

Equity Pricing Models: If They're Broken-Who will Fix Them?

Introduction

In equity trading, commissions, payment for order flow, maker-taker models, access fees, and other pricing and fee models have one thing in common: each is designed to advantage a certain market player, and that player is often not the investor.

The simple mandates of “know your customer,” “best execution,” and “fiduciary responsibility,” seem to have been lost in approaches that focus more on the intermediation (or lack thereof) of order flow rather than on providing for investors and for investor protection. The focus away from clients (both institutional and retail) to the focus on securing flow have led to market distortions such as the rise of predatory high frequency trading (HFT) “liquidity providers”. In fact, traditional asset managers and hedge funds, which represent the overwhelming assets of individual investors, are skittish about interacting with equity markets. The result: less performance for investors, and an attendant loss of confidence in equities as a stable vehicle for investment; declines in liquidity; market uncertainty and volatility; and an overall decline in the capitalization of companies listed on exchanges.

The End of Fixed Commissions

In 1975, fixed commissions on brokerage services ceased to be permitted. The idea was that brokerages would have to compete in their pricing and allow those who provided the best execution and the best client service to flourish, and not restrict clients from having to choose “any color as long as it’s black” in broker selection. This actually was a terrific idea and one that worked (and continues to work) well. It led to the distinction between bulge bracket, full service, and discount brokerages, each of which provided different services for different fees. To some extent it aided in the reemergence of the pure agency model, which had been the prevalent model in the early 20th century. And, its ripple effect can still be seen in regulatory requirements that mandate reports on why and how particular brokers are selected.

The First Move to Order Based Pricing: Payment for Order Flow

In the early 1980’s the waters became somewhat muddied with the introduction of arrangements that had nothing to do with the simple broker commission model but rather focused on liquidity flow. This resulted in considerable conversation around the legitimacy of payment for order flow.

In 1990, the NASD had a study committee look into the practice of payment for order flow and in 1991 it released a report that found "no legal basis to restrict the practice." It should be noted that Bernie Madoff served as non-executive chair of NASDAQ from 1990-1993 and that Madoff Securities was one of the first brokers to use payment for order flow at that time. Of course, the de minimis standard of legality does not necessarily correlate to what constitutes best practice.

Developments in the NASDAQ Market

In a related but different development in 1994, in a seminal paper on spreads in the NASDAQ market, William Christie and Paul Schultz concluded that the 40-60 market makers were keeping spreads artificially wide, resulting in tacit collusion. Though Christie and Shultz did not single out payment for order flow, the investors who relied on the market were not the beneficiaries of the artificial spreads. The Department of Justice investigated the idea of tacit collusion, and the resulting consent agreement separated NASDAQ from its SRO (first NASDR and ultimately FINRA).

Then, with the introduction of decimals, spreads collapsed, effectively changing market structure. One of the first victims of the move to decimals was the market maker. Implicit in the wider spread was the backstop of displayed liquidity from a variety of dealers. The dealers provided the critical function of maintaining a two sided market at their own economic risk which would become their peril. With the move to decimals and the resulting narrowing spreads, the market maker could not justify the risk forced upon him to stand up in a down market. As a result, market makers needed to make up volume what they were giving up in narrower spreads, thus trading fast pennies for slower quarters. The only way to increase volume was to pay for the order flow - which lead to a concomitant race to the bottom on commissions. The revenue model for the industry became stressed.

The Development of the Maker-Taker Model

In 1997, the Island ECN introduced the first maker-taker model. Island's maker-taker model was derivative of the payment for order flow model. All subsequent maker-taker models rely on this initial Island model. Without the prior permissibility and acceptance of payment for order flow as a market practice and custom, maker-taker pricing may well have come under greater scrutiny at its inception. The Island ECN was spun off from its parent company Datek Online. Datek Online was an infamous day trading firm that was the home for many "SOES Bandits" – the forefather of today's HFTs. SOES was the Small Order Execution System that was used to automatically execute trades of 1,000 shares or less against bids and asks posted by market makers. The SOES Bandits used SOES to rapidly execute trades against market makers who were slow in updating their quotes.

With the promulgation and implementation of the Order Handling Rules and Reg ATS by the SEC in 1998, technologies such as routers, algos, and ATSS began to be integrated into trading. From a regulatory viewpoint, Island and other ECNs benefitted from the promulgation of the order handling rules, which mandated display of ECN prices in NASDAQ quotes. This meant that ECNs such as Instinet were no longer able to have a private market, and it allowed for entrants such as Island to compete. Concurrent with these developments, newer mechanisms

were designed to further the aggregation of order flow to one venue over another (and the reporting of traders to alternative facilities was made available as well). As part of these mechanisms, access fees, previously not part of the equation in the equity markets, became permissible and continue to be revenue generators for these market participants.

Here, makers of liquidity are paid a rebate and takers are charged a debit. The intense competition in these models again focuses on the securing of high volumes of flow without concern for investor intent. Just as in the rebate models in the automobile industry some years ago, the rebate already takes into account the cost of the transaction. So the explicit model – commissions - is mystified into a perceived incentive model – maker-taker, without the actual cost (including for example the ability to trade a block on a negotiated basis) ever being communicated to investors. The most advantageous price for the stock is subsumed under the cheapest execution cost.

The Decline of Traditional Exchanges and the Rise of the HFTs

With the regulatory push to promote exchange competition, the NYSE declined as the central marketplace. The result was an explosion in trading venues, which today amount to 18 exchanges, and some 40 dark pools, in addition to ATSs, traditional brokers, etc. The business model for exchanges and ATSs has become warped because they rely significantly on co-location fees and tape revenue. How is tape revenue derived – from activity. What do you sell someone who is going to generate a lot activity – prime co-location space. This is a parasite model and not one that fosters capital markets.

