilot started, so we’re already ¼ the way through the pilot.

Now is a good time for us to gather all our data and take a look at not only the initial reactions, but also what’s changed since, and what that means.

Spreads are wider

We know, that was the whole point.

What’s interesting is that around 62% of the pilot stocks naturally traded wider than 5 cents, and even those are mostly trading wider. That’s despite deeper queues (see below), making queue priority more important.

NBBO becomes deeper for all stocks

One of the expected outcomes was that depth would increase. We’ve seen that to be true from the first day stocks entered the pilot.

Interestingly, depth increased for almost all stocks, even those that naturally traded with wider than 5-cent spreads, as volume accumulated at the new increments and “pennying” decreased.

The increase was biggest for stocks with “natural” spreads inside 5 cents (Exhibit 2). However we’ve shown that the same volume was available in lit penny-wide markets for around the same cost—traders just needed to trade through multiple levels of the book (Exhibit 3).

As the pilot has progressed, we’re seeing depth increase even more for the trade-at group. Depth has now pulled well ahead of the G1&2 stocks. This, in turn, makes queue priority even more important for trade-at stocks.

Trade size is up... by just 10%

The data shows median trade size has increased. However, this chart (Exhibit 4) is deceptive, as in reality trade size has increased by just 10–15 shares/trade.

Average trade size is now around 150 shares, still well below the market average of about 200 shares/trade.

The trade-at group is again setting itself apart, starting with, and growing at, a slightly higher average trade size.
Countermeasures Deployed

Impact models and existing data predicted that wider spreads would cost more to trade. Our job is to minimize that cost to investors, so it’s no surprise that the tick pilot has changed a lot of routing and trading behaviors.

The market adjusted very quickly to this new regime, although trends show refinement is now occurring.

More inverted trading

The use of inverted venues increased—even for stocks that naturally trade wider than 5 cents! (Exhibit 5).

Trade-at is again different than G1&2 stocks, with:

- more inverted trading
- increasing more quickly

Inverted venues can be used to gain queue priority, especially on wide spread stocks. By “paying” for queue priority, these stocks are effectively “half-penny ing” the spread.

Note that detailed simulations show that routing inverted “all the time” also isn’t optimal.

More mid-point trading

We also saw mid-point trading jump, across all groups, as soon as the pilot started (Exhibit 6). As traders refine their systems, we’re seeing mid-point trading increasing.

Interestingly, the trade-at group continues to see lower mid-point trading.

Spread re-compression

Overall, the market is effectively re-compressing spreads:

- Mid-point trades halve the effective spread to 2.5 cents.
- Inverted venues compress the economic cost to closer to 2.2 cents.

In the process, they support inverted and dark venues as well as hidden (midpoint) order types.

Did we really need 3 pilot groups?

Remember, we said at the outset “group 1 & 2 are essentially the same” because trading centers can’t accept decimal orders, even though G1 permits trading them.

The data is showing that has turned out to be true!
Spread re-compression is optimized

We’re seeing from the trends developing that traders are dynamically adjusting to these newly wider spreads.

There is evidence that participants are approaching this in a pretty sophisticated way, probably based on data they already collected elsewhere (see our APPENDIX: What Data Shows), as the increase in mid-point usage is not consistent across all stocks.

In fact, mid-point trading has increased much more for stocks that naturally trade 1–2 cents wide (Exhibit 7) where nickel spreads represent 500% of the old spread costs. This is one of the reasons we suggested Europe might have a smarter tick proposal.

Tick Pilot is good for IEX!

IEX is an interesting venue that stands to benefit from the tick pilot in a couple of ways:

- Being an exchange, it might benefit from the trade-at rule.
- Having a unique D-PEG order type, which frequently trades at mid-point, but is also able to fade market sweeps that cause adverse selection, it should be especially attractive for spread compression trades.

Not surprisingly, data shows IEX looks like a clear winner from the Tick Pilot. Compared to the control stocks, IEX trading has been increasing since the pilot started:

- For all stocks in all groups (Exhibit 8).
- Especially for stocks with natural spreads inside 5 cents, where mid-point orders have increased most.

Interestingly, there is no difference for the trade-at group. Remember, even though IEX is an exchange, the speed bump and its fee/fee model make the venue less attractive to lit liquidity providers.

More Complexity, Less Transparency

Exactly what we don’t want!

Ironically this rule, to artificially widen listed spreads and put more liquidity on exchange, has instead increased dark trading and volume at hidden price levels.

This has made the market more fragmented and (even more) complex. Exactly what the industry says it doesn’t want!
Facts and Frictions

Before we get too excited about how “well” trade-at is doing with the deepest NBBO, largest trades and least dark trading, we need to look at the most important factor for investors: cost.

Trading costs are up

Our analysis of trading costs shows that shortfall has increased, after adjusting for multiple factors including trade size. Data shows costs are up.

Compared to our first analysis, where the trade at group was clearly more expensive, costs across all groups have somewhat normalized.

Our confidence that this is true has also improved as we’ve collected more data—and what we see is that all tick pilot groups are significantly more expensive to trade than the control stocks (Exhibit 9).

Market maker profitability is up too

There is some good news. Market maker profitability is up for tick pilot stocks! Although, strangely, also for control group stocks—so it’s a little hard to determine what is due to the post-election trading and what is due to the tick-pilot (Exhibit 10).

Using this data, we can guess at market maker margins:

- Tick-pilot stocks trade around $12bn/day.
- An average profit of $1m/day equates to a before-costs return of 0.008% per trade.
- For comparison, the average spread on Russell 2000 stocks is over 30bps, or 0.3%.

That’s a little misleading though, as Tick Pilot data collects gross-profit metrics—so it doesn’t include expenses—including data, co-location, hardware and staff. Nor do they include exchange fees and rebates.

About the tick pilot data collection

Data to be collected is spelled out in the Appendix to the NMS plan rules.

Note that FINRA does not identify the market makers or the individual securities, just aggregated data.

However, there is also very detailed order-by-order data being collected for all trading centers (exchanges and brokers) under Appendix B-II. However, this data has been delayed while FINRA works out how to mask it from reverse engineers!
APPENDIX: What Data Shows

The tick pilot was meant to provide new data to help understand how the market works, as well as how trading would react to a change as significant as “wider spreads.”

Arguably, most of that data already existed and could be extracted even from large cap stock behaviors, as we saw in our Perfect Stock Price report:

- When you widen spreads on a stock, you’re going to increase book depth.
- When you increase book depth, you make queue priority more important, as being the last person filled adds to adverse selection.
- When queue priority is more important, you need to look for ways to capture more spreads.
- When you need to capture more spreads, paying for inverted venues or resting in dark pools both improve queue priority and spread capture.

So far, the Tick Pilot findings are pretty much in line with what we can see here—even though it’s trading behavior of large cap stocks.