With the increase in activity liquidity became fragmented and the fight for flow consequently became ever more intense. Today the exchange-pricing model has devolved into a maker-taker model. In today's fragmented markets, capturing flow is king, in part driven by the need to generate data, which can then be monetized to offset any losses from the maker-taker pricing.

The result of electronic trading mechanisms, the algos, and the maker-taker model is that HFTs and proprietary strategies are advantaged over and against traditional asset managers. There is no concern for the underlying fundamentals related to issuers, but only a concern for the ability for the rapid movement in and out of stocks based on formulas. Activity and liquidity are not the same things since we have seen when market events don't match the math, the formulas fail because of the organic nature of trading and markets, and then quotes disappear and the result is a flash crash.

Despite this, because they are so active in trading, HFTs have become characterized as the new market makers. They in fact bear no relationship to the so-called old market makers (specialists in the NYSE and dealers in the NASDAQ who assumed risk and had resultant rewards). The NYSE was a price driven model where the specialist was the liquidity provider of last resort when naturals could not meet in the auction. NASDAQ was an order driven model and the dealer posted a two sided public quote and, similar to the NYSE, had to stand up to the quote. By contrast the HFTs bear no responsibility other than to their own algorithms. They have no requirement to meet investor needs or to stand for market stability and provide liquidity to sustain fair, liquid and orderly markets either in counterparty trading in a micro situation or large

event driven macro situations. Once things look risky, they leave the market. This ultimately negatively impacts liquidity, price discovery, and stability.

Unlike with the older model, the perceived liquidity provided through the HFTs isn't real, it is opportunistic, serving only the immediate need of the provider. And if that need is not met, the liquidity disappears.

The Impact on Investors

The current market is distorted simply because investors are treated as afterthoughts rather than the *raison d'être* for markets. The market structure is sub-penny wise and pound foolish.

The exchanges, once semi-public member utilities are for-profit global conglomerates, engaged in fierce competition. The brokers are eking out a living through machines and math. The HFTs position themselves as market makers in name only. The investors are appropriately apprehensive, because their interests are way down on the list of interests by all other market participants.

In fact, since they no longer have true broker representation (which has been replaced by a myriad of algos, routing mechanisms, and sponsored terminals) institutions find themselves in the confused position of asking: where is my order and who owns and executes it (or any portion of it) on my behalf? That concern seems far afield of best execution or fiduciary responsibility on the part of the broker. And brokers, simply to keep pace, do not move beyond a sponsored machine on the institutional trading desk.

The complexity of routing decisions should be based on finding the best price within the vast execution landscape. In fact, today there are algorithms focused on finding the "least expensive" execution venue. Programmed to account for maker-taker fees, internalization credits, tape revenue rebates, and data/co-location costs, an ordinate menu is constructed ranking least expensive to most expensive venues for the minimum execution lot. The algorithm then blasts the first lot of the order starting at the "least expensive" venue and works its way down until the order is finished. Saving a sub-penny on that first lot becomes awfully expensive by the time the order is finished.

One might ask in this environment if the Independent Mutual Fund Board has replaced best execution with "least expensive individual execution".

If so, what is to be done? In the very least, the SEC should undertake an analysis of who benefits and why from the current price structures permitted in the equity market so as to restore the investor to the primacy of place – it is the investor after all for whom the markets exist. Equity traders should represent investor interests and be fairly compensated for that representation.

The current cacophony seemingly benefits those who have no real stake in the market place, and in fact may contribute in part to the current malaise in equity markets. In today's markets what is traded in a second takes a week to unwind for those fortunate enough to get a do-over when the market fails. It is difficult to inspire confidence in the market to those who don't know who

gets a do-over and who doesn't. The SEC ought to restore players to their appropriate roles. The principles of investor first and transparency in markets and their costs are ultimately what is best for the markets and would serve all participants well.

Conclusion

Much is made of the speed of electronic trading, and algos are frequently made to seem as capable as people. In fact algos can only do what they are programmed to do and cannot account for the complexity of markets.

The great promise of artificial intelligence, which to some extent seems to be implicit in the conversation in our industry around algo and machine based trading, not only misses the point of the importance of the investor as the basis for the need for a market, but is also factually incorrect. Artificial intelligence never delivered on its promise.

In discussing this failure, in *Incognito*, David Eagleman's recent book on the brain, Eagleman discusses the complexity of the brain's neural circuitry: "Our conscious assessment of an activity as easy or natural can lead us to grossly underestimate the complexity of the circuits that make it possible. Easy things are hard: most of what we take for granted is neurally complex." Especially because the current markets are so fragile, they merit more than a uniformed and unintelligent machine based approach. Not that machines are bad, they are just not as capable as brains.

We have proceeded in the last decade on the assumption that mathematical approaches will mimic our insight into markets. But these approaches are of necessity, rational. Markets are more organic and complex and require an equally complex level of understanding. They still are based on information asymmetry, and rational decisions, on irrational fear and greed and on the desire to provide a return on the risk one undertakes when an investment is made. If the last decade has proven anything it is that equity markets for all their innovation, are now worse off.

Equity investors, especially in these difficult times deserve more consideration than they are getting. There is an old maxim that there is a relationship between confidence in a market and the integrity of a market. As analysts delve into quantitative analysis as to why U.S. markets are so moribund, it is important they examine how the underpinning of market integrity might reinvigorate market confidence.